Hey, Kids! Imagine Getting Paid For Playing With Toy Trains!

Some years ago, an elderly lady ended her tour of the A. C. Gilbert plant in a little room where a man was busily running a miniature engine around a tiny track.

As she left, she shook her head in disbelief.

"Mr. Gilbert," she said, "Do you mean to tell me you actually pay this young man for playing with toy trains all day long?"

The "young man" was William Russell Smith, creative engineer, who for 19 years has been thinking up new ideas for Gilbert's multi-million dollar line of toy trains.

The Gilbert plant, which employs up to 2,000 workers in peak seasons, can put out 1,500 trains a day. Gilbert's is well-known for chemistry sets, erector sets and household electrical appliances, but the trains are the bulk of the business (about 75 per cent, according to Smitty).

Tall, spare Smitty, now 61 years old, doesn't look much like Santa Claus, but he has helped make Christmas merry for thousands of children—and their fathers.

Especially their fathers—seems many children can't get near their new trains on Christmas morning because Pop is hogging the show.

To such frustrated railroad engineers, Smitty's job sounds like Seventh Heaven. How did he get that way?

"To be a good inventor, you've got to be a darn lazy guy—always looking for an easy way to do something. And you'd better be a pretty good liar, too!" Smitty says.

FAIRLY GOOD, ANYWAY

"Tell you what I mean:

"First time I came to Gilbert was in 1937 just after they'd bought American Flyer (a toy train business). I was offering them a signal device I'd figured out in my basement. I rode the train from Philadelphia, not really looking out the window, just riding.

"Suddenly I got an idea about a talking station with an announcer calling out the train's destinations and sounds of the engine starting up and pulling away.

"So after I'd agreed with Gilbert's about the signal, I asked them what they would think of such a station.

" 'That's terrific,' their chief engineer said. 'Who's got that?'

" 'I do,' I said.

" 'Okay, I'll come back with you now to see it,' he said.

"Of course, I didn't have any such station—I'd only had the idea a few hours!

" 'Well, now,' I told him, 'You know this has got to be done with a recording and it just happens I broke the only record I had while I was testing this out. Let me get another one rigged up and then come down.'

"I think he smelled a rat, because he called me every day, asking about the record. I was sweating blood trying to figure out how to set the thing up and I kept telling him, no, I didn't have the record yet.

"The tenth night I was tossing around in bed and all of a sudden. I had it. It was 2 o'clock in the morning, but I went racing down to the basement and started work.

"The engineer called that afternoon and said he didn't care about any special recording—he was coming down anyway just to see the set-up.

" 'Come ahead,' I told him. I worked all that day and the next night and most of the next day. He showed up in the afternoon and I was pretty well out—but I had the station model!"

Shortly after that, Smitty left his Philadelphia home and came to New Haven to think full-time for A. C. Gilbert.

For ten years, he worked alone but nine years ago he chose Gabriel Monaco, some 20 years younger, to think with him

Now, the two pool their brains behind a heavy door marked with a forbidding sign. W. R. Smith, Creative Engineer. NO ADMITTANCE. For this is the most protected spot in the whole closely guarded Gilbert plant.

HIGHLY SECRET

The toy field is highly competitive and manufacturers must prepare new models months before they are to appear in the stores. Consequently, Gilbert's is a little wary about who sees what.

Visitors must obtain special badges at the main desk if they are to be admitted to any of the back rooms of the plant. And it takes even more special permission to get a peep into the room where Smitty and Gabe are working two or three years ahead of the market.

Creative engineering for toy trains is no 40-hour-week, home-at-5 sort of job.

"I remember when we were working on getting sound in the engines. Smitty had been ill and was in a Boston Hospital. I was here alone, working late," Gabe said.

"About 11 o'clock the phone rang. It was Smitty. He had an idea. So we chewed it over and I conducted the experiments while he listened over the phone.

"Next day, we had our whistle.

"Sometimes we just sit in here and drink coffee for weeks. All of a sudden, we get our idea and we're off . . . working like crazy.

An idea progresses from Gabe and Smitty's heads to a child's Christmas package like this:

Smitty and Gabe make rough sketches of a new project and and take it to the draftsmen for polishing. The revised sketch goes to the model-maker for a test model.

"By this time, we've probably run into a few bugs and have to start over," Smitty said. But finally a workable rough model comes into the creative engineering room.

Then Smitty and Gabe pick it apart, condensing, improving, simplifying.

"In toy making, every penny counts. We revise for a nickel," Gabe said.

When the two are satisfied, the draftsmen are called in to draw full blueprints. Then a test model is made from the prints. Gabe and Smitty then run the test model through all sorts of tricks to make sure it is just what they want.

Once the test model is approved, blueprints are sent to the die-makers so mass-production molds can be cast

"It costs us about $200,000 to bring out a new engine—that's about what it costs to bring out a real one!" Smitty said.

"The main thing," Smitty said, "is to get used to doing things the way they aren't supposed to be done. Now some people can think that way and others just can't.

"We had a real top engineer in here once. He's one of the best men in his field, but he went by the rules and we can't do that.

FAITH VITAL

"The greatest thing in this business is faith and Mr. Gilbert (A. C. Gilbert, Sr.) has always had plenty of that. No matter what I tell him, he believes me and by golly we make it for him.

"It's his faith that keeps us going."

Neither Smitty nor Gabe is a college-trained engineer. Smitty was a construction manager for a large cloth manufacturing firm for years. When his mother left him a small estate, he quit his job, borrowed $1,000, and began making toy trains in his basement.

"I don't know why," he says now. "I just always wanted to try my hand at little trains."

Gabe was an artist, making industrial models for various firms before he came to Gilbert's.

Smitty has six children and Gabe has one boy, but oddly enough neither has ever tested a new idea on his child, even when the families were young.

"Mr. Gilbert usually decides whether to go ahead or not—he has a real gift of knowing what will go over," Smitty said.

Perhaps, after all, a grown man is a better tester than a child because fathers do almost all the buying. For instance, toy steam engines sell much faster than diesels do, although few of the younger generation have ever seen a real steam engine in action.

"A kid comes in, he just wants a train to run around," Smitty said. "But his old man—he wants the works . . . talking stations, walking brakemen, cows that go into cars, engines that smoke and puff and whistle and all the rest! I've seen a man spend $500 in an hour.

"Then, of course, Pop won't let the kids play with the train."

Gabe suddenly looked sheepish and began to laugh.

"My wife works at Gilbert's, too, so one Christmas she came home with a nice little lay-out for the boy. She had some bowling shoes for me.

"Well, I set up the train and worked it around to make sure the kinks were out and . . . well, you know how it is. My wife came in from getting dinner and saw the boy just sitting on a chair watching me on my hands and knees playing with his train.

"She just looked for a minute, then she picked up my bowling shoes and gave them to the kid. 'Here', she says, "Here's YOUR present!' "

Smitty hefted a tiny, eight-inch engine in his hand and shook his head.

PRECISION INSTRUMENT

"Trouble is, these aren't toys any more. This is a precision instrument." The engine he held is priced at $32.50.

Toy trains are growing smaller and smaller. The first engines, made as long ago as 1871, were more than two feet long. They ran with live steam from alcohol lamps.

In 1890, the first electric trains were introduced. They ran on wet batteries as most homes were not wired for electricity in those days. These, too, were giants compared to modern trains.

Toy engines and cars are scale models of the real railroad equipment and the scale has been dropping steadily. Toys used to be one-half inch to the foot: then three-eighths; then one-fourth.

Now the usual scale is three sixteenths of an inch to a foot.

But Smitty is much taken with an even smaller size, 9/64ths, or just a fraction larger than one-eighth of an inch to a foot

"You can make quite a lay-out with these trains on a table-top," he said. "Houses are getting smaller and smaller—they have to or nobody could afford 'em—so trains are getting smaller, too."

The engines and cars have undercarriages of steel; bodies of high-impact plastic and they run on tin-plated steel rails. The electricity is sent through the track by the remote-control transformer.

Voltages are strictly controlled. They can't be more than 7 volts and most are 7 to 15—too slight to give a child a shock.

"You could put your tongue on those rails and not feel anything," Smitty said.

One big change is in accessories. Nineteen years ago when Smitty came to Gilbert's, American Flyers had practically no accessories. Now accessories—sound, mechanical moving objects, stations, trees, shrubs, tunnels and such scenery are big business, he said.

Smitty gestured to a tiny engine, belching smoke from its miniature smoke-stack and charging busily around a table with a string of little cars in tow.

"We're the only ones to have the built-in sounds and smoke in the little size engines," Smitty said.

The smoke is very dear to his heart.

"That's the greatest thing I ever did," he says.

BAFFLING PROBLEM

Smoke was a baffling problem to toy trainmen for years and years, he said. The railroad companies who set up model train displays used to hire people to stand behind a screen and blow cigarette smoke at intervals.

Smitty hit on a method just before the war, but he had to wait several years to see his first smoking engine because Gilbert's highly skilled workers were immediately put on defense work when World War II erupted.

Gilbert smoke is made by bringing a hot wire into contact with twisted fibre-glass soaked with oil. The wire moves back and forth with the wheels, timing the puffs of smoke according to the engine speed.

"The oil is a mineral oil base," Gabe said. "The kids are always swallowing the smoke capsules, so we have to be careful what we put in them. This way all they get is a free physic!"

The fibre glass is coiled in a little compartment just below the funnel. Extra oil capsules are sold to keep the wick properly soaked.

Sometimes a creative engineer is called upon to supply more than engineering. When Gilbert's put out a big new metropolitan station with a booming announcement of main-line destinations, Smitty was told to hire an actor to make the recording.

"Well, I got an actor—for $50 an hour—to make the record, but when I brought it back, they didn't like it. So I tried another one, but they didn't like that, either.

"I'll make the da[illegible] myself,' I figured, so I did. When I brought it back, I told them this was a $75-an-hour man, a real pro. 'Gee, that's good! Who's that?' everybody said.

" 'You just saved yourselves $75,' I told 'em. 'That's me.' "

Sometimes inventions have a double use. The toy engines' sounds are done with a vibrator and little speaker. The speaker is now in demand as a super-duper tweeter on special Hi-Fi sets, Smitty said.

By now, Smitty and Gabe have so many patents that they don't even know the number. The patents are taken out in their names and they assign them over to Gilbert's.

In fact, the two couldn't say what new inventions of theirs were coming out this Christmas without looking in the catalog.

"We're working so far ahead of ourselves," Smitty explained.

SOME NEW ONES

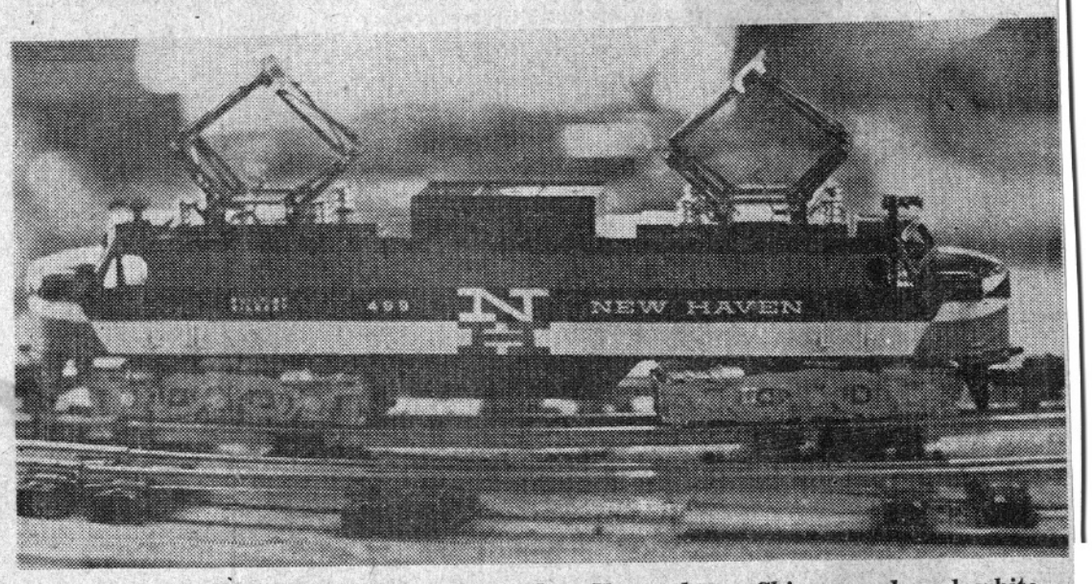
Some of the Smitty-Gabe brain-children available this year are "Smitty, the walking brakeman," a little figure that marches around the top of a toy car; a milkman car where a tiny figure tosses minute milk cans from the car to the platform; Joe and Moe who unload stacks of lumber; and billboards with built-in whistles or diesel horns for owners of engines without built-in sound effects.

Neither Smitty nor Gabe could say what inspires them to invent. Neither goes riding around on railroads to see what is going on in the real field.

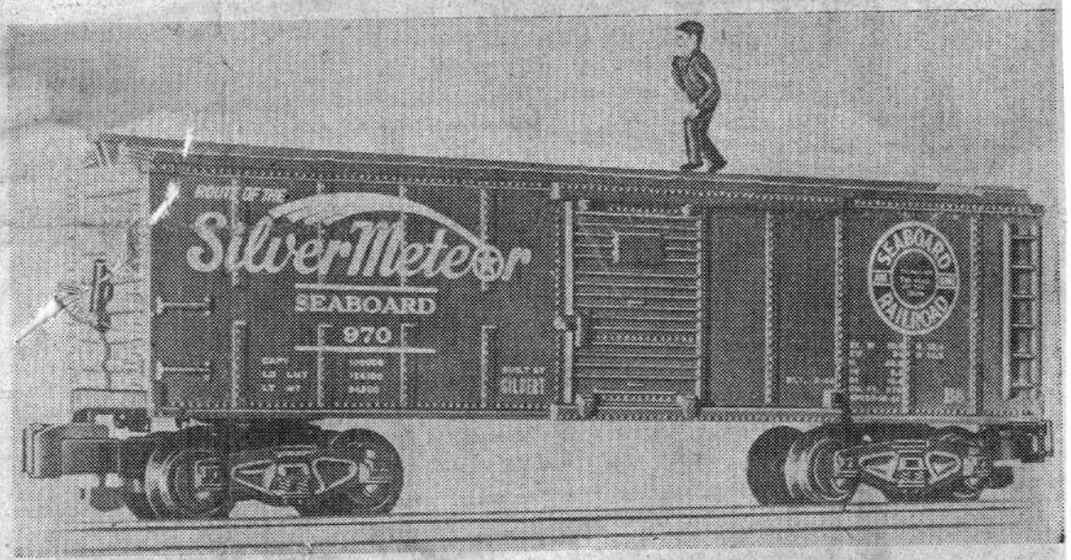
"This is all imagination," Smitty said. "You've got it or you haven't."

They have.

SMITTY and Gabe absorbed in deep thought over one of their whistling, smoking choo-choos which remain popular choice with grownup fans.

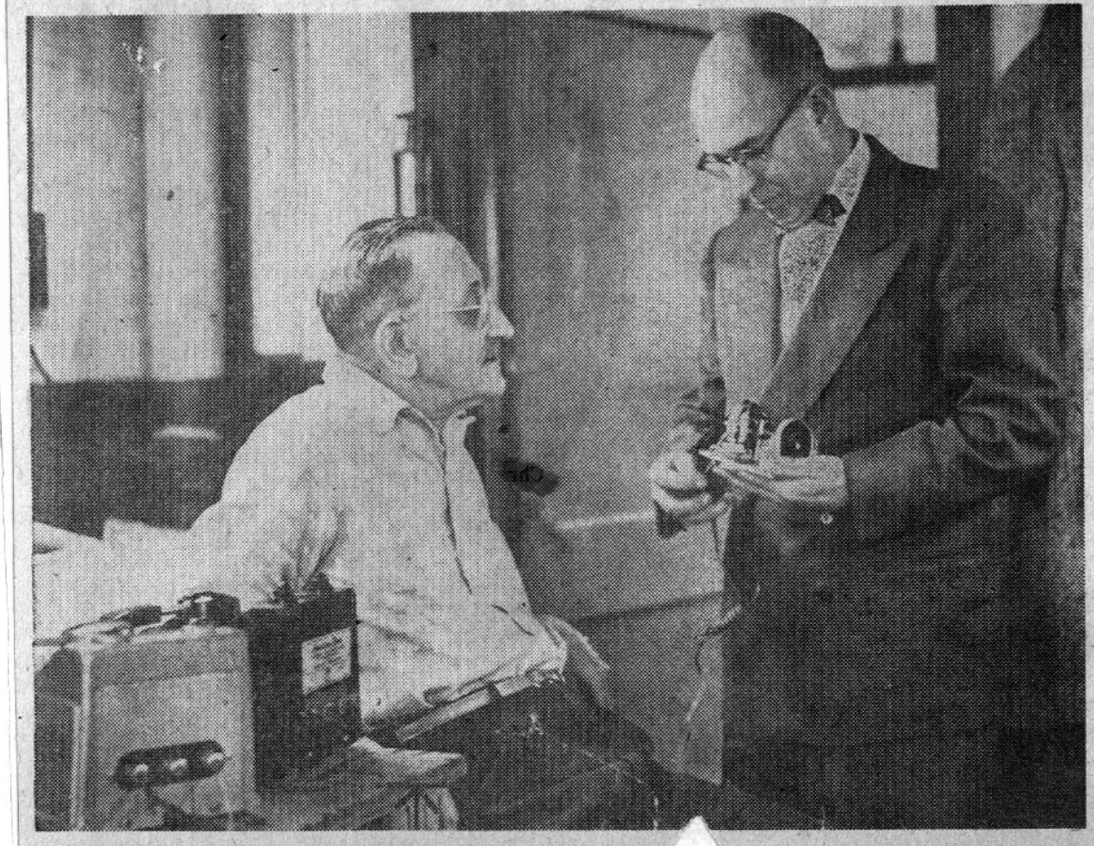


AFTER Mrs. Pat McGinnis repainted New Haven locos Chinese red and white, both major mini-train builders adopted them. This is American Flyer.



ANOTHER innovation here this year is Smitty, the walking brakeman, who scurries back and forth while Seaboard box car highballs over rails.

PART of Gilbert's test line. It costs as much to bring out a new 'toy' loco as it does to build a real one, now that precision is all-important.



SMITTY says part of his job is 'being lazy'; s[illegible]ough, he does look relaxed as Raymond Smith, engineering directo[illegible]ew project.