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Only in Ohio can you get the origins of the behind the scenes account of these stories: the first meeting of Harley Proctor and William Gamble; the man who gave his name to the Peltier comet, the building of the Ohio Canal, a female Confederate spy, Sherwin cheese making, hog breeding, Sherwin-Williams paint, sheet metal, and radiation treatment for cancer. This book highlights the long-running Ohio Story radio show whose scripts were digitized by the Ohio Genealogical Society in 2014.

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THE
Ohio
Story

FRANK
SIEDEL

THE OHIO STORY

The Ohio Story

BY FRANK SIEDEL

CLEVELAND AND NEW YORK
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MANUFACTURED IN THE UNITED STATES OF AMERICA

IN GRATEFUL MEMORY

OF MY MOTHER

Contents

Foreword

I give you Ohio, the miniature America.

Would you like to know which fountain pen Americans prefer? The percentage of doorbells punched to vacuum cleaners sold? The number of hospital beds per thousand people? The average for Ohio will inevitably be the national average.

It's natural, under the circumstances, for Ohio was the meeting place of all the American cultures; the proving ground for the brave new American world. Ohioans are the most fortunate people on earth, if they only knew it. Those of us who have been associated with "The Ohio Story" like to think that our efforts have in some way provided an antidote for the virus of negativism that breeds on the police blotters, crawls onto reporters' notebooks and

spreads across the nation with every news broadcast and every home edition.

The significance of the exhibition of footpads and purse-snatchers and hatchet murders is difficult to see if you've just come in from a drive in the country where you've passed mile after mile of lush, green fields; barns that seem to be bursting with the goodness of the earth; radio towers and schools and libraries and power plants; crossed railroad tracks; driven by airports, factories, grain elevators; row after row of neat, well-ordered homes clustered around a church.

How much did the grafters and the chiselers and the war-mongers have to do with it, you wonder.

There is bad as well as good in the world. But the significance of being is not death, but life; the total of history's record is not bad, but good.

Confusion, despair and human misery have been packaged successfully and are for sale on any corner but they need not throw us into panic. To anyone with eyes to see and ears to hear they are nothing but flotsam on the stream of organized society flowing relentlessly toward an ever-greater destiny.

We already possess in America the elements of our own salvation. We have only to look behind us and around us to discover that our roots are so deep, our foundations so firm, our land so blessed, no force on earth is going to affect it very much.

FRANK SIEDEL

Acknowledgments

The Ohio Story would never have come into being without the confidence and support extended to us from the very beginning by Mr. Randolph Eide and his associates at The Ohio Bell Telephone Company.

We wish to express again our gratitude to such men as J. J. Joseph, L. E. Lattin, L. L. Evert and A. F. Hardman, all of whom have contributed immeasurably to the success of the program.

When "The Ohio Story" was just another good idea about to die, my friend and associate Robert W. Dailey of McCann Erickson, Inc., resurrected it from oblivion and by his own efforts converted it into a practical commercial vehicle. Without his work there would have been no "Ohio Story."

My associates at Storycraft, Bill Ellis and Lee Templeton both have added stature and originality to the concept of the "Ohio Story." Many of the stories they originally prepared are included in this work.

To Mr. Zepp and Mr. Marsh and their associates of the Ohio State Archeological and Historical Society, our thanks for the many hours they have spent checking our manuscripts, suggesting story subjects and generally supporting our efforts.

Our thanks, too, to people throughout Ohio who have assisted us through the years by giving us their time and knowledge.

THE OHIO STORY

"Ohio the bright young state dedicated to freedom lies before me . . . a land of romance and adventure . . . a mine of rich, ungarnered history."

HENRY HOWE

(The first man to tell the Ohio Story—1846)

1

The Widow Oakley's Daughter, Annie

IT'S an old tradition of the theatre that the best seats in the house are identified by a little round hole punched at random in the body of the ticket. Such seats are not for sale—they are given away with the compliments of the management.

From Broadway to Fountain Square and the world over such tickets are known as "Annie Oakleys."

Where did the name come from?

Well, it came from a little girl whose face was tanned by the Ohio sunshine, whose eyes were as clear as the raindrops that sift through Buckeye leaves. It came from the crack of a rifle, the roar of the crowd, the spontaneous applause of men and kings.

It came from Annie Oakley.

In the little hamlet of Greenville, Ohio, men had a sense of history. In the early 1860's everyone did, but in Greenville it was something special. The Mad Anthony Wayne tradition hung heavy over the town just as it does today, but this particular summer morning in 1864 the men who gathered at the Martin and Chenowith office when the Cincinnati stage was due, weren't talking of Wayne, or Lincoln, or even of the recent capture of Captain Matchett of the Fortieth Ohio.

On this particular morning, as it so often did, the conversation had turned to the widow Oakley's daughter, Annie.

Annie was the oldest of Mrs. Oakley's six children and although she was only thirteen, she was the family's principal means of support. That in itself wouldn't have been enough to win her a place in the serious considerations of the morning at Martin and Chenowith's, it was the means by which she accomplished the worthy end that interested Mr. Macomber, Reuben Beam, Ed Otwil and the rest of the company.

Mr. Macomber had just put it in a nutshell.

"I thought my Pa could shoot," he had said, "but that little Annie makes it look like he was blind."

Everyone had nodded. Jared Macomber had been the Ohio Valley champion until Mike Fink had come along —and even then Mike had to split Jared's bullet to win the beef.

Mr. Macomber was looking down the stage road.

"Dust," he said.

One by one the men came to attention, that is, they

knocked ashes from their corncobs, took their places leisurely along the side of the road. The dust cloud grew bigger. Presently, the four-horse team struggled over the rise and the travel-worn, red stage jangled and dipped to a halt.

Mr. Macomber asked the question that was on everyone's mind.

"Did he buy 'em?"

Jesse Jago tossed the reins to a boy, sheathed his rifle and climbed down with the peculiar dignity of the Martin and Chenowith drivers.

"He sure did. Said he'd buy every bird like it we could send him," he said.

Mr. Macomber considered the information. Nodded his approval.

"That's what I figured," he said.

"I'll tell the widow Oakley," Reuben Beam volunteered.

"You'll do no such thing," Mr. Macomber retorted. "It was my idea. I'll be the one to inform the widow." He departed abruptly.

Several hours previous, Jesse Jago had pulled up with a flourish in front of the famed Gibson House at the Cincinnati end of his run. In the crowd that had gathered for his arrival he spotted the manager. As soon as he could do it conveniently he got him aside.

"Got a box for you here from Greenville," he announced.

"Greenville? Don't know anybody in Greenville."

"Note goes with it," Jesse said. He pulled a soiled piece of paper from his hat and handed it over.

The manager read slowly . . . "I am sending you five dozen quail. I hope you can use them in your hotel. A. Oakley." He looked up at Jesse. "You tell your friend at Greenville, the Gibson House has a reputation to maintain. We have not, nor will we ever serve our guests quail that have been riddled with buckshot." He turned abruptly as though to end the matter.

Jesse waited until he had taken a few steps. "All right," he said, "but if I was you, I'd have a look. Might be such a thing he didn't use buckshot."

"Impossible," the manager said, but he stopped suddenly. "They haven't found some way to trap them, have they?"

"I dunno," Jesse replied, "but I'd have a look."

The manager reached into the box, picked up a bird, examined it closely. He put it down quickly and picked up another. A moment later he turned to Jesse. "Never saw anything like it in my life. Do you know every one of these birds has been shot plumb through the head?"

"Yeah," Jesse smiled slightly, "I know it. What'll you pay and how many do you want?"

Late in the afternoon on a day in spring of the year 1865 the manager of the Gibson House waited impatiently as Jesse Jago tossed the lines, sheathed his rifle and began his impressive descent from the Martin and Chenowith stage. The ritual over, he approached the driver.

"Jesse," he said, "is that A. Oakley still up in Greenville?"

"Yep," Jesse said. "Be sendin' more quail any day now, from what I hear."

"Never mind about the quail, can you get him up here?"

"What for?" Jesse asked.

In answer, the manager produced a four-sheet poster announcing in circus-style letters the appearance of, "FRANK BUTLER, WORLD'S CHAMPION RIFLE SHOT."

"Ever hear of this fellow?" the manager asked, gesturing to the poster.

"Reckon I have," Jesse said.

"You know he has a standing offer of a hundred dollars to anybody who can outshoot him?"

"Has he now?" Jesse said, stroking his chin.

"That's right. And what's more I've already bet him another hundred dollars that I know a fella who can beat him. Word's all over town. Everybody's betting on that Oakley fella. Can you get him to come up?"

"What sort of a match?"

"Rifle. Best out of a hundred."

"I'll fetch A. Oakley, providin' one thing—the match goes on regardless of Oakley's age or size or looks."

"I don't care what he looks like. He can shoot, that's all that we care about."

"Oakley'll be here Saturday."

Never was there such a crowd on hand to greet the Greenville stage as there was that Saturday. Quail shot through the head had been the talk of Cincinnati for months. Word of it had passed up and down the river and

now it seemed that everyone was at the Gibson House for the coming out of A. Oakley.

No one waited for Jesse Jago's ceremonious descent. Eager hands pulled open the coach door. There were two passengers, an alert, athletic-looking man and a young woman. Quickly the male passenger was hoisted to several pairs of broad shoulders. Necks were craned and excitement ran high as the crowd closed in. It was some time before the protesting stage passenger could explain that there'd been some mistake. He was Oliver Toth, correspondent for *Leslie's Weekly,* and what was going on anyhow?

The lithe, willowy girl who had also come in on the stage approached the center of excitement. A plaid skirt hung nearly to her ankles. A sunbonnet framed her finely chiseled face. There were tiny crow's feet alongside a pair of extraordinarily bright hazel eyes. The young lady addressed the man who was making the most commotion.

"I beg your pardon," she said, "I reckon I'm the one you're lookin' for. My name's Annie Oakley."

A roar of protest went up from the crowd. The quick-thinkers rushed to cover their bets, the others surged around the manager of the Gibson House demanding that the match be called off.

Jesse Jago came up then, and for once he had forgotten to sheathe his rifle. He handled it casually, almost carelessly, The hubbub died.

Jesse spoke softly, as he always did.

"One of the conditions of this match was that it goes on exactly as scheduled, no matter what A. Oakley looked like."

There was a sharp protest but it died quickly as Jesse made a particularly careless gesture with his rifle.

"Get your gun, Annie," he said.

The rest of the story is still told on winter nights when men are fondly cleaning their favorite rifles. The little girl from backwoods Ohio fired shoulder to shoulder with the world's champion rifle shot, scoring hit for hit. On the last round, the one hundredth, Frank Butler missed. Annie Oakley never missed.

Had the story ended there it still would have been told —legends have sprung from less romantic stuff. But the Annie Oakley story was just beginning. To the delight of all future story tellers, Annie Oakley and Frank Butler fell in love. They were married a year later.

After that the four-sheet posters announced, "ANNIE OAKLEY, WORLD'S CHAMPION RIFLE SHOT," and in smaller type, "Assisted by Frank Butler." It was a sensational act and it soon became the greatest single attraction in show business.

It was inevitable that the Butlers and Buffalo Bill Cody would get together, but it took some arranging to bring it about.

Buffalo Bill had organized a tent show Wild West troupe but after its first few seasons the Cody company was deeply in debt. Buffalo Bill, like everyone else, had heard of Annie Oakley, but he was determined that there was no place in his show for a woman.

Finally, desperate to save the show, Cody's business manager arranged for Annie's appearance on the show grounds, outside Buffalo Bill's tent. Annie started shoot-

ing, and since there were strict rules about that, Cody rushed out of his tent intending to put a stop to it. What he saw, though, stopped him in his tracks.

Frank Butler grabbed up six small glass balls, tossed them high into the air. Annie grabbed a rifle from the table, shot down two of them, set that rifle down, picked up another, shot down two more, changed to a third rifle and shot the last two balls out of the air before they had touched the ground.

Cody was convinced. Annie Oakley joined the show. From that day, the Wild West show began breaking attendance records. By the time it had toured the nation Annie Oakley had become the best known and probably the best loved performer of her generation. When the show went abroad the girl from backwoods Ohio gave one command performance after another before the crowned heads of Europe.

It was during the Buffalo Bill Show days that the ticket tradition developed. There are as many versions of that story as there are showmen, but the most universally accepted report has it that sometime during her act, probably at the beginning, Cody introduced Annie with a great flourish. She entered the arena on a galloping white horse, shooting as she came. Cody then tossed bundles of tickets into the air which spread as they started to descend. Annie put rifle bullets through as many as she could before they reached the floor. The tickets fell among the audience and a ticket with a bullet hole through it could be turned in at the box office for a refund of the price of admission.

And to this day the best seats in the house, the tickets with the holes in them are known the world over as "Annie Oakleys"—a strange kind of immortality—but immortality nevertheless, for a girl from backwoods Ohio with eyes as clear as the raindrops that sift through Buckeye leaves.

2

The Ivory Palaces

FOR what seemed like the thousandth time, William Procter raised his eyes from his wife's pain-ridden face and glanced hopelessly around the stuffy little cubicle that the river-boat people referred to as his stateroom, presumably because it was named for one of the American states. He wished with all the fierce fervor of an Englishman abroad that he'd never heard of this plague-ridden, God-forsaken patch of wilderness called Ohio.

Through the window he could see the magnificent, ever-changing panorama of the river's North bank, but the beauty and the grandeur were lost on William Procter. His eyes returned to the thin, contorted face. If he had only stayed in England, he thought. He hadn't wanted to be a candle-maker with nothing to look forward to the rest

of his life but a pint of grog every Saturday night. But at that moment he'd have gladly traded all of his future for just a small segment of his past.

The boat had been two days out from Wheeling when his wife first came down with this stomach-ache. There had been panicky references to the dread cholera, and the Captain had insisted that the Procters confine themselves to their stateroom. William Procter had argued that it was only indigestion, but in his heart he knew better.

They were bound for Louisville where Martha had relatives, but obviously she needed the services of a skilled physician, and soon. The Captain had told him he'd find the best facilities in Cincinnati and the boat was due there in a few hours.

William Procter glanced again at the hills of the North bank. A fleeting, fragmentary sense of unreality came over him. The sequence of time and events that had brought him to this place began to dissolve in his mind and as his eyes closed he was asking himself, "Why am I here?"

It had been cholera all right and Mrs. Procter died. In the months that followed William Procter tried to adjust himself to the new life. It was difficult at first. The men who set the pace in Cincinnati were a raw, rugged breed and a man who aimed to get along had better have a fundamental kind of service to offer.

The only trade William Procter knew, candlemaking, was fundamental enough. At least he had managed to hold his own; a little more perhaps, since he began to have more orders for candles than he could fill.

By 1837, some two years after he had arrived at Cin-

cinnati, William Procter had made the acquaintance of a young woman who had shown considerable sympathy for both his personal and professional welfare. Gradually the friendship began to set until it had jelled into a rather definite understanding—or so William Procter thought.

One night, though, he called at her home and to his chagrin, found another man waiting in the parlor. His first impulse was to throw the fellow out, but he thought better of it after sizing him up. Waiting for the girl to come down, the two men glared at each other. Finally William Procter spoke.

"I didn't know anyone else was expected this evening," he glowered.

"I didn't either. Perhaps I'd better come another time," the fellow said.

"Don't leave on my account," Procter said with all the sarcasm he could put in his voice, "I think I'm the one who's mistaken."

"Perhaps we'd better let Miss Mary decide," the other man retorted sharply.

"Miss Mary?" Procter asked, "I'm waiting for Miss Ellen."

The storm clouds lifted. Both men broke into a grin. Procter extended his hand.

"I'm William Procter," he said.

"Glad to know you, Procter," the other man answered, "I'm Jim Gamble."

The father-in-law—that's how it turned out—set the two men up in business together.

By the late 1850's Cincinnati had emerged as the Queen

City of the West, the fifth largest metropolis in the United States. It could boast of seventy-six churches, two colleges, six banks, with an aggregate capital of six million dollars.

Eleven hundred miles of canals and railroads terminated at Cincinnati and its manufactured products supplied a market that went upriver to Virginia and down to New Orleans. Three million dollars worth of meat and meat products were shipped from Cincinnati every year, giving rise to the unflattering nickname, "Porkopolis." Squarely in the center of this fantastic expansion and carried along with it, was the firm of Procter and Gamble, soap, and candles.

There was nothing extraordinary about the company's products—there never needs to be when your contribution is a sound one—but by 1850 the P. and G. star and crescent had become the best known trade mark in the United States.

When you supply a fundamental need you sometimes have to be ready for emergencies—like Civil War. And in 1861 Procter and Gamble was caught short. It fell the company's lot to supply all of the soap and most of the candles that would be needed for the Northern armies.

Until that time soap had been made in huge wooden vats, stirred constantly by men standing at the edge of the vats manipulating long-handled ladles.

With the influx of war orders the system that had been good enough suddenly became inadequate. To step up production, the plant engineers rigged power-driven paddles to stir the batch while it was in the making.

The new machinery was an unqualified success—or so it seemed until one night when an attendant whose job it was to pour the soap into moulds after it had been mixed, went to sleep on the job. (There were those who claim he went out for a beer. The point has never been clearly established.)

In any event, when the man woke up (or returned) the mixing machines had beaten the batch into a foaming, frothing mass that overran the sides of the vat and gave everything below it the appearance of having been smothered in whipped cream.

The plant managers went into a huddle over the mishap, drew up a set of rules designed to eliminate the possibility of its happening again. No one remembered, however, to give orders to dump that particular batch, with the result that it went through the regular process.

Everyone blamed everyone else for the oversight. But there it was—nine hundred pounds of a war-short commodity and every ounce of it worthless. Could some use be found for it? The chemist was assigned to find out. The next day he brought his report to Harley Procter, William Procter's oldest son who had recently been appointed sales manager.

Harley had more serious troubles than one spoiled batch of soap and he was prepared to junk both the report and the soap.

"What did you find out?" he asked without looking up from his work.

"I have the report right here, sir, I put it through the usual—"

"Never mind the details. Can we do anything with it?"

"As a matter of fact I couldn't find anything wrong with it—except one thing."

"What's that?"

"It floats."

"Hmmm—well have 'em send it down river someplace where nobody'll notice the difference."

In the driver's room at the Martin and Chenowith office, Jesse Jago gave his shirt a vigorous shake. It had been fresh that morning but now, at the end of his run, it was caked with dust.

Jesse bent over the washtub. The water was cloudy. "Cistern must be getting low again," he remarked to nobody in particular.

He reached for the soap and began scrubbing himself vigorously. He had placed the soap on the ledge above the tub, but as usual, when he reached for it, it wasn't there. He was about to start his usual groping search. But today there was something new.

"Now there's a good idea," he said to nobody in particular. "Look, it floats."

In the office of Procter and Gamble, Harley Procter studied the reports in front of him and tried to suppress his excitement. He had the bills of lading for the entire disposition of that bad batch—and he had the new orders. Almost without exception the retailers had stipulated "the kind that floats." Could it be coincidence? Harley Procter didn't think so. He left his desk, walked out into the plant.

"Harry, was it your shift that turned out that bad batch a few weeks ago?" he asked a foreman.

"Yes sir. But it won't happen again, I promise you."

"Any of it still around?" he inquired eagerly.

"I don't think so, sir," the foreman answered, "we got rid of it as soon as we could."

"I was afraid of that,"Harley said. "Tell you what you do, Harry, tonight let that machine run overtime again."

Harley Procter sent sample shipments of the floating soap into most of the major markets. Everywhere the results were the same. The new orders said, "Send us more and be sure it floats."

Now it was only a matter of advertising and merchandising, but first he had to have a name for the new soap. That turned out to be more of a problem than he thought it would. There was no scarcity of names—he soon had pages of suggestions—but none of them struck the right chord.

Harley Procter frowned as he went over his lists again. He selected some of the more promising and wrote them on a clean sheet of paper. He studied them again, but they didn't look any better than they had the time before or the time before that.

Two weeks went by and still no name for the soap. By this time Harley Procter had driven himself almost to distraction. Names went through his head night and day, but the right one continued to elude him.

In church the next Sunday Harley Procter was so occupied with his problem he had remained standing after the hymn-singing and the rest of the congregation had sat down. His wife had to tug on his coat to make him aware

of his conspicuous position. Nor was he paying any attention when the minister opened his book and began . . .

"The text for today is taken from the Book of Psalms, Chapter 45, verse eight: 'All thy garments shall smell of myrrh and aloes and cassia out of the Ivory palaces whereby they have made thee glad.' "

By that time Harley Procter was out the door. He had a name for his soap.

3

The Man Who Wrote His Name on a Star

ON the afternoon of the Third of May in the year 2336 chances are that thousands of American housewives will slip a few extra energy pills into their purses for a family picnic aboard one of the space ships of the Greyhound Inter-Planetary and Suburban Lines excursion specials. At the launching platforms little boys will get lost but they'll be found again in time to catch the special which will whoosh them sixteen million miles into space for an eye-witness view of the return of the Peltier Comet.

And on the dull trip out, chances are, the space-ship hostess will attempt to keep the children quiet by re-telling the wonderful story of the farm boy from Delphos, Ohio, who, in the middle of the Twentieth Century, sat in a strawberry patch and wrote his name on a star.

In 1916 Leslie Peltier of Delphos, Ohio, was an ordinary 16 year old farm boy. Ordinary, that is, except that he had a taste for books on astronomy, and more than anything else in the world, he wanted a telescope.

About the time the strawberries were ripening in Van Wert County he saw in the mail-order catalogue the picture of a two-inch telescope, "so powerful you can count the flies on the back of a cow a mile away." Les Peltier wasn't interested in cows a mile away, or close-up either, but he sure wanted that telescope. The price was eighteen dollars. Under ordinary circumstances the sum was so far out of sight he couldn't have seen it even if he'd had the telescope. But strawberries were ripe in Van Wert County.

Eighteen dollars divided by the berry picking rate of two cents a quart equals nine hundred quarts—which is how many strawberries Leslie Peltier picked in one week.

It took seven more weeks for the telescope to come; but on the evening of its arrival Leslie Peltier's world was enlarged by several billion amazing celestial acres.

From sunset until dawn Leslie Peltier lay on his back in the meadow and probed the majesty and wonder of the inscrutable sky. He separated the stars of the Milky Way, he fancied he saw the craters of the Moon and he felt the cold, terrifying thrill that always accompanies the first sight of the rings of Saturn.

That was the first night. After that he got down to business.

Now one of the greatest mysteries of the heavens has always been the phenomenon of the variable star. Certain faint stars suddenly and without warning burst into first

magnitude brilliance, and just as suddenly recede to their normal magnitudes, invisible to the naked eye. There aren't enough professional astronomers in the world to chronicle the behavior of all the variable stars, so the amateurs have taken over the job. In the Western Hemisphere their reports go to the Observatory at Harvard University where scientists assemble them, in a never-ending effort to learn the haunting secret of the eternal ebb and flow of the light cycles of the variable stars.

Leslie Peltier became a volunteer in this cause. If you wanted to see him after dark you were usually directed to the meadow out back, which is where his friend Tom Shelby found him on a clear, cold night in February, 1917.

"Hey, Les, c'mon. I got the car and Judy and we'll pick up—what are you writin'?"

"R. Andromeda 2375 point 8, 7 point 2." Leslie replied in a matter-of-fact voice and without looking up.

"What's it mean?"

"It means that I watched the R star in the constellation Andromeda and found it had a magnitude of 7.2 at eight o'clock on February 6, 1918."

"What's the 2375 business?"

"That tells Harvard Observatory—they'll get my report—where to find the star in the sky. S'like saying 26 Pearl Street, Delphos, Ohio."

"I see. Two blocks north of the moon, uh? Hey, do they pay you pretty good for doing all this stuff?"

Leslie had returned to the eyepiece of his instrument. "Yes, they pay pretty well," he explained, "once in a while they write me a nice letter telling me that a guy in China

was watching the same star during the same week and found it half a magnitude brighter."

"Gee," Tom Shelby said. He watched respectfully for a minute or so. "Les," he asked then, "You're a reg'lar guy. What is there about this stuff that's so—wonderful? Anything I could understand?"

"I don't know," Leslie said, "you gotta have a kind of feeling for it."

"Could you explain any of it to me?"

"Maybe," Leslie said, "get down here and look through the eyepiece."

"Yeah."

"Let's say that in the year 1620, about the time the Pilgrims landed at Plymouth Rock, a beam of light left star 56 of the constellation, Aries the Ram. It traveled eleven million miles a minute, twenty-four hours every day—"

"Yeah—"

"It just arrived. That's what you're looking at now."

"Les, I'll take Judy home. Be right back."

Les Peltier had to quit school in his junior year. He was needed at home. It was pretty hard to take for a boy who'd set his heart on getting a diploma but Les had already learned to take the long view of things. And when you measured earth and its creatures against the majestic, ordered, infinite scheme of the Universe—well, a diploma didn't matter much. He redoubled his star-gazing efforts to make up for the disappointment. Night after night, month after month he mailed his neat, well-ordered reports to Harvard Observatory.

It had never occurred to him that his efforts might be

rewarded, which is probably why they were. In January 1919 there was a letter from the director of Harvard Observatory telling him that his work had been especially valuable because of the consistency, volume and accuracy of his reports, and that Harvard University would be pleased to loan him a four-inch telescope if he would like it.

Well, it was one of those things a man puts away to mark his milestones—a reporter, his first by-line; a soldier, his medal; a farmer, his blue ribbon; Leslie Peltier, his letter from Harvard.

There was really important work to do now. He had to build an observatory worthy of the Harvard telescope. He selected a site right in the middle of the strawberry patch. From his meager savings he bought lumber—nothing but the best—and in his precious spare time began putting together a box of his own design, ten by fourteen by eight feet high. Skillfully, he jig-sawed eight arches from Mr. Shakle's best plywood, to support the dome. Patiently, and with a hand-cutter he formed pie-shaped sections of light sheet steel and nailed them to the plywood arches to form a real observatory dome. Then he built a circular track inside the box and mounted the dome on roller-skate wheels so he could revolve it through 360 degrees. When the telescope arrived Leslie Peltier was ready for it.

And when he put his eye to the four-inch lens it was as though he were just beginning to see. It seemed that the whole wonder of the heavens had come down into his strawberry patch and made it a magic carpet suspended in infinity.

Les Peltier's telescope was the biggest sensation in Delphos since Mr. McClatchy's two-headed calf, and people came from miles around to gape at it, to ask foolish questions, and to exercise their wit.

"Now I s'pose we'll all have to draw our shades!"

"Les, give my regards to the man in the moon."

"Leslie won't look at us any more. He's been watching those girls on Mars."

"Anyhow it'll scare off the crows."

For every hundred jokers, though, there would be someone who'd understand, like Tom Shelby.

"Les, it's beautiful," Tom said. "What can you do with this baby that you couldn't do with the other one?"

"Just see further, study more stars, send in more important reports."

"They still won't pay you anything, I s'pose?"

"Pay me?" Les answered, "what do you think they've done? A fella like me having an instrument like this? Why, it's a plain miracle."

"But they just gave it to you so you'd do more work."

"You still don't understand, Tom. The work is payment enough. And now I can do so much more . . . why, I might even discover a comet or something!"

"Would they pay you for that?"

"Nobody could pay you for that. There isn't enough money in the world."

Now you can figure Leslie Peltier's chances of discovering a new comet if you're familiar with the habits of those elusive, heavenly phenomena. They usually travel a long, elliptical orbit, one end of which is visible from the earth.

It may take as many as five hundred years for a comet to complete a single cycle of its journey and if you're lucky enough to be living when it comes by, you have only about sixty days before it passes out of sight again. The final odds are the most fantastic of all. The comet crosses only a tiny sector of all the vast universe that is visible from the earth, and then it appears, only as blur among millions of stars. And even that is only the beginning.

"And if all those things happen, Les," Tom Shelby asked, "the comet's yours?"

"Not necessarily," Leslie explained. "You still have to chart its course and get the word to Harvard University before several hundred other people, who may pick it up at the same instant. It happens."

"Well, how do you get the inside track, then?"

"Most fellows look for them at the sun end of the sky. I figure my chances are best if I keep watching the other end and put in more hours watching."

"What do they do if you find one?"

"They put your name on it forever."

And so, in the strawberry patch at Delphos there began the unceasing, sleepless vigil. From 1921 until 1925 every clear night found Leslie Peltier at the eyepiece of his telescope. By day he was a factory worker and a good one. At night he scanned the skies searching for the blur that would hitch his name to a star. No one ever thought the years of star-gazing would ever pay off—except Leslie Peltier. And he had no reasonable hope that it would. But when hope passes the bounds of reason it becomes faith

and with a little of that you can move mountains, if that be your purpose; or you can discover comets.

At quarter to eleven on the night of November 13, 1925, the thermometer in the strawberry patch observatory had dropped to a frosty seventeen above. Leslie Peltier kept his lonely watch. He had long since learned to make this way among the states and counties and townships of the sky. He knew the heavens better than he knew the streets of Delphos.

Time to quit for the night. One more traverse across Orion—elevate to Betelguese and that would be. . . .

A cloudy point of mist in the lens brought every cell in Leslie Peltier's lean body screaming to attention. It hadn't been there last night. Convulsively he twisted the eyepiece first one way then another. It didn't clear up. He rotated the lens. The fuzzy object didn't rotate with it. That was characteristic of a comet. He fought down his eagerness. He wanted to run to the telephone. But he must be sure. He must get up from the telescope and wait an hour. An hour would tell whether it was just some strange and distant nebula or an honest-to-goodness comet streaking through space at hundreds of miles per second. In an hour it would move enough to tell.

The longest hour of Leslie Peltier's life was immediately ahead of him. He stepped outside, flapped his arms from habit to ward off the cold, but little beads of sweat stood out on his forehead. He pestered his watch, held it to his ear.

At quarter to twelve, the town of Delphos slept unaware of the drama taking place in the strawberry patch. Leslie

Peltier re-entered his observatory. At fourteen minutes to twelve he was out again streaking across the strawberry plants for the house.

He grabbed for the telephone, dropped the receiver, fumbled for it. He heard the familiar click but he didn't wait for the "number please."

"Get me Harvard University Observatory, and if you ever in your life hurried, do it now!"

In the world that night there were hundreds of exalted professional scientists searching the sky with instruments whose values could be calculated in the millions of dollars. To any of them it would have been a thrilling climax to a career. But once in many times the mantle of fame falls on a plain man. This was Leslie Peltier's comet.

The discovery put no money in his pocket, but it brought him rewards beyond his dreams. That year they gave him the coveted medal of the Astronomical Society of the Pacific. The Ohio Legislature passed a resolution recognizing Leslie Peltier's discovery and congratulating him for it. From Princeton University came an enormous crate —it contained a magnificent six-inch telescope.

Leslie Peltier worked harder than ever after that. In 1930, 1932 and again in 1933 he discovered more new comets. His regular job now was designing furniture for a Delphos firm, but at night he designed himself the reputation as America's greatest amateur astronomer.

Peltier's big discovery came on May 15th, 1936. And when people talk about *the* Peltier Comet this is the one they mean. Long before it was visible to the naked eye, Leslie Peltier told the thousands who later saw the comet that

it was on its way. And sure enough, on July 1, the brightest comet since Halley's burst into view and grazed the earth by a mere sixteen million miles—closer than anything but the moon and a couple of asteroids, and they called it Peltier's Comet.

Leslie Peltier was summoned to Harvard University by the nation's top scientists. He heard Dr. Harlow Shapley introduce him as one of the world's greatest astronomers and he was given the Award of Merit of the Association of Variable Star Observers, an honor accorded only two other persons in the long and distinguished history of the organization.

On June 12th, 1947, the University nearest Delphos, Bowling Green State, conferred on Leslie Peltier, the farm boy who couldn't finish high school, the degree of Doctor of Science.

So on the third of May in the year 2336 aboard the excursion special of the Greyhound Interplanetary and Suburban space ship, as it whooshes sixteen million miles into space for a close-up view of the Peltier Comet, chances are the children will listen attentively to the wonderful story of Leslie Peltier—the farm boy who sat in a strawberry patch and wrote his name on a star.

4

The Long-Handled Shovel

ADDY RATHBUN was on the road by four o'clock on the morning of July 4th, 1825. It was a long walk to the Licking Summit and from what Addy'd heard, a man'd have to be there long before the doings got under way if he was to see any of it at all.

Even at that hour the heat was bothersome and Addy knew it was bound to be a sizzler. Otherwise he'd have brought the boy. Some day, he told himself, when the boy was grown and had his boys, they'd be asking how it was this day on the Licking Summit. Who'd turned the first shovelful of dirt, they'd ask. And what did the speaker say?

They'd be making history, all right, before the blazing

sun slipped below the summit. Addy was sure about that. George Washington himself had been the first man to say that a canal between the Ohio River and the Great Lake Erie would be a good thing for the whole country. Tom Jefferson had said it, too. Everybody'd said it, Addy guessed, but nobody'd done anything but talk about it—until today. There'd been so much talk, Addy wouldn't believe it until he saw it with his own eyes. Well, today was the day. Today they'd be turning the first shovel of earth, for the canal.

Addy closed his eyes and prayed that nothing would happen and he wished he'd brought the boy.

Antonio Bartholomeo Vicidominie stretched his gangling legs in the grass of Licking Summit and strained to hear what the governor was saying to the crowd around the bandstand. He couldn't make out the words but he knew they were important and wonderful. Tony had been hired for digging jobs before but never such a one as this —a ditch 309 miles long, forty feet wide, and four feet deep. The very enormity of it pleased him. Not because he was going to get thirty cents a day to help dig it, that wasn't the important thing. Some day Tony was going to have children and this ditch was going to do good for them. This was the kind of thing Tony had left his homeland for; the big, bold American way he'd heard so much about. And he was proud that he was going to have a tough, calloused hand in it.

Nobody was disappointed. While the bugles blew and the drums rolled, a dapper sergeant of the Chillicothe

Blues passed a long-handled shovel with a yellow ribbon on the shaft, to a man in a high beaver hat. The beaver hat passed it to a still higher beaver hat who handed it to Governor Trimble of Ohio. Governor Trimble of Ohio passed it to Governor Clinton of New York. Governor Clinton of New York poked it into the soft earth of the Licking Summit and the crowd went wild.

Addy Rathbun watched eagerly as one man after another accepted the long-handled shovel and solemnly deposited a clump of earth into the wheelbarrow. The talking was over. The work had begun. Addy tried to reason with himself. It didn't necessarily mean that the corn he'd been trying to sell for ten cents a bushel would suddenly be in demand at seventy-five cents. There was no proof that his twenty-five cent wheat would be worth a dollar just because the canal would open new markets. There was no proof that he, Addy Rathbun, would be able to afford store-bought clothes and newspapers and English shoes. People had *said* that, but surely it was too much to hope. He'd better be thinking about the taxes. The canal would cost ten thousand dollars a mile, people said.

The wheelbarrow was full now and a tall officer grasped the handles, wheeled it to one side and dumped it. Addy Rathbun felt a thrill go through him and he stopped reasoning.

"Should have brought the boy," he said.

"You gotta boy?" Addy turned quickly, found himself facing a tall, intelligent-looking Italian.

"My name's Tony—Tony Vicidominie," he said. "You said to me something about a boy?"

"Didn't mean to be talkin' to anybody particler," Addy said.

The smile fled from the big Italian's friendly face. "I'm apologize," he said quickly.

"Didn't mean to be un-neighborly," Addy replied, "kinda surprised me. Didn't realize I'd talked out loud. Name's Addy Rathbun from over by Flint Ridge."

Tony Vicidominie smiled again and held out his big hand. "I'm from-a-no-place," he explained. "I'm-a-come to dig on the ditch."

"Plenty of work for everybody, I guess," Addy observed.

"Yeah, she's a big job. I'm-a look on-a map. When the ditch she's-a done this make good country for a man to make of himself—what you call—something."

"Yes." Addy's eyes took in the distant hills. "That's what I meant when I said I should have brought my boy."

The ceremonies were over now. The Chillicothe Blues were off in a blare of trumpets and a roll of drums. The celebrities and the spectators had fallen in behind and the whole procession had moved on down the ridge. And there beside the tiny mound of new-turned earth, where the last man had left it, lay the long-handled shovel.

"*Vicidominie!*" Barney Branigan's gravel voice echoed along the ridge. "The lallygaggin's over! Now comes the diggin' and I'm here to see it gets done. Ji'n yer crew before I give yuh the back uh me hand!"

"Yes sir, boss," Tony said, "I'm just gonna pick up the governor's shovel."

"Ho-oh—one uv thim trouble-makers are yuh?"

"Tony make-a no trouble, boss. Some day when the

ditch she's-a finish I'm-a get a home place maybe. Over the door I'm-a put the governor's shovel."

Branigan's crew dug North from Newark beside the Licking River, then cross-country to Dresden and the head of the Tuscarawas. His crew worked in parallel lines. The fastest digger was kept at the head of the line. Each man filled his wheelbarrow with earth and then pushed it out of the ditch onto the mound that would one day be the towpath. Each was expected to follow the leader, filling his wheelbarrow, pushing it out of the ditch to the mound and returning to the worksite.

In Branigan's crew Tony Vicidominie was number one man of the left line and his friend Quantro was number two. The rival line on the right was a solid string of Irishmen. Between the sweating lines the bull-chested tough-talking Branigan kept up an incessant, scolding cackle.

"You there, McLanahan, Clancy, McSorley . . . a disgrace to yer country yuh are. Them Eye-talians are fifty yards ahead of yez. By the breath o' St. Patrick I'll have yuh eatin' spaghetti with a spoon 'til you're caught up. It's a whole Canal they'll be needin', not just half a one. . . ." And his voice would trail off in the distance as he goaded his way down the line.

"That boss, Tony. He's-a drive me crazy. Talk, talk, talk," Tony's digging partner, Quantro, made the observation without missing a stroke of his shovel.

"He's-a just do his job, Quantro, like you and me. He jus' don understand whatsa going' on."

"Onnerstand?" Quantro raised his hat to scratch his

head. "What's to onnerstand? We dig a ditch, that's what. Even Quantro onnerstand."

"We dig a ditch, yes. But in a whole world is not such a ditch. In this place, Quantro, falls a rain-drop on a mule, on his-a backbone say it lan! Half fall one side, half fall other side. First half join up with other raindrops, flow North. Other half flow South. One half end up New York City, other half end up New Orleans."

"So what'sa it matter?"

"The ditch, Quantro—she's-a make a water road over the mule's back. This place, Ohio, she's-a grow big and strong and rich because she's-a stand in the middle. Tonight I show you on a map!"

"Such-a beeg talk Quantro don' onnerstand. She's-a just a ditch."

"Vicidominie! By the green hem o' the nightshirt o' St. Patrick, git that crew movin' 'fore I'm down there with me shillalagh!"

By the time Tony Vicidominie had put the fifth handle on the governor's shovel he was boss of his own gang. He had his own way of getting the ditch dug. He worked alongside his crew, setting the pace and selling the glory.

Patiently he explained as they worked, the importance of every man's job. One gang was working South out of Cleveland along the Cuyahoga toward Akron, he told them. Another was digging South of Akron, to meet Tony's gang which was headed North out of Newark. Still others worked from Newark South, down the Scioto to Portsmouth and the Ohio River. And when all gangs met

there'd be the ditch over the mule's back. The same thing was getting under way in the Western half of the state, the Miami Canal from Toledo to Cincinnati.

In the Fall there was an applicant for a place in Tony's crew.

"Guess you wouldn't remember me—Addy Rathbun—talked to you on the Licking Summit that day—"

"Sure, sure I'm-a remember. You gotta boy. You wanna dig for Tony?"

"Yes. For the winter anyhow. Taxes 'll be going up. I'll be needin' cash."

"The job she's-a pay thirty cents a day and whiskey. Eight hours diggin'."

"I know. That'll do."

"Quantro he get you a wheelbarrow and shovel. You take a place at the end of the line." Tony was pleased to have him. Here was a man who understood the importance of the ditch. "The boy . . . he's-a get big now?"

"Yeah. He'll be takin' care of things while I'm gone."

Any man will tell you that he works for money, but only a brave one will admit that he works for a cause. And yet wherever highways are built and barns filled and boats launched and babies born the impelling force has always been the inherent urge of each generation to leave the world better for the next—to learn what had been accomplished before and to add something of its own. Two thousand years of that continuity of society went into the building of the Ohio Canal.

That winter Addy Rathbun froze his feet. Time and again Tony Vicidominie stood waist-deep in mud, working beside his men, their clothes freezing on their backs. Some men quit, some men died. The pay remained thirty cents a day, but the ditch went on.

In the spring a new crisis struck without warning. By that time Addy Rathbun was the number one man of the left line. It was mid-afternoon when Tony noticed something was wrong.

"Ho-o, rest!" Tony called to his crew. The men relaxed from their labors. Tony went up to Addy. "My friend," he said, "I'm watch you work. You cold, uh?"

"Don't know what's wrong, Tony," he said miserably, "I get to shivering so hard the shovel falls outa my hands." His teeth were chattering violently as he spoke.

"I don't like this, Addy. You catch a cold, maybe. I'm-a gonna send for a doc."

"I'll be all right—just put someone in my place for today."

"No sir," Tony insisted. "Quantro! Go back down the ditch. Tell the boss Tony's gotta sick man. Tell 'im bring a doc and hurry, onderstand?"

It was evening when the doctor got there and by that time Addy was out of his head with fever.

"Whatsa wrong with my fren', doc? He's gonna be all right?"

"Can't say. Miasmic exhalations. Some people call it Canal Fever. Fourth case I've had today," the doctor explained.

"Whatsa this fever?"

"Comes from working in the mud, breathing the dank air day in and day out. Best thing we've found for it is

plenty of whiskey. Better give all your men extra whiskey tonight. Where there's one case there's usually more."

"Pretty soon he get better, eh?"

"Not always. Lose one in every five."

"How you lose 'em, doc?"

"I mean—they die."

"Doc!" Tony pleaded, "He's-a gotta boy. He's-a gotta home place!"

"Better see he gets there, then. He'll be a mighty sick man before he's over this."

That night Tony pulled the straw from his bunk and from Addy's and from Quantro's. He borrowed all the blankets he could find and made a bed in a spring wagon. He sat up all night pouring whiskey into Addy while Quantro drove. They picked up a doctor in Newark and they were at Addy's place by sunrise.

Addy's wife received the news as calmly as you could expect, Tony thought, but he felt awkward and helpless and he left as quickly as he could. Addy's boy was maybe fifteen, Tony figured, and he left some instructions.

"When your papa wakes up you tell 'im Tony said if he's-a need something—money or something—he's to send for Tony. You tell him Tony's-a gonna dig the Canal no matter what. You tell 'im?"

"I sure will, Tony," Addy's boy said, "and he'd be wantin' me to thank you for everything."

"No thanks—he's-a my friend. You tell him that. And if anything happens you send for Tony, understand?"

"I'll send for you, Tony," the boy promised.

Addy's sickness turned out to be malaria and Tony was

to have many experiences with it. By mid-summer it was killing two men for every six miles of ditch. The cook got sick and quit and Tony added the cooking to his responsibilities.

When it rained, half of every shovelful oozed back into the ditch and his men came down with canal fever combined with pneumonia. It was hard to keep a crew together now, but Tony kept at it. He taught Quantro to make the spaghetti for the men and he went in search of mules to pull the new scoops. But even with the improvement, he kept putting new handles on the governor's shovel.

He went up to Akron one Sunday, ostensibly to hire mule-drivers. But he had business of his own to attend to, also. He looked up a certain Judge Reeves whom he'd heard about.

"I'm-a save four hundred and sixty dollar," he explained. "Everybody they say you gotta land to sell on the Canal. How much land for four hundred and sixty dollar?"

"My boy," the judge said, "I wouldn't take your money from you. Four hundred and sixty dollars wouldn't buy you enough land to stretch your legs."

"I can take a shorter steps. How much?"

"For a canal digger you're almighty anxious to part with hard earned money, lad," the judge said, "what do you know about the Canal that maybe I don't?"

Tony's spirits picked up. "I'm-a listen alla time. Mr. Kelley he's-a talk too much."

"Hmmm," the judge said. "What have you heard, son?"

"Would you sell me half an acre, borderin' the Canal—near the locks?"

"Well, it's worth more than you got—but under the circumstances—"

"Take-a da money."

"Very well. You'll have your half acre. Now what did you hear?"

"Only that the Pennsylvania-Ohio branch of the Canal she's-a join up here in Akron."

"Why you scoundrel," the judge bellowed, "I've known that for months!"

"I'm-a need to take the paper for my land, judge, I gotta no safe place for mail."

Straight and level Tony Vicidominie pushed his section of the big ditch North toward Akron—toward his land. From sunrise to sunset, in the blistering heat and the chilling cold he drove his crew. He pleaded and urged and begged and sometimes he bellowed;—and the big ditch crept North across Ohio.

On July 7th, 1830, three days more than five years to the moment when he'd picked up the Governor's shovel on the Licking Summit, Tony was leaning on that same shovel beside the locks in Akron. A cheering, milling crowd lined the Canal banks and a band played. There was a rush of water and a sixty-foot Canal boat was lowered into the stairway of twenty-nine locks that would drop it 238 feet and 309 miles to the Ohio River.

As the boat hit the water Tony cheered along with everyone else.

"Quantro!" he yelled, "she's-a finish!"

"Bono—she's-a finish. The boat she's-a go over the mule's back."

Suddenly Tony was all attention. "Quantro, the boat! Look who's-a captain the boat."

And from the direction of the lock came a familiar gravel voice.

"All right, the speechmakin's over. Now comes the haulin' and I'm here to see it gits done! Git them mules movin' or by the sairpints ov St. Patrick you'll have the back o' me hand!"

"He's-a make out all right by the ditch, Tony," Quantro said. "What'sa fer you?"

"I'm-a gotta home place now, Quantro, a spaghetti burner under a tent by the lock. That'sa for me an' you."

"That'sa for you, Tony. Me, I didn't save-a my money. I go look for 'nother diggin' job."

"You don't think I can feed alla those people by myself, Quantro? Whatta you say to be my second cook, eh?"

Antonio Bartholomeo Vicidominie didn't know that by 1840 his canal would triple the population of Ohio or that it would bring Ohio farmers a dollar a bushel for wheat that once sold for eleven cents. He didn't know for sure that it would be the greatest single factor in making Ohio outstanding among the states and would increase the property wealth of her citizens from fifty-nine to four hundred and forty million dollars in twenty-five short years. But he had a strong inkling about those things.

When they began to happen Tony had more than a tent over his spaghetti burner in Akron. He had a roof and tables and chairs and money in the cash drawer, and he had the most unique trade mark in all Ohio. For nailed

securely over the door of Tony's place was a long-handled shovel with a worn-out blade.

From the doorway Tony could watch the mules on the towpath and listen to the voices of the sweating drivers. There was the day one of them stopped his team and came over to Tony's place. He was a strapping young fellow, taller than Tony himself.

"Remember me? I'm Addison Rathbun," he said.

Tony's hand shook as he extended it. "You're Addy's boy," he said. He didn't ask the question that immediately came to his mind. He didn't have to.

"I didn't come for you. My father came conscious 'fore he died. He said we weren't to tell you. He said you might take it to heart and give up the job. He seemed to think you were buildin' the canal all by yourself."

Tony nodded. "The Canal she's-a do right by you?"

"Yeah—I'm drivin' tow right now, but I got a good crop in. If everything goes all right I'll be building a new house next year."

"House? You gotta boy, maybe?"

"Yeah, Tony, I got a boy."

Tony nodded. His eyes wandered to the doorway and came to rest on the long-handled shovel.

5

The Circuit Rider

THE plain fact was that in 1814 sin moved so fast in the cantankerous Buckeye Country it took a good man on a good horse to keep religion even abreast of it. And that gave rise to a saddleback ministry whose great executive high priests were John Wesley, James Finley, Bishop Chase and the intrepid Francis Asbury.

So fertile was the field and so spectacular the results, these thundering legionaires of the Lord soon moved on to higher places, passing their mantles to apostles of lesser culture, but of greater stamina, faster horses and possibly more understanding.

They were of all faiths and all denominations, but otherwise you couldn't tell one from another. They rode the

great circuit Lone Ranger style, alert to the needs of their people, ready to do battle with iniquity at the droop of an eyelid.

The circuit riders have long since turned their horses loose in greener pastures but they've left a heritage, wherever a steeple pierces the sky on the Ohio landscape.

At twilight on a lonely knoll overlooking Piqua, Ohio, Henry Bascom's dappled mare halted at a touch so light it might have been only mind reading between the rider and horse.

Without dismounting or taking his eyes from the smoke that rose above the chimneys of the little village in the bend of the Miami, Henry Bascom reached into his right-hand saddlebag for the packet of letters from Piqua. There were two couples to be wed there, six babies to be baptised, two offenders to be chastised. There was a sermon to be preached—and there was Hessinkoff to be dealt with.

The Reverend Bascom was a volunteer minister; that is, he had not yet been duly ordained. He was "The Reverend" to the people on his circuit, but for one reason or another his church had three times passed over his name at ordaining time.

He had a right to hope that when the Bishops next met at Chillicothe they would see their way clear to designate him a full-fledged minister. If he had been able to build only three churches along his route, he had, at least, added seven hundred souls to the church roster. If there had been

nineteen killings on the circuit, that was four less than last year. If the per capita consumption of whiskey was still 60 gallons per person per year, at least it hadn't risen.

Yes, Henry Bascom had reason to hope.

Henry Bascom put the letters in his breast pocket and was about to send the horse plunging down the slope to Piqua town, when suddenly the animal shied and bolted. A rough-looking, masked figure emerged from the underbrush, leaped for the bridle and cursed at the plunging animal. Henry Bascom spoke soothingly to the horse and it stood nervously.

"Notice them saddlebags are bulgin', stranger, what's in 'em, bar silver?" the masked man leered.

"There's no silver in those bags, Sam Bostwick," the Reverend said sharply, "but what's in 'em 'd do you a lot more good."

"Reverend Bascom!" The bandit released his hold on the horse and pulled the handkerchief from his face. "Fergive me, Reverend, didn't recognize you in the gloom. Was kinda expectin' the Federal cashier. Go 'long and God bless yuh."

"Sam, how a man like you can ask the Lord's blessing on anything is beyond my understanding." The Reverend Bascom shook his head.

"Oh, me and the Lord gets along fine, Reverend. Half what I get is His'n." Sam's face was the soul of honesty.

Henry Bascom's piercing eyes bore into the sinner.

Sam started to shift from one foot to another. "Well, I did holt out a little last time. It was a honest mistake—

and I'll make it up—if the gov-ment man gets here," he said sheepishly.

"Sam Bostwick," Bascom said sternly, "I've had enough of your blasphemy. March down that path ahead of me."

"Yes, Reverend," Sam said meekly.

The Reverend Bascom could, when occasion demanded, hurl a thunderbolt of righteousness into the teeth of a sinner. In a seething torrent of words he could beat the drums of iniquity until strong men shuddered and the hills rang with hell and torment.

This was not such an occasion. Sam Bostwick's soul was black on one side but it was at least light grey on the other.

The Reverend spoke gently. "Sam," he said, "it tears the heart out of a man to see his work go for nothing. Last time through we had an understanding. You promised to mend your ways. Remember?"

"I reckon I do, Reverend," Sam said, "trouble is it's so easy to agree when you're here. Soon's you go, though, seems like a long time 'fore you'll be through again. I allus figure to do the right thing, 'fore you git back, but you allus beat me to it."

"Sam, you're going to need help. Belinda still feel the same way about you?"

"I reckon. She ain't never said otherwise."

"If I'd perform the service would you marry her?"

"Gosh, Reverend, seems mighty steep. The Gov-ment man never did git here, you know."

"Belinda's a mighty fine girl. Perfectly capable of handling you, too. Make you a fine wife, Sam. You could go

back to your forge and become an honest, God-fearing man. What do you say?"

"Must be some other way," Sam said wistfully.

"There is. I can march you right down to the jail house and have 'em put you in chains."

"Maybe you better do that."

"Sam!" Henry Bascom's voice cracked like a rifle.

"All right," Sam gave in, "I'll speak to Belinda."

There was no church in Piqua and that always made it difficult to get the meeting started. The Reverend Bascom elbowed his way through the crowd at the "Brass Kettle," drew a pair of matched long-barreled flint locks which he clunked onto the bar.

"Abe," he snapped at the bartender, "get 'em started."

"Oh, Reverend, didn't see you come in. I'll get 'em movin' right away."

The bartender picked up Bascom's pistols, fired into the air. In the hush that followed he announced, "The Reverend Bascom's here to hold services."

"All of you that are of my faith," the Reverend said, "and any who are not who want to come, get your women and children over to the maple grove for services. Bring the unbaptised ones, and put the sinners down in front."

Four hours later as he headed down the road from Piqua to Ludlow Falls the Reverend Bascom reviewed the Piqua situation so he could pick it up again quickly on his return.

Sam Bostwick's soul was safe he was sure. Sam was a

rough character but his new wife could be trusted to handle that. There were no baptisms to hold over. They'd broken ground for the church but it would be a long time yet. And there was Hessinkoff. He'd meant to deal with him separately but the old skinflint had disappeared right after the sermon. Hessinkoff would have to be dealt with.

He reached into his right hand saddlebags and got out the letters from Ludlow Falls.

The Reverend Bascom worked his way from Ludlow Falls to Troy, on to Springfield, Xenia, Washington Court House, Greenfield, Batavia, Portsmouth and then back along the circuit again, preaching, praying, punishing his way from town to town.

It never occurred to Henry Bascom to complain of the long, trouble-filled, saddle-weary rounds. He had learned long ago that religion, like freedom, is a hard won thing.

Sometimes he'd grow tired and then he'd lose patience with the petty consistencies that are the universal refuge of little minds. He was always sorry afterwards and he guessed that the great leaders of mankind were simply people who had learned to live with trivia and turn it to good advantage. If he'd have done that in the Groveton parish there would have been a church there now, he reflected.

He had ridden hard to reach the village to be there in time for the meeting of the elders. They were going to break ground for the church this trip and they'd asked the Reverend to be present at the meeting to help plan the ceremonies.

He had felt the tension in the room the moment he walked in. There had been an argument over who was to turn the first spadeful of earth at the ground-breaking ceremonies. Henry had lost his patience. He remembered how he'd risen to his feet, looked from one to another of the committee members and said, "Are you people building a church, or a monument to your own prejudices? I don't care who turns the first shovelful of earth just so somebody turns the last! Now sit down there and settle this thing like Christian gentlemen. I'll be back in ten minutes."

Thinking back on it, Henry Bascom felt that if anyone had been un-Christian in the matter, he was the guilty one. He should have stayed and engineered the conflicting selfish interests into a bridge of common understanding. When he returned the meeting room was empty. There was no ceremony and for some time to come, probably, no church.

He knew what he'd do the next time through. He'd give everybody a shovel and they'd all turn the first spadeful together—and not only that, he'd keep them at it until the foundation was dug.

And on the road to Xenia Henry Bascom marvelled again at the incredible efficiency of the Christian principle.

Henry Bascom's home was the floor of any hospitable cabin between the Ohio River, the Miami and the Scioto—on his good nights. Otherwise it was likely to be a sheltered spot in the lee of a fallen tree. His pulpit was his saddle; his parish, whoever there was to be helped; his cathedral, the virgin trees.

In twelve months Henry Bascom covered nearly ten thousand miles and he swung back through Piqua again and again.

Ezekiel Collins brought up the Hessinkoff matter.

"Reverend Bascom," he reported, "old Hessinkoff is actin' up again. Got a new way of stealin' off the people, he has. He's sellin' flour. For only one barrel of flour—he owns the only mill, yuh know—for one barrel of flour he takes your note for twenty-six bushel of rye to be paid come the harvest. From each bushel of rye he makes three gallon of whiskey in his still. The whiskey he sells for three dollars. That's two hundred and thirty-four dollars he gits for one barrel of flour. Reverend, can yuh show him how wrong it is to charge like that for somethin' we all gotta have?"

"I'll speak to him again, Ezekiel," Henry Bascom said.

But for all his wit, he couldn't think of anything to say to Hessinkoff that he hadn't said already. The time was approaching when Hessinkoff would have to be dealt with.

On the road to Ludlow Falls, Sam Bostwick popped out from behind the bushes again. He wasn't masked this time. He was grinning and he looked like a man who'd found peace.

"Just thought you ought to know, Reverend Bascom," Sam said, "Belinda's doin' fine with me. My forge is earnin' fairly good. Soon be able to square up my account with yuh."

"If you mean about the wedding, Sam, I was glad to do it."

"It ain't only that—there'll be a baptisin' next time—"

"I'm delighted, Sam—and we'll not worry about accounts on that matter either."

"It's not only that, either, Reverend," Sam explained, "I owe you quite a debt."

"You're one of few who ever paid me for my efforts, Sam," Bascom said. "See you next trip. I'm late for Ludlow Falls."

Being only a circuit rider Henry Bascom couldn't attend the Western Conference of his church, but they sent him a copy of the proceedings. Each time, in 1818, 1819, 1820 there was a list of young ministers who had been accepted into the conference; but each time there was a notation at the bottom which said, "Henry Bascom to be continued on trial—Mad River circuit."

And Henry Bascom continued on trial, becoming more and more involved in the affairs of his flock. Beginning now to show the strain of carrying the burdens of his fellow men. There was the scar of a wildcat claw on his right cheek and the trail was in his disposition now, too.

At Piqua the Hessinkoff matter came up again. Ezekiel Collins was waiting for him in the snow.

"Reverend Bascom, yuh remember I told you how Hessinkoff was takin' notes for rye in trade fer flour?"

"I do." The dangerous frown on Henry Bascom's face might have indicated that Hessinkoff's time had come.

"Ain't nobody able to pay," Ezekiel went on. "Crop rotted out. Ain't no reasonin' with him. He's foreclosin' the notes—takin' anything anybody's got. You remember my wife's bureau, Reverend? Maybe yuh don't, but it was all she ever had in the way of—in the way of—" Ezekiel

Collins pretended that the moisture in his eye was from the cold.

"Ezekiel," Henry said, "go back into town. Tell Hessinkoff I wish to settle the notes for the whole community. He's to meet me at the maple grove at once."

Hessinkoff was shivering when he rode into the maple grove. Henry Bascom was already there and waiting.

"Will you tell me why in tarnation you had to bring me all the way out here to pay me off, Bascom?" Hessinkoff whined. "You are paying off my notes aren't you? That's the word I got."

"I'm paying you off, all right," Bascom said. "You brought the notes?"

"Got 'em right here in my pocket—they come to—"

Hessinkoff stopped short. He was looking down the barrel of one of Henry Bascom's flint-locks.

"Keep your right hand on your saddle horn, Hessinkoff," the Reverend directed quietly. "Put your left hand in your side pocket. Pull out those notes. Now throw 'em here to me. *All* of them."

"Never did trust you thieving preachers—"

"I'll do the talking, Hessinkoff," the Reverend said. "I'm tearing the notes exactly in half. We're going to share them. Before you do any more foreclosing you'll have to see me. I'll judge when a man should be foreclosed."

"Pretty slick, aren't you now," Hessinkoff sputtered. "Well you won't get away with it. I'll have the law on you! I'll see your bishop!"

"Very well. But if the word gets out that you have only half of each man's obligation to you, you'll get nothing.

It stands a matter between you and me, and you'll at least stand to collect what folks can afford to pay. Just one more thing. I want to buy from you Ezekiel Collins' bureau. I'll pay cash."

As Henry Bascom was leaving Piqua he was surprised at the crowd that had gathered to see him off. It couldn't have been the Hessinkoff affair, no one knew about that, outside of Hessinkoff, and he wasn't talking.

Ezekiel Collins had apparently been chosen as some sort of spokesman.

"Reverend Bascom," he said, more for the crowd than for Henry, "this here's a sort of special occasion."

The Reverend Bascom glanced at the heavy sky. He was late for Ludlow Falls as it was. Ezekiel noticed the gesture.

"Now I know, Reverend, you're late for Ludlow and a storm's brewin'," Ezekiel went on, still speaking to the crowd. "But like I said, this here's a special occasion. You won't be goin' on to Ludlow. Bishop McKendree was through here last week and he said when you next came 'round we was to hold yuh here 'til he gets back. You just been appointed deacon by the Ohio Conference and the Bishop says he's got a big church for you up North sumplace."

The flock closed in around the shepherd then, everyone babbling congratulations and regrets that he'd be going. Sam Bostwick pushed through.

"Reverend, you'll be needin' a preachin' robe," Sam said. "In this sack there's eighty-five dollars—that debt I mentioned."

"Eighty-five dollars!" the Reverend said, "what for?"

"For the weddin', the two baptisms, and the half I held out from the Lord that time. God bless yuh, Reverend."

Ezekiel Collins finally succeeded in quieting the crowd. "What you got to say, Reverend?" he asked.

"Thank you—thank you all," the Reverend said, "but a man can't leave in the middle of his work. Tell the Bishop I'll see him here in a month. Make way there. I'm late."

And the snow fell on the Reverend Bascom's broad-brimmed hat as he disappeared down the road to Ludlow Falls.

6

Half Wile Hoss and Half Alligator

IT'S a dim and jagged line that separates fact from fiction when empires are in the making and a society taking root. A tale twice told becomes a legend and strong men grow into giants.

Half legend herself, pathway of empire, the prolific Ohio River has mothered a dynasty of misty heroes whose origins and existences are obscured in the soft focus of time.

In this mystic, polyglot progeny one figure stands out like a prodigal son. It's a thickset body with bulging muscles, barrel chest and bull neck. Keen, small eyes are deep-set in a grinning, battle-scarred face. The clothes are disreputable even for the times. A bright red feather protrudes arrogantly from a battered hat and all men make

way when they see it, for this is Mike Fink, King of the Keelboatmen.

Mike Fink was a roughneck in a generation of roughnecks. But he was the flint-edge of civilization pushing west, down-river past the frontier, his boat loaded with flour and axes and bullets, or up-river burdened with salt and furs and whiskey, and encrusted thick with legend.

In Mike Fink's half-century, 1770 to 1820, the keelboatmen were masters of the river. "Ring-tailed roarers," they called themselves, "reg'lar screamers, half wile hoss and half alligator."

It was the incredibly rigorous nature of their work that made the keelboatmen the scourge of the river.

The keelboats averaged fifty feet in length and were pointed at both ends. Their name came from a hardwood four-by-four that extended the length of the hull and curved upward at the ends. Because of their shape the keelboats sped downstream with the current, passing the flatboats and broadhorns; but it was the arduous method of getting the boats *up* the river that made the keelboatmen raw-hide tough and wild-horse strong.

The crew of eight or ten men moved forward to the bow on the narrow catwalks along the gunwales. Here they faced astern, shoved their long poles to the bottom of the river and pushed. As the keelboatmen then struggled aft, the boat struggled forward against the current with thirty or forty tons of freight aboard.

From New Orleans to Fort Pitt a keelboatman on shore meant trouble. The abnormally large muscles in their necks and arms and legs were enough to give pause to

prudent men, but it was their terrible zest for fighting and shooting and brawling that made the keelboatmen kings of the river and it was Mike Fink's mighty superiority over them all that made him king of the keelboatmen.

At thirteen, Mike Fink was assigned a regular porthole at Fort Pitt beside Colonel Croghan's regulars. Even then the men of the settlement were impressed by his casual, deadly prowess with a rifle, but even more by his disarmingly quick admission that he was the best rifle shot west of the Mountains.

By the time he was seventeen his peculiar talent for shooting and bragging had become so insufferable to older, wiser heads, something had to be done about it. Finally a shooting match was arranged at David Neal's farm. The usual rules were to be observed and the usual prizes awarded—a first rate steer beef divided into four quarters.

The contest was open to anyone but that's not what attracted the crowd. Most people had turned out to see Mike Fink get his come-uppance, since it was generally known that Jared Macomber, whom no one had beaten in fifteen years, was to be there.

Mike stood off from the crowd, looking over-grown and arrogant and disrespectful as the contestants took their practice shots. When every man had had his turn Dave Neal called to Mike.

"Want to get the range, Mike?" he asked.

"Mike Fink does his shootin' when the beef's on the line

or when somethin' needs killin'," Mike bellowed. "Either way he don't waste no lead gettin' the range."

"You talk mighty big for a young feller," Luke Hunnell observed.

"I shoot big and I fight big, if you're spoilin' for exercise," Mike retorted.

"Let your shootin' do your talkin' today, Mike," Dave Neal said.

One by one the contestants stepped up to the line, drew a bead on the target. Several men nipped the small white paper. Two placed their bullets in the little black diamond in the center. Mike watched the proceedings silently and scornfully until everyone had shot but Jared Macomber and himself.

"Want to shoot first, sonny?" Jared asked.

"Nope," Mike said, "never shoot any better'n I have tuh. I'll wait to see how good I got to be."

Jared's bullet ripped the diamond.

"How close 'd the old buzzard come?" Mike yelled down to the judges.

"Close enough so's you got to get smack dead center if you want this beef, Mike," Dave Neal informed him.

"Just so's he left me a little room," Mike said. The last word was clipped by the crack of his rifle.

The crowd was silent awaiting the judge's decision but Mike Fink had already shouldered the beef when David Neal called the verdict.

"Smack dead center," he said. "Nothin' but luck. Wouldn't happen twice if he lived a hundred years."

Mike Fink turned in his tracks. "I'll put up this quarter

of beef against one uh yours, Dave Neal, that I can do it again."

"It's a bet," Dave was upset and his voice cut through the excitement of the crowd.

"Wouldn't do it if I was you, Sonny," Jared Macomber volunteered. "At that distance in this wind you haven't a chance."

"Jared," Mike replied, "if I was you I wouldn't do it either. But bein' me—" Mike's rifle cracked.

"A clean miss!" Dave Neal screamed triumphantly.

"What do you mean, miss?" Mike roared, "that's my hole right on the cross lines!"

"Didn't cut paper," one of the judges announced solemnly.

Jared Macomber turned to Mike. "Lad, you know very well that hole is from your first shot. Why don't you admit you missed the second time. It's no disgrace."

Mike swaggered over to the target. "Jared," he said, "git your knife out and dig under that target. You'll find two balls, one a-top the other, cuttin' a four point dead center! Hang me up and use my carcass fer a target if ye don't."

Jared stepped up to the target, solemnly lifted the paper. "The youngster's right, Dave. See for yourself."

" 'Course I'm right. But don't call me no youngster less'n you want to fight me rough and tumble. I kin outshoot and outfight any man on this river. I kin lick my weight in wildcats and I'm spoilin' for exercise!"

Before long all shooting match announcements up and down the river carried an extra line in small print at the bottom, "Mike Fink Excluded."

It was that sort of thing that made life dull for Mike around Fort Pitt. Nobody would fight him rough and tumble, not even two or three men would take him on. Besides that, civilization began to set in. It got so a man had to lick the whole garrison if he took to shooting up the settlement on Sunday.

Mike had heard of the place at the other end of the river called New Orleans, where people spoke a strange tongue and combed their hair, but he'd never got around to arranging transportation.

That was no particular problem to Mike. There were always jobs open on a keelboat. To apply for such employment you had only to select the crew you wished to join and beat one of its members to insensibility.

The fiercest crew Mike knew about, and therefore the only one worthy of his talents, was that of one Captain Batiste, a retired sea pirate who had shown up on the river one year, complete with peg-leg, eye-patch and cutlass.

Mike kept his ear to the ground and soon established the whereabouts of Captain Batiste. A call for help had come down river from Abbott's Landing on the Monongahela. There had been a riot, and a cut-throat crew of keelboatmen was holding the town at bay. Mike allowed two days for the fun to wear itself out, and a half day for the boat to come down-river.

On the afternoon of the third day Mike found an open place along the bank above the Fort and sat down to await the arrival of the Dauphin, Batiste's keel.

Toward evening—Mike had failed to allow for an altercation with another keelboat crew over rights to a channel—Captain Batiste, wearing the keelboat captain's red feather in his hat, came into view. He was standing boldly in the stern of his boat, manning the forty-foot steering sweep that served as a rudder on all keelboats.

Mike set up a commotion with his lungs that rustled the leaves across the river. Captain Batiste bothered to turn his head in Mike's direction, but otherwise held his course. Now, no one ever successfully ignored Mike Fink and Captain Batiste was to be no exception. Mike was determined about that.

He raised his rifle, and for once, looked carefully down the sights.

The red feather in the captain's hat parted exactly in the center. The top-most part of it fluttered to the deck.

Captain Batiste was a dangerous man even when he was at peace with the world. When he was aroused, strong men took cover.

The black fury that seized him now was a monumental thing. With a grand sweep that set up a whitecap in the river, he swung the boat toward shore. He beat the bulkhead with his fist, pounded his peg-leg against the deck. Meaningless sounds bellowed from deep in his chest and made ripples on the water.

Standing on the shore, Mike Fink was enjoying the spectacle immensely. His horse-laugh rolled down the river and bounced from the trees. He punctuated it with a blend of epithets and self-appraisal.

"I'm a ring-tailed roarer," he yelled. "I'm half wile horse

and half alligator! I kin lick any blasted pirate forty ways from Monday. Come ashore you black-souled river cat, I'll rend the lard right outa yor fat carcass."

The boat grated against the bank. Batiste was overboard like a cat. Mike came charging down, head low, snorting and screaming. Batiste swung aside using his peg-leg for a pivot. Mike's ham-like arm shot out and both men rolled over in a confusion of arms and legs and muscles. Batiste's steel-trap fist closed on Mike Fink's thick hair. He snapped his knee against Mike's back and gave a vicious, convulsive tug. Every bone cracked and the cords of Mike's neck stood out like ropes—but only for a moment. His huge arm found the Captain's neck at the elbow and Mike tensed his muscle. Batiste's grip relaxed like a baby falling asleep. His resistance melted. Mike relaxed his arm a little.

"Cap'n, can you use a strong hand on that boat of yours," Mike asked.

There was no answer so Mike released the pressure a little more.

"I say, Cap'n, I'd like work on that keel of yours," he repeated.

"You're hired," the Captain managed to gasp.

Their friendship thus cemented, Mike became a kind of protege of Captain Batiste. Under his tutelage Mike began to learn the river.

"Mike," the captain would say, "take the till, we're comin' to the rapids. Mind you now the log in the center of that whirlpool—that's a planter. Steer away from it like

it was cholera. Anchored to the river bed it is, and poised to rip the timbers."

"Ever see a sawyer? It's a log that comes bobbin' down river, sometimes hardly breakin' the surface, sometimes higher'n yor boat. When it gets water logged and lurks under the surface like a sick eel it's a sleepin' sawyer and it'll scuttle yuh quicker'n a barrel of powder."

One by one Mike mastered the lessons of the river, including the stern code of the keelboatmen, that to the fittest belonged the right-of-way—and whenever two boats met in one channel the gentlemanly thing to do was fight it out.

In his time Mike Fink worked many boats. His intimate knowledge of the river bed, his unfailing marksmanship against hostile Indians and bandits, his love of a fight soon made him captain of his own keel.

With the red feather in his hat Mike was fiercer than ever and he developed such a reputation as a rough-and-tumble brawler along the Ohio and Mississippi that only strangers or fools would hesitate to make way for Mike Fink's boat.

There was the time the river pirates of Cave-in-Rock made the mistake of attacking Mike.

Twenty miles above Shawneetown the Ohio had once cut a great yawning cavern in the north bank. The opening was screened by trees, but from within the cave, the ruthless pirates had an excellent view of their prey up or down the river. Countless robberies and twenty-two killings had been recorded there until the night a storm drove

Mike's keel, *The Lightfoot,* ashore near the cave. The men of his crew were well aware of the pirate's hide-out and while they never flinched from a rough-and-tumble battle, pirates were something else again. Mike tried to rouse their sagging spirits.

"Boys, this here's a night." His rasping voice cut through the wind. "Listen how the wind rolls and tumbles like a dyin' crawfish. An' if the rain didn't wash you off now and again how'd you ever git clean? Don't stand there shiverin' like wet squirrels! Give a horray for the storm!"

They responded feebly.

"Not enough! Give a horray now for Mike Fink. I'm a salt river roarer, a reg'lar screamer! I'm half wile hoss and half alligator."

Before that cheer died away Mike had lowered his voice to a hoarse whisper.

"Boys," he said, "in that last lightnin' flash I saw them night-crawlin', low-bellied, sons-a-'gators creepin' toward us. Keep on a-talkin' and a-cheerin' like it was high noon in June but git ready."

In the moments that followed knives were unsheathed, pistols cocked, rifles raised—this was to be no ordinary sporting fight, within the code, this was the grim business of survival.

Mike kept up his ceaseless chatter.

"Like I was sayin'—I kin outshoot, outdrink, outbrag, outfight, outholler any movin' thing, man or beast, west of these here mountains clear to the sea. I'm a spotted squeamer, striped double and ready for trouble! Here it is boys!"

Guns cracked the length of Mike Fink's boat. Instantly his crew leaped overboard, yelling, swinging, swearing, screaming at their attackers, Mike's voice ringing out over all the rest.

In a moment it was over. The river pirates had retreated, except for the dozen or so who lay dead or dying on the river bank.

It wasn't enough for Mike.

"They's more uh them scaley, slitherin', white-bellied, night-crawlers up yonder in that rock. Who's fer cleanin' out that vulture-nest, to make this river safe fer decent law-abidin', home-lovin', peaceful souls like ourselves?"

They were with him to a man.

"Wile hosses on the right, alligators to the left!" Mike ordered. "We're saw-toothed reamers, ring-tail screamers! We're fightin' mad and all bad! Up the banks, lads!"

Four hours later Mike and his exhausted crew came back from the rock, leaving a trail of burning shacks, suffering pirates and a few corpses. And from that day to this, Cave-in-Rock has been a hazard only to lazy turtles that little boys catch there on summer afternoons.

Mike was quite a joker, too, they say, and his jokes were like himself, raw, crude and on an heroic scale.

His standing joke was typical. Mike would be driving his sweating crew upstream against the gentle but relentless current. They'd pass a rival keel floating lazily downstream, its skipper fast asleep on the deck. Mike would order his men to set their piles, grab up a long, wet paddle and bring it down resoundingly on his victim's backside. More often than not the aroused keeler would reach for

a bailing bucket or any other handy object to fling at Mike, only to have it shot from his hand amid coarse laughter all around. Sometimes that would anger the victim beyond reason and he'd insist on going ashore to fight it out —which was fine with Mike.

Mike Fink could turn a practical joke to practical use, too. Short of provisions one day, Mike spotted a flock of fine sheep grazing comfortably on the North bank. He shored his boat, took up a handful of snuff and rubbed it mercilessly over the noses of six fat sheep.

Mike sent one of his crew to get the farmer and by the time he arrived his woolly victims were in a frightening state of excitement, running and stopping and rubbing their noses against the earth. Mike, deeply concerned, explained the trouble:

"Too bad about yor sheep, mister, lot of it up-river."

"Lot of what?"

"The black murrain. Ain't you had it yet?" Mike was all sympathy.

"Never heard of it. Will it wipe out my flock?"

"Will less'n you catch it in time," Mike explained. "You got to get them infected sheep away from the others."

"How'll I do that? They're all mixed up in the flock."

"Reckon I could shoot 'em fer yuh."

"Nobody could shoot them wild critters without killin' half the good ones."

"Guess you don't know me, mister. My name's Mike Fink—and this here's Bang-All, my rifle."

"Mike Fink! Would you do it for me, Mike? I'd be mighty obliged and consider it an honor."

"Anything for a neighbor. I'll get rid of 'em for you, too. I'll take 'em down river a safe distance and they won't trouble you no more."

Mike would be as good as his word and there would be fresh mutton for all hands.

Mike got his come-uppance though, finally. He could lick any moving thing, man or beast west of the mountains but the thing he hated most finally defeated him—the loathsome improvements of civilization.

It was Indian summer in the year 1820. Mike had gotten into the habit of taking it easy by that time. He had turned the sweep over to a young assistant and on the lazy, downstream trip he was lolling on the flat of his back expounding to his protege and the rest of his crew on the horrors of improvements.

"Improovements," he was saying, "they come pouring down-river like a spring flood. Men that look like women and women that look like jungle birds. Ain't a good ring-tailed screamer in a cargo of 'em. Keep 'er mid-stream here, lad, the channel's narrow——"

"Steamboat ahead," the boy interrupted.

Mike jumped to his feet. "As I was sayin'," he bellowed, "improovements! Lookit that ugly hulk desicratin' the waters. It comes down like the Ark itself with all the creatures of creation inside, blowing black tobaccy up her stacks. And lookit her hawg the water!"

"Shall I give her the channel, Mike?" the boy asked.

"Gimme that sweep, lad." Mike was all action now. "Man the poles, you louts, that improovement gets no channel from Mike Fink!"

The steamboat's bell clanged a frantic warning.

"This is Mike Fink, you're ringin' at," Mike scolded. "I'm king of the keels! I got the fastest boat and the best crew the good Lord ever put intuh water and if any man says no I'll be in his hair quicker'n a fire c'n scorch a feather. Push 'em boys!"

"Mike, give way!" the boy screamed.

"Mike Fink gives way to nothin' short of the swingin' doors uv the gates uh Hades!" Mike screamed. "I'm from fightin' stock, a granite block and all rock! Hold on, boys!"

Mike and his crew lived to tell of it, but he was through on the river. He had several opportunities to pilot steamboats but he couldn't take to improvements.

All Mike wanted to be was a salt river roarer, half wile hoss and half alligator. And in the dynasty of misty heroes whose origins are obscured by the soft focus of time, Mike stands out from the polyglot progeny like a prodigal son. He's joined the ranks of Boone and Kenton and Carson but he can still lick any of 'em, rough and tumble, down on the river where they tell his chapter in The Ohio Story.

7

Ribbons of Steel

THE month of June of the year 1904 was a prophetic one for this nation. Events of great portent were blossoming like rambler roses.

In Detroit, a pale, slight young man was trying to coax the breath of life into a cantankerous assembly of wheels and gears and shafts that he called, simply, a Ford.

In Canajoharie, New York, the son of Bartlett Arkell had poured the last of his father's fortune into one final effort to perfect a method of preserving food in vacuum jars.

At the St. Louis Exposition, Lee DeForest, a brash young scientist, had built the tallest structure on the grounds, to send messages without wires.

In Chicago, Robert Todd Lincoln, President of the Pullman Company was dedicating another "wooden palace" railway sleeping car.

Yes, in the month of June in the year 1904, prophetic things were happening all over America. But even a prophet would hardly have recognized the most portentous event of all. In Middletown, Ohio, an ordinary man was applying for an ordinary job. There was nothing in the episode to throw the stock market into a panic; everything was quiet on Capitol Hill; no morning editions were held for an extra.

No one knew that the curtain had risen on a drama of technology that was to give every man an Aladdin's lamp to replace a wooden ice-box with a Frigidaire; a wash tub with a Laundromat; a spring wagon with a red convertible.

On that June morning the nation arose unaware that a new era was about to unfold like the rambler roses—from one man's chapter in The Ohio Story.

Everything was against John Butler Tytus that morning. His classical education, his family background, even the expensive cut of his clothes worked against him. Charlie Hook, the twenty-five year old superintendent of the Armco Steel Corporation, was impressed unfavorably. He'd had no experience with rich men's sons and he wanted none. Still, Mr. Verity had sent the fellow and that entitled him to a hearing.

"I don't know why Mr. Verity should send you to me," Charlie Hook said. "He usually takes care of the office jobs himself."

"I don't want an office job," the young man explained. "I want to work in the mill."

"You a chemist or somethin'?"

"No, sir—"

"You went to college?" There could be no doubt of Mr. Hook's opinion of that.

"Yes, sir, Yale."

"What'd you study?"

"I majored in English literature." John Tytus's face reddened.

"Well, I'll tell yuh," Hook said, looking toward the ceiling, "right now we ain't using much English Literature in mill. Not even much English s'matter of fact."

John Tytus's jaw clenched and the muscles stood out on his lean face. "I'm not looking for a soft job. I could get that at my father's paper mill. I want to work in steel, on a sheet mill," he said.

"Mmm—let me see your hands," Hook ordered. "Ever see a sheet-mill crew workin'? It's a little different than making paper. We start with a hot ingot—a chunk of steel a foot square and eight feet long. In that form it isn't worth anything to anybody."

"I know," John Tytus said.

"In the blooming mill we flatten the ingot into a slab."

"I know, I've seen it done."

"In the bar mill," Hook went on explaining, "we

roll the slab into a plate. We cut that into pieces. It still ain't the way the customer wants it. It's got to be rolled into sheets."

"Yes, sir, I know," Tytus said.

"Ever see the mill stands? They look like enormous clothes wringers, only the rollers weigh twenty ton."

"I've seen them."

"You say you saw a mill crew work?" Hook went on. "Did you feel the beam of heat that blisters your back when they open the furnace door?"

"Two thousand degrees, I understand," Tytus got in.

"Did you see the men drag the hot billet across the floor? Did you hear the noise when it hit the rollers?"

"I did, sir," Tytus answered. "I stood beside the man with the tongs who catches the sheet on the other side and I watched him throw it back across the rollers to the man who'd fed it in. I watched 'em work. Twenty-two times they passed the sheet back and forth through the rollers before it was finished. I counted."

"Then why in blazes do you want to work in a sheet mill?"

"Because we used to make paper a sheet at a time! We found it could be made in a continuous strip!"

Charlie Hook looked at the young man sharply. "You think steel sheet could be made that way?" he asked eagerly.

"I do," Tytus said.

"Well, sir, you'd have saved time if you'd told me that," Hook said apologetically. "I've always thought there must

be a way to roll steel in a continuous strip. Trouble is, so many people have tried it and nobody's ever done it. Know anything about steel?"

"Nothing at all. That's why I want a job in the sheet mill."

"All right. I'll put you on as a spare hand. That means you'll take the place of anybody who gets hurt."

"How often will I work?"

"Most of the time," Charlie Hook said quietly.

June gave way to January and the year was 1905. In Detroit the pale, slight young man had found a group of people who were willing to bet their savings on automobiles. The Ford Motor Company was organized with a capital of a hundred thousand dollars.

In Chicago, Lee DeForest was wrapped up in a new experiment. He had noticed that the flame of the gas light flickered every time he sent a telegraph message with a spark coil. He was trying to find out why.

In Canajoharie, young Bartlett Arkell was packing bacon in air-tight glass jars and labelling them "Beech Nut Brand."

In Middletown, Ohio, John Tytus now had calluses on his hands, scars on his legs and bulging muscles in his back. But he had won his place with the clannish Welshmen of the mill crews who had, for generations, exercised a vital monopoly on the art of rolling sheet steel.

Eric Jones had been the first crew boss to accept him. At the end of what had been, for John Tytus a torturous day, the wiry old man who was as tough as the steel he

rolled looked over the pile of finished sheets and he said, "Twelve hours, twelve tons of sheets. It is good, John Tytus. You will stay regular on my crew."

It was praise indeed and it meant the opening of a door for John Tytus.

"Thank you, Eric," he said, "but you know I have a lot to learn."

"Me and my men, we will teach you," Eric promised.

After that Tytus worked beside the crew boss whenever he could get the place. Early in the mornings before the whistle blew and at dinner time he'd ask his questions.

"Eric, each time you pass a sheet through the mill you tighten down the rollers a few thousandths, so with each pass it gets thinner and longer. Why doesn't it get wider, too?"

"Because that is the way steel is."

"But there must be some reason."

"Yes, there is a reason, I think. I think it is the shape of the rollers."

"The shape of the rollers? They're just cylinders aren't they? I mean, if you sighted across the surface it'd be a straight line?"

"To the eye it would be so. To the eye the sheet comes out flat. But to the feel of the tongs it is not flat; I think the sheet is thicker in the center than on the edges."

And then the whistle would blow and inferno would be on again. John Tytus would take his turn at the tongs. He would grab a sheet at the edges, on one pass, and in the

center on the next. Try as he would, he could feel no difference.

He would wait for the next opportunity and he'd fire more questions.

"Eric, what would happen if we rolled a sheet through one mill, and then instead of throwing it back, we made the next pass on another mill?"

"Maybe you would break a roll. Maybe you would get a cobble."

"A cobble?"

"Wrinkles in the sheet."

"Have you ever tried rolling a sheet on a series of mills instead of just one?"

"No."

"Suppose you did. Supose you lined up all the mills and you adjusted the rolls so each one flattened the sheet a little more than the one before. What would happen?"

"You could not do it. The sheet would grow cold going from one mill to the other. Rolls would break. One crew would hold up another. There is no building long enough for such a row of mills. There are not that many mills. Also, it is not the way to make sheets. You ask such questions, John Tytus. You are searching for something, I think."

"That's right, Eric. I'm searching like a man in a cave, for light."

Eighteen months John Tytus labored in the din and sweat of the back-breaking sheet mills. Eighteen months of questioning, observing, learning. Slowly his dream of

rolling steel in a continuous strip began to fade. He saw all too clearly that steel was made by experience rather than knowledge.

The canny Welshmen knew by instinct the precise moment a searing red billet should be pulled from the furnace and slapped through the mills; how much heat and pressure a roller would stand; whether a sheet was finished after twenty-one passes or twenty-two.

John Tytus knew there were sound, scientific behavior patterns behind all those things. But he knew also, that it would cost millions of dollars and years of effort to search them out. Meanwhile sheets of steel would be made by the feel of the tongs and a Welshman's instinct.

By 1907 John Tytus had mastered the art of rolling steel and they'd made him superintendent of the sheet mills. In 1909 the company expanded the plant at Middletown and they gave him the job of installing the new mills. He hardly had them in operation when his friend Charlie Hook came to him with a problem.

"John," he said, "we've got an order from Detroit for a batch of special sheets. It seems the finish we've been giving 'em isn't good enough. Also, it doesn't draw deep enough to suit 'em."

"What's the matter with the finish?"

"Well, you know they've been makin' automobile bodies out of sheets. Seems they have to put on as many as fourteen coats of paint to cover up the flaws in the surface we give 'em."

"I'll see what we can do, Charlie," Tytus promised. "Now, what's this about deep-drawing?"

"Well," Hook explained, "they want to make everything fancy. They want to put a flat sheet into a die. Hit once and have it come out a fender. Not a flat, square fender, mind you, but a deep, round one, with curves."

"What happens to the sheets we're giving them?"

"They crack. What they're after is impossible, of course—"

"Charlie! Suppose we could give them the kind of steel they want—can you see what they could do with it? A continuous strip in a coil a quarter of a mile long, feeding into a press. Smack! A fender. Smack! A fender. Everybody could own an automobile, Charlie. Even the working man! Deep-drawing steel—millions of tons of it, in a continuous strip—"

"John," Charlie Hook interrupted, "aren't you dreamin' a little?"

John Tytus went to work to fill the order from Detroit. He tried rolling sheets at higher temperatures. He tried rolling them cold. He tried to plane the surface. He tried wire brushes. He gave them better steel, but with every improvement came new demands and despite his efforts steel continued to be made in single sheets and fenders remained straight and square.

By 1914 Lee DeForest had long since solved the mystery of the flickering gas flame. Out of his experiments had come the vacuum tube and they were using it to send messages across the sea. In 1914, the message was—war.

In Middletown it meant switching from sheets to forgings and heavy plate. That could be carried out under the open sky and the need was urgent.

John Tytus found himself with a plant filled with idle sheet mills and experienced crews. His chance had come.

Over night, John Tytus's plant became an enormous laboratory. Mill rolls were ground flat, convex, concave. Pyrometers that would measure temperatures in fractions of a degree were built into the furnaces and onto the rollers. Sheet bars of every conceivable formula were prepared for John Tytus's great search.

What were the strange behavior patterns, the laws that governed the sheets of steel?

Did the rollers spring during a pass of steel?

What was the temperature of the rollers, the steel?

What should it be?

Why was the finish rough?

Why wouldn't it draw?

Could steel be rolled in continuous sheets?

Why had everyone who'd ever tried it failed?

These were the questions that plagued John Tytus. These were the barriers that confined his dreams.

John Tytus plunged into his experiments like a man possessed. The months slipped by in a montage of confusion, failure, hope and despair. Time began to lose its meaning for Tytus and his men. They worked until the micrometers fell out of their hands and the endless figures in the notebooks twisted and jumbled themselves before their half-shut eyes. Sometimes John Tytus would slump to the floor, unconscious from sheer exhaustion. Tenderly the grizzled mill hands would carry him to a cot and someone would stand by to keep the problems away for an hour or two. But always somewhere the scream of

tortured machinery would pierce his sleep and he'd be on his feet.

"Mr. Tytus!" someone would shout, "can you come to the number three stand? It's wrecked. Sheet snapped, folded back on itself, broke the rolls. Tore the bearings out of the housing. Cracked the stand!"

And John Tytus would look long at the wreckage and the men would study his face. "Did you learn anything?" he'd ask quietly.

Knowledge, like freedom is often a hard-won thing. You can't legislate it; you can't force it; you can't buy it. You can only stand behind the men who seek it and hope that even though the battle is lost the cause will be won.

George Verity, Charlie Hook and the management of Armco stood behind John Tytus that way. They backed him with faith and with money. When his courage sagged and his hopes waned, they gave him more help and new machines and urged him on again.

Slowly, like the beginning of dawn, a suggestion of order began to emerge from the chaos. It was hardly distinguishable at first and might easily have been overlooked.

Eric Jones came to John Tytus for advice.

"John," he said, "it hurts me to add more troubles to you, but my men—they say they're going to quit."

"What's wrong, Eric?"

"Some of my crew have been working beside me for thirty years, John. In all that time not more than a dozen cobbles are charged against us. Now we make nothing else."

"But you're not making sheets now, Eric, you're making knowledge."

"So I have told them. But they say Saarkin's crew gets no cobbles—"

"I know, but the sheets he's making aren't any better than yours. If you'll look at 'em you'll see that they're thin as paper on the edges but thick in the middle. We ground his rolls that way purposely. We'll run those sheets through another mill now to get some of the bulge out of them. We'll keep doing that until they're almost flat. That's when they'll come to your mill."

"And on our mill they'll cobble."

"I know, Eric. But why? They ought to go through your mill just as well as the others. Your rolls are ground to leave a bulge in the center, too—but only a few thousandths. When the tolerance gets that close we always end up the same place—"

"Cobbles."

"That's right. Eric! The first sheets you put through in the morning, when the rollers are cold—do you get cobbles then?"

"Always the first few sheets go through fine."

"That's it!"

As John Tytus moved toward Eric's stand the men took one look at his face and dropped what they were doing to follow him. They watched him pick up a water hose and climb up onto the stand. He turned the stream onto the searing hot rollers. The water sputtered and he was enveloped in steam.

They heard his voice then. "Put 'em through, Eric."

Eric barked at his crew and they started a red hot strip of steel into the rollers. Steam rose in bellows, but out of the rollers came a perfect ribbon of steel. And John Tytus's voice bellowed over the din. "Keep 'em coming. We've got the answer!"

John Tytus had found the magic key to continuous rolling of sheets of steel. When he put it down on paper it wasn't romantic or dramatic—it wasn't even difficult to understand.

To roll steel in a continuing sheet you didn't try to make it flat on the first or second or even third pass. You allowed the sheet to bulge in the center and you reduced the bulge by degrees.

To do it though, you had to prepare the contour of the rollers with precision accuracy. You had to control the temperature, the composition and the spring of the rollers just as accurately. That would give you control of the shape and temperature of the steel you were putting through.

Those were the simple truths that evaded steel men for a hundred and fifty years.

Knowledge, indeed, is often a hard-won thing.

There was a new spirit now in John Tytus's laboratory. Darkness was gone. Light had come. And as he walked through the plant setting up the experiments that he knew would result in the proof he needed, there was good word at every hand.

"John, she's fine now. No cobbles in three days."

"We got her timed, Mr. Tytus, seven tons without a buckle."

"John, the lab says that last sample shows a smooth finish after three coats of paint."

"Need a waste basket for your office, John? We stamped it from that sample sheet. Deepest draw I ever saw."

Oh, the search wasn't over, it had hardly begun. But when the war ended, locked in John Tytus's desk was a set of blueprints the likes of which the world had never seen. On paper he had created a gigantic machine a quarter of a mile long, three stories high. It was a machine of marvellous precision and many parts. It began with a furnace for heating huge slabs of steel to rolling temperature. It ended with a mechanism for stacking the never ending stream of finished sheets.

John Tytus had spent fourteen years and something more than a million dollars to create his machine on paper. But to convert it into roaring furnaces and screaming rollers and humming motors—well, that would cost seven million dollars more.

To the Armco Board of Directors it was a hazardous quarter of a mile beset with dangerous economic reefs for the plain fact was Armco couldn't afford a seven million dollar mistake.

It was an old dilemma. American industry has faced it for years. George Matthew Verity, founder and President of Armco saw the issue clearly, as other men had seen it before him. He put it into thoughtful words.

"Gentlemen," he said, "John Tytus has placed us in an

interesting position. He has come to us with a method of producing better sheet steel, cheaply and in mass quantities."

"If he is right this nation will one day honor his name because goods that are now the property of a privileged few will become available to all men. To find out whether he is right or wrong we must risk our company's future. We'll make a profit if we succeed, but we can't afford to fail."

"Do we take the risk?"

"We do. Because in a free, competitive economy we progress or we die. If we do not take the risk a competitor will. It's the rule of America, and while it's a stern taskmaster, it has accomplished more good for more people in a hundred and fifty years than men had ever dreamed of in three thousand years of civilization.

"There is no choice here. John Tytus must be given what he needs to make his error—or his contribution to our society."

John Tytus began to build his continuous mill in 1921. For three years he worked on it. The investment soared. Five million. Seven million. Ten million. And still not an inch of productive steel.

It would have been a better ending to the story if he'd pushed a button the day the mill was finished, December 31st, 1923 and a red slab rolled from the furnace and went roaring down through the machine to emerge in perfect sheets ready for shipment. It would have been a better ending than the way it was.

Rolls broke, housings snapped, sheets buckled, bearings cracked. It was six months before any quality sheets were coming off the line. Meanwhile the men whose business it is to figure such things, informed him that the mill would have to roll 18,000 tons of finished sheets a month in order to operate at a profit.

But inevitably, as it must when men work for a cause, success came to John Tytus. In three years, 40,000 tons of smooth-finish, deep-drawing steel were pouring from his mill every month.

But John Tytus, spent in body and mind, never lived to see the fulfillment of his dream.

Within a decade American companies had invested more than half a billion dollars in constantly improved continuous mills.

All over the civilized world men have reaped the rich rewards of John Tytus's search. In Canajoharie "Beech Nut" foods are packed in cans of steel. In Detroit, automobile bodies are stamped from steel by the thousands an hour.

In Pullman, Illinois, the wooden railway palace has long since given way to the all-steel coach.

By mid-century, sheets of steel were pouring from the continuous mills at the rate of sixty miles an hour, two billion dollars worth a year, enough to provide nearly two tons of sheet steel for every family in the United States every year.

No one knew, that June morning in 1904, that the curtain had risen on a drama of technology that was to give

every man an Aladdin's lamp to replace a wooden ice-box with a Frigidaire; a wash tub with a Laundromat; a spring wagon with a red convertible. The nation arose that morning unaware that a new era was about to unfold like the rambler roses—from one man's chapter in The Ohio Story.

8

Arrest Lottie Moon

IN OXFORD, Ohio, folks had come to expect the worst from Lottie Moon. So as she galloped her horse pell-mell through town, heedless of life and property, on an afternoon in June in the year 1848, she set tongues wagging from one end of High Street to the other. Some of the ladies of the Friendly Tuesday Sewing Circle guessed that the young Lieutenant Burnside must have had something to do with it. Another faction pointed out that young

NOTE: The author and Ohio are indebted to Ophia D. Smith of Oxford for the years of painstaking and well documented research which has established Lottie Moon as one of our most fabulous ladies. This narrative is based on Mrs. Smith's factual accounts of the incredible life and time of Lottie Moon.

Burnside was one of the twelve men Lottie was currently engaged to marry, and it was a well-known fact that Lottie chased after only those men to whom she was not engaged.

There was a third faction which expressed doubt that it had been Lottie at all. You never could be sure because Lottie's talent for mimicry was such that she had been mistaken for everything from a retired English general to a slave girl from Memphis.

No one thought to associate Lottie's wild ride with the homecoming of the brilliant and tough-minded young lawyer, Jim Clark. Clark was a little older, considerably more experienced and a bit more reckless than Lottie herself. His legal reputation was well-known throughout Ohio, but Oxford remembered him as a rather adventurous young man who admired fine horses, good bourbon and spirited women.

Several miles below the village of Oxford, Lottie Moon saw the approaching Cincinnati stage. She pulled up her horse and waved her hat as the coach approached. The driver stopped.

"Get outa the road there. You want to get kilt?" he shouted.

"Joe Follanbee," Lottie scolded, "I never thought I'd live to hear you speak to me that way."

"Oh, Miss Lottie, I didn't know it was you, honest."

"All right," Lottie said, pulling her horse over near the driver's seat. "Is that insufferable Jim Clark riding with you today?"

"Yes ma'am, he is," Joe said. "Has he been botherin' you?"

"Yes he has. And I want to get even. Joe, I want you to do me a favor."

"Yes, Miss Lottie, anything. I'll pull him outa there right now if you say."

"No," said Lottie, "just let me drive the coach into town."

"Now what you want to do that for, Miss Lottie?"

"Don't ask any questions. Just get down here and take my horse. Let me up there."

"Oh I couldn't do that, Miss Lottie. Against the rules. Besides, you couldn't handle a team like this."

"I guess you didn't mean a single one of those things you said the other night," Lottie said sadly.

"Oh yes I did, Lottie. I meant every one of 'em."

"All right, get down here then, before the passengers get out to see what's holding you up."

"Well—you'll have to promise to be careful."

Lottie was in the driver's seat in an instant.

"Bring in my horse, Joe," she ordered.

"Now be careful, Lottie, those horses are still fresh. I still don't see what you'll be showin' Mr. Clark by—"

The rest was lost in the crack of the whip. Lottie brought the rawhide down on the backs of the horses. They plunged forward in terror. The coach went careening down the road, skidding from side to side. Lottie took the curves on two wheels. On the hills she never touched the brake and the horses ran for their lives. When she'd hit the ruts all four wheels would leave the ground and the coach tipped crazily, skittered and swayed. Occasionally,

over the uproar of the hoofbeats Lottie could hear the passengers shouting in terror and she was delighted.

She tore into Oxford blowing the driver's horn and frightening the wits out of pedestrians and horses alike. At the Mansion House she jammed on the brake and pulled the exhausted horses up short. The coach skidded off the road, slid into the yard and came to a lunging halt. The passengers piled out waving their fists and clamoring for the driver's scalp.

Lottie paid no attention. The last man out was Jim Clark. His face was black with rage as he stepped around to the driver's seat. Then he saw Lottie. Her head was cocked a little to one side, smiling mischievously. Jim Clark's stern face relaxed. He broke into a slow smile, tipped his hat. "How do you do, Lottie," he said. "I was in quite a hurry and I thank you." He brushed the dust from his hat and walked into the Mansion House.

Half an hour later the story was public information in the remotest corners of the village. Lieutenant Ambrose Burnside heard it and immediately called at the Moon home, demanding an explanation from Lottie herself.

Lottie's father explained that she was in no mood to explain anything to anyone and advised the young man to call later.

At dinner no one spoke of the incident. Lottie seemed to be her usual buoyant and brilliant self although her father was aware that it was one of her better performances. Afterwards he had a word of advice for his daughter.

"Lottie," he said when the others had retired, "you can marry that Burnside any time you want to, but stay away from that Jim Clark. He's too smart for you."

Lottie smiled sweetly and almost managed to hide the fire that was in her eyes. "I've always found Mr. Clark rather dull," she said. "And I'm pleased to know that you approve of Mr. Burnside, I have plans for him."

Mr. Moon studied his daughter's face for a moment but he had learned from long experience not to trust anything he saw there. "Very well, Lottie," he said, "but I'd be a little careful. I don't think that boy is the fool you think he is."

Lottie smiled sweetly again and the old man felt himself feeling sorry for the boy.

"I'll be at Brownsville, at Aunt Martha's if he should inquire for me," Lottie announced. "I'm leaving tomorrow."

"You running away?" her father asked.

"Not exactly," Lottie said.

A few days later Mary Moon, Lottie's younger sister, burst into Jim Clark's law office, by appointment, closed the door carefully behind her and began to state her business.

"Jim," she said, "you've got to do something. Lottie's sent word that she's going to be married the day after tomorrow!"

"Very well," Jim Clark said, "what would you like me to do, send flowers-?"

"You're not fooling me, Jim Clark," Mary stormed.

"Everyone knows you're in love with Lottie. You can't stand by and see her throw her life away on that—that tin soldier. She loves you and you know it."

"But you just told me she's getting married to a tin soldier. That would seem to end our alleged romance."

"There's still time to stop it. If you'd go down to Brownsville and just talk to her."

"Mary," Clark said, smiling, "I have a great admiration for your sister. I believe she's quite capable of marrying a tin soldier. She is also quite capable of using him as a pawn in her rather amusing chess game. I trust she told you exactly how to break the news to me?"

"Lottie always said you were an insufferable, conceited man. Now I know what she meant."

"Send Lottie my best wishes, Mary. You may report my reaction as follows: I hope she lives happily ever after."

Mary tossed her head as Lottie had taught her and stormed out of the office, ignoring Clark's quiet laughter.

Two days later at Brownsville, Indiana, the wedding guests were assembled, the minister was ready, the groom paced the floor nervously.

In the bride's quarters Aunt Martha urged Lottie to hurry. "They're waiting, Lottie," she said. "Everyone's beginning to talk."

"Has Mary arrived yet?" Lottie asked calmly.

"I told them to send her right here the moment she came. You just can't delay another minute, Lottie."

"I suppose you're right, Aunt Martha, tell them I'm ready."

Marching up the aisle on the arm of her proud groom, Lottie Moon kept glancing to the right and the left as though she were expecting someone. Just as the couple reached the pulpit there was a commotion in the rear of the church. The bride turned. Mary Moon walked boldly up the aisle, caught her sister's eye and shook her head vigorously from side to side, and took a seat.

Solemnly the minister stood before the couple. "Do you, Ambrose, take this woman, Lottie, for your lawful wedded wife to have and to hold until death do ye part? Answer, I do."

Burnside's strong voice rang out, "I DO."

"And do you Lottie, take this man, Ambrose, for your lawful wedded husband, to have and to hold until death do ye part? Answer I do."

There was a pause so tense, Aunt Martha fancied she could hear the dust settling on the floor.

The minister coughed. "Answer, I do," he repeated.

Lottie answered, but not as she'd been told. "No Siree, Bob, I won't," she said. With that she turned on her heel and marched from the church.

The jilted Burnside followed Lottie back to Oxford alternately demanding and pleading that she go through with her bargain. Lottie refused to discuss the subject. Eventually the disillusioned and broken-hearted suitor returned to military duty and began the career that was to bring him back into Lottie's life under strangely reversed circumstances.

Meanwhile, the events at Brownsville had been reported in precise detail to the townspeople of Oxford. Everyone

wondered what Lottie would do next, for it appeared that Jim Clark was still unmoved by the repeated evidences of Lottie's devotion. They hadn't long to wait for it happened that Lottie chanced to meet Clark on High Street.

"Why, Jim Clark," Lottie said, nearly overcome with surprise, "whatever are you doing back in town?"

"As you know very well, Lottie, I haven't been out of town," Clark said with an exasperating grin. "I've heard that you were, though."

Lottie suddenly put both hands to her heart. The blood left her face and the muscles of her lower jaw tightened. There was an audible crack as her jaw seemed to slip out of place, leaving her face contorted with pain. "Please, Jim," she managed to gasp, "take me home."

Clark picked her up with surprising composure, under the circumstances, and carried her toward his office. Lottie seemed to have fainted the moment he picked her up. The sight of the lifeless Lottie in the arms of Jim Clark caused considerable excitement on High Street. There were many offers of help and advice. Clark turned them down brusquely, entered his office and kicked the door closed behind him. He plopped Lottie into a chair and stood over her. "All right, Lottie, you can come to, now. We're alone," he said.

Lottie sat upright. "What did you say, Jim Clark?" she snapped.

Clark grinned the way he always did at Lottie. "I saw you go into that act two years ago at the Sunday School picnic, remember?" he said.

"I didn't know you were there," Lottie said sharply.

No one knows to this day who proposed to whom, but on January 30, 1849, it is a matter of record, that Jim Clark and Lottie Moon were married in the Moon home in Oxford. The following details are also a matter of record.

The guests were assembled in the parlor where the ceremony was to take place. Lottie and Jim were to descend the stairs together to the music of the wedding march. The musicians began. Lottie grasped Jim's hand and suddenly withdrew it. "Jim!" she exclaimed, "what is that in your hand?"

Jim cocked one eyebrow a little higher than the other. "I have a gun in my hand, darling. It will be in my pocket as we face the minister. Today you are going to be my wife, or tomorrow there is going to be a funeral."

The ceremonies, it is recorded, were concluded in the usual manner.

Oxford breathed easier after Jim and Lottie Clark were married. For a few years it seemed as though they would both settle down and become quite respectable. Jim Clark became one of the most influential members of the Ohio bar and Lottie a brilliant social leader and woman of affairs.

But then the clouds of civil war began to gather and strange rumors began to fly in Oxford. It was said that the hated "Copperheads," northerners who were sympathetic to the southern cause, were centered in Butler County and their activities seemed to be under the direction of a kind of master-mind who could have been Jim Clark.

Later there were rumors of an underground movement

whose members called themselves "Knights of the Golden Circle," and were pledged to assist the Confederacy behind the Northern lines.

No one spoke openly of the Clarks' connections with these things, although it was sometimes pointed out that Jim had been a Virginian and the Moons had originally come from Tennessee.

Early in the war the Clarks had a mysterious visitor. He arrived late at night when the house was dark and the family apparently retired. He rode his spent horse right up to the door, dismounted quickly and rapped on a window. Almost at once the door opened to admit the visitor. Someone came out and led the horse around behind the stables and into the woods. A few minutes later a group of horsemen came clattering down the road, pulled up at the Clark home. The leader of the group banged on the door. It was some time before Lottie appeared in a night robe and shawl, obviously still half asleep, to determine what all the commotion was about. She was informed that a Confederate spy had been seen in the neighborhood. He was known to be carrying important secret dispatches and was wanted dead or alive. "Had the Clarks seen or heard anything that would indicate his whereabouts?"

"Not a thing," Lottie said, but she'd be glad to keep her ears open. "Meanwhile, would the gentlemen care to come in for a cup of coffee before resuming the search?"

The offer was turned down graciously and the posse galloped on down the road.

Hardly had the riders disappeared when the door opened

again and a thin, stooped, elderly lady wearing a shabby dress and an old shawl slipped out the door and melted into the darkness.

The next day at the railroad yards in Cincinnati a tired-looking old Irishwoman wearing a shabby dress and an old shawl walked along the tracks, until she came to a row of freight cars. There she was challenged by a guard. Before he could ask a question the old lady burst into tears.

"Officer," she sobbed, "would you have pity on a poor Irish lady whose only son lays dyin' at the front. Kelly's the name. Maybe you knew him?" The suffering and the bewilderment in the old lady's face made the soldier drop his rifle and extend a protecting arm around the woman's shoulders. At the gesture she began to sob again.

"Now, now," the soldier said, "maybe it isn't as bad as you think. Lots of times it isn't, you know."

"Sure and you're a good boy to say so," the old woman sobbed. "But no matter how it is, he needs me. No one can take care of a sick boy like his mother, now can they?"

"That's right, ma'am," the soldier said.

"And where would this train be goin'? Not to Lexington, sure now?"

"S'matter fact it is. But it's just a supply train, doesn't take passengers—"

"But I wouldn't be needin' any of the comforts, lad. If you could just hide me away somewheres. I'd cause you no trouble."

"Oh, I couldn't do that ma'am. Be reason enough to have me shot."

"Then he'll die. My boy'll die for sure." The lady's grief was overwhelming. The soldier tried to comfort her, but it was no use.

"Look, lady," the soldier said finally, "I could get you on all right, but if you were caught getting off—"

"Oh, I'll niver be caught. I'll jump out before the train stops movin'. The good Lord will bless you, boy."

The soldier looked up and down the tracks, pulled back the door of a freight car, and quickly set her inside.

Outside of Lexington the supply train pulled into a siding. The Irish lady was as good as her word. Before the car had come to a halt the door opened and she leaped to the ground. She recovered her feet quickly and with surprising alacrity for one so old, climbed the fence along the tracks and began walking briskly down the Lexington Pike.

In General Leslie Coombs' headquarters in Lexington the telegraph key clicked urgently. A communications officer took the message to the General. "Confederate spy en route Covington to Lexington. Alert all railway stations, train crews and guards."

The General read the message and began issuing appropriate orders. Before he was finished there was a disturbance outside his office. The General opened the door.

A tired and travel-worn old Irish lady was alternately demanding to see the General and sobbing over the loss of her only son.

"I'll handle it," the General said and invited the lady into his office.

The old lady poured out her heart. "I know ye have a war to fight, General, and you can't be listenin' to the troubles of a poor Irish washerwoman who's just lost her only son. But there's no place to turn. If I could just get to my daughter in Ohio she'd take care of me, but everyone talks so about spies, they'll be shootin' me fer sure just 'cause I'm askin' to go North. I don't want to be botherin' you Gin'ral and I don't want to be interferrin' in your war but could you find it somewhere in your heart to have mercy on a poor old lady—"

And the General himself saw to it that the poor Irish lady had no further trouble reaching her "daughter" in Ohio.

Sometime after carrying the dispatches to Lexington, Lottie Clark was sent on a mission to Canada. Toronto was the Confederacy's supply depot in the north and also its espionage headquarters. Lottie spent several months there on various missions. Then in September, 1862, there were vital messages to be delivered to Richmond. Lottie Clark slipped out of Toronto.

A few days later at a ball in Washington, D. C., the Secretary of War, Edwin M. Stanton, was presented to a charming Englishwoman, one Lady Hull, an invalid, who was on her way to take treatments for her rheumatism at Warm Springs, Virginia. The Secretary found the Englishwoman nothing short of captivating and he monopolized her society throughout the evening. When it came time to break up the party the Secretary expressed the hope that they might meet again.

"I'm afraid that's impossible, Mr. Stanton," Lady Hull said regretfully. "You see, I'm leaving shortly for Warm Springs in the State of Virginia, where I hope to correct my infirmity. Do you really think the baths there will be helpful?"

"I've heard that they're quite effective," the Secretary said.

"If you only knew the hope those words give me, Mr. Stanton. I do hope I'll have no trouble getting there. I've been told every traveler in that direction is suspected of being a spy."

"We can't be too careful, you know, Lady Hull," the Secretary said, "I'm sure you'll have no trouble, though. Your credentials are no doubt in order."

"They are, sir. But it seems, the more authentic the papers, the more suspicious the authorities become and I'm so helpless in my present condition—"

"Lady Hull," the Secretary said suddenly, "could you delay your journey for a week?"

"Well, I suppose so if there were some reason. Why do you ask?"

"It happens that President Lincoln and myself will be driving as far as Maryland Heights next week to review the troops. I'm certain he'd be glad of your company. From Maryland Heights we could arrange a neutral escort. That way you'd be sure to have no trouble."

Lady Hull's lovely face grew radiant. "Mr. Stanton," she said, "how can I ever thank you?"

On October 1, 1862, Abraham Lincoln, Secretary of War

Stanton, and Lottie Moon Clark, otherwise Lady Hull, rode in the President's carriage from Washington to Maryland Heights, Virginia. The Secretary himself arranged the escort that conducted Lottie across the lines into the Confederacy.

Lottie delivered her dispatches and chose to cross back to the Union lines at Winchester, Virginia. General Milroy's pickets stopped her, examined her English credentials and decided it was a case for the General himself to decide.

Lottie, still posing as a rheumatic invalid, was carried to the General's headquarters where she told her story. The General listened attentively, making no comment. Finally he said, "Lady Hull, you know that we're in war and we can't be too careful regarding spies. Would you have any objection if I asked our surgeon to examine you?"

Lady Hull smiled graciously. "I do think you're being a bit over-zealous in the performance of your duty, General, but if it will facilitate my passage I have no objection whatever," she said calmly.

The invalid was carried to the surgeon's examining room. He raised the invalid's arms. He heard the bones crack and saw the patient's face blanch with pain. He raised her legs from the floor. Again he heard the characteristic rheumatic cracking of joints and saw the blood leaving the patient's face. Every time he caused a joint to move the result was the same. The doctor cut short his examination. On his recommendation the General issued the pass that brought Lottie back to Ohio.

The story was too good to keep, however, and when

Stanton learned how both he and the surgeon had been duped he offered a reward of ten thousand dollars for the female Confederate spy, dead or alive.

In 1863 a new General had been assigned to the Department of Ohio, with headquarters at Cincinnati.

Word reached Oxford that the new General had heard of the espionage activities that centered in the town and was determined to wipe them out. Lottie smiled when she heard the news. "And who is this brave and determined officer?" she asked her informant.

"Ambrose E. Burnside," was the answer.

On an afternoon in April, 1863, General Burnside was informed that a highly nervous invalid lady sought an audience. She was seeking a pass that would enable her to cross the Union lines. The General ordered her brought to him.

"So good of you to see me, General," the lady said. She was so nervous her jaw faltered when she spoke and seemed to give her voice an unnatural quality. "I heard of the spy trouble you're having and I felt it would be wiser all around to place myself under your protection."

"I see," the General said.

"I had planned to rest in Cincinnati for a few days," the lady went on, "but all this excitement seems to have aggravated my condition. I think it would be best to leave at once."

"I'm afraid that will be impossible—Lottie," the General said.

The invalid lady stood up from her wheel chair, walked

briskly over to the General and threw her arms around him. "Ambrose," she said softly, "I only wanted to know if you'd remember."

"Indeed I remember, Lottie," the General said, pulling Lottie's arms from around his neck.

"Remember, you loved me once, Ambrose," Lottie said.

"I remember well," Burnside said, studying her face. "I will have to put you under arrest, you know."

"Of course," Lottie said. "But, Ambrose, you could detain me here in Cincinnati. You could keep me under strict guard."

"Have you seen our military prison, Lottie?" Burnside asked.

"You wouldn't send a woman to a military prison!"

"I don't know what else I could do."

"Well, Ambrose, why couldn't you commandeer a suite at the Burnet House? You have no proper place for a woman prisoner otherwise. You could post fourteen guards in the hall outside, or you could guard the place yourself if you couldn't trust anyone else to do it."

At the Burnet House Lottie was kept under strict surveillance for several months. Strangely enough she was never tried by a court martial and Stanton's reward was never collected. Nothing ever appeared in newspapers regarding Lottie Moon's arrest or later parole. But her usefulness to the Confederacy was over.

After the war, Lottie and Jim Clark moved to New York where he practiced law and became a columnist for a New York newspaper. Lottie turned those connections to good

use and became a foreign correspondent for the New York World. She covered the Franco-Prussian war and returned to America in 1871 to begin a career as a novelist, lecturer and crusader for women's rights.

While lecturing in Chicago in 1876 Lottie's picture was placed in C. D. Mosher's series of "Historical Autograph Albums" of prominent men and women of the day. The albums were then placed in a "memorial safe in the courthouse to be opened only once every quarter of a century from the fourth day of July, 1876, and then with appropriate and imposing ceremonies." The safe will be opened for the third time in 1951. And when the curator of the collection comes to the photograph of Lottie Moon Clark we hope he will do justice to the memory of one of the most remarkable women who ever left a trail of mischief across the open pages of The Ohio Story.

9

"It Beats As It Sweeps As It Cleans"

IN the year 1869 civilization took a sudden turn for the better. In that year one Ives W. McGaffey of Chicago invented a portable suction carpet cleaner.

Presumably, since man first led his mate into a cave, women had been clamoring for just such a device. Thousands of patents had been granted before Mr. McGaffey came along, but somehow, none of them could match the efficiency of the simple lever-and-brush machine known as the broom.

Mr. McGaffey's invention was different. It consisted primarily of a brush, a bellows and a water tank ingeniously mounted on large steel wheels in such a way that the whole three hundred pounds of it was portable. That is to

say, it could be moved from place to place—by three strong men.

History does not record the personality of Mr. McGaffey. Presumably it was formidable because he was able to sell his remarkable machines.

Whatever difficulties he may have had getting his device onto the porch, the rest was routine. When the door opened, Mr. McGaffey intruded a portion of his machine into the opening and swung into a monologue that would have gone something like this had it happened half a century later:

"Madam, I must warn you, don't even look at this wonderful mechanism unless you are in a position to buy. Once you see it in action your life will be forever miserable if you can't possess it.

"Three great principles are incorporated in this marvelous mechanical wonder. One, a revolving brush, geared to the wheels. Two, a po-o-werful bellows to create a suction behind the brush, draw up the dirt and dust, and three, deposit it in this large water tank. You simply push the machine with one hand, turn the bellows crank with the other. Of course, if your husband's home to do the pushing while you do the cranking it's much easier.

"This week only we are offering free an attractive gingham sheet to cover the machine when it is not in use. I want you to look at the water in this tank, so clear and pure you could drink it . . . now is there a section of rug that you've cleaned recently——"

In the nineties there was an improvement on Mr. Mc-

Gaffey. Someone reversed his principle. The resulting device would be described today somewhat like this:

"Madam, no more ponderous, back-breaking, furniture-smashing monsters. Just this little tank and hose. You work this handle as you do your kitchen pump, thus building up air pressure. You hold the nozzle against the surface to be cleaned and release the air. The powerful blast cleans that portion of the surface and you pump the machine up again——"

And so it went, one improvement being swallowed in the dust of another, until the year 1907, when a janitor in Canton, Ohio, began to write a chapter that swept beyond the Ohio Story.

In 1907 Murray Spangler's luck was threadbare. He'd made money in his time, inventing things, a velocipe wagon, a combination hay tedder and rake, but somehow the new inventions ate up the income from the old.

He had taken a job, temporarily, as janitor of the Folwell Building in Canton, Ohio. Most of the space was occupied by a department store and there were miles of rugs to be cleaned. That meant pushing a king-size version of Mr. Bissell's famous carpet sweeper and breathing dust all night long. After a few temporary years, Murray Spangler developed a cough that sapped his strength and it began to look as though his luck had worn through.

Murray Spangler began to apply his inventive ingenuity to his personal problem. He would have to devise an easier

method of cleaning the rugs or give up his job. He began by trying to make the sweeper easier to push.

He found an electric fan no one was using, removed the motor and mounted it on the sweeper. He ran a belt from the motor shaft to the sweeper brush. It worked. The sweeper practically pulled itself. The trouble was, the power-driven brush filled the dust pans so quickly, most of the night was devoted to emptying them, and that aggravated the cough.

Everybody on the night crew of the Folwell Building knew Murray's trouble and gave him a hand whenever they could. There was Lizzie, the charwoman, who could always manage her own work and Murray's too, whenever he got to coughing so he couldn't work. On a winter night in 1907 Lizzie missed the familiar whine of Murray's cleaning machine and she came down to check.

"And wouldn't ye know it'd happen," Lizzie said as she found Murray's sweeper disassembled on the floor. "It's broke down fer sure. Will ye be fixin' it, Mr. Spangler?"

"Oh, sure, Lizzie," Murray reassured her, "fact is, I'm improving it."

"And what would ye be doin' with that brand new pillow case now?"

"I'm hooking it to the sweeper, Lizzie," Murray explained. "You see, I've put the fan blade back on the motor shaft and cut a hole in the dust pan. I figure the dirt'll rise from the brush, catch in the air current from the fan and blow through the hole into this pillow case."

"I don't understand it, Mr. Spangler, but I'm hopin' fer

ye. What with the pillow case and the hole in the sweeper an' all, I don't know how they'd be takin' it in the office."

"If it doesn't work, I can fix everything back again, Lizzie, don't worry."

"Sure an' I think ye could be fixin' anything. But if you're not needin' help I'll be gettin' back to my pails."

"I'm through. Let's see if it works. Plug in the motor, will you, Lizzie?"

It worked, but only well enough to indicate to Murray Spangler that it might be possible to build a machine that would enable him to hold his job. He worked on it during the day when his time was his own. He started with an old soap box, sealed the cracks with adhesive tape; made a brush by stapling goat bristles to a piece of broom handle and cut out a fan from an old stovepipe. The fan motor provided the power and the original pillowcase served as the bag. The new machine worked so well Murray ceased to worry about his job and began thinking his old thoughts. At night, as his sweeper skimmed its way over the rugs, his mind was busy breaking the machine down into production operations. Occasionally he would pull the plug long enough to sketch a casting or check a dimension or jot down an idea. Time after time he rebuilt his machine. The Folwell Building and its acres of rugs became a huge laboratory to Murray Spangler. Night after night he checked his ideas in actual performance. Gradually his machine became simpler and its efficiency increased.

In 1908 he knew how he wanted to build his machine. He had drawings of every part. He made a working model,

out of wood mostly, and took it to the attorneys who had patented his other inventions.

The reception was disheartening.

"You thought that rug was clean before, Mr. Bond," Murray shouted over the scream of the motor, "but wait'll you see the dirt in the bag. I tell you I've finally got something that'll sell."

"Shut it off, Murray," the attorney said. "Turn it over so I can look inside. Hmmm. Murray, you've gone nuts."

Murray Spangler's attorneys got the patent for him despite their opinion of his state of mind, an opinion they lived long enough to retract.

One June 2, 1908, the United States patent office officially recognized Murray Spangler's "Electric Suction Sweeper."

Armed with his patent papers and the wooden model Spangler set out to raise fifty thousand dollars, the absolute minimum he felt was necessary to set up manufacturing facilities for his invention. During the day he called on his old friends in Canton. Night found him back in his laboratory, the acres of rugs in the Folwell Building. He was well received everywhere he called. He was offered a million dollars worth of sympathy but no cash.

After several months of trying he had scraped together five thousand dollars worth of backing and it was apparent that he had reached the limit.

Murray Spangler was growing old and he was in poor health. Everything in his experience and all of his common sense told him that, with only five thousand dollars,

the battle was lost before it began. He knew better than to give up his job and launch into a hair-brained scheme that didn't have half a promise of succeeding. But the fact is, most of the names that are spelled in lights in America today are those of men who knew better. Murray Spangler took the risk.

The production force of the Electric Suction Sweeper Company was Murray Spangler. The production line was an empty bushel basket. Every morning the production department would call at a Canton foundry to pick up the castings that had been made the night before. They went into the basket to be carried across town on a street car to a machine shop. There the rough castings were exchanged for finished ones and carried, by public transportation again, to the assembly department in Murray Spangler's basement.

Production went along at the rate of two or three sweepers a week but sales lagged far behind because Murray Spangler was also the sales department.

It wasn't long before the finances of the Electric Suction Sweeper Company were in a critical state. Murray Spangler had all but worked himself to death and once more his luck was threadbare.

If the Hubers had been the kind of people who were willing to let well enough alone, chances are their ancestors would still be milking cows in Wurtemburg, Germany.

In 1504 Martin Huber thought he saw better opportunity in Switzerland so he pulled up stakes and moved the clan to Canton Basle. For two hundred years everything went well, but in 1710 Johannes Huber figured there was better opportunity in America so he brought everybody to Pennsylvania.

In 1827 Henry Hoover—the name had been Americanized—received a grant of land from President John Quincy Adams, in Stark County, Ohio. It was good land and Hoovers thrived on it, but there was getting to be so many of them, Henry decided it was time to broaden the foundation. He built a new shed and went into the tanning business as a sideline.

Henry's son Daniel enlarged the shed and made it one of the biggest tanneries in their part of the country. Daniel's son, William, added another shed and began manufacturing saddles and harnesses and miscellaneous leather goods. William's son, Herbert, had built it into a big business by 1908, the year the first horseless carriages began to appear on the streets.

Now in 1908 there probably weren't two men in Canton who would have given you much for the future of horseless carriages, but there was one. He was the product of four hundred years of anticipating the future and preparing for it. He was H. W. Hoover.

On a hot afternoon in late summer of the year 1908, H. W. Hoover stood in the road outside his leather goods factory in North Canton and watched an automobile disappear in the dust down Cleveland Avenue. He stood looking after it wondering if he could trust his instincts. If

he could, then the days of the harness and saddle business were numbered.

The dust of the road had begun to settle when he heard a man coughing. The fellow was walking along the side of the road dragging something behind him. He waited.

From behind his office desk H. W. Hoover studied the thin, haggard-looking man seated before him. He had listened to his story. The fellow had developed a device for cleaning rugs. Earlier that day he had called on Mrs. Hoover and demonstrated the machine to her. She had been impressed, but knowing little about machinery, had preferred to wait until her husband could see it.

The fellow hadn't waited. He'd brought it to Mr. Hoover, and what did he think?

H. W., or "Boss" as most people called him, was thinking more of saddleless, harnessless, horseless carriages—and yet, he couldn't quite bring himself to dismiss the fellow.

"And if I were to buy your machine, Mr. Spangler," he said, "what would I do when the brush wore out or the belt stretched or the motor failed?"

"Oh you just bring it to us to be fixed," Spangler explained eagerly, "we're located right here in the city."

"What do you do if the machines are out-of-town? I presume you sell these machines all over the country?"

"We do the best we can. So far our sales have been limited to this area."

"Why is that, Mr. Spangler?"

"Because—well, you see, we're not a very large company. In fact, there's only me."

"You say Mrs. Hoover told you she'd like to have it?"

"She said there wasn't a woman in the country who wouldn't want it."

There was a coughing and sputtering outside as another saddleless carriage went wheezing by.

"Mr. Spangler," H. W. said, "Mrs. Hoover is a woman of excellent judgment. She isn't given to extravagance in tastes or in words. If she said every woman would want your machine I daresay that comes pretty near to the truth. How are you financed, sir, and would you be interested in some sort of partnership?"

So Murray Spangler loaded the Electric Suction Sweeper Company onto a wagon, hauled it over to the harness works of H. W. Hoover and set it up in a corner of the shop.

Murray Spangler became chief enginer and plant superintendent of the Suction Sweeper corner. Before long he had made several improvements in the machine and had stepped up production to four machines a day.

Before the year was out the first Hoover advertisement appeared in the *Saturday Evening Post*. It was two inches high and two columns wide. It showed a housewife using the sweeper and the copy read, "Try this electric suction sweeper 10 days free. At a cost of less than one cent you can thoroughly clean any room. Simply attach the wire to an electric light socket, turn on the current and run it over the carpet."

It wasn't too many years until the suction sweeper had elbowed the leather business right out of the Hoover plant and not too many years after that there were Hoover plants throughout the world and an army of history's most suc-

cessful salesmen were rallying to a fetching battle cry:

"All the dirt, all the grit,
Hoover gets it every bit
for it beats as it sweeps as it cleans."

Murray Spangler's luck had turned and the chapter he began swept far beyond The Ohio Story.

10

The Monument to a Pig

WHEN you consider the work that gets done in America each morning on the human energy generated from ham and eggs it hardly seems strange that there should be a monument to a pig. The strange thing is that the monument has no counterpart and is therefore considered a national oddity.

The monument itself is plain enough, just a rectangular granite block such as you'd find in any middle-class graveyard, and a bronze plaque with an uninspired inscription. It stands beside U. S. Highway 25 outside the village of Blue Ball, Ohio, and even if you're driving within the speed limit you're likely to miss it. Not that it would matter much. The words on the bronze plaque tell nothing of the rise and fall of the Shakers and fail to mention the sixty thousand dollar pig—and, of course, that's the story.

At the turn of the last century, revival meetings characterized by wild demonstrations of faith that would, at its height, wrack the subject's body with terrible muscular contortions, soon won for the members of the "Millennium Church of United Believers in the Second Coming of Christ" the descriptive epitaph of "Shakers."

The Shakers were never very numerous, but what they lacked in number they made up in zeal. To join the Millennium Church a man first had to be struck with a "visitation," then he had to sell the idea to his wife, unless they were fortunate enough to have been "visited" at the same time.

Joining the church meant turning all worldly property over to the Believers and serving in whatever capacity the Elders determined best suited the individual's talents. From then on the member lived a communal existence with the other Believers, wearing the same clothes, sharing the same table, participating in the common good or misfortune.

When a man and wife joined the sect they put aside all worldly things, including their marriage license. They might see each other at meal time, at religious services and social affairs, but otherwise the sexes were strictly segregated. Children, if any, were subject to the same regulations.

The first Shaker society in the west was located in the Lebanon country of Ohio, on some four thousand acres of rich bottom lands along the Little Miami. In 1810 there were 300 members in the community engaged in farming some of the best land in the West.

All of this is important to the story of the pig, for without it there'd have been no pig, and no story.

The Shakers, in common with most farmers of the Miami Valley, were given to raising hogs as their major cash crop. The principal markets were in the East, sometimes three or four hundred miles away, and the only practical means of transporting the animals over the poor roads and often no roads at all, was their own four feet.

The situation called for wild, rugged, outdoor-loving pigs without an ounce of fat on their tough carcasses—pigs that could walk four hundred miles to market and arrive at the same weight at which they left. And in Ohio there were no other kind of pigs.

By 1810 the ground-swells of change were beginning to be felt by men with sensitive feet. Thomas Jefferson's untiring efforts on behalf of a National Road to the West had, at last, started to bear fruit. Thomas Worthington, Ohio's first Senator, had begun agitation in the National Congress for a system of canals to cross Ohio, all of which meant that one day Ohio pigs would ride to Eastern markets.

With typical human foresight the Shakers saw the need to adapt their pigs to the coming changes, but it never occurred to them to prepare their people.

Elder David Darrow had had his ear to the ground and in the year 1810 he decided it was time to act. He had certain instructions for John Yoder who was in charge of the droving expedition.

"Before I give the blessing, John Yoder, there is some-

thing," the Elder said. "In the East there is a breed of hog of the name Big China——"

"Aye," John Yoder nodded, "too well I know it. At the auctions they bring again as much as our pigs. In the East they call our hogs alligators, land pikers, razorbacks——"

"Aye." The Elder shook his head sadly. "And some day, John Yoder, some day not distant our bacon-hogs will go begging. In Ohio must be lard-hogs, ham hogs, like the Big Chinas."

"In Ohio it could not be," John Yoder protested. "On the road such a hog would lose half his weight. Lard-hogs are for the East where the market is down the road just."

The Elder paused to let the wisdom sink in. "This time from the East you must bring a fine Big China boar and two brood sows."

"But they'll never stand the road, Elder," John Yoder protested.

"Buy then a horse and wagon to bring them back. Whatever is needed to bring these new blood lines to our stock you must provide. Somewhere there must be a beginning!"

John Yoder followed his instructions faithfully. The boar and sows he brought back to the Shaker Community that winter were destined to be the most important pigs ever to enter Ohio.

In the spring of 1812 the Shakers began the long and tedious process of selective breeding that has been man's principal aid in bringing out the best in nature. But improvement of a strain of animals, or apples, or men isn't

accomplished in one generation, or two, or three. Time is the principal factor in change and the work begun by one generation is often not finished in the next.

But with the Shakers there were no coming generations. By the time there began to be visible improvements in the pigs the Shakers had begun their descent into oblivion. New converts to the cause were beginning to be difficult to find by 1833. Meanwhile the canals had come to Ohio. Overnight farm prices doubled, trebled, quadrupled. The excitement of opportunity was in the air and a new kind of citizen was evolving.

Along the towpaths, the New England Puritan from the Western Reserve met and dealt with the Virginia Cavalier from Chillicothe. A little of the culture and the customs of the one rubbed off on the other. Antecedents grew dim and indistinct. The resulting citizen was the product of many cultures and many races, mixed and tempered by climate, geography and terrain. He was like no one else on earth. He was an Ohioan.

In Warren County in the village of the Shakers the same sort of process had been going on—not with the people, to be sure, but with the pigs. The experiments with the Big Chinas had been successful enough to encourage importation of other breeds. On the Shakers' dwindling acres the blood lines were crossed and re-crossed, sorted, studied, selected. By 1850 the Shakers had developed a wonderful new kind of pig, the likes of which the world had never seen. It grew to maturity quickly, was of excellent weight and structure, and above all it was a quiet, easy-going, lazy-

living animal that converted corn into pork with marvellous efficiency.

Meanwhile the far-sighted Elder Darrow had passed to his reward and the virus that sooner or later destroys every communal society had begun to infect the Shakers. Like men the world over the Shakers were not created equal in talent and ability. And where the leaders stand to gain no more than the followers the foundation stones turn to sand.

The whole Miami Valley was aware of the Shakers' remarkable new pig and with the coming of the canals it couldn't have been more coveted if it had been a goose that laid golden eggs.

A Polish farmer, one Asher Asher, seems to have been the first man to break the Shaker monopoly. It might have been difficult if Elder Darrow had been around, but as it was, Asher drove over to the Shakers' place one morning, placed an impressive bundle of money on a table and drove home with two of the best brood sows and a boar.

Following Asher's example, the Miami Valley farmers, with their new-found wealth, began to switch to the new breed. It had no name. Some people called it the Warren County Hog, others referred to it as a modified Big China. In the valley of the Little Miami it began to be called the Poland and no one knew just why.

By the early 1860's the fame of the Shakers' pig had spread throughout the nation and abroad. In the livestock shows it took so many honors it was put in a class by itself. That required the pig to have a name and a lineage. No one thought to ask the Shakers, who by that time were only a handful of bewildered people clinging to their land.

Instead the investigating committee appointed by the National Swine Breeders Association attempted to trace the origins of the pig by its various names. The "Warren County Hog" placed it geographically. "Big China" was an unmistakable clew to one branch of its ancestry, but the "Poland" was confusing.

After much inquiry the trail led to Butler County, Ohio, adjacent to Warren County, not far from the home of the Shakers. Carl Freigua, an itinerant journalist who specialized in agricultural subjects, was conducting the investigation. He looked up a friend on a local newspaper.

"George, you know the leading farmers in these parts," he began, "know anybody who ever imported swine from Poland?"

"No. Why? Something wrong?"

"Nothing wrong, exactly. It's just that we're trying to fix the pedigree of the Warren County Hog or whatever you call it out here," Freigua explained.

"You mean the Polands. What difference does it make?"

"To the Swine Breeders Association it makes plenty of difference. If we're going to recognize it as a breed we have to know the origins. And if they're foreign we want to know who imported the strain and why, and by what right."

"Well, nobody around here ever imported a pig any further than the next county."

"The name Poland got started around here someplace. Who's the biggest swine breeder in this county?"

"That's easy. Asher Asher. Everybody knows his pigs. Sends 'em all over the country."

"Asher Asher, that the fellow's name?" Freigua asked.

"That's his name all right. Everybody around here just calls him the Pole."

"He raises a lot of pigs and sends them all over the country and they call him the Pole. That's my man. You sure he didn't import any stock from Poland?"

"Of course he didn't. He got his brood stock the same place everybody else around here did—from the Shakers."

That solved the mystery but rather than change the nomenclature that had grown up around the Shakers' pigs, the association decided on the name Poland China.

In 1876 the outstanding Poland China breeders got together and began a system of registering the outstanding animals in their herds and recording a brief description and lineage of each one. Before long an aristocracy had developed among the Poland Chinas. Farmers began to outbid each other for the choice pigs.

Prices began to climb.

In 1878 a boar called King Tecumseh sold at auction for the unheard of price of $500. A few years later, however, Tecumseh's descendants were bringing upwards of $3500.

In 1906 "Ten Strike" sold for $5,025 but even then the ceiling had not been reached. At a public auction in 1917, the "Golden Age" of the Poland Chinas, "The Clansman," brought $15,000; "Mabel's Jumbo," $18,000; "Evolution," $25,000; "The Yankee, $40,000; "Dundale Pilot," $50,000; and finally at the close of the first world war, the all-time world record price for a single pig, "The Pickett," $60,000.

All this the Shakers never lived to see. The last traces of them were wiped out when their lands were sold in 1913.

And the monument to the pig outside the village of Blue Ball, Ohio, hasn't a word to say in memory of the Shakers. It simply marks the place where a pig began and a people ended a chapter in The Ohio Story.

11

The Ironmaster of Hanging Rock

IT seems strange that the grey, brooding four-hundred foot cliff that juts out over the Ohio River in Lawrence County, near the southernmost tip of Ohio should have attained only regional immortality. For the Hanging Rock, as the cliff is called, has frowned down on as much of history, certainly, as the Palisades; it has given its name to a section of country considerably more vital and no less colorful than the Catskills; and the people who have lived within its shadow have been as legendary as you'd be likely to find in a county history of Sleepy Hollow.

The Hanging Rock country is new, as regions go, and it hasn't yet found its Irving. He'll turn up one day, though, to study the great stone face of the Hanging Rock, to stalk the hills of seven counties prowling the ruins of

the old iron furnaces that were once the measure of the strength of this nation, searching out forgotten glory.

His efforts will be rewarded, for there in the hills of the Hanging Rock counties lived the iron men of a generation passed. Giants they were, filling the valley with smoke and fire, moulding ingots and legend, and forging a nation.

There in the iron counties heroes are thicker than dandelion petals and stories seep out of the rocks. But when the facts have been sorted and stacked and catalogued, when the names have been placed on the deeds, there'll be just one place to start—with Iron John Campbell, master of the ironmasters of Hanging Rock.

They blew in Union Furnace in 1826 and when the trade got a look at its ingot, the boom was on. There was something about the ore and the limestone and charcoal of the Hanging Rock region that made its iron the best in the world. The word spread quickly that when your gun barrels, spikes, chain links, boiler plates, plow points or railroad wheels were made of Hanging Rock iron you could bet your life on them, and you often did.

There were eighty-five furnaces at one time or another going full blast in the Hanging Rock country. Most of them turned out only a few tons of pig a day, but in the light of services rendered, the iron was worth its weight in gold.

Now the organization of the blast furnace community is important to the story of Iron John Campbell, although he had no hand in setting it up. The furnace itself was constructed of sandstone and was usually from twenty-five

to thirty-five feet high. Adjoining buildings for storage of equipment and materials were of wood, hand-hewn, from the forests of the furnace property.

Each furnace employed from a hundred to two hundred and fifty men, consisting of furnace hands, wood cutters, charcoal burners, ore diggers, bosses, school teacher, storekeeper and preacher. These men lived with their families in one-room log cabins located near the furnace. Their pay was usually in the form of credit at the furnace store which supplied all their needs.

Ruling over the community like a feudal lord was the Ironmaster, the manager of the furnace. His was the best house, the best food, the best furniture. His word was law and he was the final authority in all disputes arising in the community. They were few, however, because there was little time for anything but work.

To manufacture one ton of iron required two and a half tons of rich, red ore which had to be dug from the earth, loaded onto eight-team oxcarts and hauled to the furnace. The charcoal from four cords of wood was needed to smelt one ton of iron. The woodcutter's pay was twenty-five cents a cord and a good workman could cut two cords a day.

Now, as we say, Iron John Campbell had nothing to do with the organization of the furnace community. It had been established and working for some years before he came down from Brown County to make a name for himself in iron.

Most young fellows who came to Hanging Rock had no idea of ever becoming Ironmaster. It was too big a claim to stake for yourself in the iron kingdom, even if you were

the kind who aspired to take over the responsibilities for the livelihood, education and general welfare of two hundred families. But John Campbell did.

He was twenty-four years old, big and strong and bold, when he walked into the office of Hecla Furnace. He didn't ask where he could find the foreman like everyone else did. He went straight to old Bob Hamilton, the Ironmaster.

"Need a hand?" he asked, looking old Bob straight in the eye.

"I s'pose we could use you on an ox team, son," old Bob said, "see the foreman."

"If I wanted to see the foreman I'd-a asked for him."

Old Bob stiffened a little. "If you have business with me, state it," he said.

"Tell your foreman I'll drive team for him 'til I decide."

" 'Til you decide what?"

" 'Til I decide whether you're man enough to take me where I aim to be goin' in the iron business."

"And where might that be?"

"Going to be Ironmaster myself, some day." John Campbell spoke casually, in the manner of men who know where they're going.

Old Bob softened somewhat. "Son," he said, "this is hard country and you're almighty impertinent, seems to me. Be interestin' to see if there's any backin' to your words. Tell the foreman I said to put you on."

John Campbell's first job was hauling ore. As he drove his team of eight oxen back and forth from the ore beds to the furnace he kept an observant eye on every detail of the furnace operation. He noticed at once a loose foundation

stone in the furnace stack and he stored it in his mind for future reference.

He surveyed the ore beds critically until he had satisfied himself that the supply would probably never run out. When they put him to hauling timber, however, the situation was not so reassuring. He waited for a chance to take up the matter with Bob Hamilton. He caught him one day at the timber line.

"Hamilton, how many acres of timber land does this furnace own?" he asked bluntly.

"Why should that concern you, son?" Old Bob returned.

"The way I got it figured," Campbell explained, "takes five hundred acres of timber for five thousand tons of iron, which is about what you're runnin' a year. Won't be many years before we'll be outa fuel."

"Campbell, there's one thing I gotta say for you. You think like an Ironmaster already."

It was probably Old Bob himself who ordered John Campbell promoted to weighmaster. There was no more important job in the whole iron operation, for the weighmaster made up the charge for the furnace, and his error, if any, would inevitably show up in the finished product.

Every weighmaster was held strictly accountable for the condition of his scales, a situation that once almost cost John Campbell his career.

Campbell had been on his new job for several months when sudden catastrophe struck the Hecla Furnace. For some unaccountable reason the furnace ran cold, that is, the heat of the blast was insufficient to reduce the ore to

iron. Old Bob Hamilton used every trick in his bag attempting to overcome the difficulty. Production dwindled to a mere trickle and hard times loomed for the Hecla people.

John Campbell had stood by the furnace with everyone else during the trouble, but unlike the old timers, he had no remedies to suggest.

He decided to take advantage of the lull to overhaul his scales. He removed the floor to get at the beams and immediately he knew what was wrong with the furnace. One of the beams had slipped its bearing so that it required a greater weight on the platform to bring the scale in balance. John Campbell had been overloading the furnace.

Now if you plan to be Ironmaster you have to be resourceful, as John Campbell was the day he noticed the loose stone in the furnace wall and filed the fact away in his mind for future reference. He looked up Bob Hamilton.

"Bob," he said, "I know what's wrong with the furnace."

"That's fine, Campbell," Hamilton snapped, "put your suggestion on paper. I'll throw it in the basket with the rest."

"I told you I know what's wrong with the furnace. I'll have it up to heat in the morning if you'll give me authority to fix it."

"All right. What's your idea?"

"There's a foundation stone loose in the stack . . ."

"I know all about that stone. Been that way for months. It's in the outer stack and has nothing to do with the heat."

"Hamilton, I told you twice now I know what's wrong with the furnace. Let me fix that stone and I'll have it up to heat in the morning."

"Son," Old Bob said miserably, "I'm in no state to argue. Go fix the stone if it'll make you happier. Won't do no harm and it won't do no good. But it has to be done sometime. Might's well be now."

John Campbell gathered up a crew and replaced the stone. The next morning Hecla was running full blast. No one was more pleased nor more bewildered than Bob Hamilton. He sent for Campbell.

"Fixed the stone, I see, John," he said speculatively.

"Yes, sir," Campbell said.

"Appears I was wrong."

"No harm done. I let everyone believe the stone was your idea."

"Nice of you, John. Now what I want to know is, how'd you get that furnace up to heat?"

"Some day, when I'm Ironmaster, I'll tell you," John Campbell said.

It wasn't so much that he trusted Campbell that Old Bob appointed him paymaster, it was because the men were beginning to look to the youngster for leadership. They'd begun calling him "Iron John" and that pleased Bob Hamilton. He liked Campbell's faith in iron and the way he transmitted it to the men.

There was the time currency became extremely short in the Hanging Rock district. Hecla had been paying its employees in credit, but supplies were short at the company store and it began to look as though they'd have to go to scrip as the other furnaces had done. But John Campbell had a different idea.

"We'll lose their faith, Bob, if we pay 'em in paper," Campbell protested when Hamilton told him of his decision. "And if we lose their faith what's left?"

"I know how they'll feel, John, but there just isn't anything else to do. Be different if we were the only company doing it. As it is, we're the last to go to it."

"There's one thing better'n paper we can give 'em, something they believe in."

"What's that, John?"

"Iron! Pay 'em in iron and they'll remember it to the day they die."

"But how would they sell it?"

"They wouldn't. They'd pile it up at their doors. We'll sell it for them when the market breaks. If the price goes up they win, if it goes down they lose. But you'll hear no complainin'. There's not a man or child in Hanging Rock that wouldn't rather have iron than paper."

"All right, Campbell," Bob Hamilton said, "pay 'em in iron."

It got so you could tell a man's credit rating by measuring the pile of iron in his front yard. And when the storm passed no man lost by the arrangement, Iron John Campbell saw to that.

When the demand for Hecla iron got so far ahead of the supply that it meant turning down orders, Bob Hamilton drew up plans for a new furnace and when it came time

to pick a man to supervise the building of it, well, it was an easy choice. Campbell got the job done in record time and then he reported back to Hamilton.

"John, you've built a fine furnace. Hardly seems right to keep you waitin' any longer. How'd you like to be the Ironmaster?" Bob thought it would come as a surprise to his protege.

"Figured you'd ask me, Bob," Campbell said. "I'll take it, too, providin' you'll make me a partner. I got a thousand dollars to put in."

It was Hamilton who was taken by surprise but he tried not to show it. "You didn't make a thousand dollars workin' for me, son," he said.

"No," Campbell said, "I borrowed it. Figure you're a good investment."

"Don't know about that, but I figure you are. You're a partner."

From the profits of his share of the new furnace Iron John Campbell had saved enough money by 1846 to build his own furnace and a year later he sold back his interest in Bob Hamilton's furnace and added another of his own. He had become a man to be reckoned with in Hanging Rock.

There began to be a good deal of rivalry between Old Bob and Iron John. But usually they saw eye to eye, like the time the manager of Campbell's Keystone Furnace came to him with a piece of news that he was sure would enable them to get the jump on their rival.

"Mr. Campbell, Old Bob's losing his grip," the manager reported. "Just got word he called a meetin' of all his

people over at Hecla and told 'em he was gonna close down the furnace on Sundays. And listen to this. He's gonna pay seven days' wages for six days' work!"

"What's he gonna do if there's a batch making?" Campbell asked.

"He's gonna schedule so they'll end up clean Saturday night. Guess we got him now."

"I don't know. Hamilton's been in this business too long to take a step like that if he hadn't thought it out."

"Well, it's a cinch he ain't gonna make as much iron in six days as we make in seven."

"No, but he figures that, too. I think I see what he's drivin' at. He won't make as much iron in six days as we do in seven, but in a year he just might make more. I guess we can still learn from Old Bob. Close down our furnaces on Sundays."

"But, Mr. Campbell, what if there's a batch makin'?"

"Schedule to end up clean on Saturday night. Get our people together. I want to announce the policy we just invented."

By 1848, led by Bob Hamilton and John Campbell, the Ironmasters of Hanging Rock had made their district the world's headquarters for high grade pig iron. Capital of the iron empire was the little village of Hanging Rock where both Hamilton and Campbell had their headquarters. Meanwhile, though, because of its strategic advantage as the southern terminus of the Ohio Canal, the city of Portsmouth was in the midst of a boom that threatened to pull the whole iron industry into its orbit.

That didn't worry Bob Hamilton, whose railroad

through the Hanging Rock country terminated at Portsmouth, but it rankled in the fiery soul of John Campbell. Campbell pleaded with his friend and teacher to join him in a vast project designed to end the Portsmouth threat.

"Down river just four miles, Bob, there's a perfect site for a town. High ground, good river landing, plenty of water——"

"Too big a job, even for the two of us, son," Old Bob cut in. "Besides, we're gettin' our iron out through Portsmouth."

"Sure, and we're helpin' to build the thing that'll destroy us. They're making iron over there, too. They're bringin' in rolling mills and foundries and iron-making factories."

"Just buildin' up our market."

"Right now, yes. But we're runnin' out of timber. When we have to haul timber in and iron out we won't be able to compete with the furnaces over there. If we start our own town we can bring in our own factories and mills. We'll sell our own iron in our own town. We'll open new markets to the North. A railroad from our iron town could run to Chillicothe and then we'd be able to ship by rail all the way to Cleveland and the Lakes."

"Do it now by way of Portsmouth and the Canal."

"Too long and too slow. I tell you, Bob, the whole future of the Hanging Rock depends on our Iron Town!"

But plead as he would, Campbell couldn't make Hamilton see his great vision. He resolved to do it alone. Piece by piece, farm by farm he bought up the land around his projected Iron Town. He got to calling it Ironton before

long and when he founded his town in 1849, that's the name he gave it.

Now when you go to building towns you have to be a little tough at times like John Campbell was. He called a meeting of the Ironmasters in his new town and he let them in on his plans.

"Now we're going to build a railroad, The Iron Railroad, north through Jackson to Chillicothe," he explained. "It's going to be your shortest route to the river and your cheapest route to the lake. Now you can be in on it from the start, or you can sit here and rust while my Iron Railroad passes you by. Shares start at five thousand dollars each. That entitles you to a spur into your furnace. You got an hour to think it over."

John Campbell built his railroad right through the iron heart of Hanging Rock. When that was in order he called another meeting.

"Now we got the railroad started we're going to build our own markets right here in Ironton. We're going to bring in plate mills and rolling mills and implement manufacturers. All that's going to take money. I'm startin' the Iron Bank of Ironton. Shares are a thousand dollars each and if you want to keep on bein' Ironmasters you're gonna buy 'em."

And before John Campbell's town was a year old the center of the iron industry had shifted back to the Hanging Rock and its hub was Ironton.

To be an Ironmaster and an empire builder you had to believe in iron like nothing else on earth, as Iron John Campbell did.

By 1854 John Campbell's town had just begun to boom but in that year depression struck like a summer storm in the Hanging Rock. The price of iron fell from thirty-five dollars a ton to fourteen dollars and there wasn't a market for it even then. One after another the Hanging Rock furnaces banked their fires and finally let them die out altogether. Campbell wouldn't listen to the advice of his friends.

"John, you're flying in the face of disaster," they'd tell him one after another. "They'll break you at fourteen dollars a ton. Close down while you can still come back."

And Iron John Campbell would set his jaw. "If I had as little faith in iron as you appear to have, I never woulda gone into the business to begin with. Iron built this country and it's gonna keep on buildin' it. I got an obligation to my people. They expect me to hold their stake in the iron business and I'll do it down to the last dime of my credit!"

And Iron John Campbell went on making iron. When it got so he couldn't sell it he piled it up along the river. For six years he fought the battle and by 1860 he was down to the last dime of his credit.

Then the guns broke loose in Charleston Harbor, and their barrels were made of Hanging Rock iron.

A nation in flames screamed for iron. The price went up—thirty, fifty, seventy, ninety dollars a ton. And where did it come from?

Why, Iron John Campbell had a mountain of it piled up along the river for a mile and a half. And it proved to

be enough to meet the need until the whole Hanging Rock could be brought into blast again.

Iron went rolling down the Iron Railroad and money came rolling in to the Iron Bank. And they were building ships and threshing machines and I-beams and sewing machines from Hanging Rock iron, as Iron John Campbell passed from The Ohio Story.

12

Tecumseh and Rebecca

IT was a restless peace that settled on Ohio after 1795, the year of the Treaty of Greenville. Mad Anthony Wayne had won the peace at Fallen Timbers. He got it in writing at Greenville. Ninety-four tribal leaders had affixed their signs to the paper that drew a crooked line across Ohio to divide the land forever, the treaty said, between men whose skins were white and men whose skins were red.

The treaty was as permanent and binding as words on paper could make it. The provisions were clear. The concessions had been duly negotiated, signed and sealed. It had been accepted as an official document of state, and would be backed by the force of arms.

Only one thing was wrong. Tecumseh had not signed it.

To men with experience in such matters that was like

saying the rabbits were all dead but the wolf was still at large.

Nevertheless, venturesome old Judge Galloway moved right up to the line and promptly laid out a town. To prove what a trustworthy fellow he was, he built a home, sent for his wife and daughter and his classical library of 300 volumes.

On the strength of that, others followed and soon there was a thriving village on the South, and supposedly safe, side of the line.

Still, it was a restless kind of peace.

So when the Judge's daughter, Rebecca, proposed to improve international relations by offering to teach the Shawnee Chiefs from across the line the intricacies of the English language, everyone in the village thought it was an excellent idea. They were especially pleased when the great Tecumseh himself showed up for the class.

But when things worked around to the place where Tecumseh was teaching Rebecca the Shawnee tongue and when the two of them began speaking a language all their own, a language without words, well, that was something else again. That was love—and the beginning of a sad and sentimental chapter in The Ohio Story.

Rebecca Galloway of Old Town, which was near the present city of Xenia, being the daughter of the Galloways, did pretty much as she pleased. What neighbors there were accepted her as the queen of frontier society and were generally content to go along with her often liberal ideas.

When she announced her intention to hold English classes for the Shawnee Chiefs who lived nearby, everyone felt it was a noble, unselfish thing to do, just what you might expect from a daughter of the Galloways.

Rebecca went about it like a Galloway, too. She went straight to headquarters with her proposal, to the mighty Tecumseh himself.

Everyone knew that Rebecca could be persuasive when her heart was in a project, but even the old judge coughed conspicuously when his daughter made the announcement.

"Tecumseh is leading the party, himself, father," she said. "He's bringing Flying Eagle, The Heron, Thunder Cloud—"

"My dear," the judge interrupted, "do you think you should? Tecumseh? In this house? There's your mother to think of."

"Mother will be charmed. That Tecumseh must be everything people say he is," she went on, staring into space. "Even if you couldn't see him, you'd know when he was near, father."

"Ha-rumph," the judge put in. "I dare say."

"He's almost—hypnotic. I don't even remember what I said to him. All of a sudden he nodded and kind of half bowed. It was such a graceful gesture."

"He's an Indian, and a dangerous one, at that," the judge frowned. "I'm not so sure I should have been so quick to approve this venture, Rebecca."

Something in her father's voice made the girl look up quickly.

"Oh, Fa-ther," she said.

Classes hadn't been under way very long when sharper eyes began to notice that the handsome Tecumseh had proved to be such a backward pupil more often than not he was kept after school.

Not only that, but class attendance began dropping alarmingly. Even Rebecca wondered about that, or pretended to. She decided to bring up the subject at their next meeting.

The great chief usually called in the afternoon. He'd come galloping down the main street of Old Town raising a dust and commotion quite in keeping with his high place. He'd pull up with a flourish in front of the Galloways, dismount with great dignity, and proceed to beat on the front door as though challenging its right to obstruct the chief of chiefs.

Rebecca was always waiting, doing what she could to make this part of the arrival ceremony as inconspicuous as possible.

"Tecumseh," she said, "you must knock softly. It isn't necessary to let the whole world know you've arrived."

The Chief drew himself up mightily. "Tecumseh knock for one purpose. To get in. It is done. Now the lesson."

"Very well," Rebecca smiled, "but where are the others?"

"Flying Eagle, he must catch horse. The Heron, he must hunt. Thunder Cloud, he must teach young braves in shooting." It was a solemn pronouncement but the Chief dropped his eyes as Rebecca looked at him questioningly.

"And who gave them all this work to do?" she asked.

"Tecumseh."

Their eyes met. Rebecca laughed and seized his hand. "Well, come on," she said, "I have a very difficult lesson for you today."

Settled in the library, Rebecca began the advanced course.

"You know, Tecumseh," she said, "one of the most beautiful things about the English language is the way it sounds when it is used by a master. I'm going to read you a verse from a great English poet. I want you to listen for the music in the words."

Tecumseh's eyes were on her face. "This is a poem called 'Hidden Flame' and it's by John Dryden," she said.

"I feel a flame within which so torments me
That it both pains my heart, and yet contents me;
'Tis such a pleasing smart, and I so love it,
That I had rather die than once remove it.

Yet he for whom I grieve, shall never know it;
My tongue does not betray, nor my eyes show it.
Not a sigh nor a tear, my pain discloses,
But they fall silently, like dew on roses."

The Indian's stern face had relaxed. He didn't look like a great chief now. He looked like a young man in love.

"Tecumseh understand," he said solemnly. "In him too, a hidden flame——"

The wonderful excitement that had seized her made Rebecca feel that she was trembling. It seemed that her voice

faltered. "Please, Tecumseh," she began, "I didn't mean to—I just happened to open the book to that page—I really——"

Tecumseh interrupted her.

"On every page it is written," he said.

During dinner the judge had carefully avoided the subject that was on his mind, although Rebecca's empty place was awkwardly conspicuous. In the library with his wife, he approached it gingerly.

"My dear," he said, "there is a matter I have been intending to call to your attention these past months."

Mrs. Galloway was eyeing a precious remnant of store-bought cloth. It was one of the things that secured her position among the townspeople.

"Yes?" She was obviously more interested in the cloth.

"It concerns your daughter," the judge went on. "These lessons—that—that Indian. Are you aware of how much she's been seeing him?"

"A great deal, I would judge, by the way his English has improved."

"Are you aware that your daughter now speaks Shawnee fluently?"

"I am quite aware of it," his wife answered.

"Then who is teaching whom?"

Mrs. Galloway folded the cloth carefully.

"I wouldn't know from observation," she said quietly, "but experience tells me they'll be working things out together."

Rebecca and Tecumseh had been doing exactly that, only they hadn't made much progress. Rebecca, in the

headstrong manner of the Galloways, had made up her mind from the start that she was going to civilize her Indian, according to her idea of civilization.

On his part Tecumseh was determined to make an Indian princess of the white girl who had captured his heart.

Neither of them had any illusions about the difficulty of the task ahead, but neither doubted that it could be accomplished.

Tecumseh's classroom was the out-of-doors and it provided a magnificent backdrop for his lessons.

He would be teaching Rebecca to handle a canoe and as they'd glide along the stream Tecumseh would watch her face for a cue. Sometimes Rebecca would provide it.

Her eyes would fall on the color of the sunset on the water, leaves that seemed to sparkle when seen against the light, the smoke of a distant fire. The forest music would be all around them and she would say, "You live so close to earth and God, Tecumseh—some of the wonderful simplicity and majesty of it has got into your soul, I think."

"The white princess begins to understand," he'd reply. "Here in the home of my fathers there is so much about which to wonder, a great peace comes to the heart. In the forest all men are small, all men tremble at the thunder, rejoice at the sunrise. How different in the home of your fathers, Rebecca. In their great boxes all men seem tall and there is no peace. The walls shut out sun and stars and rain. The eye grows tired seeing the same old walls, the same old heads. Hang bright cloth on walls, hang bright stones on head, make bigger box. But always the eye grows tired and there is no peace. Never tremble at the thunder,

feel small in the forest. Only shut the box, hear chatter of the old heads."

Rebecca would recover from the spell of his words to say sharply, "You're over-simplifying, Tecumseh. Your people build houses to keep off the rain just as mine do. We fill our houses with treasures of the earth——"

Tecumseh would interrupt then. "Rapids ahead," he would announce. "Lesson about to begin. Drag paddle. Keep canoe mid-stream. Watch for rocks."

"Please, Tecumseh, you do it. I'm afraid. I can't."

"In this school one cannot learn from another. To guide canoe through rapids there is but one way to learn. Guide canoe through rapids!"

And then the rapids would be upon them and Rebecca would clench her teeth, forget her fear and handle the situation like a Galloway. In a few seconds the danger would pass.

Tecumseh, pleased with his pupil, would say, "Well done. Seventeen tribes will call Rebecca—princess."

And the summer gave way to Autumn and Tecumseh and Rebecca stood in the shadow of the harvest moon.

"... and so it is written that all who love may walk alone in the forest to an empty place and raise their eyes to the Moon Maiden. She smiles and all will be well. She frowns, and the love will end—in death."

"Do you believe it, Tecumseh?" Rebecca asked.

"It is only an ancient belief of Shawnee women."

"But you believe it."

"I did not say."

There was silence then. For a moment they stood mo-

tionless like players in a moonlit fantasy waiting for the curtain to end the scene.

"Tecumseh," Rebecca whispered, "the Shawnee women who believe the legend of the Moon Maiden . . . how do they know when she smiles?"

"They wait for a sign." He reached for her hand and they raised their eyes to the moon.

Moments passed and there was no sign.

"There's a tiny cloud passing over, Tecumseh, if she were smiling now we would never know."

Tecumseh turned his back to the light suddenly and he drew her close.

"That is the Moon Maiden's frown," he said.

But tradition has never been a deterrent to love in any culture. The strong-willed Rebecca had her way, finally. Tecumseh agreed to turn the leadership of his people over to his brother, "The Prophet." They were to be married according to her custom and leave the Ohio country to work out their destiny as best they could. That was the dream. But like queens and rulers before them they were to find that all men are bound by the stern laws of social custom and between the White race and the Red, the line was drawn and the law was clear.

Tecumseh had spoken to Judge Galloway and it was almost more than the old gentleman could bear.

"I tell you, Martha," he scolded at his wife when the interview was over, "that—that savage actually stood here in this room and told me he wanted to marry our Becky! And he said it as though he was conferring some sort of

honor! I should have put a stop to this thing long ago. English lessons, indeed!"

"Now there's no need to get excited," his wife soothed. "Tecumseh's Indians wouldn't stand for it any more than we would."

"If you could have seen the fellow—like a stone he was—I never——"

"I'll speak to Becky."

"If you had been doing your duty this thing never would have happened," he said petulantly.

"Oh, I don't know," Mrs. Galloway mused. "He is a handsome thing."

At that moment Prudence Oldfather burst into the room unannounced. She was wearing her funeral dress, Mrs. Galloway noticed, and she had brought her mourner's manner.

"I just heard the news," she sobbed. "You poor dears, you poor, poor parents. I told Susan, 'We'll all be murdered in our beds.' Rebecca always was a headstrong child, but I never thought she'd bring down such a disgrace on her own people, her poor, dear parents. My heart goes out to you, Martha."

"Save it for another time, Prudence," Mrs. Galloway said sharply. "There's been no disgrace."

"But marrying an—Indian——"

"There has been no marriage," Mrs. Galloway said.

"But however are you going to stop it?"

"Rebecca—is a Galloway, Mrs. Oldfather."

In the village of the Shawnees the news was received no

better. One by one the old chiefs turned their backs to their former leader. Desperately Tecumseh sought out his brother.

"Bald Eagle, Standing Stone, Grey Fox, all turn their backs to Tecumseh," he said. "There is only you, my brother."

The Prophet never raised his eyes from the ground. "I have no brother," he said.

Thus Tecumseh and Rebecca arrived at the ancient crossroads where the paths of love and duty intersect at right angles. The ending was inevitable as dawn. They met for the last time.

"The Shawnee women were right, Tecumseh," she said. "The Moon Maiden has turned the whole world against us."

"Not the Moon Maiden, Rebecca, the ancient rule of numbers," the chief replied. "Always the many devour the few. Men are brothers only to the depth of the color of their faces."

"Tecumseh, in the village everyone is talking about a new war. You are supposed to have sent out the word for a new confederation of all the tribes."

Tecumseh gave no sign that he had heard the statement.

"Tell me," Rebecca pleaded, "is there to be no end to this fighting?"

"It will end," Tecumseh said slowly, "when there is no more to devour. All that remains to my people will be lost in the next battle. That will be the end. You will see the Moon Maiden's prophecy come true."

On the morning of October 5, 1813, General William

Henry Harrison figured the second war with England was already won. For nine days his armies had chased the British and Tecumseh's Indians along the North shore of Lake Erie. He'd had word that the British General Procter had given up hope of ever making a stand and was concerned now only with evacuating as much of his army as could be salvaged.

To Harrison that meant the war was over. Tecumseh's Indians had done most of the fighting since the war began. Now there was only a handful left. It would be nothing less than suicide for Tecumseh to make a stand without the support of the British.

But along the Thames River that morning there was a sudden, fierce resistance. It was Tecumseh.

By late afternoon the cavalry sent word that there was no one left to fight. Tecumseh had been among the last to die.

The sad story was ended. The many had conquered the few. And that night Rebecca noted that a cloud crossed over the moon.

13

John Stotzer's Story

NOT long ago a Swiss commentator sat before a microphone in Geneva to report the results of his study of the Swiss in America. It was an impressive document ringing with names well-known in American industry, science and the arts.

The report concluded with the statement, "The man who has done more than any other to win the respect of America for the Swiss people is John Stotzer whose Alpine View farm in Tuscarawas County, Ohio, is a miracle created by amazing courage, ingenuity and strength."

The commentator erred. In America few people had ever heard of John Stotzer. He had never gone over Niagara Falls in a barrel; he had never sat on a flagpole; he had never made a triple play unassisted. His particular feat of "amazing courage, ingenuity and strength" had gone unreported in the public prints.

John Stotzer, any city editor will tell you, is not news. He's a plain, honest man who has faith in God and the American ideal, and his roots go deep in The Ohio Story.

John Stotzer came to America from his native Switzerland when he was nineteen. He had no money, couldn't speak the language and had only one friend, a farmer in Hartville, Ohio.

In Hartville, everybody raises celery. A man who's willing to do the back-breaking work can usually find a job and it doesn't matter much about his English. John Stotzer went to work in the celery bogs.

The pay wasn't much—less than a dollar for a fourteen-hour day—but he hadn't expected opportunity to be waiting for him; he'd been told that was something a man had to earn.

John saved his money and after two years of labor and frugal living had accumulated enough capital to start out for himself. He rented a piece of muck, as celery land is called, and went into the celery business. He had hoped to make enough money for a down payment on a farm, but after another two years had passed all he had was a team of horses and a few pieces of farm machinery. Otherwise the hope was no closer to realization.

One night, though, he stopped at the home of a friend, Will Schneiter.

"Well, John, it's good to see you again," Will greeted him, "you don't come so often any more."

"No, Will," John said, seating himself heavily on the porch step, "too much work, always. No time."

"And how is it with the celery growing? Not so good, uh?"

"It is a living," John answered. "I have no debts."

"Well, that is something, John," Will reassured him. "So many into debt are going these days. Myself, I am having hard times. You know I was depending on the money from the man who bought my farm. But he's a lazy one. Not even the interest does he pay. I would put him off but I can't farm it myself."

"How much land?"

"Fifty acres."

"On fifty acres a man should make a good living."

"Yah, in the old country we do it on less, but here—I don't know. John! Why don't you take it? All I need is the interest. What you make over can be yours."

"You mean I could farm the fifty acres for just the interest on the money?"

"That's what I mean, yah—but there is no equipment, no stock——"

"But I have already a plow, Will, a harrow, and my horses," John said eagerly. "The interest I can pay in advance. I have four hundred dollars saved."

"You don't pay until the money falls due. You will need

some things for the house. Then maybe a couple of calves for the beginning," Will Schneiter went on. "By golly, John, maybe good things begin now for both of us."

It was the beginning of good things. John Stotzer moved his few belongings onto the farm, bought a bed, a bureau and a kitchen table and invested the rest of his savings into fertilizer and a few machines for putting in his crops, which were celery and onions. The first year there were enough profits to pay a little on the principal and to buy a pair of Holstein calves.

A few years later the farm was a prosperous, going business. There were several head of cattle in the barn, milk was bringing a good price and the farm was nearly paid off.

About that time there was word of a girl who'd come over from Switzerland with news and good wishes from the Stotzers back home.

Now a girl bearing news from home is likely to be something more than welcome, particularly if she's attractive and somewhat bewildered by the new environment. Under the circumstances two people with so much in common are likely to fall in love, as John and Mary did.

It wasn't a big wedding but to John and Mary Stotzer there had never been a finer one. For the wedding trip they went back to the farm and they made wonderful plans.

"It is not much land—fifty acres," John said, "for a man with a big family."

"A big family?" Mary said innocently.

"In this country, a man learns to look ahead," John said grandly, stealing a glance at his young wife. "Eighty acres next to us are for sale. I could make the down payment——"

"It would make a big farm," Mary observed.

"Altogether, a hundred and thirty acres."

"And on a hundred and thirty acres a man could raise a big family?"

"A houseful."

"But it is such a small house," Mary said. John looked up quickly. "In this country, John, a girl learns to look ahead," Mary laughed.

John Stotzer made the down payment on the eighty acres. It was Mary's suggestion that they get along with what little furniture they had and invest the money in more cattle. John added eight pure-bred Holsteins to his herd.

The first World War sent farm prices skyrocketing. The Stotzers prospered mightily and by 1920 it began to look as though they were set for life. There were five children, the farm was nearly paid for and there were a hundred and twelve head of pure-bred Holsteins in the barn. At that time John Stotzer had the distinction of being the largest milk shipper into the Akron territory.

But the boom days of the war were about over. Milk prices began to drop seriously and John soon found himself with more milk than he could sell.

In 1921 the bottom seemed to have dropped out of everything. Cream which had been bringing fifty cents a pound fell to seventeen cents and there wasn't a market for it even

then. John Stotzer's grandfather had been a cheesemaker in Switzerland and the formula had been passed on through the generations. With an over-supply of milk to dispose of, the cheese formula appeared to be the answer. John turned to cheesemaking but there was no market for that either. Hundreds of pounds of it had to be fed to the pigs.

John felt, however, that if he had modern and efficient equipment for producing cheese he could improve the quality and market it successfully. To raise the capital he needed, John Stotzer sold his Portage County farm and all but eighty of his pure-bred Holsteins. He moved further down into Ohio, in Tuscarawas County, where land was cheaper, and bought another farm. He still had to go into debt heavily to build the plant he needed to make his particular brand of Swiss cheese. It was several months before his plant was ready and even after he got into production the situation hadn't improved. The cheese had to be sold at a price that failed to return even the costs of producing it. There was no way to stop, though. Every morning there was a fresh supply of milk that had to be used.

The Stotzers would have weathered the storm all right, if the tragedy hadn't struck when it did. One night they were awakened by the smell of smoke. In a few minutes the cheese plant with all its expensive equipment was a twisted pile of rubbish.

Insurance didn't begin to cover the loss, but the Stotzers accepted the situation with patient resignation. It was just a matter of working a little harder to pay off the debt.

There were eight children now, and even the toddlers pitched in to help. John bought milk cans and an old truck. Every morning he loaded it to capacity with fresh milk and went out seeking a market. It was slow going, but things were looking a little better in the summer of 1923.

But one morning of that year John Stotzer went into the barn to milk the cows, noticed instantly that something was wrong. He made a quick survey of the herd, then ran into the house to telephone the county agent.

An hour later his world had come to an end.

"John," the county agent said after he'd glanced at the herd, "I hate to have to tell you this, but you were right. Every cow on the place is infected—tuberculosis. They'll have to be killed."

"But I've given my life to build up the herd. I know what must be done, but I will lose the farm—everything."

"I'm sorry, John. Wish I could hold out some hope for you," the agent said. "The government was paying an indemnity in these cases, but there were so many of them, it had to be discontinued. I don't know how to help you."

"No one can help. I must start over."

"You did it once, John."

"Then there was only me, now there are eight children. Please, you will go. I must tell my wife."

John Stotzer hauled his pure-bred Holsteins to a fertilizer plant and sold them for ten dollars. Unable to keep up the payments on his debt, he lost the farm and everything he had.

There was still no complaining. As John Stotzer will

tell you, "just faith in the goodness of God and trust that in America there is always opportunity for the man who will work for it."

John hired himself out to another farmer for a hundred dollars a month. On that salary he had to feed and clothe his eight children, pay rent, and somehow get started again. There were many generous offers from the neighbors, but the Stotzers are the kind of people who find it easier to give help than to accept it.

They lived from things that came from the garden. Mrs. Stotzer made the children's clothes over and over again. They laid aside a nickel, a dime and once in a while a quarter. It didn't add up to much, even after three years, but to the Stotzers it wasn't money, it was hope.

The Stotzers had one asset they clung to through all their misfortune. It was an insurance policy worth something less than a thousand dollars. They'd never thought of it as capital because it was the last-ditch defense against further tragedy. One night, though, the county agent was waiting in the Stotzer kitchen when John came in.

"John," he said, "I was talking to the bank people in New Philadelphia this afternoon. Heard about a place over near Mineral City they're trying to get rid of."

"So-o?" John leaned forward eagerly. Mary paused her mending.

"Now I don't want to get your hopes up. It's not much of a place. There's been nobody living on it for two or three years. Most of the windows are broken in the house. The roof leaks. Foundation in the barn is sagging, siding's off here and there."

"How is the land?" John asked.

"About what you'd expect. Been mined for years, if you know what I mean."

"I know. Everything they take out. Nothing they put back."

"Exactly. The fields are eroded, most of the topsoil gone. That's the dark side of the picture. But I've got an idea that a man like you could bring it back."

"Where there is land there is anyhow, hope."

"I know that's how you feel. I asked 'em how much they'd take for a down payment on the place. They wanted two thousand dollars."

John's face fell. Mary bent her head and resumed her mending.

"But wait. I told them about you. I think I convinced 'em that they'll never get their money out of the place the way it is. Could you raise a thousand dollars, John?"

John glanced at Mary. Her hands had stopped working again, her eyes were on the floor. "I don't know. We would have to talk it over," he said.

"The place won't support the family for a long time yet, understand, but I know how you feel about land of your own. Gives you a chance, anyhow."

"Land of our own again, mamma," John said. "You heard it."

Mary seemed to look beyond him. She nodded.

"We will talk it over between us," John said. "Either way, you are good to think of us, my friend."

That night the lamp burned late in the Stotzer home. John and Mary had a bridge to burn.

"How much money would be left if we pay a thousand dollars?" Mary asked.

"A hundred and sixty dollars only," John said.

"There would be interest."

"Maybe the bank people would be patient about the interest," John said hopefully.

"You could ask," Mary said.

"It is the children we must think about. If something should happen—it is a great risk, mamma." John shook his head slowly.

"John," Mary said, placing her hand on his, "as it is there is nothing for the children. Without a place of our own they grow up without roots. They make no memories. If we do it, all of us together must work it out. If we lose then we must pray harder."

John looked into her eyes. "We do it," he said.

Then began the struggle to bring the worn-out land back to life. John borrowed money to buy lime and alfalfa seed. After putting in an honest day's labor for his employer he would walk over the hills to his own fields, borrow a team of horses and work the land by moonlight. On week-ends and holidays the whole family would go over to the place, work from sun-up until after dark, squaring foundations, repairing roofs, replacing siding, building fences.

For three years the Stotzers worked. At first the wounded earth showed little signs of ever coming back to life. But then, slowly, as a sick man recovers his strength, the color began to return to the fields. There were patches of green

and gold. And then there were living things. Three calves at first, then chickens and pigs.

And as the land came back there were children playing in the yard and the sound of laughter carried over the hills.

It was a long, torturous ordeal to bring the farm back to where it would support the family, but the Stotzers did it.

There were twelve children, the oldest fifteen, when Mrs. Stotzer died. No amount of hard work could make up for that. But even in the bitter loneliness that faced him, John Stotzer found reason to be thankful. Mary had lived to see her children taking root in the resurrected land and that had given her peace.

The Stotzer children are raised now. Most of them have families of their own and their name is deeply respected throughout Ohio.

John Stotzer again has a herd of more than a hundred pure-bred Holstein cattle, his "Stotzer cheese" is shipped throughout the country and his farm is easily worth fifty thousand dollars.

Such outstanding institutions as the Cleveland Chamber of Commerce, the Ohio Agriculture Extension Service, Friends of the Land, and the United States Soil Conservation Service, have honored John Stotzer and point to his farm as one of the outstanding examples of soil restoration in this country.

Knowing that her father was homesick for the sound of Swiss cow-bells, John's oldest daughter bought the finest set she could find when she visited Switzerland in 1937.

More were added later so that there are now some sixty expertly tuned bells, each with a different tone, for the Stotzer prize cattle.

On summer afternoons the melodic sound of the bells can be heard for miles through the Tuscarawas hills. People who have heard of it come from all parts of the country to listen to the concert. And to pay their respects to John Stotzer whose feat of "amazing courage, ingenuity and strength" is written there on the face of land, lost to the news, but deeply rooted in The Ohio Story.

14

The Lincoln Hoax

AT twenty-two minutes after seven o'clock on the morning of April 15, 1865, the man ceased and the legend began. Sergeant O. H. I. Oldroyd of Company "E," 20th Ohio Infantry, asked his company commander if he might keep, as souvenirs, the three bulletins that hung on the headquarters door. The bulletins read, "Abraham Lincoln shot." "Lincoln not expected to live." "Lincoln passed away at 7:22 A.M."

All over the nation that morning, men with a sense of history, like Sergeant Oldroyd, began gathering the things the great man had touched, or owned, or written, or had merely passed by.

Through the years their numbers have grown. Today they are legion. They call themselves simply, "The Lincoln

Men," just as though old Abe were running for office this Fall. They read the things he wrote and all things written about him. They go the places he went. Their dearest possessions are the things he owned. They can tell you where he was and what he was doing most of the moments of his lifetime.

"The Lincoln Men" stand guard over the facts of Lincoln's life and times so that only fools or eminent scholars presume to meddle in the subject. Being neither, we will confine ourselves to the indisputable facts of the strange sequence of events that unearthed the great Lincoln hoax —a journalistic practical joke that contributed as much as anything else toward bringing the man out of obscurity and giving him to the ages.

Fact number one is indisputable enough. It is a sentence cast in bronze, set in stone, and plainly visible on the public square in the city of Mansfield, Ohio. The sentence reads, "The first public and official endorsement of Abraham Lincoln as a candidate for President of the United States was given him in Mansfield at a county convention held November 5, 1858. And beneath the words is the signature, "Erected by the Richland County Lincoln Association."

Fact number two is equally indisputable and it would seem to support fact number one. The files of the Sandusky, Ohio, *Commercial Register* are well preserved and open to anyone who asks to see them. In the issue of Saturday morning, November 6, 1858, the *Register* carried this notice on page one, immediately below the mast-head,

which was the traditional position for the number one story of the day:

> LINCOLN FOR PRESIDENT
>
> We are indebted to a friend at Mansfield for the following special dispatch:
>
> "Mansfield, Nov. 5, 1858.
>
> EDITOR SANDUSKY REGISTER: An enthusiastic meeting is in progress here tonight in favor of Lincoln for the next Republican candidate for President.
>
> REPORTER."

Equally indisputable is the fact number three. The *Register's* story was picked up by other newspapers and widely reprinted. The *Illinois State Journal,* of Springfield, Ill., Lincoln's home newspaper, ran it as follows: "LINCOLN FOR PRESIDENT. The Sandusky (Ohio) *Register* announces the nomination of Hon. Abraham Lincoln for the next President, by an enthusiastic meeting at Mansfield in that state."

The Cincinnati *Commercial* also reprinted the *Register's* story and the New York *Herald* picked it up from the *Commercial.* Papers all over the nation copied it from the *Herald.*

That was the beginning of a wave of speculation that brought the name of Lincoln to the attention of people and institutions who had forgotten it, or who had never heard it before. In most Eastern quarters the idea of Lincoln's candidacy was looked upon as some sort of Republican maneuver or even as a joke. The Illinois lawyer, while not entirely unknown—he had run unsuccessfully for the

Vice-presidency in the previous national election—was never considered Presidential timber in 1858.

With the announcement from Mansfield, newspapers began investigating Lincoln's record and reporting what they found. The curiosity grew and finally Lincoln was invited to appear on public platforms in the East to make himself known. One of those appearances was the famous Cooper Union speech that put him in the front line of candidates for 1860.

"The Lincoln Men" may claim that it would have happened in any event. Perhaps so. But the fact remains that the story in the Sandusky *Register* had a great deal to do with starting the bandwagon rolling.

Now, until twenty-two minutes after seven o'clock on the morning of April 15, 1865, it mattered little who or what started Abraham Lincoln down destiny's highroad. But from that moment when the man ceased and the legend began, it was of monumental importance. If the political rally at Mansfield in 1858 was the first endorsement of Lincoln as a candidate for the Presidency, then Mansfield was a potential national shrine, as was every significant crossroads in the Lincoln story. Several years went by, however, before the importance of the brief notice in the Sandusky *Register* came into focus. When it did, there was high excitement in Mansfield. The Lincoln Association organized a monument committee, whose duty it was to commit the fact to bronze, mount it on stone and place it where all could see.

Now in the course of the proceedings a strange thing happened. The monument committee had decided that it

would be appropriate at the unveiling ceremonies to present a few of the people who had been present at the original Lincoln rally. It was hoped that at least one of their number would be in sufficient good memory to recall everything that happened that fateful night of November 5, 1858. Inquiries were made among the logical old-timers, but none of them could recall having attended the rally.

The committee advertised its intentions throughout the county. There were dozens of patriarchs who had sat on the great man's knee. Six or seven had heard the speech at Gettysburg. Two or three had shaken Lincoln's hand when he stopped off in Columbus on his way to the inaugural. But no one had attended the rally.

Someone suggested that the details of what took place could certainly be found in the files of the Mansfield *Herald*. The file for the month of November, 1858, was produced, opened to the issue of Saturday morning, November 6.

The paper was full of news concerning a meeting of the nation's leading railroad tycoons who were in session in the city over that week-end. But there wasn't a line about the rally that had nominated Lincoln!

Quickly the researcher turned the yellowing pages. Nothing either, on the seventh, the eighth, the ninth. Then he opened the page to issue of the tenth of November. Squarely in the center of the front page was a gaping hole. Someone had gone to the trouble of neatly cutting out a certain article! But who? And when? And for what purpose? Would the missing story have thrown light on the

mystery of the rally? The researcher inquired for another copy of the same paper. None was extant. He shrugged his shoulders, reported back to the monument committee. A few days later the dedication exercises went on as scheduled, except for a recitation of the details of what had transpired the night the Lincoln bandwagon rolled out of Mansfield to change the fate of the nation.

Now "The Lincoln Men" will leave no stone unturned if they're on the trail of a fragment of new information, but under the circumstances, what with the monument and all, it seemed appropriate to let the sleeping dog lie.

Not so, to Mansfield's rare, rare book man, Ernie Wessen, a student of history and philosopher extraordinary who specializes in autopsies of the dead past. To Ernie Wessen there was something in the odd circumstances that suggested a first class historical mystery. What *had* happened in Mansfield the night of November 5, 1858? And had it anything to do with the missing story in the Mansfield *Herald* of the tenth?

Ernie Wessen thought he knew where he could put his hands on what would probably turn out to be the world's only other copy of the Mansfield *Herald* of the tenth of November. He headed straight for Columbus and the musty, dusty newspaper room of the Ohio State Historical Society. Burrowing in the files he found what he wanted. Eagerly he bent over the page, and there it was:

"To learn the news of the town," the editor had written, "go to the country. That's an old saying which, with slight alteration would read 'to learn the news of Mansfield go

to Sandusky.' Mansfield, we know, is a large city and many great occurrences doubtless take place in it which we never hear of, yet we are inclined to think that a large and enthusiastic political meeting would be likely to come to our knowledge. Under the circumstances we are rather disposed to consider the *Register's* Lincoln demonstration somewhat imaginary. THE TRUTH IS, THE *REGISTER* HAS BEEN HOAXED!"

Well, there it was. Someone had hoaxed the nation the night of November 5, 1858. Someone had told a lie so timely that it was to change the current of events for ages to come.

Now those are the bold, startling facts of the great Lincoln hoax. Unfortunately there are no others. To the historian, concerned only with the record of human existence, they are totally unsatisfactory for they pose the question of who was responsible and that cannot be answered conclusively. To the political scientist, who is concerned with analysis of the intricate mechanics of government, the facts are equally unsatisfactory because they emphasize the unscientific element of chance as a factor in political decision. Only the philosopher, who ponders the ultimate purpose of man, can reach a conclusion from the facts of the great Lincoln hoax, for if such trivia can spin the web of fortune, then there's more to human destiny than can be understood by the finite mind of man.

To the historical essayist, the Lincoln hoax opens a grand vista of speculation. Even a casual examination of the personalities and influences at work the night of November 5, 1858, produces interesting circumstantial evidence that would seem to make the Mansfield *Herald* itself, a party to the mischief.

David Ross Locke, the Ohio newspaperman who created the nationally famous satirical character, "Petroleum V. Nasby," in the columns of the Toledo *Blade,* seems to have been in Mansfield on the night in question, probably to cover the meeting of the railroad men.

Locke, who had something of a reputation for practical jokes, was a good friend of Roeliff Brinkerhoff, editor of the Mansfield *Herald.* Speculation had it that Locke, after listening to hours of the pompous oratory of the railroad meeting, fled to the friendly atmosphere of the *Herald* and put his feet on the editor's desk.

"Roel, in all my days," he said, probably, "I have never been exposed to so much nonsense by so many stuffed-shirts at one time. No wonder the railroads are broke."

Brinkerhoff, who had a reputation for sober-mindedness would have been less critical of the gathering. "Lot of big men there, Dave, they probably know what they're doing."

"Sure they know what they're doing. They're tryin' to get their hands further into the government till. Every big newspaper has a man covering the meeting. They're just talking for publication. You should have heard 'em beating the drums for Seward and Chase. Talked as though the world would come to an end if the Republicans didn't pick one of 'em in '60."

"Well, they have a lot at stake."

"Sure, sure. If the next President should turn out to be

a man they couldn't control, it'd cost 'em millions. It'd serve 'em right if—if—hey, Roel, a lot of those moneybags are from the South, aren't they?"

"I guess so."

"Wouldn't it be funny if they were to endorse a man like, say, Lincoln for the Presidency?"

"Funny? It'd be impossible. I couldn't think of anyone they'd be less likely to pick."

"But it'd be funny if they did."

"I don't understand what you're driving at, Dave."

Presumably, David Ross Locke put his tongue in his cheek. "Now, Roel, tonight a fellow named Crane is supposed to make some kind of a high and mighty speech having to do with railroad financing. Now suppose, by some error, a couple of fellows like us got mixed up in reporting what went on. Suppose we wrote a story saying that in the middle of the meeting the name of Abraham Lincoln came up somehow, and immediately everyone present got up on his chair and cheered. The meeting turned into a political rally endorsing Abe Lincoln for President."

"Now Dave, fun's fun, but that might be serious."

"Can you imagine their faces when they saw the papers?" Locke was enjoying the vision immensely.

"They'll see nothing like that in my paper."

"Doesn't have to be your paper. It could be anyone around here close enough so we could get a few copies of the story down here before the silk-hats leave town."

"Nobody'd believe such a story."

"We could tone it down a little—besides it'd depend on who you were asking to believe it. Now you take Oran

Follett in Sandusky. He's Mr. Republican in this state. If someone sent him a little story like that he'd put it right under the mast-head. When's the next train out of here for Sandusky, Roel?"

That's one way the hoax may have started and many of the people who have studied the case think it was born that way. There's another school of thought, though, that places the total responsibility on Oran Follett himself. He was a man of considerable influence and strong opinions, and was known to be opposed to the candidacy of his fellow Ohio Republican, Salmon P. Chase. The followers of the Oran Follett school think it might have happened that Follett got to thinking about the meeting at Mansfield and observed to his associate, "Quite a meeting they're having down in Mansfield. Be a lot of stories around the country carrying a Mansfield dateline in the next few days."

"We can get all we need from the *Herald*."

"I know. But I was just thinking, be quite a coincidence if while the railroads were meeting, there was a big political rally going on endorsing Lincoln for President."

"Lincoln? In Mansfield?"

"Could happen, you know. Right this very minute there could be a big Lincoln rally going on. We wouldn't know a thing about it."

"Everybody knows those railroaders are for Chase."

"Of course. Be kind of ironic if people got the idea there was a rally going on for Lincoln at the very minute they were trying to build up Chase. Now if the *Register* said it happened, down East they wouldn't know any different. All the papers 'd pick up the story."

"Oran. That wouldn't be honest."

"No," Oran said thoughtfully, "but it'd be mighty good politics."

One way or another the innocent little item did appear in the Sandusky *Register* and went thundering across the nation to spin a web of fortune that was to contribute as much as anything else toward bringing Abraham Lincoln out of obscurity and giving him to the ages.

15

Liederkranz, Ohio

RIGHT from the outset let it be understood beyond any microscopic possibility of doubt that the word "Liederkranz" and the brand "Liederdranz" are the property of the Borden Company. The Borden Company owns it lock, stock and aroma and they'll fight you with cheese at twenty paces if you try to say otherwise.

The story lies in how that happened to come about.

The Borden Company paid out good American money for the right to call Liederkranz its very own. You might think their agents smelled it out of a basement of a castle in Oost Vlaaderen, Holland, or perhaps from a damp cave outside of Tiefenskastle, Graubenden, Switzerland.

No. When the Borden Company paid out its money for Liederkranz the transaction took place in Van Wert, Ohio, the city that produces every last ounce of the world-favorite cheese delicacy known as Liederkranz.

Ever since the ancient Arabian merchant, one Kananam, poured his daily ration of fresh milk into a sheepskin container hoping thereby to preserve it until he was ready to eat his lunch, only to find later that the milk had solidified, cheesemaking has been one of the most closely guarded of the arts.

Knowledge of how to blend the ingredients so as to impart a particular flavor or characteristic to a type of cheese has been passed from father to son for numberless generations.

Besides the secretiveness, the system has also given rise to fierce pride of craft and a kind of brand aristocracy, wherein the Camembert maker will have nothing to do with the Roquefort maker and vice versa. Had it not been for that situation young Emil Frey might never have left his mark on the world and Liederkranz would have been only the name of a forgotten German-American singing society, instead of the brightest jewel in the crown of Elsie Borden.

Emil Frey's father had been a cheesemaker in Switzerland and when Emil came to America it was perfectly natural for him to find employment in Adolph Tode's little cheese plant in Monroe, New York. At the time, 1887,

Adolph Tode was a well-to-do delicatessen operator in New York, specializing in rare and hard-to-come-by food delicacies. Among them were Camembert, Isignay, Brie and Gouda cheese, all of which were produced by past masters of the various arts in the little cheese plant in Monroe.

Among the cheesemakers at Monroe the only man without a cheese of his own was young Emil Frey. Emil had completed his apprenticeship but among his fellow workers that was a technicality that need not be considered whenever there was a kettle to wash, a floor to be scrubbed or a bad batch to be disposed of.

From their high places the cheesemakers held themselves aloof from little Emil, the man without a brand. More often than not their conversations would cease abruptly when he entered. Someone would remember a chore in a distant corner of the plant and when Emil had disappeared the conversation would resume.

Now it happened that Adolph's best seller was an imported cheese called Bismark Schlosskaese.

Always, though, with the Schlosskaese there was trouble. Adolph would order a batch of it with every ship, but when it reached New York more often than not the news would be bad.

Adolph would stand by the door. "Ah, Herr Schoenbrunner," he would say to the shipper's representative, "from the boat you are bringing the Schlosskaese, yes?"

And the representative would answer, "Adolph, from the boat is bad news only. The Schlosskaese is overboard. Near

the boiler room some dumkoff puts it. Half way across it is either the passengers or the Schlosskaese."

And Adolph would fly into a rage. "So again I am paying good money to feed fine cheese to the fishes! Pretty soon the ocean is nothing but Schlosskaese. This is the last!"

But always, as customer after customer would register deep, personal injury when there was no Schlosskaese, Adolph would place another order and the ocean floor would be further enriched.

Adolph knew better than to ask any of his artists at Monroe to see what they could do about producing a reasonably accurate facsimile of Schlosskaese, but he was desperate, finally.

Timidly, he approached Hans Grossniklausen. "Hans," he said, "when you were in the old country still, trying to get to America, who was it sent you the passage money?"

"You, Adolph," Hans answered.

"And when you are married and need money to down pay on the house, who loaned it without interest?"

"You, Adolph."

"Always I have treated you right, Hans, no?"

"Yes, Adolph."

"I am in trouble, Hans."

"Trouble? Adolph, anything. My house, my money, anything."

"Thank you, Hans." Adolph wiped an imaginary tear from his eye. "Hans, I must have Schlosskaese. Always on the boat someone is overboard dumping it. My customers

are saying, 'Adolph he has Schlosskaese but he is saving it for friends. He is no friend of mine. I will take my business and go.' But, Hans, all the time Schlosskaese—I haven't."

The deep concern had left Hans Grossniklausen's face. In its place was a set jaw and a look that any good German would recognize. Adolph saw it and changed his tack.

"I would ask the others, Hans, but it would be foolishness. You only."

Hans raised both his hands beside his head, shaking all three vigorously. He moved quickly to a little cupboard in the corner, unlocked the padlocked door. He brought out a small bottle filled to the cork with a kind of lace-like white mould which he held out for Adolph's inspection.

"My cultures," he said. "From my father to me, from his father to him, for three hundred years. Isignay is the Grossniklausen cheese. With new cultures you would have me fool! Some night they mix. Next day in this bottle is no longer Grossniklausen cultures. Something else has grown. It is the end."

"I know how it is with the cultures, Hans," Adolph pleaded, "but you would have a room separate."

"On the hands, on the clothes, in the hair—the cultures carry. Before I fool with new cheeses to the old country I go back."

And that was that.

Adolph tried the other cheesemakers with the same result. Finally there was only little Emil Frey, the man with-

out a brand. Adolph had little hope when he gave Emil the assignment. He had been a good apprentice, but even an old master would have trouble duplicating Bismark Schlosskaese.

Nevertheless in the year 1891, in the little cheese factory in Monroe, 20 year old Emil Frey began the great search. It was May when he began experimenting and that was the worst possible time because in the Spring, milk has entirely different characteristics than it does in the Summer or Fall even though it comes from the same cows. The formula that will produce a fine cheese in May probably won't work at all in September.

Emil Frey was aware of the problem, but it was by no means the worst he had to solve. An even greater difficulty was the weather. Changes in temperature and humidity affect the curing of any cheese and even if he succeeded in perfecting an acceptable Schlosskaese, he probably wouldn't be able to duplicate it. In Winter, the temperature and humidity factors could be controlled with some degree of accuracy, but in Summer the cheesemakers had to outguess the elements along with everything else.

Emil Frey struggled with his assignment through the Summer. He made up batch after sample batch, keeping careful notes of each variation. It took at least a month of curing before he could measure the results. That is, it usually took a month.

"Emil!" Adolph Tode came bursting into Emil Frey's room on a sweltering day in August. "Emil, there is trouble. In the city council there has been a meeting. The

Mayor, the chief of the police, the public health, everybody is waiting to get his hands on Adolph Tode. It is the samples. For some of the worst, Emil, maybe we shouldn't wait."

There was no telling which of Emil Frey's samples were the worst, so they buried most of them. Emil didn't mind too much. Lately, he felt, his prestige with his fellow workers had fallen to a new low, if that were possible, and Emil figured the samples might have had something to do with it.

When Winter came Emil had better luck. He wasn't any closer to the elusive Schlosskaese than he'd been in May, but he succeeded in developing a soft-ripening cheese that had a remarkably mellow, satisfying flavor; a rich-looking, golden color; and a, well, not delicate, but interesting aroma. By January he had succeeded in making the new cheese time after time without any noticeable variation from batch to batch.

He selected a set of samples that he was sure represented his finest efforts, committed the formula to memory, carefully destroyed all of his notes, and called on his employer in New York City.

Adolph Tode greeted him with outspread arms. "Emil!" he cried, obviously excited. "To the city you would be coming for no other purpose than to bring the Schlosskaese! Anna! Fritzie! Come quick! Emil—Schlosskaese from the country!"

"No. Adolph," Emil explained, "Schlosskaese is not."

Adolph Tode's face fell with an almost audible crash.

"Not Schlosskaese," Emil went on, "better, I think."

Adolph's face recovered from the disappointment. He looked questioningly at young Frey. Slowly he began to smile. He raised a fat finger and shook it coyly, like a Fraulein anticipating a delightful proposal.

"Taste it," Emil said nervously.

Adolph gouged himself a generous mouthful. He closed his eyes. Finally he pronounced the verdict. "Emil! You have done it! Such cheese never was. Anna! Fritzie! Come taste!"

Adolph prepared an elaborate coming-out party for Emil Frey's new cheese. The debut was to take place at the monthly meeting of the Liederkranz singing society which was the gathering place for the elite German-Americans of New York, most of whom were Adolph Tode's customers. At every plate that night there was a sample of the new cheese. It was an immediate and unqualified success and Adolph Tode made an extravagant gesture when he was called upon to speak.

"Fellow saengers, cheese-lovers, ladies and gentlemen, friends," Adolph began in his best banquet manner, "so many have said never such cheese have they tasted as was served here tonight, and so many have asked where can such cheese be found, I have been asked to announce particulars. The cheese will be every day at my place selling. So you don't get the wrong kind, and so the name will make easy remembering I am calling it Liederkranz, in honor also of our little society. Thank you."

Emil Frey went back to Monroe in triumph. His reception was all that he had hoped—he was now a man with a brand. He was to participate in the profits from the sales of Liederkranz, both because of Adolph Tode's inherent generosity, and because the only known formula for making it was lodged safely in Emil Frey's head.

The fame of the new cheese spread quickly through New York City, then up and down the East Coast. It brought grand-scale prosperity both to Emil Frey and Adolph Tode. The latter, however, proceeded to open new stores throughout the city, quickly over-extended his capital and soon found himself in serious economic trouble. He sold his interest in Liederkranz and the cheese plant at Monroe to Emil Frey and passed out of the story.

Frey reorganized the plant to produce Liederkranz exclusively. He broke down the production operations into many divisions—so many, in fact, that no man was ever able to tie them all together and thereby learn the secret of Liederkranz. No man, that is, except Emil Frey.

By 1918 the demand for Liederkranz had outstripped production, even though 230,000 dozen quarter-pound packages found their way to market that year.

By 1925 Liederkranz was in such demand it had begun to make serious inroads into the fresh-milk supply in the New York area. The fresh milk dairymen got together, found they could outbid Emil Frey for the available milk and threatened to do it unless he had made new arrangements within a year.

It was no particular hardship. Liederkranz was a perish-

able product and as long as the factory remained in the East, the vast Western markets were closed because of the transportation difficulties.

Emil Frey scoured the mid-west searching for a central location and an untapped milk supply. He finally found both in the city of Van Wert, Ohio. By 1926 he had built a modern cheese plant at Van Wert and had started production.

Now for 32 years Emil Frey had kept his precious formula a secret. There had been many imitators, countless attempts to plant men in his factory, many offers to buy the formula outright. Emil Frey had successfully combated every effort. The plant at Van Wert was arranged with even greater departmental breakdown so that the secret appeared to be safer than ever.

With the first batch that went through the new plant, though, it began to appear as though Emil Frey himself had lost the magic touch. The foreman of the curing room broke the news.

"Mr. Frey, I'm afraid something is wrong, you'd better have a look."

"Wrong?" Emil asked, "what could be wrong?"

"I don't know, sir," the foreman answered, "all I know is that the stuff curing out there isn't Liederkranz. It isn't cheese. It isn't anything."

A glance at the stuff rotting on the gleaming new shelves was all Emil needed to order it thrown out. He started over again exercising special care.

He tested the incoming milk himself. He supervised

sterilization of the vats. He checked himself again and again as he made up the secret cultures. Day by day he watched the new batch cure. In a few weeks he knew it was never going to be Liederkranz. He went over the steps again. There had been no error. Was there something about Ohio cows that was different from New York cows? Or was it Ohio grass, or water, perhaps? Emil Frey didn't know, but it meant the end of Liederkranz if he couldn't find out.

Emil Frey went home to worry with his problem. The house was new and strange to him. Somehow he couldn't seem to get comfortable. And that's when it dawned on him that there was nothing wrong with Ohio cows or grass or water. The temperamental bacterial cultures that convert milk solids into cheese didn't like the change any better than he did. They were homesick.

Emil Frey put in a call to the old plant at Monroe. He ordered a crew of carpenters to rip out the old curing shelves, piece by piece, to number them so they could be reassembled exactly. They were to be loaded on freight cars and shipped to Van Wert by express.

When the old shelves arrived and had been assembled, Emil Frey started another batch of milk through the Liederkranz process. In their accustomed habitat the bacterial cultures settled back to normal and the production of Liederkranz has continued without interruption from that day to this.

In 1930, be it understood, the Borden Company paid out good American dollars to call Emil Frey's Liederkranz

empire its very own. The old master confided his secret to two vice-presidents and it's their secret today.

And that's how it happens that the world-famous cheese delicacy known as Liederkranz, springs not from Oost Vlaaderen, Holland, not from Tiefenskastle, Graubenden, Switzerland, but from the plains of Van Wert, a little south and west of center from the heart of The Ohio Story.

16

The Gate

THE error is one of proportion only and perfectly natural, under the circumstances. To the provincial easterners who first assembled the story, it was both logical and gratifying to assume that the incident at Lexington was the beginning of the chain of events that was to decide the ultimate destiny of the North American continent, and that the surrender at Yorktown was the end of it.

So it seemed, from the seaboard all the way west to the Connecticut River, the Hudson, and the Delaware. If there were incidents beyond those western frontiers they were obscure and hardly noteworthy except for perhaps a paragraph in a later chapter.

As it turned out, the error is one of proportion only, and some day, certainly, a western scholar will correct it.

For the fact is, the fate of this nation was finally decided a little before noon—about eleven fifty-seven probably—on an August morning in the year 1794, when an obscure British officer stood before the gate of a Fort along the banks of the Maumee River in Ohio, and wrestled with a decision of such portent that it was to change the lives of all men from the moment it was made until the end of time.

In the standard history texts, the circumstances are condensed to a single paragraph. But that doesn't change the fact that the ultimate possession of the North American continent, and therefore the subsequent history of the human race, once awaited the outcome of a tense chapter in The Ohio Story.

There was plenty of evidence that England had never considered the apparently successful revolt of the American colonies a closed matter even before General John Graves Simcoe arrived on the scene. There was the high-handed practice of raiding the crews of American merchant vessels on the high seas, for one thing.

There were the British Forts in the West, for another. By the terms of the treaty of Paris which supposedly ended the revolution, the British government had agreed to abandon the forts at Ontario, Haldimand, Niagara, Detroit and Mackinaw. By 1791, though, the forts were still under the British flag and were going stronger than ever, despite American protests.

Besides that, there were the open and obvious efforts of the British to organize and encourage the hostility of the northwest Indians.

There had been general rejoicing when word reached Downing Street of Harmar's defeat at the hands of Indians in the Ohio country. That had been the first test of American arms since the revolution and it had ended in disaster.

Seeking to recover lost prestige the American government organized a stronger expedition against the Ohio Indians in 1791, under General Arthur St. Clair. That effort, too, ended in ignominious defeat. It appeared that the time had come to re-open the American matter.

That's when General Simcoe arrived on the scene. His duties were apparently routine and harmless. He was to be Governor of the newly-created Canadian province of Ontario. There was just one thing about the Governor's assignment—he was to fix the southern boundary of Ontario at the Ohio River.

It wasn't as difficult an assignment as it first appears. The English held Detroit; they had fleets of warships on Lake Erie and Lake Ontario; they had vastly superior forces ready to march down from Canada, and more important, perhaps, they had the whole-hearted support of the people and particularly the rich and powerful fur traders of Canada.

To defend the American claim to the Ohio country there were only a few undermanned forts along the Ohio, particularly Fort Harmar at Marietta and Fort Washington at the present site of Cincinnati. Moreover, after St. Clair's

defeat there was little enthusiasm among the American states for the difficult task of subduing the western Indians. There were some American statesmen, John Randolph of Virginia for example, who were violently opposed to wasting any more wealth or lives on what they considered a worthless cause.

Governor Simcoe was well aware of all the gambits and had made his plans accordingly. They called for two armies to march down from Canada, one starting from Detroit, the other from Presque Isle. The latter was to march South to the river, reduce the Upper Ohio River forts and embark by water to Fort Washington. The army from Detroit was to march directly south and arrive in time to join the first force in the attack on Fort Washington.

The only trouble was, England and the United States were not officially at war. To Governor Simcoe that was a minor detail. He was confident there would be an incident to provoke a conflict.

Meanwhile, President Washington and his Secretary of State, Thomas Jefferson, were well aware of the danger of the American position. They had no knowledge yet of Governor Simcoe's grand plot but they knew the war with England was not yet over and that it would probably be decided in the west. There could be no denying that word of St. Clair's defeat had been heard around the world and American prestige had to be restored.

There must be one final, decisive campaign in the west. It had to succeed, for the future of the United States of America would be hanging in the balance.

Washington called for his top-drawer General, Anthony Wayne, turned over to him all there was in the way of military power and sent him on his mission.

When the news that Wayne was organizing an army in Ohio reached Governor Simcoe he sought an audience with his immediate superior, Lord Dorchester, Governor-General of Canada.

"My Lord," he said, "there are reports that that rebel Washington is equipping a force at Cincinnati for the express purpose of attacking our position at Detroit."

His Lordship received the news calmly. "That will take some time yet, General. They'll have to deal with Blue Jacket and his federation before they reach us."

"Yes, m'Lord," Simcoe replied, "but don't you see, this time they'll make sure. We must move now, before they get organized."

"I see the desirability of it, Governor, but I also see the impossibility. There's to be war with France. We learned in the last, er—incident, the difficulties of engaging the rebel colonies and the French at the same time. Our campaign here will have to wait, except for extending whatever aid we can to our allies, the Indian federation."

Simcoe accepted his superior's analysis of the situation but didn't for a moment agree with it. He was certain that the Indian federation allied with the British forces already present in Canada could defeat the American army. He still hoped for the incident that would provoke his war.

At Cincinnati, meanwhile, Mad Anthony Wayne was building an army. He had six hundred infantry regulars

in his command and expected a total of some 1600 horsemen of the Kentucky cavalry. For two years the General drilled and disciplined his army. That was something new and unpopular in the American military, but Wayne had studied the mistakes of Harmar and St. Clair and he knew that lack of organization had been at the root of their failures.

By the Fall of 1793 Wayne's army was ready. He began marching north, building a chain of forts as he went. When he reached Greenville he built his biggest fort and established headquarters. Meanwhile the Republic of France had gone to war with England.

Simcoe, who had been watching Wayne's advance, thought he saw his opportunity and called again on Lord Dorchester.

"My Lord, as you know, the rebels are building a chain of forts along St. Clair's old line of march. The latest is Fort Greenville. Obviously they are preparing to attack us here at Detroit."

"I am aware of their activities, Governor," Dorchester said, "and I quite agree that they have no intention of stopping until they reach Detroit. Until the French have been defeated, though, I don't suppose there is anything we can do."

"There is something we can do," Simcoe said eagerly, "and it fits in with our master plan. The strategic point on the line is at the rapids of the Maumee. If we were to erect a strong fortress at that point——"

"Yes, I see," the Governor-general said thoughtfully,

"but that's deep in their territory. It would be interpreted as an act of aggression on our part."

"No doubt it would, sir," Simcoe pressed, "but it wouldn't change the issue. Consider, sir, that a fort at the Maumee rapids would be an outpost of the empire, a conclusive demonstration of our intention to hold the Ohio country for the crown."

"But the Foreign Office wants no war with America until France has been disposed of."

"I know. But consider it as a move to defend our position here at Detroit."

"It's a dangerous move, Simcoe," Dorchester said, "but as you say there's tremendous advantage to it, particularly in supporting the Indian federation when Wayne gets further north. Proceed, but in all haste. The new fort must be built and garrisoned before word of it reaches the rebel government."

Simcoe followed his instructions to the letter. He had his Fort Miamis standing at the rapids of the Maumee before word of it reached Philadelphia. When it did, a wave of indignation swept across the country. The Secretary of State sent a message to Lord Dorchester that hinted at what was likely to happen when Wayne's army approached the vicinity of Fort Miamis.

"I have it in charge from the President of the United States," the message said, "to request and urge you to take immediate and effective measures to suppress these hostile movements, and to call to mind that the Army of the United States, in their march against the Indian enemy,

will be unable to distinguish between them and any other people associated in the war."

That's how matters stood on the twelfth of August, 1794, as Mad Anthony Wayne stood with his army at the junction of the Maumee and Auglaize rivers, deep in the heart of the Indian country.

There he built his last stronghold which he called Fort Defiance. Probably no one including Wayne himself felt very defiant for it was common knowledge that twenty-six miles down the river, at the rapids of the Maumee, protected by the muzzles of the guns at Fort Miamis, the chiefs of the Wyandots, Miamis, Delawares, Shawnees and lesser tribes were gathered in a council of war.

Wayne made one last effort at conciliation. Simcoe forestalled it. Word came back that the tribes would be glad to discuss peace with Wayne after ten days had passed. Recognizing the ten day trick as a delay for time, Wayne gave the order to march. On August 17th his army was nine miles from Fort Miamis. There he deposited his heavy baggage and stripped his soldiers down to combat gear. Then he assembled his officers.

"Gentlemen, six miles ahead is the mightiest aggregation of Indians ever assembled," the General said. "Just behind them to the north is England's Fort Miamis. Sometime soon we will engage the Indian federation. I need not tell you the future of our nation depends upon the outcome."

The General's aide, William Henry Harrison, had a question. "General," he said, "suppose we defeat the Indians and they run for the British fort. What's our move?"

"That depends, Harrison," the General replied carefully. "If the British refuse to open the gates of the fort the affair will end there. The Indians will desert them, and we can lick the British any time without the Indians. But if they open the gates—well, I have orders to attack the fort only if I think I can take it. At this point I know nothing of their armament. If I attack the fort it means war with England, of course. It could also mean our defeat. If I do not attack it, it will be interpreted as a sign of weakness, thus defeating the purpose of our campaign."

"It's a difficult decision, sir," Harrison observed.

"Yes. You might pray that we don't have to make it," the General said.

Now it happened that Lord Dorchester had been pondering the same question. With Simcoe in charge at Fort Miamis there was no question but that the gates would be opened in the event of an Indian defeat. However, it would be Dorchester, not Simcoe, who would have to answer for involving England in war again on two continents. The Governor-General paced the floor. He stopped suddenly, called for a messenger. Hastily he wrote a note ordering Simcoe to meet him at once, and to do nothing further until they had had a chance to discuss the situation further. He signed the message, sealed it and dispatched the messenger.

At Fort Miamis, Simcoe was pleased with the way things were going. Blue Jacket's Indians, some two thousand strong, were entrenched in the nearly ideal cover of the fallen timbers—a swath of forest, nearly two miles long that had been uprooted by a hurricane. Some tree trunks lay

flat on the ground, but the wind had left most of them uprooted at crazy, criss-cross angles that presented a jungle of tangled roots and branches that would be utterly impassable to Wayne's cavalry, which was probably a good two-thirds of his fighting strength.

Even if Wayne should somehow produce a miracle and succeed in driving the Indians out of their entrenchment, he would still have to reckon with guns at Fort Miamis. There were ten heavy artillery pieces. Against them Wayne would have nothing more, the scouts had assured him, than a few small field pieces which were carried on horseback. The earthworks and deep foss that surrounded the fort afforded little hope for an escalade, even if "Mad Anthony" Wayne should prove to be mad enough to attempt it.

For perhaps the hundredth time that day the General stepped to the parapet, strained to listen for the sounds of battle in the distance, the signal that the great crisis of his life had come. He had confided to no one his intention of committing the fort and its garrison into the battle at the appropriate moment. Dorchester would have forbidden it. As it was, the question of war or peace was exactly where he wanted it, in the hands of John Graves Simcoe.

"General Simcoe, sir." The General spun around.

"Major Campbell."

"A messenger has just arrived from His Excellency, the Governor-General, with this dispatch."

The General frowned. "Very good, Major. That will be all."

"Yes sir. Will there be an answer?"

"I doubt it."

"Very good, sir."

The General studied the envelope. If it were the order he feared there would be no choice but to obey. Perhaps if he delayed opening it—the General strained again to listen, but everything was quiet downriver. He studied the envelope again, turned it idly in his hands.

"I beg your pardon, sir." It was the Major again. "The messenger says Lord Dorchester told him to await an answer."

"Very well, Major. You shall have it in a moment."

"Yes sir."

So that was it. Dorchester was making sure there would be no delay. The General ripped open the envelope, scanned the page. It was not the order he expected, but it might as well have been. His Lordship wished to see him at once. Simcoe decided he would wait until the next morning before setting out for the rendezvous with Dorchester.

At seven o'clock the next morning, August 20th, Anthony Wayne noted how two years of training had paid off. On his right, the infantry marched in two orderly ranks, its flank guiding on the protecting east bank of the Maumee. There was the correct interval between each man and each column. Weapons were carried on the alert, as he had trained them. On the left, deployed in column, one brigade of the Kentucky cavalry rode watchfully. The other cavalry brigade rode as a reserve in the rear center. Well out to front, through the morning mists he could see the

backs of Major Price's select battalion of cavalry which formed the advanced guard, spread out to cover the entire two-mile front of the advancing army.

Ten miles upriver General Simcoe swung into his saddle. "Major Campbell," he said crisply, "you're in charge. I will return at the earliest possible moment. Wayne has taken this long, my hope is that he will delay another day. You know our orders. They are to extend every possible aid to our Indian allies."

"Yes sir. God speed to you, sir."

And the General was gone.

A few hours later Wayne's advance cavalry pulled up short at the edge of the fallen timbers. "Lieutenant," Major Price ordered, "dismount and climb that tree. See if you can spot a path through that tangle."

Before the Lieutenant could execute the order there was a sheet of blue flame from the fallen timbers. The cavalry was caught flat-footed. The horses bolted. Blocked by the river on their right, the timber in front, they wheeled about and fled, plunging into their own first rank of advancing infantry and throwing it into a panic.

It was time for Wayne's generalship.

Over the confusion and the gunfire and the panic Mad Anthony barked his orders. "DeButts, get forward to Major Price. Tell him if his cavalry can't fight, to get them out of the path of the infantry and reform as a reserve to our right! Cook, get that company of infantry back in order! Harrison, push that second rank through the first and on into that timber! Wells, swing to the rear and tell Scott to

bring the rest of those Kentuckians around that timber and hit the left flank! If anything happens to me, remember the order of the day is—charge the rascals with bayonets!"

The Indians were hard to dislodge. It was man against man. Tomahawk against bayonet. For an hour the white men and the red fought face to face, arm to arm. Then suddenly resistance ended. The American infantry had pushed through the fallen timbers and the Indians were in full retreat. The cavalry gave chase. But suddenly they reined up sharply. They had reached the end of the wood and were staring into the guns of Fort Miamis.

And at that moment destiny had its little joke. The disposition of the richest prize ever fought for in the history of the world, the ultimate disposition of the North American continent, suddenly swung on the crude hinges of a simple gate that a child could have opened.

At eleven fifty-seven, Anthony Wayne stood before the fort awaiting the move that would force him to make the terrible decision. The Indians were storming the gate now, demanding admittance. If it didn't open in a moment——

Inside the fort Major Campbell suffered. The fort perhaps could be held and Wayne annihilated. That was General Simcoe's hope, the Major knew. But Lord Dorchester had said war must be avoided, and to open the gate meant war. The Major couldn't decide and his indecision cast the die. The Indians turned away and fled into the forest.

The tense drama was over.

In the aftermath, Anthony Wayne negotiated the treaty

of Greenville which opened the Northwest to white settlement. John Jay got England to agree to abandon the Northern forts and all the world learned that the American nation was here to stay.

In the standard history texts the circumstances are condensed to a single paragraph, but it doesn't change the fact that the fate of a nation awaited the outcome of this unheralded chapter in The Ohio Story.

17

Henry Sherwin's Guarantee

NOW the way it was on the Brook Farm in Baltimore, Vermont, if you marked your asparagus "Grade A," you packed no less than 26 fat stalks to the bunch.

If you labeled your McIntosh "Fancy Grade," you screened every apple and anything but the best went into the cider pile. And since you never could be sure of cider apples you didn't put the Brook Farm market tag on the barrel.

It wasn't a crusade, it was just a simple formula for doing business, so simple, in fact, you might wonder how it came to cover the earth.

The way Henry Sherwin was brought up on the Brook Farm in Baltimore, Vermont, if your uncle from the far

west wrote you a letter saying that the city of Cleveland, Ohio, was a place of vast opportunity, why then it must be so, because a Sherwin had signed the letter.

That's how it happened that in 1859 a stern Yankee of 17 years walked into the firm of Freeman and Kellogg, Fine Dry Goods, in Cleveland, and asked for a position.

The position he got carried no title, except in the bookkeeper's account, where it was listed as "package wrapper."

To Henry Sherwin, formerly of Brook Farm, however, it was a position, and he treated it as such, often to the distinct annoyance of his employers.

He hadn't been on the job very long when Mr. Freeman himself came storming back to the wrapping counter. "Mr. Sherwin," he said in a tone so frosty you could almost see his breath, "yesterday Mrs. Jonathan Satterfield made several purchases. Upon returning home she found the item she needed most had been omitted from her package. Several such errors have come to my attention in the past few days. Now then, young sir——"

"They were not errors, sir," Henry Sherwin explained. "Mrs. Satterfield purchased eight yards of Scotch Plaid, apparently without examining the bolt from which it was taken. I noticed that the goods had faded where it had been exposed to the light. I omitted it from her package."

"Mr. Sherwin, would it have been too much trouble to cut off the faded portion and fill Mrs. Satterfield's order?"

"It would have been no trouble at all, sir," Henry retorted. "However, the goods still would have faded and by the time it had, Mrs. Satterfield would have gone to the expense of making a garment."

"Hmmm. But you might have notified Mrs. Satterfield of the omission."

"That would have destroyed her faith in the store. She will forgive a wrapping clerk's error. But she will never forgive inferior merchandise."

"And I suppose you have a suggestion for a satisfactory explanation why her order wasn't filled?"

"If I were handling it, sir, I'd tell her that since she ordered Scotch Plaid, every woman in town had bought the same pattern."

"You may proceed with your duties, Mr. Sherwin."

Henry Sherwin proceeded with his duties, but so much of Freeman and Kellogg's Fine Dry Goods ended up in Henry Sherwin's cider pile, the management decided it would rather have his principles working on the profit side of the ledger. Mr. Freeman made Henry Sherwin the cashier, where he would be in a position to detect bad checks, poor credit risks, and bogus bills which were even then prevalent in western commerce.

Within a year a credit memo or check bearing Henry Sherwin's approval was a kind of local legal tender, good in any store in Cleveland. Freeman and Kellogg ran onto hard times though and eventually closed its doors.

Sherwin went to work as bookkeeper for the George Sprague Company, groceries.

Now the way Henry Sherwin was brought up, liquor and tobacco were a waste of money, which in Vermont is the same as being wicked. The George Sprague Company handled liquor and tobacco but Henry Sherwin figured he could change that, in time. By 1866 he made himself so

valuable to the firm, George Sprague offered to take him as a partner.

Henry Sherwin wanted the partnership more than anything in the world, but there was a conflict with his principles.

"I sure appreciate your confidence, George," Henry said when the proposition had been explained. "There's just one thing. If my name is to be over the door there can be no liquor on the shelves."

"Aw, now, Henry," George Sprague pleaded, "there isn't a store in this city that doesn't sell liquor. We couldn't stay in business."

"I can prove to you by the accounts that it will make very little difference."

"And I can prove to you, by the nature of the customers, that it would put us out of business. You don't have to sell the stuff yourself, Henry. When anybody wants liquor you can turn 'em over to me. That way your conscience'll be clear."

"Not if my name were over the door. Thank you, George, but I can't do it."

Henry Sherwin moved on to the firm of Truman and Griswold, paints. Now in 1866 you didn't buy paint in a paint store, you bought the makings: linseed oil, white lead and color pigments. There were ready-mixed paints to be had but only those people who would buy a gold brick or a lot at the bottom of Lake Erie were prospects for them. A can of ready-mixed red paint usually consisted of water and iron oxide. It took a week to dry and the first rain would wash it off. So contractors and people of

ordinary experience just bought the makings, and that's what they sold at Truman and Griswold's.

It wasn't long before Henry Sherwin was doing the buying for the store. He soon had the reputation for being the toughest, but withal, the fairest buyer in the trade. The hit-and-run salesmen with the long-profit items, of which there were many, soon learned to avoid him. But the sound practitioners of the persuasive arts used him as a kind of proving grounds, for it got to be an axiom in the trade that if you could sell Henry Sherwin you could sell anybody.

Now among the items Henry bought for resale in the store was window glass. And it was characteristic of him that he chose to buy it from a jovial young fellow named Ed Williams, of Kent, Ohio.

Ed Williams lived life a little higher, a little wider and somewhat handsomer than was considered acceptable by Vermont standards. And yet he was such a convincing salesman that he could sell glass even to Henry Sherwin. Henry marvelled at this, along with everybody else, and it started him thinking. He explored what was for Henry Sherwin a wild idea, on one of Ed Williams' visits.

"Ed, what's your opinion of ready-mixed paints?" he asked guardedly.

"Same as yours, Henry."

"Ever run across one you thought you could sell?"

"Not twice to the same customer."

"Ed, if there were a good ready-mixed paint, a really good one, be quite an item, wouldn't it? Think of the convenience, the standardization of color, the economy——"

"I'm thinkin', go ahead."

"That's as far as I've gone. See you next trip, Ed."

By 1870, when Henry Sherwin was 28, he had bought out the Truman and Griswold partnership and was sole owner of a paint store, which had a little stock, a fine reputation and in the hands of Henry Sherwin, a promising future.

Now you could hardly claim that Henry Sherwin was a modest man. He knew his worth, all right, but his stern Yankee realism left room in his mind for an improvement. The next time Ed Williams called——

"Heard the news all the way down to Pittsburgh, Henry," Ed said. "Expected to see a new sign over the door."

"Waste of money to paint it twice, Ed."

"I don't get you, Henry."

"Need two things. Two thousand dollars to buy more stock, and a salesman good enough to sell ready-mixed paint. I intend to develop a good one."

"That got something to do with the sign?"

"You got two thousand dollars, Ed. I checked."

"Henry, with you checking and me selling, our paint ought to cover the earth."

In a few years the firm of Sherwin and Williams was doing very well. Ed Williams' salesmanship backed by Henry Sherwin's uncompromising Grade-A-or-cider-pile principles had begun to dominate paint retailing in northeastern Ohio.

Henry, meanwhile, had been carrying on extensive experiments with ready-mixed paints in what could hardly be called a laboratory in the rear of the store. He was making progress but he was still a long way from his goal when Ed Williams' instincts began to bother him.

"Henry," he explained, "there's a lot of new ready-mixes hitting the market. Some of 'em don't rub off for a month or so. The competition's moving out on 'em."

"Hasn't shown up yet on our books."

"They aren't taking any business away from us. It's just that we aren't doing all we could. Now if we were to take on the Fording line—just until you get yours——"

"You've been talking to those people again, haven't you, Ed?"

"Well, yeah——"

"I can always tell by the white on the seat of your pants."

Henry Sherwin finally did get a paint that pleased him. It wouldn't wash off, wouldn't dry up in the can, wouldn't rub off like chalk. On top of that he had a can that could be re-sealed after it had been opened.

It should have been enough for a salesman like Ed Williams to build an empire, but the paint-buying public had had just enough experience with ready-mixed varieties to have built up an active resistance to them. Retailers refused to stock Sherwin and Williams paint.

The Ingersoll people in Rocky River were typical.

"I tell you Hank Sherwin worked on this paint himself, for years," Ed Williams pleaded. "Now you know Hank wouldn't have anything to do with it if it wasn't right."

"Sure, I know it, but I haven't got time to explain all that to my customers. Besides, when Hank Sherwin goes into the ready-mixed business I begin to wonder if you fellows aren't fixin' to retire."

Time after time both Sherwin and Williams ran into uncompromising resistance. At night they'd sit gloomily at their desks and wrest with their problem.

"I can't think of anything, Henry, unless we give away a couple thousand cans free, just to prove it's good."

"Wouldn't do it. Best horse my father ever had was given to him. Wonderful horse. Served him for years. When it finally died, Father said, 'I knew it!' "

"If we could just get a fellow like Tom Bayles to stock it. He's about the biggest dealer in town now. Trouble is, he's like the rest. Won't touch ready-mix with a tongs."

"Tomorrow let's go see him together, Ed. Maybe I'll get an idea."

If anything, Mr. Bayles was more adamant than most.

"Naw, Henry," he said, "I'll take your word for anything but ready-mix."

"But I tell you, this is good paint. It has my name on it!"

"I know, Henry, but they all got names, and look at the dust on those cans."

"But we're offering a money-back guarantee, Tom," Ed Williams put in.

"Don't cut no squash with my customers. They gotta pay to put it on."

"See what I mean, Henry," Ed said desperately.

"Yes, I see. Very well, Mr. Bayles. You doubt my word. Will you accept my paint if I guarantee that if this paint is not everything we claim we'll refund not only the paint but the cost of the painter?" It was an un-Yankee-like proposition and unheard of in any business.

"You just sayin' that, Hank Sherwin, or will you write it out?"

"Give me a piece of paper."

And on a piece of wrapping paper in Tom Bayles's store an aroused Henry Sherwin wrote this guarantee. "I, Henry Sherwin do agree that this paint will not crack, flake off or turn chalky. It will cover more surface, wear longer and look better than any other paint, including lead and oil. We hereby agree to forfeit the value of the paint and the cost of applying same if not found as above represented. HENRY A. SHERWIN."

"Here, Ed. You sign it," Henry directed.

"You sure, Henry?" Ed faltered. "You know if anything happens——"

Henry turned to Tom Bayles. "That statement over those signatures will appear on every can of Sherwin-Williams paint from now until doomsday if necessary. How many cans do you want?"

And with Henry Sherwin's word on the can a skeptical public bought so much of his paint that it eventually covered the earth.

18

Boys Growing Tall

HERE in Ohio it would surprise no one if later-day researches should suddenly turn up the fact that the earth rotates on an axis equipped with a set of Henry Timken's roller bearings, lubricated by John Rockefeller's Standard Oil. We'll be gratified, of course, if that should turn out to be the case, but hardly surprised. We rather expect it of our boys.

You see, it's all in how you raise 'em. Here in Ohio we don't rely entirely on store-bought education. We have nothing against institutions of higher learning, understand. We have so many of them in our state you can travel from one corner to the other, the long way, and never be more than twenty miles from a college. But we believe in educatin' 'em before they get here. Take for example John

Rockefeller or Harvey Firestone or Henry Timken. Tear a page from their book and you're down to the warp and the woof of the Ohio Story.

It was a simple and straightforward proposition. Mr. William Avery Rockefeller had told his eldest son, John D., that the old turkey hen was sneaking out of the shed to lay her eggs in the field somewhere.* And if John could track down the nest and keep the weasels and hawks from eating the eggs, they would then become the boy's property.

That's why the pale, serious little boy had risen early every morning to follow the turkey hen into the field. As soon as she laid an egg the boy replaced it with one of the door-knobs he had laboriously collected for the purpose. He carried the eggs into the house and put them under the stove. When there were twelve eggs he transferred them to a nest in the woodshed and locked the mother turkey inside.

William Rockefeller then bargained with the boy to buy back the eggs. They arrived at a price of three cents apiece. When the transaction was reported to Mrs. Rockefeller she had a stern reprimand for her husband.

"William," she said, "why did you pay the boy only three cents for the eggs? They are worth more, you know."

"I know they're worth more, Mother," William Rocke-

* This part of the story happened in New York State but in Ohio we don't talk about that. The Rockefellers moved to Strongsville, Ohio, shortly after.

feller said, "but we must cheat our boys every chance we get. It's part of their education."

There was education, too, on the subject of accounts. Mrs. Rockefeller was engaged in punishing John for a misdemeanor, the nature of which is unrecorded. As the punishment proceeded, young John wasted no breath in crying. Instead, he kept up a running protestation of his innocence, which succeeded, finally, in convincing his mother that he was innocent. The spanking went on, nevertheless.

"Mother," the boy said, between administrations, "you just admitted I didn't do it. Why keep on with the licking?"

"We have gone so far, we may as well proceed," Mrs. Rockefeller said. "It will be credited to your account."

By the time he was thirteen John D. had mastered the intricacies of free enterprise sufficiently to have built up credit, as well as fifty dollars cash which he kept in a blue bowl on the mantelpiece. A neighboring farmer was in need of a loan of fifty dollars and he offered seven per cent interest. John D. consulted his father and the loan was approved.

The following Fall, John D. got a job from the same farmer digging potatoes. He was paid 37½ cents a day for twelve hours' labor and he became impressed at how slowly 37½ cents added up to anything.

At the specified time the farmer repaid the fifty dollars, plus $3.50 interest. John D. was delighted. He had made a fundamental discovery which he promptly reported to his father.

"I have just discovered something very important,

Father," he said. "My $50 has enabled me to be two places at once."

"And how is that, Son?" the senior Rockefeller asked.

"Well, the fifty dollars earned me $3.50. But while that was going on I was also earning 37½ cents a day picking up the potatoes. I was two places at once."

"Your reasoning is excellent, Son, as far as it goes. There's just one thing you have overlooked."

"What is that, Father?" the boy asked.

"Your fifty dollars financed the potatoes you picked up for 37½ cents a day."

"I see what you mean, Father," John D. said thoughtfully. "It would be better to be the man who plants the potatoes."

John D. enrolled in Folsom Business College in Cleveland when he was fifteen. But his father kept a harder school.

"John," he said one day when the subject of finances came up, "customarily a boy turns all his earnings over to his father until he reaches age 21."

"Yes, sir," John answered, "I shall."

"Now I'm willing to let you buy your time—that is—release you from that arrangement for the sum of forty dollars, cash in hand."

"That's generous of you, sir. Shake on it before you change your mind."

Father and son shook hands.

"Done," the elder Rockefeller said. "You now owe me forty-five dollars."

"But you said forty——"

"Plus five dollars a week for board and room. When you're on your own you must pay board, you know."

"But you never said——"

"John, never rush into a contract before you have examined it."

William Rockefeller kept a watchful eye on his boys as long as he felt they needed it. John got a job as assistant bookkeeper in the brokerage firm of Hewitt and Tuttle. Unbeknownst to him, William Rockefeller made frequent inspection trips into the city to see how the boy was doing.

Returning from one of these spying ventures, father Rockefeller had good news to report.

"Mother," he said, "I'm at last convinced John will get on. He's disciplining himself."

"How do you know?"

"By a bit of judicious maneuvering I managed to get a look at his ledgers. On March 10 he made this entry on the margin. 'I, John D. Rockefeller, because of overwork injurious to my health, do hereby make a covenant with myself not to work at the office later than 10 o'clock on any night for thirty days.' "

"I'm surprised you approve of that."

"I don't. But one month later, on April the 10th there is another note on the margin. 'I, John D. Rockefeller, do hereby resolve to make no more such covenants.' The boy will get on, Mother."

While the education of John Rockefeller was proceeding

in Strongsville, Harvey Firestone was growing up in Columbiana, Ohio. The Firestones had raised a mare in which young Harvey had part interest. He heard about a neighbor who was interested in buying just such an animal. He saddled her up and rode over to the neighbor's place. In a few minutes he was back.

"He looked her over from head to tail. He's gonna buy 'er, I know he is," the boy reported excitedly. "I have to go right back and tell him how much we want."

"He knew who you were, didn't he?" the elder Firestone asked.

"Well, sure."

"And he knows where we live. Unsaddle her and put her in the barn."

"But I have to go right back, Father. He may go somewhere else! There's lots of horses for sale, he told me!"

"Put 'er in the barn. If he liked her as well as you say, he'll be over. Always let a man *buy* what you have to sell, Harvey. Never let him think you're trying to sell to him."

And then there was the matter of business perspective. Harvey Firestone's father failed to respond to the dinner bell one day and the boy was sent to find him. He did, finally, on a hill some two miles from the Firestone farm.

"What are you doing 'way up here, Dad?" the boy asked.

"Planning next year's crops."

"From here? Our nearest field's a mile away. You can't even see the fence."

"Son," Mr. Firestone said, "you see Sam Stowe over there sowin' his wheat? Pretty soon he's gonna come to that big wet patch in the middle of the field. He'll have to stop when he hits that."

"Why did he start, do you suppose?"

"Because he doesn't know it's there. He can't see it from where he is. Whenever you do your planning, Harvey, come up to the top of the hill."

Harvey Firestone didn't learn the lesson immediately. When he finished Spencerian Business School he got a job selling the companion products, "Arabian Oil" for rheumatism, and "Wild Rose Lotion" for chapped hands. The first town he entered on his new job was Applecreek, Ohio. He was scared to death of being a failure. He walked the streets trying to get up enough courage to approach a storekeeper. Finally, after he had wasted half the day, he sidled into the smallest, dingiest store he could find. The proprietor spied his sample case and ordered him out.

An hour later he found another small store and tried again. The manager refused to listen to his sales talk.

Utterly defeated, he determined to have it over with once and for all. He selected the biggest and most properous-looking store in the whole town. To his amazement he got an order for two gallons of Wild Rose Lotion. He thanked the proprietor profusely.

"I sure am grateful to you, sir, for the order," he said. "I was getting a little discouraged."

"Why? You've got a good product," the manager said.

"I know, but I called on the smaller stores and you're the first man who'd listen to me."

"Naturally, son," the storekeeper said. "How do you suppose I come to have the biggest store?"

Ohio had one more lesson for Harvey Firestone. By sticking to the big stores he quickly became a successful salesman, at least of "Wild Rose Lotion," for chapped hands. But when it came to "Arabian Oil," for rheumatism, he was something less than successful.

Now, when you've been brought up like Harvey Firestone was, you're likely to be a little hard on yourself, at times. If you can only sell one of your two products you're likely to consider yourself a failure. And try as he would, Harvey Firestone couldn't sell Arabian Oil. A merchant in Crestline, Ohio pointed out the simple truth. Firestone had done his best to sell him Arabian Oil without success. The young salesman was utterly defeated and the storekeeper noticed it.

"Don't take it so hard, son," he advised. "I'll give you an order—for Wild Rose Lotion."

"It isn't a matter of an order, Mr. Benson. That isn't important any more. If I were any kind of a salesman I could sell you Arabian Oil."

"Could you now, boy? Tell me this. Do you think Wild Rose Lotion really helps chapped hands?"

"Certainly I do."

"Do you think Arabian Oil cures rheumatism?"

"Well, I suppose it helps. Anyhow it doesn't do any harm."

"You see, you don't believe in it. So how do you expect to make me believe in it? Better drop it from your line, son. You can't sell something you don't believe in."

And with that bit of knowledge added to what he already had, Harvey Firestone was ready to take on the world. One by one he began to apply the lessons. He continued to call on the big stores and he wasted no time on Arabian Oil. Within a year he had saved a thousand dollars and with that he went into the buggy tire business in Chicago. He prospered moderately and suddenly found himself in a position to buy out a small competitor if he could raise $15,000. He regressed momentarily by seeking a loan from the small bank where he kept a checking account and was therefore recognized.

All he got was a lecture on the audacity of young men seeking loans without sufficient security. Then he remembered about going to the biggest store in town. That happened to be the First National Bank of Chicago. He got his loan.

The new company prospered and soon joined with another company. Total assets after the merger were $45,000.

Now it happened that the huge Consolidated Rubber Company let it be known that it would like to buy out the Firestone Company of Chicago. The various Firestone partners were anxious to sell because it appeared that it could be done at a handsome profit. They urged Harvey Firestone to approach the Consolidated people with an offer to sell at $75,000. But that wasn't the way he'd been taught to do business in Columbiana, Ohio.

"They don't want to be sold," he said, "they want to buy."

For six months the partners urged and finally insisted

that Firestone make the offer. He managed to hold out though until Consolidated made the first move. And when he finally came to terms it wasn't for $75,000. Harvey Firestone sold his first business venture for a cool one million two hundred and fifty four thousand dollars. And with his share of the profits he came back to Ohio and went into business without partners.

About the time John Rockefeller was learning the advantages of being the man who plants the potatoes, and Harvey Firestone was learning to do his planning from the top of the hill, William and Henry Timken were growing up in St. Louis.

Their father, Henry Timken, Sr., was the leading carriage manufacturer in the West, a man of sharp eye, stern principle and sound advice. He taught his boys the carriage business from the rims up, placing special emphasis wherever he felt it was needed.

He found the boys attaching a nameplate to a carriage one day. "Henry!" he called sharply, "what are you boys doing to that carriage?"

"We're attaching the nameplate, Father," Henry spoke up. "We've worked out an improved method of attaching it to the kick-board."

"We've replaced the screws with rivets, Father," William explained proudly, "you can't get if off with anything less than a hammer and chisel."

"You may demonstrate."

"You mean, you want us to take it off," William asked incredulously.

Henry Timken nodded.

"But, Father, if you'll just examine the rivets. Yes, sir."

The plate was even more difficult to remove than the Timken boys had figured. It took several minutes and a great deal of pounding to accomplish the task. When it was done the boys turned to their father, who had been watching their labors in silence.

"The left lamp is missing from that carriage," he said finally. "Before you attach the name of Timken to anything, make certain you can stand behind it."

Even when the boys were grown Henry Timken continued to drive home his lessons. Under their father's direction the Timken boys had developed the ingenious friction-reducing device known as the tapered roller bearing. Tests in the shop had indicated its vast potentialities and the boys were eager to announce the invention. They planned to put on a demonstration for newspapermen in their workshop. Henry Timken, Sr., vetoed the idea. He ordered them to go out and buy the biggest wagon they could find. When that had been done he instructed them to equip all four wheels with a set of the new bearings.

Then the elder Timken loaded the wagon with all the hay he could pile on. It was an enormous load, bigger than had ever been seen on the streets of St. Louis. Henry Timken hitched up the smallest mule he could, and hired a boy to drive the wagon back and forth past the city hall.

Not long after the wagon had left the Timken wagon works, William and Henry, Jr. came bursting into their father's office.

"Now you've done it, father," William said. "They've arrested our driver for cruelty to animals. He told them he was driving for you and the authorities are on their way here right now!"

"Very well," Henry Timken said calmly.

"But, Father, they're going to arrest you. They'll throw you in jail!"

"If they do, I don't want anybody to bail me out," Henry Timken said. "The longer they keep me in, the better the announcement will be."

"The announcement?" the boys asked.

"Certainly, the announcement. When I get through demonstrating to the judge why that mule can pull that load without straining himself our announcement will be on the front page of every newspaper in town. While I'm gone you'd best be figuring how we're going to meet the demand for the new bearings."

When Henry Timken figured the boys had learned enough to start out for themselves he gave them the roller bearing patents and told them to go in business. They moved east, to be nearer the automotive markets because their father had insisted that that's where the real future lay in the transportation business. The boys opened a little shop in Canton, Ohio, and went out to seek their fortune. The Timken brothers haunted the gasoline alleys of the mid-west where hundreds of gadgeteers and ex-bicycle mechanics were laboring quietly in out-of-the-way workshops, trying to put together the great American automobile.

Wherever they could, the Timkens sold their roller bear-

ings. The business was just getting well started when the boys had occasion to apply their father's first lesson.

One of the biggest automobile builders in Detroit had invited them to submit a bid for 400 axle assemblies equipped with Timken bearings. Such an order would put them in business for good, and the Timken boys sharpened their pencils. They figured their costs down to the last penny. Eagerly they sent in their bid.

A few days later word came that they had been the lowest bidders. One glance at the contract, though, turned triumph into tragedy. The axle assemblies they were to deliver included wheels. In their excitement they had not figured them in their costs.

William prepared the letter telling the people in Detroit about the error and apologizing for the oversight. He brought it to Henry for signature.

Henry read it, approved the text and handed it back to William. "It's all right. Sign it," he said.

"But you're president of the company," William protested.

"You're in charge of sales. It's your duty," Henry said.

"Why don't you want to sign it?" William asked.

"For the same reason you don't. We put our name on something we couldn't stand behind."

"All right. I just wanted to be sure you felt the same way about it," William said. "I'll write another letter telling them about the mistake but explaining that we're going to deliver the complete assembly, as we said we would."

The Timkens borrowed the money to buy the wheels but they shipped the assemblies as they had promised. It

could have been the end of their venture, but it turned out to be the beginning. In Detroit, the story of the Timken boys who never put their names on anything they couldn't stand behind, spread through the industry and from that day to this the wheels of the world have been turning on Timken bearings.

But we're not surprised, here in Ohio. It's the sort of thing we've come to expect of our boys.

19

The Miracle at Scio

CHANCES are the miracle at Scio will be remembered even if opportunity becomes something you must see your congressman about on your twenty-first birthday and security turns out to be a check that arrives every Friday in a franked envelope. In that event the miracle will be remembered wistfully by sentimental old men who will speak of it as an outstanding example of the virile, exciting American past when the only thing guaranteed a man was freedom to work out his own destiny.

And should the welfare state with its guarantees and minimums and equalities make living a little dull now and then, a recitation of the events as they occurred at Scio will perhaps add a little color to the otherwise drab task of filling out the day's hourly reports to the Bureau of Internal Efficiency.

When Lew Reese was a jiggerman at an East Liverpool pottery, shaping clay around a mould with his hands, he got to wondering why no one had ever found a better method of performing the task. Two thousand years, he reasoned, ought to have been time enough to turn up a new idea, yet here he was, sitting before an ancient potter's wheel shaping clay with his hands exactly as men had been doing it for twenty centuries.

During the long working hours he began to create an imaginary machine that would take the place of his hands. A mechanical arm dropped a precise amount of soft, wet clay into a mould, gently lowered the core, spun the mould, trimmed the edge and released the raw bowl. At first Lew Reese's dream machine was crude, cumbersome and slow. But gradually, as he thought up refinements it became more efficient than his hands. One day he hooked up two machines to the same metal shafts and was surprised to see that two bowls could be made at the same time. As the weeks went by he added more and more machines to longer and longer shafts until his mind was making two or three hundred bowls while his hands were making one.

Now Lew Reese's education had ended somewhere along about the sixth grade and while he was no stranger to machines, he had no idea how you went about putting them down on paper. There were night schools in East Liverpool where a man could learn such things, though, and he enrolled.

The first World War interrupted his studies, until he was wounded, and then there was plenty of time to take them up again in a government hospital. When he got

back to East Liverpool Lew had rolls of blueprints describing in precise detail the world's first machine for mass-producing pottery tableware. He went over his plans again and again. When he could find no further improvements he took them to his employer.

"With this one machine you can turn out two hundred cups an hour," he explained eagerly. "If you want to make saucers, you just change the moulds on these racks. Same with plates and bowls. And if we can make tableware this way we could sell it for half of what we do now."

"Lew," the boss said, "I like your spirit and I don't want to discourage you, but what you're proposing here is impossible. It's been tried over and over again in this industry. Some of the best engineering brains in this country have worked on it, and they've given up."

"Maybe they never sat at a potter's wheel hour after hour doing the same thing over and over. Why a man gets to be a machine himself," Lew said. "This isn't something I thought up in a week or two. I've been at it for five, six years. If you'll just study the drawings you'll see the machine'll work."

"I know, Lew, they're beautiful drawings, but there's more to mechanical engineering than a set of prints. Tell you what I'll do. Tomorrow, suppose you report to the design department. They can use a man who's handy with a pen."

Lew shook his head. "No thanks, I'll stick to my bench. And I'll keep on improving this machine. Some day I'll prove it can be done."

"Even if it could, it'd only put you out of a job."

"No it wouldn't," Lew said quietly, "because poor people all over the world who can't afford your fancy dishes would like to enjoy some of the little comforts of life. I guess you never ate your supper from a tin plate and drank your coffee from a tin cup. Well, I have. It's a small thing I'll have to offer, chinaware at a price anybody can pay, but people like me are grateful for small things. It's all we ever have. Some day I'll put this machine to work. I'll put chinaware on the poor man's table and they'll be more of us working for him than have ever worked for you."

Lew Reese walked out on his job. He spent the next several months trying to sell his idea to various East Liverpool potteries. Everywhere he was turned away, usually, with the implication that a craft of two thousand years standing would hardly be revolutionized overnight by the plans of a jiggerman. Reluctantly Lew Reese folded his plans and went back to his familiar seat at the potter's wheel. He stayed there for ten long years always hoping but never finding an opportunity to build his machine.

By 1930 the creeping paralysis of depression had begun to bank the kiln fires of the Ohio valley. Town after town lapsed into economic helplessness, as business dropped off and potteries closed.

The case of Scio was typical. By 1932 it was on its way to becoming a ghost town. Its population had dwindled from 1200 to 400. More than half its houses were vacant and most of them could be bought for as little as a hundred dollars. At the Scio pottery the furnaces had long

since gone cold. Windows were broken, roofs sagging, machinery rusting and tall weeds growing between the tracks of the railroad siding.

It happened that in 1932 Lew Reese, now unemployed, accepted an invitation to go hunting with a group of former pottery workers in the hills around Scio. The trail took the party past the abandoned pottery. Lew and his friends looked sadly at the crumbling stacks and the rotting walls. It was a tragic and frightening sight. For if towns like Scio were allowed to die, then there was no hope for the pottery workers of the valley. Lew Reese thought of the plans lying home in his bureau drawer, and of the little town on the hill slowly strangling to death. He leaned his shotgun against a sagging door and stepped inside the building. He walked slowly from room to room, his mechanic's eye surveying the damage time had done. Without noticing, he began to move faster. The conveyors were rusty, but sound enough. The kiln linings were cracked and crumbling, but from four of them, a fellow could manage to salvage one. The clay mixers were frozen in their bearings but gasoline and a little fresh grease would fix that. An hour later Lew Reese, still wearing his hunting jacket and boots was storming through the silent streets of Scio. He disappeared into the bank.

"I know you aren't extending credit these days," Lew was shouting, "but doggone it, if you just sit there and rot you're gonna go busted anyway. It's not your dough anyhow. It's the people's. I'll go see how they feel about it and I'll be back!"

A few minutes later, Lew was in the doctor's office. "Now

look, Doc," he was saying firmly, "if you want to do something that'll cure all your patients at once, you'll go along with me. You'll help me get 'em workin' again. All I want from you is support for what I'm gonna propose."

And at the rectory of the church you could hear Lew's voice out in the street. "Reverend, you know that saying about the Lord helps them that help themselves. Well, get your coat on and do somethin' besides talk for a change."

Then Lew was on the phone talking to a tax officer at the county seat. "All right, so there's back taxes on the land of $3,600. And do you suppose you're gonna get it by sittin' up there whining about it? All you got to do is look the other way for a while. If anything comes of it you'll get your money soon enough."

Meanwhile, the word had spread like fire through the streets of Scio, and every able-bodied citizen, it seemed, had gathered in front of the bank. Lew stood on the steps and his big, rough voice carried to the fringes of the crowd. "I don't want any money. I know you haven't got it. But you got something else! You got pride and you're willing to work. I'll stick my neck out to get the stuff we'll need, but you're gonna have to pitch in and help. Anybody with me?"

Well, Thanksgiving week the whole town of Scio turned out to lend a hand. The banker was there in overalls and so was the minister, the doctor, the dentist, and the school principal. Everybody who could cut weeds or repair roofs or swing a hammer was down at the pottery.

Lew and six volunteers had moved into a corner of the building and made it their home. They worked night and

day repairing machinery, rebuilding kilns, scouring junk yards for miles around picking up anything in the way of wheels and gears and shafts that looked adaptable to Lew Reese's blueprints.

When they finally got the machine together it was a far cry from Lew's plans. It wasn't automatic and didn't replace very many hands. But under the circumstances it was efficient enough to produce simple whiteware at a low cost. There was still no money to buy raw materials but Lew talked a clay dealer into gambling a carload of his product on the Scio experiment. Lew then thumbed his way to Chicago where he looked up the buyer for a large chain of retail stores and began selling again.

"I want an order for a carload of cups and saucers and plates to be paid for on delivery. Now don't tell me there's no market! I know better. People haven't got money to buy expensive stuff, but that's not what I'm gonna make. I'll have a good line of plain whiteware, nothin' fancy, but good, respectable merchandise. Won't cost much, but at least it'll be something new, something for people to bring home and talk about. It'll be like old times. Y'understand?"

The buyer understood. Lew Reese got his order.

The first payroll at Scio fell due on February 23, 1933. On that day Lew Reese's cash balance was exactly eleven cents. There was a quick call for help; a huddle in the back room of the bank. Twenty men put up a hundred dollars apiece and that crisis was over.

They got out the first carload, packed it in old cardboard cartons and sent it on to Chicago. There was an immediate reorder. The profits financed a sales expedition that took

Lew Reese to the leading retailers of the country. He had samples now and the records of the first sales. He came back with orders enough to finish out the year at full capacity. And when the year was over the Scio pottery had sold $331,000 worth of its plain, respectable merchandise.

All of the profits went into building new machines for producing more and better tableware at lower costs. When sales doubled the next year Lew built an addition to the plant and still more machines.

Within a few years the Scio pottery had become the most efficient in the industry. The products of its machines were far superior in quality to the former hand-made items and the cost to the consumer had been cut in half. When sales reached three million dollars in 1945 Lew Reese had built all the machines he needed. His 800 employees were already among the highest paid in the industry, but that year he plowed the profits back into Scio. The 800 employees divided a bonus of $350,000. The next year, under the same system, the bonus was $750,000. When those figures were released to the newspapers, an army of reporters descended on Scio. *The New York Times, Reader's Digest,* news and business magazines and newspapers from coast-to-coast told the story of Scio. It was hailed far and wide as a miracle of American enterprise.

The real miracle of Scio, however, was still a year away. On the afternoon of December the eleventh, 1947, a blizzard was raging in Scio. Lew Reese was in Pittsburgh. In an obscure corner of the sprawling pottery a spiral of smoke drifted lazily upward from a conveyor-belt motor. No one noticed. The smoke grew thicker. Suddenly there was a

blue flash. A tongue of flame leaped toward the ceiling. In a matter of moments it had flashed through the building. Fire alarms sounded throughout the plant. Employees ran for safety. The fire patrol leaped into action. Telephones summoned help from Scio and the surrounding towns. They were futile gestures, though; fanned by high velocity winds the flames roared through the wooden buildings. In an hour Lew Reese's little Utopia was a mass of rubble and twisted steel. Everyone asked the same question. Was the pottery insured? Only Lew Reese knew that it wasn't. He had never found an underwriter who would take the risk.

Lew's friends at Scio tried to find some way to tell him. They put in a call to Pittsburgh.

"Hello, Lew Reese, speaking."

"Lew, this is Gene. We've decided to give it to you straight. You're wiped out. Fire. Gotta start from scratch."

There was a pause, and then Lew Reese's voice again. "Anybody hurt?"

"No."

"All right. Be right back."

In Pittsburgh, Lew Reese hung up the phone, found a chair and sat down. There was the bonus money he'd planned to distribute the next week. There was his own money, but that wasn't much. He could probably get some credit but certainly not enough to get started again. Besides if he had all the money in the world, a fellow couldn't go out and buy steel and motors and compressors and pumps, those things were still terribly hard to come by, with the war just ending. Probably take a couple of months

just to clear up the rubble and a couple of years to rebuild the plant and he knew his credit wasn't that good. He wondered how the folks at Scio would be taking it. They'd expected the bonus, counted on it probably. Well, they'd have it. He got in his car and headed back to Scio.

No one said a word when Lew drove up to the smouldering ruins. Everyone in Scio watched him step slowly from his car, take one long look at the ruins, turn his back and walk briskly out the gate.

At sunrise the next morning there was a strange procession through the streets of Scio. It seemed as though half of the twelve hundred inhabitants were pushing wheelbarrows and the other six hundred were carrying shovels of one sort or another. Everyone was headed for the pottery. The minister marched beside the tavern keeper, the mayor was teamed up with the constable. The two grocerymen who had been waging a private little war for years were arguing over who would push and who would shovel.

The miracle at Scio was underway.

By ten o'clock you couldn't have had a fender repaired anywhere in three counties, every garage had sent its welding torches to Scio to cut away twisted girders. Everyone was working without pay and any man who'd mentioned it would have had a fight on his hands.

Meanwhile word of the disaster had flashed across the nation, and great wheels were turning everywhere.

At the Weirton Steel Corporation in West Virginia the order went out to hold up all shipments until there was word from Scio. Weirton engineers were dispatched to the scene to help determine what Lew Reese would need. A

crane and operator were hoisted onto a freight car and sent to Scio.

In the New York offices of the Pennsylvania Railroad a terse order was sent down the line. If there was a car for Scio it was to be hooked onto any train that went through regardless of schedules.

At the Nash Kelvinator Corporation a wire went to Scio. "Have fifty spare fractional horsepower motors. Tell us how many you want."

At the G. C. Murphy Company in New York fifty dozen pairs of canvas gloves and fifty pairs of rubber boots were dispatched to the workers at Scio.

In New York the word went out for a meeting of the buyers of whiteware for F. W. Woolworth, Kresge's, McCrory's, Murphy's and others. In an hour a check for fifty thousand dollars worth of whiteware was on its way to Scio. Delivery? Anytime it could be made.

And at Scio, in a temporary field office Lew Reese was swamped with letters and telegrams and phone messages. One by one he read them.

"Dear Mr. Reese," an airmail special letter began, "we have on our books an account of $928.99, not yet due, representing materials shipped to you prior to your fire. We are enclosing a credit memo for the amount to close our books on the transaction. You and your employees are good Americans, the kind that have built and maintained the finest country in the world. Call on us for what help we can give."

There was a letter from the town physician.

"Dear Lew. Just a note to remind you that anything I have is yours if you need it. You may rest assured that no statement will be sent to any of your employees until they get back on their feet again."

Lew Reese read the letter, turned to the window and to no one in particular he said, "Now how are you gonna thank a fella for a thing like that?"

And so it went. The news kept pouring in. The people of New Martinsville, West Virginia had held a public rally, bought two thousand building blocks and sent them on their way to Scio. Campbell's soup was sending a truck load of assorted varieties. National Biscuit Company had trucks on the way. Kroger and A. and P. were sending coffee and hot dogs and miscellaneous food items. A hunting lodge in Canada was sending a deer.

Meanwhile the church ladies in the counties around Scio had organized brigades to work around the clock preparing food for the workers at Scio.

Three machine shops in the area cancelled all orders and put on double shifts to make parts for Lew Reese's machines.

Scio pottery competitors got together and stood by to send anything Lew Reese needed, from raw clay to skilled help.

In Washington both Ohio Senators cut the red tape of War Assets and sent word that Lew could help himself to anything he needed.

As the messages kept pouring in it began to look as though the whole nation had pitched in to see Scio get started again.

On the afternoon of February 13, 1948, three months

after the fire and exactly fifteen years to the hour from the moment the first batch of whiteware had come from the Scio Pottery, the kiln doors opened again and the new Scio pottery was back in business.

It's a little early yet to assign the miracle at Scio its proper place in history except to say that it will be remembered perhaps as an outstanding example of the virile, exciting American past when the only thing guaranteed a man was freedom to work out his own destiny.

20

The House That Jack Built

IF I were a writer of fiction I think I'd like to build a plot around the strange attachments that sometimes grow up between men and animals. I think I'd like to write about a man and a mule. Perhaps the man would be called Jake, and the mule, Jack. I'd set them aside a beautiful river and tell a story of their devotion to each other that would almost bring tears to your eyes.

I'd start them out poor, perhaps mining coal, and at the end of my story they'd be rich. For a climax I'd have the man build a beautiful home beside the beautiful river and furnish it with the finest rugs and tapestries and furniture that money could buy. And I'd have the man do this without letting the mule know. Then one day I'd have the

whole town turn out to see the man take the mule inside for the first time to show him the wonderful things that were there.

Maybe I'd have the mule live in the house, trotting around on the rugs, jumping on the beds and running in and out whenever he wanted to. Finally, the mule would die when he was forty years and ten days old and the man would die later of lonesomeness for the mule. But I'd let the house stand there for years and years so that men could always look at it and remember the man and the mule.

Perhaps it's just as well that I'm not a writer of fiction. No one would publish a story as fantastic as that. It could only happen in the stranger realm of truth, in the everyday lives of the men and the mules who wrested with the earth to create The Ohio Story.

Jake Heatherington dropped the handles of his wheelbarrow, shaded his eyes against the sun to steady the passing steamboat. It was the "Ohio Belle," Captain Eakin. He usually stopped for a couple of bushels of Jake's coal. Didn't seem to be puttin' in today though.

Jake answered the salute with a wave of his rough hand and resumed his barrowing.

It was kind of disappointing. It wasn't a matter of the ten or twenty cents he might have had—Jake was indifferent to that—he just wanted to talk to someone.

The "Ohio Belle" shipped out of sight around a bend. The smoke from her stacks hung low on the Virginia shore as Jake Heatherington dumped his wheelbarrow at the

water's edge and plodded slowly back the familiar path he'd worn between his coal bank and the river.

Jake always referred to the coal bank as his "diggins." It was an exposed coal seam that started a few hundred yards back from the river bank and then went underground, how far no man knew. Jake had rented eight acres of the bank from the owners and he worked it with pick and shovel and wheelbarrow. All day long Jake would work in his diggins, breaking the coal loose with the pick, loading the wheelbarrow and pushing it down to the river bank where passing steamboats would sometimes stop to buy a bushel or two of Jake Heatherington's coal.

Watching the steamboat disappear around the bend, Jake got to thinking again about his great ambition, to own a mule who could help him with the work and keep him company on the endless, lonesome rounds between the coal bank and the river.

That night when he got back to his shanty he counted up his money. There wasn't enough to buy a very valuable mule, but maybe the man in Bellaire had one that wasn't so valuable. He'd go over and see, anyhow.

Jake stood leaning against the fence, looking over the mule-man's stock. They were all good healthy animals; valuable, he guessed. Maybe he'd better come back when he had more money.

Just then the smallest mule Jake had ever seen separated himself from the herd and trotted over to the fence right where Jake was standing. He shoved his little nose into Jake's hand and then just stood there looking at him through the fence. Jake turned to hunt up the mule-man.

"I'll take that little fella that's lookin' at us through the fence," Jake said.

"Jack?" the mule-man asked. "Why he ain't big enough to do you any good. Ain't as strong as you are, Jake. Besides, your feet'd drag on the ground when you rode him."

"Ain't figuring to do much ridin'," Jake said, "and maybe he ain't so strong, but I'll be around to help him."

"But he's just a pet. You saw how he came runnin' up to you."

"Yep, he came runnin' all right. I'll take him."

"Well, it's your money, Jake, but if I wanted me a pet seems as though I'd git me a dog."

"Like you said," Jake answered, "it's my money. I'll take the little fella."

It wasn't long before the steamboat Captains were calling the attention of their more prominent passengers to the man and the mule working the coal bank at Bellaire. They'd explain how the man would answer the steamboat's whistle with a wave of his hand, and the mule with a wave of his ears. Inevitably the passengers would want to come in for a closer look and the Captains would take on a few bushels of Jake Heatherington's coal.

Business improved at the Heatherington diggins. Jake had to load his wheelbarrow and Jack's little cart a little heavier each trip. Jake explained the situation carefully to Jack.

"It's you who done it, Jack. Them fancy ladies, they want to get a good look at you, so the captains bring 'em in. I'm just addin' a couple extra bushels on your cart—got to make the pile grow bigger. No use complainin' now

—look at what I'm pushin' out—it's a bigger load than yours. Come now—"

"Now you see it ain't as bad as you thought." But as the little mule dug his tiny hoofs into the soft earth, it was apparent that he would have trouble with the load. Jake apologized. "Aw Jack," he said, "it is too much fer yuh. Leave it go now, you'll be hurtin' yourself. Let me give you a hand with it."

But as Jake put his broad shoulder to the cart, the mule laid his ears back and let out a shrill bray of protest.

"All right, all right, pull it all yourself, if you're a-goin' to be stubborn about it. But this is the last time, Jack. I'll not load you up so heavy ever again."

Thus the understanding grew between Jack the mule and Jake the man. As they worked the years away, their simple affection for each other became a noble, monumental thing.

With the passing of the years there began to be more and more steamboats on the river. Iron came to the Ohio valley, and the demand for the products of Heatherington's diggins grew and grew. Jake's eight acres became eight hundred. The path to the river widened to a roadway and it was lined with many men and many mules. The pile of coal on the river bank became too great a burden for the passenger boats so there began to be Heatherington steamers pulling Heatherington barges up to Pittsburgh and down to the Gulf.

And what of Jake and Jack? Would you have to make an appointment to see them now? Well, no—you could usually find them somewhere between the mine and the river

bank, black with coal dust, still working together to make the pile grow bigger. And the steamboat captains no longer had to point out the man and the mule to the fancy ladies, for Jake and Jack were legends of the river and Heatherington's diggins were as eagerly anticipated as Blennerhasset's Island or Cave-in Rock.

In the early years of their success Jake had built a couple of additions to his shack, mostly for Jack's comfort. Lately, though, a great vision had been growing in his mind.

Down by the river where they could still watch the steamboats and keep their eyes on the coal pile, Jake wanted to build a house for Jack. Oh, he'd live there, too, but it was really to be Jack's house.

He could see it in his mind, a great three-story house with windows that reached the floor so Jack could see out. It was to have big gables and trimmings like the steamboats had.

There would be stairways, but they'd go up at an angle that would be easy for Jack. Everything would be carpeted so the little hoofs wouldn't slip. The furniture would be oversized—big enough for Jack to take a nap in any chair he wanted to.

It was to be a surprise—the only secret he'd ever kept from Jack. But the architect fellow almost gave it away.

On the roadway between the mine and the river, John Hollis inquired for Jake Heatherington.

The foreman looked around. "That's him coming down the road there—the old man with the little mule."

John Hollis looked. "No," he said, "I mean Jake Heatherington, the President."

"No President around here," the foreman said, "but if you want Jake, that's him."

John Hollis was puzzled, but then this whole assignment had puzzled him. All he wanted now was quick approval of the plans he'd drawn—and his money. He waited for the man and the mule.

"Mr. Heatherington," he said, "I have the plans for your hou—"

"SHHH—come here," Jake interrupted just in time. "Jack, you stay over there. This fella and me got some business to take care of. Stay there, I tell you. You'll find what it's about soon enough." Jake lowered his voice. "Jack there don't know anythin' about the house. It's to be a surprise for 'im."

John Hollis nodded as though he understood perfectly. He unrolled his plans and held up the front elevation for Jake's inspection.

"Where's Jack's head?" Jake demanded suddenly.

John Hollis frowned. "Jack's—head?"

"Like I said. Jack's head! Where is it? It was to be right here over the doorway. A statue fella is makin' Jack's head in bronze. It goes right here."

"Very well," John Hollis said, "I'll put it in."

"Do it now," Jake ordered. "That part's got to be right."

Quickly the architect began sketching Jack's head over the doorway.

"Make 'im smile, now," Jake said softly, "Jack's always smiling."

John Hollis made him smile. "Now about the specifications," he began.

"I don't know anythin' about specifications," Jake said. "I told yuh the kind of a house I wanted. Build it so's it'll stand for years and years. That's the specifications."

"Very well," John Hollis said.

"You got the stairways like I said?" Jake asked.

"Yes sir."

"And the doorways—they got to be wide enough for Jack. Did you measure 'im?"

"No I didn't," John Hollis began, "but they're four feet—"

"Measure 'im," Jake said. "Jack, c'mere. This here's Mr. —what's your name?"

"Hollis."

"This here's Mr. Hollis. He wants to measure yuh. Hold still now."

Mr. Hollis proceeded gingerly to measure the mule. Jake watched proudly. Suddenly a frown crossed his face.

"Mister Hollis," he said quietly, "Jack is not in the habit of going through doors sidewise."

It was a wonderful house when they were through. It had sixteen rooms, hardwood floors and mahogany woodwork. The staircases were just the way Jake ordered and the doors were wide enough for Jake to go through—sidewise.

When everything was ready Jake invited his employees and everybody in Bellaire to come over and share in Jack's surprise.

All through the afternoon of the great day, Jake worked on Jack's coat, washing, combing, brushing and talking.

"Doggone it Jack, you're a-turning gray. Your hair's got as white as mine. Now 'ow could that happen when we ain't had nothin' but coal-dust inside and out of us all these years?"

"Stand still a minute! Course it hurts; that burr's bin in there since you was a baby, probably."

"Got a surprise fer yuh, Jack. That's what all this fussin's about. 'Member I allus told yuh we'd have it easy some day? Well that day's 'ere Jack. We've earned a rest, you and me. Now I'm gonna tie this rag around your eyes fer I don't want yuh to see the surprise 'til we git there. Hold still, blast yuh!"

Well, everybody Jake had invited was there, and everybody had a kind word as Jake lead Jack through the crowd to the front steps. There Jake stopped. He studied the bronze likeness of Jack over the doorway. He looked at Jack and then back at the head and tears came into his eyes.

The crowd grew silent. Jake dropped his hand to the mule's head and faced his friends.

"Before I show Jack the place I want you all to know somethin'," he said. "The word's kinda got around that I'm buildin' this 'ere house for Jack. But that ain't the way of it. Jack built this house fer me! Lot of you folks been workin' with me and Jack for a long time now. Jack built your houses, too. He put clothes on your kids and grub on your table, 'e did.

"If anythin' good's come outa the mine, them that has reaped the benefits owes a lot tuh Jack. Without him I'd

still be sellin' coal by the bushel down on the river bank."

Jake paused to remove the blindfold from the mule's eyes. Then he faced the house and raised his arm as though encompassing the whole structure.

"This house is built good and strong," he said; "it'll be here long after Jack and me has quit diggin in the earth. But long's it stands, maybe people who knew us will go by and say tuh each other, 'There—there it is. That's the house that Jack built!' "

Well, it turned out like Jake said. The house still stands there on the river bank at Bellaire, where fourteenth runs into Belmont Street.

It still stands, though Jake and Jack have long since quit these diggins. And like he said, folks going by still say to each other, "There—there it is. That's the house that Jack built!"

21

The Rare Horse-Sense of John Rarey

HAD you been in London in the year 1860, settled comfortably in the leather-and-fine-tobacco atmosphere of one of the best clubs, chances are the conversations going on around you would have drifted from the subjects of the weather, to the outcome of the American elections, and sooner or later to horses.

You might have heard Lord Faversham boasting of his prospects in the forthcoming derby.

"I ought to take it, you know, I've entered my colt, Galion," his Lordship would be saying.

"Galion?" Lord Somerfield would exclaim, removing his monocle, "I say, you wouldn't dare let that man-killer out of his stall!"

"Haven't you heard? I had him rareyfied."

"Rareyfied? That one?"

"Really nothing to it, you know. He's been the gentlest horse in my stable ever since."

Had you overheard such conversation and, perhaps, wondered what it meant to "rareyfy" a horse, you might have looked up the word in the latest edition of *Johnson's Dictionary* which would have been available in the club's library. You'd have found that the verb "rareyfy" meant, in words of the *Dictionary,* "to win by love; to mollify with the oil of kindness; to reclaim a badly broken horse; to tame a horse by kindness."

And had you become interested in tracking down the origin of the word you'd have found yourself in Groveport, Ohio on the trail of an incredible and now all-but-forgotten chapter in The Ohio Story.

John Rarey, who in the words of Ralph Waldo Emerson "turned a new leaf in civilization," was born in 1827 on his father's farm in Groveport, a few miles south of the city of Columbus.

When he was twelve, one of his father's doubtful investments was a thoroughbred colt which he had bought at a bargain because it had a growing reputation for wildness. Several men around Groveport had admired the horse and had attempted to break its vicious spirit. No one had yet succeeded. The colt had broken the bones of some of Groveport's best horsemen; still, Adam Rarey was confident that the horse had not been born that he couldn't tame. He made elaborate preparations, even to the extent of building a special corral in which to subdue the animal.

On the appointed day most of the neighbors came over to see Adam Rarey match his wits and will against the outlaw colt.

Adam blindfolded the horse, attached a halter and led him from the barn to the corral. There he tied the horse's head to a rail and removed the blindfold. The animal stood quivering, his ears flat against his head. Adam Rarey approached boldly, carrying a folded blanket. With a quick motion, he threw it on the horse's back. The animal reared and plunged and lashed out at Rarey with a pair of death-dealing hoofs. Nimbly, Adam dodged the attack and brought a whip crashing across the horse's back. In a violent fury the horse reared on his hind legs as far as the halter rope would permit. His forelegs thrashed the air, seeking the man. The whip cracked again full in the animal's face. The colt lunged, lost its balance and rolled over on its back. Adam Rarey leaped against the fence but couldn't get clear. The horse came crashing into him. Quick hands pulled the man from the corral, his legs bleeding, his face contorted in pain.

The neighbors carried Adam up to the house and stood by awaiting the doctor and discussing the events in low, hushed voices.

An hour later, when things had calmed down—one of Adam's legs had been broken—someone remembered the horse. Adam had sent word to have it shot. But when they

returned to the corral the horse was gone. It seemed odd, under the circumstances. The horse had not thrown the halter and even the rope was missing.

Word spread through the neighborhood that the killer-horse was at large. A call for volunteers went out to form a posse to hunt down the dangerous horse.

The men met at Adam Rarey's place. A posse was quickly organized and the hunt was about to get under way when, from around the corner of the barn, trotting with a slow, orderly gait, the feared horse appeared with a rider on his back.

The rider was twelve-year-old John Rarey.

The boy spoke softly to the animal. It slowed to a walk. The boy spoke again. The horse halted.

"Don't anybody shoot," the boy said. "He's really a gentle horse if he's handled right."

The story of John Rarey and the wild colt spread throughout the countryside. Men came from far and near to see the miracle for themselves. John Rarey, by that time, had the horse eating out of his hand and following him around without halter or bridle.

Everyone asked the same question. "How had he done it?" The boy always answered it the same way. "We understand each other," he said.

One of the neighbors who had seen the phenomenon had a horse he'd been trying to tame. He asked John Rarey if he thought he could do it again. Adam Rarey, who was as mystified as anyone else, gave his permission and the neighbors gathered again, hoping to discover the boy's secret, if, indeed, he had one. John Rarey refused to approach the animal, however, unless he were left alone with it. Everyone thought that was a dangerous and foolhardy thing to do, but curiosity won out finally, and the boy was left alone with the horse. In a matter of an hour, he rode it out of the stable without saddle or bridle.

After that, horsemen for miles around brought their meanest, most vicious horses to the Rarey farm to be tamed by the gentle little boy not yet in his teens.

As the years passed the Rarey legend grew. There was great speculation about his methods for he never permitted anyone to watch what went on between him and the horse. All anyone knew was that after an hour with John Rarey, outlaw horses became models of gentleness and deportment.

There were people who said he was possessed of the devil, and others who insisted that he used drugs or medicines that affected the horse's brains. Rarey never answered his critics, wisely preferring to let the speculation build and spread the Rarey legend.

By the time he was in his twenties, John Rarey's name had become familiar throughout the United States. His followers insisted that his method was based on kindness toward the animals and a fundamental knowledge of the psychology of animal training. His detractors, to whom he was a charlatan and a cheap sensationalist, maintained that if the methods were that simple there would be no need for the well-known Rarey secrecy.

In 1856 Rarey was challenged to try his method on the

outlaw horses of the Texas ranges. It was one thing, his critics said, to tame horses that had been born in captivity, but quite another to subdue animals that had been born wild and never domesticated. Rarey accepted the challenge. He spent several months studying the habits of the range horses and conducting experiments known to him alone. Finally, he announced that he was ready to conduct the demonstration.

On the appointed day newspapermen gathered from all over the South and West and from as far away as New York City. Outstanding ranchers throughout the state gathered to see the Rarey bubble burst. They had rounded up five of their most famous outlaw horses. Between them, the outlaws had killed two or three previous would-be trainers, and injured several others. In all five cases, the owners had given up hope of taming the animals.

Before beginning the demonstration John Rarey addressed the crowd. He was wearing a long-tailed coat, and a white shirt with stiff collar and cuffs. To the Texans who had expected to see a brawny, rugged man with whips and spurs and guns, Rarey's appearance caused a sensation. The ranchers were more convinced than ever that the strange northerner would never live out the day. Rarey spoke quietly and convincingly of kindness to animals. He pointed out the inhumanity of subduing them by sheer brutality. "The horse," he said, "is an animal of rare intelligence and character, oftentimes superior to men in these respects. Horses, like men, can be beaten into submission but such methods produce no common understanding, loyalty or respect. The horse, who is mankind's greatest servant, deserves better treatment. If I am successful here today I hope all of you will carry the message of kindness and understanding back to your ranches. I assure you, the animals in your care will richly reward your efforts."

With that, John Rarey stepped from the platform and disappeared into the stables where the demonstration horses had been placed in individual box stalls.

There were mixed feelings among the ranchers. Some felt that the exhibition ought to be called off, for obviously a man who went about breaking killer-horses as though he were a preacher about to save lost souls, was walking bravely, if ignorantly, to his death. Others insisted that the man had been forewarned of the dangers and that whatever happened to him would be his own responsibility. A few expressed the thought that had occurred to many, that Rarey would walk right on through the stable and light out for home. No one was prepared for what did happen.

Half an hour after he had entered the stable, Rarey reappeared, riding on the back of a magnificent stallion that had been an incorrigible outlaw thirty minutes before. Rarey rode up to the platform, dismounted, ordered the horse to lie down. The animal responded at once. Rarey then stepped up onto the horse's belly, removed his hat and bowed to the audience. The horse scrambled to his feet. Rarey turned the halter rope over to an assistant who led the animal away.

Five hours after the demonstration had begun, Rarey had repeated the performance on all five animals. Texas was convinced.

Word of the Texas exhibition reached Canada. Sir Edmund Head, the Governor-General, requested a private demonstration of the Rarey method, hinting that greater prospects were in store if Rarey lived up to notices he had received in the public prints.

The Governor-General's test horse proved to be no problem. His Lordship was impressed as favorably as thousands of plain Americans had been. Sir Edmund then confided the real purpose of the demonstration. Queen Victoria, Prince Albert and Sir Richard Airey, Lieutenant-General of the British Army, had heard of the Rarey method and hoped that he would come to England to put on a series of exhibitions.

In England horsemanship had reached a state of rare perfection by 1858. The breeding, training and trading of fine horses had become a kind of national avocation with the wealthy aristocracy. Blood lines and performances of outstanding animals were topics of everyday conversation. To many English gentlemen John Rarey was the most important thing that had happened in America since the colonies had revolted.

Rarey made his appearance before the Royal family on January 23, 1858. The events were described in the *London Times* in great detail.

"The subjects on which Mr. Rarey operated were three in number," the *Times* reported. "One was a fine-spirited

black horse of high, nervous temperament, which had been returned to Mr. Anderson of Piccadilly (of whom he had been bought for a large sum of money) on the grounds of his being restive and all but unmanageable. At the first interview with the horse at Piccadilly, he was placed in a loose box, which Mr. Rarey entered, cracking a whip. Startled by this unusual exhibition of violence, the animal struck out with both his hind legs and uttered a kind of savage yell. The company who had assembled to witness the experiment were asked to withdraw, and Mr. Rarey was left alone with the horse. On being called in again, in less than a quarter of an hour, they were amazed to find the animal prostrate on his side with his head slightly raised, and Mr. Rarey, whom he was eyeing without the slightest symptom of alarm, lying beside him. Mr. Rarey remained with him in this position for some time, during which he knocked the horse's fore and hind hoofs together, made a pillow of his thighs, and finally got up and ran a heavy wheelbarrow up to and around the still prostrate creature, without producing in him the least sensation of fear."

The *Times* article described the Rarey conquest of the other two animals in the same detail, concluding with the observation:

"With this, the exhibition terminated, and the Queen and her illustrious visitors, by whom it was witnessed with the most evident tokens of interest and wonder, took their departure."

It was inevitable that Rarey would sooner or later be

challenged to try his art on England's world-famous racing sire, the infamous "Cruiser." The challenge was printed in the *Illustrated London News* of April 17, 1858. On that date the *News* said, "As a new creed should be attested by marvels, they are not wanting here. Lord Dorchester's "Cruiser" is a noble creature but a fiend incarnate, whose malice and fury have rendered him a terror to the circle of his acquaintance. He will scream with rage for ten minutes, tear up the ground with his teeth and bite through iron bars; and as his keeper (the only name for the wild beast's custodian) remarked, 'He has smashed up his stall into Lucifer matches.' No groom can approach him, and he has to be dressed by the aid of a long pole to which a curry comb is affixed; and a great iron muzzle is placed upon him by stratagem when it is necessary to bring him out."

In the same issue of the paper, Cruiser's owner, Lord Dorchester, had written: "If Mr. Rarey would set criticism to naught let him come down to Murrell's Green with a few of his aristocratic friends and try Cruiser. If he can ride him, I guarantee him immortality and an amount of ready money that would make a British bank director's mouth water."

Rarey accepted the challenge at once, requesting that the horse be sent to him in London. Lord Dorchester replied that the horse could not be sent. He hadn't been out of his box stall for three years and it was impossible to approach him without endangering the lives of his handlers.

Amid great flourish and fanfare and with the eyes of England and half the world upon him, John Rarey left

London for Murrell's Green to meet what proved to be his greatest challenge.

Cruiser was about as hopeless a subject as any trainer has ever had to face. His mother, "Little Red Rover," and his father, "Venison," were aristocrats of English horsedom, both being champion distance horses.

When he was two years old Cruiser was the fleetest horse in the kingdom, but also the most undependable. Time after time he would throw his jockeys, or go into a tantrum half way through a race. His reputation soon banned him from public appearances. He was retired to the Rawcliff stock farms and in three years had become the most dangerous horse in England. His temper was such that when trainers would approach him he would go down on his knees and tear up the earth with his teeth. When they drove him into a box stall he kicked out the ceiling boards, raging and screaming for fifteen or twenty minutes at a time. At the height of his fury he would often bite himself to give expression to his rage. The trainers had fashioned a heavy iron muzzle for his head and had succeeded in attaching it to the animal when he dropped from exhaustion after one of his prolonged fits of anger.

At Murrell's Green he was quartered in a brick stall, equipped with a double-oak door, the upper half of which opened independently of the lower half. When he had to be fed, trainers would open the upper door far enough to thrust in a long, sharp-pointed pole with which they would drive the horse away from the door. When he was well back in the stall, they would throw the feed inside and quickly

slam the door again. Immediately Cruiser would attack it with his hoofs, screaming and frothing in his terrible hate.

Cruiser's madness was well known throughout England and Rarey's friends and admirers had pleaded with him not to attempt to tame this insane creature. But John Rarey had decided that the conquest of Cruiser was to be the climax of his career. He was ready now to reveal his methods to the whole world. Cruiser would be his last grand exhibition and his first before witnesses.

Lord Dorchester and a small group of England's most distinguished noblemen watched tensely as John Rarey prepared to deal with the world's most dangerous horse. Outside the stall door they saw him arrange his equipment, a few ropes and leather bands, carefully on the floor. Inside, the horse had already begun his furious attacks.

Quietly, Rarey swung the upper half of the door wide open. He extended his arm over the under half and looked calmly at the horse. Unaccustomed to such an approach, the horse withdrew from the door and studied the intruder. Suddenly he crouched and with a mighty spring threw his terrible weight at the door. Rarey withdrew behind the lower door. The moment Cruiser struck the door, Rarey's head popped up again. He spoke softly to the enraged animal. Again it withdrew and again came down on the door with a suicidal lunge. Rarey's head appeared again and he managed to stroke the animal's neck before it could recover for the next attack. For fifteen minutes Rarey allowed the animal to vent its fury on the door. When the attacks lessened in strength, Rarey picked up the rope. The horse

bore down again, frothing and breathing hard. As he hit the door, Rarey's arm flashed around the horse's neck. In a second or two Cruiser was a prisoner, his head lashed securely to a rack.

The sudden, unaccustomed restraint infuriated the animal. His eyes were wild, the blood vessels of his neck seemed about to burst. For twenty minutes he thrashed and screamed and kicked and bit, until he was so completely spent his legs collapsed, and he fell in a heap on the stable floor. Instantly, Rarey was inside the stable, stroking the horse, speaking to it soothingly and attaching his odd gear. In a few moments the horse struggled to his feet, stood quivering and staring at the man. Rarey worked rapidly, but with easy motions calculated to quiet rather than frighten the animal. Within a minute or less Rarey had attached a strap to each of Cruiser's front legs. Around the horse's middle he had placed a heavy leather belt with an iron ring attached to the bottom. The ends of the leg straps had been run through the ring and Rarey held them in his hands.

The horse began to struggle again. Rarey pulled the straps gently, causing the animal's front legs to buckle so that he came slowly to his knees. Rarey's delicate hands stroked the horse's neck, scratched between his ears. Meanwhile the quiet voice had been speaking incessantly. Rarey relaxed the straps. Cruiser got to his feet again, turned to stare at this new kind of man. The horse began to plunge again, and again he was brought to his knees.

For three hours the education of Cruiser continued.

Talking, and stroking the horse, Rarey slowly won its confidence. Whenever Cruiser showed signs of temper, he was brought slowly to his knees. When the lesson was over, Cruiser had learned, like hundreds of horses before him, that this man was friendly and had the power to bring him to his knees at will. Finally Rarey removed the iron halter, stroked Cruiser's scarred face. Rarey offered an apple in the palm of his hand. The horse nuzzled it suspiciously, finally accepted it. After that Rarey slipped the bit of an ordinary bridle into Cruiser's mouth, strapped it around his neck. Then he opened the stable door and led the horse out into the daylight.

The rest of the afternoon was devoted to further education. By late afternoon Rarey had hitched the animal to a hack and was driving him toward London.

The next day at noon, the horse that had been the world's greatest outlaw twenty-four hours before, was pulling a hack through the streets of London and an amazed citizenry watched Queen Victoria herself come down into the courtyard to stroke the neck of the mighty horse.

From that day John Rarey became the toast of London. Royal banquets were held in his honor. An English noblewoman composed a song called the "Rarey Waltz" which became the official welcoming music for the American hero.

Riding the crest of his popularity, Rarey organized classes in horsemanship. Two thousand noblemen and their ladies rushed to join, at $52.50 per subscription. Private lessons were $125.00 each. Rarey left England for Paris, a wealthy man.

In Paris the lesson subscription list soared to six thousand; and more were turned away. The reception was the same in Berlin, Brussels, Stockholm, Cairo and St. Petersburg. Everywhere, Rarey was the guest of kings and was given the highest award of every nation he visited.

In November, 1860, Rarey returned to America. The New York *Herald* of November 11 commented:

> "He is returning after three years' absence, during which he astonished high and low with proofs of his wondrous skill in taming refractory brutes.
>
> "A Cavalcade of our best horsemen . . . can be formed to escort this American prince of horse tamers from the Battery to the Fifth Avenue Hotel. And why should we not honor Mr. Rarey with a grand reception? He is one of those men whose talents have helped to make our country famous in other lands. In his own useful way Mr. Rarey has outstripped the whole world. The very Arab marvels at his influence over the horse, and calls upon Allah to attest his wonderful power. Is it not then highly proper that we should extend a fitting reception to the great horse tamer?"

And a fitting reception it was, with cheering thousands lining the streets and singing to the tune of "Yankee Doodle,"

> "Mr. Rarey comes to town
> To tame both horse and pony;
> He'll play the drum and make them dance
> Like Madam Taglione."

Rarey continued his triumphs throughout the United States. He published a book on his methods that became the official training procedure of the United States Army from 1862 until the advent of the "Jeep."

In 1864 Rarey retired to his home in Groveport, Ohio, where his career had begun. A year later he suffered a paralytic stroke and died October 4, 1866, while visiting in Cleveland.

In the village cemetery in Groveport, Ohio, a plain white shaft marked simply, "RAREY," denotes his quiet passage from The Ohio Story.

22

The Terrible Swift Sword

I. THE SPEED OF LIGHT

"MY God!" the pilot wrote in his diary, and well he might. For 78,150 radioactive corpses had just hailed the beginning of the Atomic Age.

Professors Michelson and Morley hadn't planned it that way. Nor can they be held responsible, for in the year 1887 as they squinted into the eyepiece of their strange instrument in the basement of a college building in Cleveland, Ohio, they had no idea that they had planted the seed for the poison mushroom of Hiroshima.

The professors knew only that they had discovered the secret of the speed of light. They knew, of course, that the results of their experiment destroyed the work of nineteen

hundred years of scientific theorizing. But they couldn't have known that their speed-of-light would one day be the "C" in the twentieth century's magic formula for self-destruction, expressed in the new editions of the high school science text, as $E = MC^2$, in which "E" is the explosion, "M," the bomb, and "C," Michelson and Morley's ever-constant speed of light.

In 1540 Copernicus identified the earth as a speck of dust that moves around the sun. In 1630 Galileo's telescope seemed to prove it. In 1687 Isaac Newton explained why the dust speck moved and then Maxwell added the concept that the movement took place within an all-encompassing sea of gas called ether, which carried light rays, explained electricity and magnetism, and served no end of useful purposes. No one could absolutely prove these things, but until the July evening in 1887 when Michelson and Morley finally accepted the results of their own experiment, the ether theory had successfully answered the questions in men's minds, and therefore stood next to scripture as fundamental truth.

Young Albert Michelson had become interested in the problem in 1881. In that year the British physicist, Maxwell, stated that if there were some way to measure the velocity of light more accurately, he might be able to tell how fast the earth was moving through the ether of the universe. Maxwell reasoned that the ether flowing around the moving earth would necessarily affect the speed of light,

much as the current in a river affects the speed of a boat. And if that were true then a light beam travelling with the current would necessarily move more slowly than a beam moving upstream.

Albert Michelson didn't understand how Maxwell planned to use the information, but he was pretty sure he could devise a method that would detect the difference in the speed of two given beams of light.

He performed an experiment in Berlin designed to give Maxwell the information he sought. It could hardly be called a success, though, because it failed to detect any difference in the speed of light, regardless of the direction in which the beam travelled. Michelson went over and over his experiment. He was sure of his instruments and he had faith in his results. But if he were right then ether had no affect on the speed of light. Therefore the earth wasn't moving at all, or there was no such thing as ether. He published his conclusions but the scientific world ignored him. Reluctantly Albert Michelson tore down his apparatus and returned to America.

Shortly after, he accepted a position on the faculty of Case School of Applied Science in Cleveland. There he met Ed Morley, a scientist at Adelbert College, across the street from Case. Morley brought up the subject of Michelson's "speed of light" experiments.

"Michelson, I read everything you published on that light velocity and ether drift experiment. I think I know where you made your mistake," Ed Morley volunteered.

"What's your theory? I've heard hundreds of them."

"The length of your experimental beam was too short. You were looking for a differential of considerably less than a millionth of a second in the two light beams. You'll have to make them travel farther than you did to detect the difference."

"Perhaps. But I've given it up. I went all through it once and decided it was hopeless."

"I don't think so. Would you consider trying it again if I were to work with you?"

"I certainly would. I have my own laboratory in the basement of the physics building. We could do it there."

"I'll be around tomorrow," Ed Morley said.

In 1885 Michelson and Morley began plodding back over a long, lonesome road. It took them two years to design and build the equipment they needed for the experiment. It consisted of Michelson's original instrument called an "Interferometer" which would split a light beam, mounted on a square wooden table on top of a stone slab that floated in a tank of mercury. Over the table they mounted a light source. The light beam struck the interferometer which split it into two halves. The first half was allowed to travel parallel to the path of the earth. The other half was deflected perpendicular to the earth so that it would be going against Maxwell's alleged ether current. When both halves of the beam had traveled an equal distance they were reflected back to the starting place and rejoined. Now the question was, "Would one half of the beam get back to the starting place before the other?" If so, the ether current would certainly be responsible.

In the eyepiece of their special apparatus the beams looked like picket fences, one on top of the other. If the speed of the two beams were the same, the pickets would line up exactly. Otherwise, one set of pickets would be a little to the right of the other. That's how they expected to see it. But as Albert Michelson put his eye to the viewer, Ed Morley could read the disappointment in his face.

"Still something wrong, I take it," he said.

"They line up exactly, see for yourself. That's just how it was in Berlin six years ago," Michelson said bitterly.

"Maybe the color of the light is wrong," Ed Morley suggested. "Let's try an acetylene flame instead of kerosene."

"Light is light, isn't it?" Michelson objected.

"I suppose it is, but we've gone this far, might as well keep on trying."

But with the acetylene light source the results were still the same.

"Satisfied yet, Ed?" Michelson asked when the acetylene experiment was over.

"No I'm not. There's got to be an explanation. Maybe the ether moves with the earth—or maybe there's no such thing as ether."

"Hmmm. You know what they said when I suggested that same thing the last time."

"Yes, they said your conclusions were ridiculous. Well, maybe the ether in this basement is stagnant. Let's move up on the hill by the railroad tracks."

The long process started again. But in the out-of-doors the ether still showed no effect on the speed of light. They

moved back to the basement and mounted their table on a slab of steel. The result was the same. Both men had unshakable faith in their equipment by this time. In July 1887 they performed their experiment once more, with extra caution. The pickets in the eyepiece were still perfectly aligned. Ed Morley had seen enough.

"Somebody's wrong," he said to his partner, "and I'm convinced that it isn't us. Either the earth doesn't move through space, or there is no such thing as ether."

"If there's no ether how are you going to explain the transmission of light and electricity and magnetism and all the rest of it?"

"I don't know," Ed Morley said. "Maybe the whole world is wrong. There might be a better explanation without ether."

"Probably is," Michelson said, "but you and I are going to have to tell the whole world it's been wrong for twenty centuries. You willing to do that?"

"I guess so. They can't do any more than make fools of us."

Publication of the Michelson-Morley experiment in 1881 couldn't have caused more excitement if they had said the world was square. Scientists of every nation leaped to the defense of the ancient theories. The Michelson-Morley experiment was duplicated in laboratory after laboratory. Everywhere their results held up. It was a dismal choice they had left their colleagues. It meant giving up the ancient Copernican theory of motion of the planets or denying the comfortable theory of ether.

The dilemma persisted until 1905 when a young German patent examiner took up the problem where Michelson and Morley left off. He came up with the theory that space and time cannot be measured separately because one depends upon the other. They called that the Einstein theory of relativity.

Michelson-Morley's speed of light, Einstein said, was the only absolute motion in the universe and therefore it must be tied inexorably to the secret scheme of things. And with that fundamental truth the scientists got started again and in forty years they had evolved the greatest single equation in the history of man, $E = MC^2$, in which "E" is the energy released in any explosion, "M," the mass of matter expended, and "C," the one factor in the world that can be depended upon because Professors Michelson and Morley proved that it was always and forever the same: The speed of light—the everlasting, unchanging 186,284 miles per second which, multiplied by itself and by the mass of the bomb, equaled 78,150 radioactive corpses the day they hailed the beginning of the Atomic Age.

II. THE YARDSTICK

In 1925 Jack Victoreen, a promising young physicist, was in the business of manufacturing super-superheterodyne radios in Cleveland. His radios were scientific marvels quite in keeping with Victoreen's professional repu-

tation, but they could hardly be called an economic success.

Victoreen's proficiency in the field of electronics began to be talked about in professional circles and word of it reached the research director of the Cleveland Clinic who happened to be in need of electronic assistance. He called on Jack Victoreen and stated his problem.

It seems that the Clinic had been experimenting with X-rays for treating cancer. The fact had long been established that the X-ray would destroy cancerous tissue, but when used incorrectly the rays also destroyed normal tissue, and therefore often did more harm than good.

"It's all a matter of dosage," the doctor explained to Jack Victoreen. "If there is too much radiation normal cells are destroyed. If there is too little, cancerous cells become further irritated."

"How do you determine the correct radiation for the various cases?" Victoreen asked.

"We have learned to use our own machines effectively by trial-and-error method, but that's what we'd like to eliminate," the doctor explained. "You see, no two machines are alike. There's no method of measuring the amount of radiation a patient is getting. Because of that, clinical experience in one hospital is useless in another."

"I see," Victoreen said. "If you could measure the quantity of radiation, regardless of the machine, a successful treatment for one patient could be used for all patients with similar symptoms. Is that it?"

"Precisely. Now, can you build us a machine that will measure X-ray radiation?"

Victoreen went to work on the problem. By 1926 he had built a machine that served the clinic's purpose. Before long there were orders from other hospitals and by 1928 the X-ray measuring devices had elbowed the radios right out of Jack Victoreen's little shop. He expected competition from the big manufacturers, but apparently after one look at the potential market they were content to let Victoreen have the field all to himself.

Then early in 1942 there were mysterious visitors on a mysterious errand, and to Jack Victoreen they seemed to be masters of double-talk.

"Your X-ray measuring devices," one of them said, "could probably be adapted to measuring radiation from another source, could they not?"

"I don't know. What other source?" Victoreen asked.

"Any source at all. From the sun let us say."

"You want to measure radiant energy from the sun?"

"I didn't say that. I simply asked if your device could be adapted to measuring radiation from any source whatever."

"Now look," Victoreen said impatiently, "I happen to be a busy man—"

"You also happen to be an important man, just now," the visitor said, closing the door. "You're one of the few men in the country who's been able to build a practical device for measuring radiant energy and that's what we want to talk to you about. We're working on an assignment for the government known as the Manhattan Project."

Now it happens that you can't see radiant energy. You

can't feel it or weigh it or smell it or taste it. But with the instrument Jack Victoreen built for the Manhattan Project you can hear it. The device is called the Geiger Counter. It was invented in Germany and improved upon by Victoreen. Particles of radiant energy thrown off by disintegrated atoms register a sharp click as they strike the electrically-charged Geiger-Mueller tube. The more radiant energy present in the vicinity of the tube, the louder and faster become the clicks. Victoreen instruments are so sensitive they will burst into a frenzy of warning clicks when nothing more radioactive than a luminous watch dial, containing a minute fraction of a millionth of an ounce of radium, is held near the detecting apparatus.

Now, offhand, the incredible sensitivity of Victoreen instruments would seem to have little to do with the 78,150 radioactive corpses of Hiroshima. It may be, though, that Jack Victoreen's contribution to the Manhattan Project may one day be the means of balancing that ghastly entry on the account books of humanity. Much will depend upon the outcome of the third of the atom incidents in The Ohio Story.

III. THE MENDING NEEDLE

After the bomb at Bikini in 1945 there wasn't a moment's peace for the Victoreen atom-counters or for the men who understood and interpreted their cackling voices. The counters were saying that the sea and the air, the flotsam and jetsam were laden with atomic death. It would not be safe for a while to examine the earthly aftermath of "E" equalling "MC^2."

Two of the observers were scientists from Ohio State University. One was a physicist, the other a medical doctor who was devoting his career to research in the field of radiology.

In their quarters aboard a Navy ship, the physicist, whom we shall call Dr. Howard, was looking through a government bulletin which had just been distributed to the guest-scientists. The bulletin said the Manhattan Project's uranium pile would be made available to qualified institutions to produce radioactive substances for research.

There was no need to explain in the highly technical bulletin that making a substance radioactive was simply a matter of subjecting it to the radiant energy being emitted from the uranium pile. The longer the material was left in the pile the more radioactive it would become.

Many substances that seemed to have research applications had already been placed in the pile and were available for the asking. The bulletin named them and described their properties.

Dr. Howard studied the list and called the attention of his young colleague, whom we shall call Dr. Mitchel, to one item in particular.

"You were looking for something that had high Gamma concentration and low Beta, were you not?" Dr. Howard asked.

"That's right," Dr. Mitchel replied. "For my purposes the Gamma rays are helpful, the Beta destructive."

"You might look at what they have to say here about Cobalt 60. Beta three tenths. Gamma one point one."

Dr. Mitchel studied the page the physicist had indicated. "The physical properties of Cobalt are something like aluminum, aren't they? You could make, well, say, needles out of it, couldn't you?" he asked eagerly.

"Yes," Howard answered, "it would have some of the physical characteristics of aluminum. It can be rolled into sheets, drawn into wire and so on."

"If you made needles of it—say about the size of darning needles, how much would they cost?"

"I don't know. Less than a cent, I suppose. What do you have in mind?"

"So far, just a hope," Dr. Mitchel said.

And then there was a call on the ship's communication system. Drs. Howard and Mitchel were cordially invited to join the examination of the salvaged remains of a radio-active goat.

A few months later Dr. Mitchel was back in Columbus pursuing the hope that had been born on Bikini. He was in the laboratory of a friend and former classmate whom we shall call Dr. Davis, associate professor of radiology of the Ohio State University hospital.

"Joe," Dr. Mitchel asked, "how much radium does it take to do any important work in cancer treatment?"

"Well, if you had about twenty grams you could open a cancer hospital, I expect," Dr. Davis answered.

"How much would that cost?" Dr. Mitchel asked.

"Without the hospital, the twenty grams of radium would be worth about a million dollars maybe."

"That's what I thought," Dr. Mitchel said. "And if you had a million dollars worth of radium you still couldn't treat more than a handful of cases in a day, I suppose?"

"That's right. That's one reason why radium treatments are so expensive."

"One reason?"

"There are others," Dr. Davis explained. "As you know, it takes 6,500 Roentgen units to kill cancer. Eight thousand five hundred units will destroy normal tissue. You have to work within that differential. If the patient is exposed to the radium an instant too long you've done more harm than good. There's also the problem of getting even distribution of the rays throughout the infected area. All that takes special skill. And that's expensive, too."

"Joe, while I was on Bikini I read about radioactive Cobalt being available for research. Looks to me like it might be useful for treating cancer. It would work something like this. I would give you a supply of needles, about like darning needles, which you could insert in the cancerous tissue so that you'd always get an even distribution of gamma rays. It wouldn't be one big uncontrollable jolt like in radium; each needle would be of a different radio-active strength, easily controlled. If I could give you a hundred such needles for just a few dollars, what would you say?"

"I'd say you'd have discovered the most promising treatment for cancer since radium itself. Can you do it?"

"I don't know," Mitchel said, "but I have some reason to think so."

Dr. Mitchel secured a supply of Cobalt alloy wire which was already being made commercially for other purposes. In his laboratory he filed them into needles. He drew up a set of instructions for the scientists at Oak Ridge in charge of the uranium pile, and sent his needles on to be made radioactive according to his instructions.

By the time the needles were ready Dr. Mitchel had made a lead box with walls six inches thick in which to transport the needles from Oak Ridge to Columbus.

The Ohio State Development Fund provided the doctor with 1200 mice and some auxiliary equipment, including a Victoreen counter, and the experiment began.

Months of experimenting with mice convinced Drs. Mitchel and Davis of the merits of their Cobalt treatment. In April, 1948, they tried them on a patient who was past help otherwise. The results were beyond their expectations. They sent a routine report to the Atomic Energy Commission which took one look at their clinical data and released the good word to the world.

Immediately the doctors were overwhelmed by reporters from all over the nation demanding more information. That was handled in an official press conference. Less easily disposed of were the hundreds of cancer sufferers who converged on the Ohio State campus pleading to be saved from inevitable death. The doctors were sympathetic but helpless. It was still an experiment. They had no facilities and little clinical data with which to work.

When the excitement the announcement had precipitated died down somewhat, the doctors went back to work. They gathered more data, performed further experiments.

In July they were ready for their first large scale clinical experiment. They selected twenty-four uterine cancer cases which had been pronounced hopeless by recognized authorities. They treated the twenty-four women with their Cobalt needles.

In every case, without a single exception, the gynecological cancer tumors were wiped out. A year and a half later the malignant growth had not reappeared in any of the cases treated.

Ohio State medical authorities are careful to avoid using the word "cure" in connection with the Cobalt treatment. In understandably careful language they say only that the treatment "is the best found so far for certain types of tumors in certain areas."

Meanwhile the clinical experiments are going ahead on a tremendous and well organized scale.

Dr. Mitchel has turned his needles over to the specialists and returned to his laboratory to work on an even more exciting prospect. He is at this moment searching for an element or compound that can be made radioactive and will be attracted, when taken internally, to cancerous tissue only. If he finds it, the day will come when the family physician or perhaps a public health agency will administer a certain medicine to anyone who fears cancer. A few days or hours later, a technician will scan the body with a Victoreen counter. The tell-tale radioactive clicks will indicate

the presence of the dread malignancy, but it will no longer need be feared because a simple operation will remove it forever.

Since 200,000 people die each year from cancer there's promise that the ghastly account of Hiroshima will yet be balanced and the terrible swift sword of Hiroshima beaten into a plowshare by the atom incidents in The Ohio Story.