HOW DICK SHOOK DOWN THE JAIL

"I 'LL TELL YOU, what, Steve, if I had the money I would buy one share at least in the new factory," said Dick Rodman to his chum, Stephen Harris, as they walked home from school.

"Oh, I'm sick of hearing about that factory!" Steve answered. "The town is full of it. I have it for breakfast, dinner and supper. The teachers discussed it at recess to-day, and I really believe that that is what made the principal talk the way he did this morning—when he said that everyone ought to take an interest in things that were good for all. He took five shares himself in the factory at ten dollars a share. That's fifty of the schoolmaster's dollars."

"Did he? Well, that was what my father took, and you know he hasn't got any money to spare. It doesn't seem to me such a bad idea for a schoolboy to do the same if he could scrape up the money."

The progressive men of Silverthorn the pretty waterside town, had determined to start a factory for making overalls and work shirts. They believed that it would be a good thing for the town, that it would cause money to circulate and give much employment — particularly to women and girls. Two years before they had put up a fruit-crate shop, to utilize a convenient supply of gumwood. It was paying well; the workers spent their wages in the village stores or put them into the bank. It all helped to increase business.

Of the ten thousand dollars that had been issued for the new factory, nearly all had been taken up. Everyone in town had a chance to buy the stock at ten dollars a share, and nearly everyone had availed himself of the opportunity. Col. Willard Smiley, the wealthiest man in the community, had bought one half of the whole.

The great question was, Where was the factory to be situated?

One building in town would have suited entirely had it been deemed safe, but it leaned so far from the prependicular that for years everyone had been expecting it to fall. It was nearly one hundred years old, but it had been strongly built, with immense beams of hewn oak supporting its two floors and its roof, and although the ancient brick walls had a decided tilt to the south, they showed no sign of cracking.

This building, known as the old jail, had been used as a jail seventy-five years before; then the country had removed its seat of government from Silverthorn to Bellville, ten miles away, and had sold the structure. It had finally come into the hands of Col. Smiley, who had used it as a cannery when he started to make his fortune in packing vegetables. Later he had built a larger factory on the river front, and for five years the old building had been empty and deserted.

In spite of Steve's lack of interest in the factory project, Dick persuaded him, before he turned in at his gate, to accompany him that evening to the public meeting of the new factory directors.

The boys were at the hall promptly at eight 'clock, and a few minutes later Col. Smiley rose to address the meeting. After a few introductory remarks he said:

"Gentlemen, if the old jail were as upright as everyone here is, it would be ideal for our purposes; but I should not be upright myself if I permitted machinery and heavy cases of goods to go into that building with the precious lives of the people who will work for us. In every other way the building admirably suits our purposes, moreover the rent is low: three hundred dollars a year would give me a fair return on its value; but after conferring with contractors in the city I find that it would not pay me to tear it down and rebuild; and it would cost us, at the very lowest estimate, five thousand dollars, and we ought probably to figure on seven thousand. Though we could borrow most of that money from the bank, it would eat into our capital a little. Moreover, the yearly cost of such a building, in interest charges and taxes, would be five hundred dollars —two hundred dollars more than the rent of the old jail."

As Col. Smiley finished, Dick Rodman grasped Steve's leg so hard that it made his chum wince. "Steve," he whispered. "I want to tell you something as soon as we get ut. I—I've got an idea."

The meeting was short, and the question of building a new structure was postponed so that all could think about it.

"What was it that came over you?" Steve asked when the two boys reached the sidewalk.

"Don't laugh at me, Steve," said Dick. "but I think I know just where that factory is to be situated."

"What do you mean?" asked Steve. "You're getting me interested in your old factory."

"Glad to see that," Dick replied, laughing. "You'll become still more interested when I put one hundred real dollars into your hands for helping me out—if—if—I can get them to give me the chance."

"What's your scheme?" asked Steve, curiously. "What are you going to do?"

"Nothing to-night," Dick answered. "Meet me to-morrow morning at seven o'clock at my gate. I want to show you the possibilities."

"Who in the world is that, snooping around the old jail this early in the morning? Come here mother; and see if you can make 'em out."

Col. Smiley was standing in the bay window of his dining room. The house stood on a slight rise, and from it across the wide lawns he had a good view of the jail, an eighth of a mile away.

Mrs. Smiley ran to the window and peered out. "I do believe it's Dick Rodman," she said. "And there's another boy with him—Steve Harris, I guess. Those boys are inseparable. I wonder what they are doing?"

When the colonel sat down to his breakfast, his wife got a pair of field glasses from the library and returned to the window.

"What do you think, pa?" she exclaimed. "One of them is hammering something into the ground, and the other is up on the roof and seems to be letting something down."

"Here, I've got to see that," said the colonel, going to the window. His wife handed him the glasses. "Humph! They've laid a lot of packages in a row on the ground. Now the boys are on their knees in front of the house, looking at something on the ground. What can they be doing?

"You may be bound, pa, that Dick has some engineering idea in that head of his—and it's a good head, too. They say he's going to fit himself to be a civil engineer. You remember how he got Blade's schooner off the bar?"

"Indeed, I do remember. That day cost me money. The boat was out in the stream half a day, loaded with my goods, and all the canning-house hands idle in consequence."

Meanwhile down at the old jail, Steve, following Dick's directions, had been boring holes in the ground and in the hard-packed earth floor of the basement, which was in a level with the ground outside along the walls. He put into separate packages samples of the earth that the auger brought up.

"What I want to find out," said Dick, "is exactly what kinds of earth the walls are resting upon. I think we'll find it a chalky white earth mixed with a little clay."

Steve's sneers at the new factory still rankled a little in Dick's mind, and he had determined to pay back his chum by keeping him somewhat in the dark about his scheme. As for Steve, he was now too much interested in Dick's mysterious plan to think of refusing to help unless Dick took him into his confidence.

While Steve was at work, Dick had gone to the roof. There he took out a thin fishing line at the end of which was a tiny plumb bob and lowered it over the edge of the roof on the front side, which had sunk the most. When the plumb bob touched the ground, he made the line fast.

Returning to the ground, he planted under the plumb bob a heavy flat plank about fifteen inches long, and on this he tacked a ruler in such a way that one end touched the wall of the building.

"Now, Steve," he said to his chum, who had come out to see what he was doing, "you can tell how far out of plumb the old jail is. One end of the ruler touches the house and the needle of our plumb needle points to ten inches exactly."

"Ten inches out? No wonder people have been expecting it to fall."

"It isn't quit so bad as that, for the cornice juts out four inches. No, the outward hang of the wall is just six inches. The cornice makes it look more. Now let's get to school; this noon we'll go to see Col. Smiley."

Shortly after twelve o'clock Dick and Steve pulled the colone's door bell.

"Take seats, boys," said the colonel, as he led them into his library. "I saw you snooping around the old jail to-day. What's in the wind?"

"Col. Smiley," asked Dick, "what would it be worth to you to put the old jail into shape to be used for the new factory?"

"A good deal, Dick—a good deal; but it's entirely out of the question. In the first place the old house can't be put on its feet. I'm a little wrong there. It could be; but the cost would be too great. I consulted Corrigan, the big contractor in the city, who recently moved a large building for the university."

"But you wouldn't have to move the old jail—only set it level," said Dick.

"That's true, but still it would be a big job. Mr. Corrigan says that the steadiness of the whole building will have to be considered when he lifts up the front, which is the sunken part. He says he would have to dig under the whole building and put blocks and jackscrews around all four walls."

"He said he would have to lift the front part?" said Dick eagerly.

"Why, of course, my dear boy! What else could be done? If the front has sunk down, it stands to reason it must be raised in order to get the whole building level."

"And the cost of all this?" asked Steve, who until this moment had not uttered a word.

"Five thousand dollars at least, according to Corrigan's estimate, and of course the old building isn't worth spending that much money on. Shucks!" he added after some moments of thought. "I suppose in some ways it would be better to tear the old hulk down to-morrow, before somebody is hurt. Yet I hate to see it go, for it was in that building I started in business."

"Col. Smiley," said Dick earnestly, rising to his feet, "if—if—you'll trust me so far as to give me the chance, I will straighten the old building as well for you as Corrigan could straighten it, and it won't cost you anything like five thousand dollars."

Col. Smiley stared in astonishment at his young visitor, and even Steve, who had had some inkling of the scheme, gazed open-mouthed at his friend.

"Impossible—impossible!" the colonel said, with a tolerant smile. "I admire your courage, Dick, but of course a young boy like you could not accomplish what a trained expert can't accomplish. Besides, even if you had hit upon a new method for raising a building, you haven't the capital. Why, when I was interviewing Mr. Corrigan—it was at the time he was moving the university building—I was amazed at the great number of beams, blocks, jackscrews and engines he had on the work. "I asked him their value and he said 'Forty thousand dollars,' as if he were talking about forty cents. No, no; you could not do it."

"Col. Smiley," said Dick, "you gave a talk at school last winter about the main ideas of great inventors and about the value of thinking in an original way."

The colonel smiled. He enjoyed the lectures as much as his audiences did —sometimes more. He was well pleased that Dick should have remembered this one.

"You told us about Hargreaves, the inventor of the spinning jenny," Dick went on. "You said, I remember, that his family spun so much thread with the new machine—with the spindles vertical—that his neighbours declared him to be in league with the Devil and threatened to tear his house down. The idea was too radical for them."

"But what has all that to do with straightening the old jail?" asked the Colonel, puzzled.

"Your idea and Mr. Corrigan's is that the only way to straighten the old jail is to raise the lower side. I'm going to be as radical as Hargreaves. I propose to lower the high side. I'm certain that it will work. I shall use weight to lower the building, and that weight will be in the building itself."

"Bless my heart!" the old gentleman exclaimed. "I never thought of that!"

"Neither did I," remarked Steve.

Col. Smiley ruminated deeply for a while; he seemed to have forgotten the presence of the two boys who sat before him. Presently he turned to Dick.

But the building might crack in doing it that way, and the old rattletrap would tumble to the ground."

Dick smiled. 'Didn't you say only a few moments ago, colonel, that it might be better to tear the old hulk down to-morrow, before somebody is hurt?"

The colonel laughed. "What a boy you are for calling up a person's words to him. Nevertheless, my purpose was to prevent anyone's being hurt, and I don't propose to let you go into any foolhardy experiment that might result in yuor being buried beneath tons of bricks."

"But if I give you my word of honour that no possible harm could come to me or to any helper, would you let me try? I don't promise, though, that the building will not be injured or even ruined."

"How do you propose to go about all this?"

"I'd rather not tell you, sir, if you don't mind. Come and look at the work as it goes along. How much time have you before the question of the new factory must be settled?"

"Two months, I figure."

"Before the end of those two months, colonel, your building will be straightened up."

"Or," suggested the colonel, smiling.

"Or," added Dick, "you'll find the old jail sleeping in its own ruins."

"Good enough," exclaimed the colonel heartily. "Go ahead, Dick. If you accomplish your task, I'll give you twenty five shares of the Silverthorn factory stock and pay you five hundred dollars in money. And I wish you luck, my boy."

Early the next morning, it was Saturday—the boys set off for the old jail. Steve did not question his friend for he knew from past experience that until Dick was ready to reveal his plans it was useless to press him to do so. When they reached the building, Dick unwrapped the bundle that he had carried and disclosed several wide-mouthed fruit jars. Four inches deep in each was a whitish sediment and on top of that a little water.

"These are the samples of earth you took out of the borings yesterday," he remarked.

"Yes, and I don't know yet what you wanted those few gobs of dirt for."

"If I hadn't found out what I did about those 'gobs of dirt,' I couldn't have offered to straighten the building." Dick thrust his hand into one of the jars, lifted out almost all of the white deposit and put it on the floor. "Now, Steve," he said, "double up your fist and press as hard as you can on this little mound of white mud. I want you to see how hard a cake you can make by pressing on it."

Buy the Best Tea

"SALADA" TEA

Steve pressed down upon it with his fist. 'It won't cake," he said disgustedly. "The mud just squashes out between my fingers. What kind of a game is this?"

"Just this kind of game," Dick replied. "We are going to make use of the squashing-out process. We're going to make mud of the ground on the high sides of the building, and the weight of the house is going to to squash out the mud until the whole building stands erect—just as it stood one hundred years ago."

"Say, Dick!" cried Steve. "I'll have to hand it to you. I never imagined you had anything like that in your head."

After making some further preparations the boys went home, bolted their breakfasts, and stopping only long enough to get their garden spades and to sharpen the edges on a grindstone, returned to the jail. Besides the spades, they brought a spirit level and a long straightedge.

"Now, Steve, listen," said Dick. "We are going to dig a trench three feet wide all around the sides of this basement except along the front wall, which has sunk the deepest."

"How deep do we make this trench?"

"Exactly as deep as the lower edge of the lowest course of bricks in each of the three sides The bottom of our trench will run uphill as it goes toward the back wall, and you'll find the foot of the back wall about eight and four sevenths inches higher than the foot of the front wall. This building is just like a box that's tilted up at the rear end."

"How do you know that the back wall is eight and four sevenths inches too high? You can't tell until you dig down and find out. I'm thinking."

Dick gave a comical sigh. "And yet they say that in this great country education is free as air."

"I'll punch your head," replied Steve, with a grin. "Straightening old buildings is a subject I don't happen to have studied n school."

"Well, you can begin now. The front of the building—or box—is twenty-eight feet tall and overhangs six inches. Now, the side walls are forty feet long. It's perfectly plain that, as twenty-eight feet are to six inches, so are fotry feet to X, or the answer. The answer is eight and four sevenths inches."

"Simple enough," remarked Steve. "And we are going to let in water to a trench that runs downhill, in the hope that it will set the old jail on her feet. Maybe it will, and maybe it won't."

"No, we're going to make another trench for the water; and then we shall see the rear wall go down a little more than eight and a half inches and bring the side wails down proportionately along their entire length. Steve, it's as easy as eating."

The boys worked hard all that Saturday, and by dusk they had finished the trench. To find the bottom course of bricks the boys had to go down eighteen and a half inches near the front wall, showing that, if Dick's figures were correct the walls had originally been built ten inches below the level of the basement. The trench along the rear wall was almost exactly ten inches deep.

On Monday evening Steve came over to Dick's house, and the boys laid their plans for their work during that week. Flush with the side and rear walls of the building, they were to dig, in the floor of their three-foot wide trench, another tench. The objects of this king trench, as Dick called it, were three: first, to expose the exact depth of earth to which they wished the three walls to settle; second, to form a gutter to hold the water that was to turn the earth under the walls into mud; third, to give the mud some place to go after it had "squashed out."

Along the back wall the king trench was to be eight and four sevenths inches deep—the exact number of inches that this part of the structure needed to be lowered. It was to be eighteen inches wide and as level from end to end as the boys could possibly make it.

"Why make it so wide?" asked Steve.

"Because we must have room to work braces and bits," Dick replied. "You see, we'll bore one-inch holes every six inches along the outside wall of the king trench. The holes will give the water a better chance to turn the earth under the brick walls into mud."

The king trenches along the side walls were to be, of course, eight and four sevenths inches deep also, where they left the rear trench; but since the bottoms of all the king trenches were to be level, those at the side walls would grow shallower and shallower as they approached the front of the house, until, in fact, they had no depth at all and merged with the three-foot-wide trench that they had first dug.

"Oh, I see!" said Steve, when Dick had outlined the plan. "On the two sides we shall see a wedge-shaped exposure of earth with the thick part of the wedge at the back, where we want the side walls to sink most, while the point of the wedge will be at the front, where we want the walls to sink least. Am I right, Dick?"

"Entirely," said Dick

By the following Saturday the boys were ready to turn in the water from the old canning-house tank. Col. Smiley, who had been watching the preparations, seemed even more sanguine over the outcome than the boys were. Dick swung his plumb line over the cornice of the roof and attached it so that they could see on the ruler below how much the building was righting itself from day to day. Then they turned in the water.

On Monday they found that the earth had absorbed all the water in the trench. When the boys reached the old jail aftr school they found Col. Smiley already there; he looked disappointed. He had been watching the plumb bob all day Sunday and all of Monday, and it had not budged by the thickness of a hair. Steve was heartbroken.

"Say, Dick," he said as they turned in a fresh supply of water, "suppose the whole scheme comes to nothing?"

"Steve," replied Dick, "if that front wall was fifty years in going down, we can wait fifty days for the others to settle."

On Wednesday the wall was straighter by one sixteenth of an inch. The next day the plumb bob showed them an eighth of an inch gain. Saturday night the boys found that the building was a quarter of an inch straighter.

"Dick, she's moving some," said the colonel as he met the boys on Monday evening on Main street. At that moment a succession of unearthly shrieks came from the lane that led to the old jail.

"What in the world has broken loose?" cried the colonel.

The screams grew louder, and added to them were the sounds of running feet. A moment later Col. Smiley and the boys were surrounded by a dozen of the most abjectly fightened village boys they had ever seen.

"What's the matter?" asked the colonel. "Have you been seeing ghosts?"

"Yassir—yassir!" cried five or six at once. "We've been down by the old jail. It's ha'nted. We heard the awfulest groanin' and hollerin' in there. There was men's voices a-groanin' and women's voices a-screamin' and—"

"Hooray!" shouted Dick. "The old jail is on her feet. I was sure she would come around. The sounds were the noises of the joists and other timbers settling themselves into their old places. Come on, let's get lanterns and find out what the plumb bob has to say."

It was an anxious trio that ten minutes later bent over the rule and plumb. They found that the building had so far righted itself that it was only half an inch out of the perpendicular.

"If the house hasn't cracked," cried Dick, "it will go the rest of the way in no time! Now we must get the water out and fill the trench in order to take up the extra moisture. The job is done."

The next day showed no flaw in the wall.

One week later workmen were transforming the old jail into a modern factory. On that day Dick and Steve called at Col. Smiley's office.

"It was a fine job, boys," he said. "r. Chief Engineer, here are five hundred dollars for you in money and twenty-five shares of factory stock."

"Here's a hundred-dollar bill for you, Mr. Assistant," said Dick to Steve. "And, Col. Smiley, I'd be obliged if you'd take this fifty dollars and make out a stock certificate for five shares in the name of Stephen Harris."

"Ha! Going to give Steve five shares, are you? Well, I'll make out the certificate for ten shares. I want to give Steve five on my own account. Say, boys, what do you say about your growing up with this good old town? We need you right here."

The manager of the big insurance firm stormed into the big office and banged his hand down heavily on a junior clerk's desk.

"W-w-what's this you've done?" he raved. "Why in the world did you write a policy on a man of 98 years of age?"

The junior shrugged his shoulders.

"Well, sir," he replied, "I looked in the census report and found there were only a few people of that age who die each year."