

*"Big foot, little foot"
I tell her,
"your brake lining's
right for both"*



"Joe," she asks, "there's a funny noise in my front wheels. Does that mean new brake lining?"

"No," I grin, "but I better check your wheel bearings. Your car is eight years old, but your brake lining is good for a lot more mileage. Remember what I told you when I installed that Grizzly Lining last year?"

"Yes-s," she says, thinking a minute. "You told me I wouldn't have to worry about brake adjustments, that I'd get quick, smooth stops with—how did you say it—a 'soft' pedal?"

"Well, was I right?" I ask.

"Absolutely," she assures me. "I've had wonderful luck with my brakes and"—

"It's not luck," I interrupt. "It's know-how! For over 30 years Grizzly Brake Lining has given all kinds of drivers the same fine performance that you are getting—that's why the Grizzly people say it meets both 'Big Foot' and 'Little Foot' requirements."



"You're certainly proud of your Grizzly Brake Lining," she smiles. "And from my experience I can see why!"



BIG FOOT LITTLE FOOT

Grizzly Brake Lining is right for both! Play safe—have your brakes checked today by your nearest Grizzly service man!

"Bear in Mind"... ask for

GRIZZLY
BRAKE LINING

WHEREVER BRAKES ARE SERVICED

KEEPING POSTED

So You're Going to Mars

THE spaceman hero of the short story titled **THE GREEN HILLS OF EARTH** gets off at Mars, while knocking around the solar system. When this story of the jet-propelled future was given to Fred Ludekens to illustrate, he set out to do a good picture of Mars. You'll find his conception of the capital city, Marsopolis, on pages 32 and 33. You may like to know what such an assignment involved.

To begin with, there arose the question of what costume Earth men will wear at such time as they begin flying regular trips through what the author, Robert A. Heinlein, nonchalantly calls "deep space."

Ludekens consulted textbooks and astronomers, and if the suit he designed isn't ultimately adopted for space flying, it won't be for lack of research.

Various experts told him there would be no need for a pressurized suit, so he settled for a pressurized helmet, with oxygen cartridges attached. The rest of the suit is a modification of the kind of clothes worn by pilots in very high altitudes. "The atmosphere being roughly that found on the top of Mt. Everest," Ludekens wrote us learnedly, "it was logical to believe that an Earth man would need very warm clothing." He didn't seem to think anyone from Earth would wish to linger much in that climate or that Mars has much future as a pleasure resort.

What light to show was another question. You will note that Lude-



Ludekens. He'll stay home.

kens makes it fairly dim on Mars, somewhat like early morning or early evening on our own globe. This is because Mars is so much farther from the sun, and the astronomers told the artist it must be not only chilly but dim there.

The more Ludekens went into this subject the less attractive Mars seemed, even in days when people are glad to live anyplace; in fact, the joint sounds downright creepy.

One interesting part of the assignment was to find how the sky would look from Mars. The astronomers had little or no difficulty with that one; they could give Ludekens a very good idea of what the heavens must be. Those two moons are drawn in proper scale, just as you would or will see them when you fly out there. In case you want their names, they are Deimos and Phobos, at least in the language used by astronomers on

Earth. What the Martians call them is a question that will have to wait, in spite of Mr. Heinlein's confidence that interplanetary travel will one day be almost as common as a trip to the drugstore. Ludekens asked some top-notch astronomers to draw an exact



Heinlein—only an Earth man.

sketch of the stars that would be visible, and we believe it can be said without successful contradiction that this is as correct a picture of the Martian skies as you'll get this side of Mars.

Ludekens found a difference of opinion as to whether there is water on Mars, and if so, how much. "Some said there is very little, if any," the artist reported. "Others are of the opinion that the canals drain water from the polar ice cap, and appear to be used for both transportation and irrigation."

In this quandary, Ludekens decided to paint the canals, and, as you'll see, he has them coming in like the spokes of a wheel, the hub being the capital, Marsopolis.

No one could give him much advice on what sort of buildings there might or may be there. "My own conclusion," the artist reported, after checking with the experts, "is that the people of Mars, if at all the same as those on Earth, would be tall, and the buildings high because of the light gravitational pull. There might be round and flat pressurized buildings for visitors from this globe." Finally the artist came to an interesting conclusion as to the canals, although he didn't include it in his painting. "Personally, I think the canals would be frozen," he wrote, "as there is an extreme change of temperature between night and day—freezing at night, and never higher than sixty degrees on the warmest day. If there is water in the canals, it must be a different kind of water . . . maybe it's neutral spirits or Scotch."

The author of **THE GREEN HILLS OF EARTH** is a former naval aviator who divides his time between mechanical engineering and writing. "Speculative fiction is usually thought of as pure fantasy and classed with the comic books," Heinlein said, "but I try to follow the Jules Verne-H. G. Wells tradition of careful and conservative extrapolation of known scientific fact—that is, I believe my own pipe dreams. There never has been a space bum such as Rhysling—but there will be." Six years before the war, Heinlein wrote a farfetched story about a great new weapon—

Uranium 235. That pipe dream turned out to be altogether too true, very quickly, so maybe he's right about space travel.

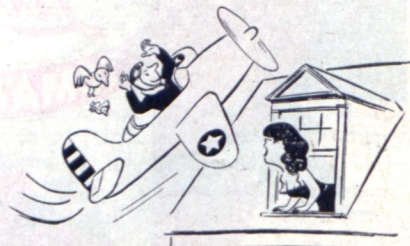
The inspiration for the blind hero of **THE GREEN HILLS OF EARTH** is a Philadelphian. He is not the prototype, for Rhysling, in the story, is a no-good, drunken bum, and the Philadelphian is nothing like that. The young man is sightless. When the war came along, he went to an industrial school and insisted that they train him as a mechanic. "He had to invent a Braille micrometer to make the grade," said Heinlein, "but they taught him, and he spent the war in a Philadelphia aircraft factory, using power tools. Toward the end of the war he trained blinded veterans so well that they could use power tools in competition with sighted men. In many cases, their morale was gone. But a single day in the shop with my young friend was enough to change their attitude completely. It was amazing—and enough to tear your heart out. This story is dedicated to that gallant gentleman."

Thank You Note

MANY of our readers were kind enough to sit down in the midst of their own holiday turmoil and write a response to the Christmas card we printed in this space. They said so many friendly things about the magazine and wished the editors so much good luck that it was downright embarrassing. We can't reprint any of them without the greatest immodesty, but they were mighty good to get, and it was reassuring to find there is so much real good will in a surly, obstreperous world. In the classic old line people use when they receive an unexpected Christmas present or a better one than they expected, you didn't have to do it. But we're very glad you did.

Intrusion

IN Robert Yoder's article titled **PLANE, STAY 'WAY FROM MY ROOF** this ground-minded writer complained that air traffic above his home was getting not only too heavy but far too familiar; planes all but fly through the bedroom, he said. The story brought a note from a Chicago newspaperman who served in the Navy. In the spring of '42, he said,



Navy planes took to making early-morning practice dives on the quiet village of Avalon, on Catalina Island. One morning when a plane dived unusually low, an angry young girl threw up her window and gave the pilot a piece of her mind. "If you are going to come to bed with me," she shouted indignantly, "take off that damned airplane!"