

15A



NICKEL'S WORTH

A DAY WITH NICKEL
by Floyd Gibbons

*The
Romance
back of a
Metal*

Meet Floyd Gibbons!

Who hasn't heard and enjoyed the machine-gun voice of the radio?

Headline hunter, war correspondent and star reporter . . . Floyd Gibbons finds facts everywhere . . . in the air, under the sea, in and *under* the ground.

This is the story of Nickel as Floyd Gibbons saw it and wrote it.



HELLO EVERYBODY!

Floyd Gibbons Speaking

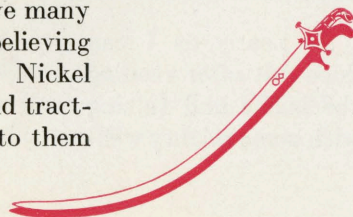
I suppose I ought to know, after all my years of headline hunting, that Romance is where you find it.

It's a bluebird. You may travel to the ends of the earth in search of it and come home to find it on your doorstep, where it has been all along.

I am thinking—warming up to write about—one particular Romance that has been under my nose since boyhood. I have carried thousands of symbols of that Romance with me, jingling in my pockets, but I have got to admit that it has taken me a number of years to click to it.

It's the Romance back of a metal—a metal that has always had my casual admiration because it is bright and clean to the touch, but which at that is just about the last one I ever suspected of being "story material." The metal I refer to, girls and boys, is—Nickel. Just plain old Nickel; the stuff that plebeian American coin, otherwise called the "jitney" takes its official name from.

Scientists have many reasons for believing that the first Nickel which men found tractable was a gift to them





out of the skies—a gift that came flaming to earth in meteorites of Nickel-bearing iron.

It's far better than a fair shot, archaeologists say, that ancient armors beat the metal of those meteorites into swords. Fables without number describe the invincible blades of great warriors of both the Orient and Northern Europe as "Heaven-sent." And metallurgists of the present believe it was the Nickel content of the metal in meteorites which gave their might to swords from the famous forges of Khorassan and Damascus.

And the Chinese were working a natural alloy of Nickel and copper before our Christian calendar began. They called this alloy Pack Fong, and they reaped great profit from it until, a little more than a century ago, an imitation Pack Fong was put on the market in Berlin. That imitation (just for the record) was the first "German Silver."

Believe me, though, there is sure a lot more to Nickel than appears on the five cent piece or the shiny plate on the watch case. I'll tell the world, *there's* a metal that improves on acquaintance. After I happened to hear a couple of interesting things about it, and began digging around for more facts, I found out. Not once but a dozen times my hat was blown clean off by things I learned about Nickel's past, present and future.

As nearly as I can dope out after reading the books and talking with some mighty well-



informed people, Nickel has become just about as indispensable to this world of ours in the last eight or ten years as any other gift of nature we enjoy.

In that short period, Nickel has won universal recognition as the hail fellow among the metals—a hail fellow not only well met, but met with distinct and amazing benefits to all contacts. It has proved to be the best little mixer you ever saw. It joins other metals with a hip and hurrah—permeates them in alloys in exactly the same way that sugar permeates coffee when you stir it in. As an ally in an alloy it improves them in many ways, outwardly and inwardly, in strength and appearance.

AROUND THE CLOCK WITH NICKEL

While I was digging into the story of Nickel, I ran into one expert who bowled me clean over by taking me "around the clock with Nickel alloys"—that



was his phrase for it—and showing me, hour by hour, just how much Nickel has come to mean in the average man's life.

We start the day, most of us, with an alarm clock reveille. Let's take a look at the alarm clock. A balance wheel of Invar, or some similar low expansion Nickel alloy, assures its accuracy. Nickel plating gives it its cheerful shininess. If it is an electric clock, magnetic Nickel alloys make possible its compact size and low current consumption.

As you throw back the bed clothes, bleached and laundered in machines of Monel Metal—a Nickel alloy—you can thank that corrosion-

resistant metal for their clear color and spotless cleanliness.

Well, you are up now. Down goes the window and on goes the heat. The valve is of tough Nickel bronze, and if the furnace is an oil burner, a *good* oil burner, the fire pot is made of a heat-resistant Nickel-chromium-iron alloy.

Ready to brush your teeth? Monel Metal and pure Nickel, non-toxic and easily kept clean, guard the purity of tooth pastes in the plants in which they are made. If you are the average man, your safety razor is Nickel plated; and as for your shaving soap and bath soap—well, Nickel is sure a hundred per cent. all around useful element. Soap makers have a high regard for it as a catalyst in the saponification of fats.

Wow! How about those for eight dollar words? I had to ask my scientific friend to come again after he had slung that bunch at me, and he explained that catalysis is a process of decomposition and new combination in which one substance acts on others without being changed itself—sort of like the fiddler who calls a change of partners at a barn-dance.

Now for your bath. The water is running through gleaming fittings of solid Nickel silver into a bathtub that has been fired on Ni-Resist bucks—Ni-Resist being a heat and corrosion-resisting Nickel-copper-chromium cast iron.

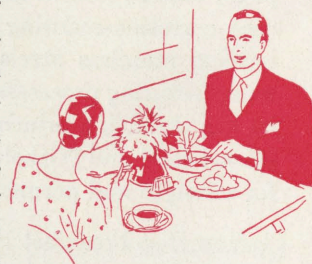
Nickel steel and Nickel cast iron have been used in the machinery that made your shoes.

As for the rest of your clothing, Monel Metal dyeing machines, since they are not acted upon by the dye solutions, have made possible the delicate shades so popular these days.



WHEN YOU SIT DOWN TO BREAKFAST

Chances are that when you sit down to breakfast, your knife, fork and spoon will be made of Nickel silver, silver plated. You eat breakfast food that has been manufactured in a sanitary Monel Metal-lined cooker. Your bacon has come from a packing plant which uses Monel Metal, because it is sanitary and easily kept clean, for numerous pieces of equipment coming in contact with the meat. Nickel-chromium wire has come into general use for electrical heating elements because it stands heat so well; it makes your toast right at the table.



Your coffee has been made in a silver plated percolator of Nickel silver with a Nickel-chromium heating element. The cream you put in your coffee has come from a country plant through a city distributor. Both have protected its purity by extensive use of pure Nickel and Monel Metal, which have been hailed with cheers by ice cream manufacturers as well as by the dairy industry.

Another mealtime item, small but vital to us. We'd all be out of luck without salt—and the salt industry is another that is strong for Nickel and Monel Metal. Wet salt and brine, which are encountered in almost every operation in a salt refinery, rapidly corrode most other metals, but all they do to Monel Metal is to improve the lustre of its silvery white surface.

Take sugar in your coffee? Well, speaking of sugar, manufacturers in that industry formerly used canvas filters on which the upkeep was

doggone heavy. Now they use a strong, sanitary Monel Metal mesh for filter cloths.

If you and I are the same kind of folks, we read a morning newspaper at breakfast. That paper started toward us from a pulp mill, which uses corrosion-resisting Monel Metal, Nickel-bearing stainless steels and Ni-Resist in its manufacturing processes, and is still damp from its run through a printing press in which tough Nickel steel and Nickel cast iron parts are used for strength and permanency.

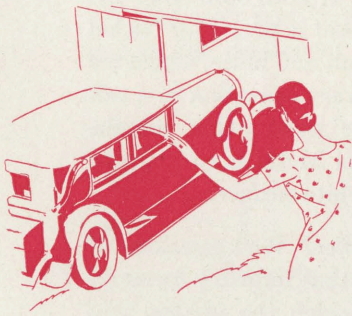
Now that breakfast is finished and the paper read, let's go around to the garage and have a look at your car.

I'll bet few of you realize that the development of the modern high-speed, light-weight car would not have been possible without alloy steels. I know I didn't. It seems the insistent demands of the automotive engineers for better materials set the pace, and the metallurgists and steel producers answered with stronger, tougher, longer wearing alloys.

And have you ever stopped to consider how very few automobile accidents can nowadays be traced to defective parts? There's a record for you! Every time I think of the number of cars on the road, and the abuse they have to stand, I realize the extent to which we have

come to depend on the sturdy Nickel alloy steels from which their running parts are made.

Even the gasoline in your tank was "cracked" in a still embodying corrosion-resistant Nickel-chromium-iron and Nickel-copper alloys.



MORE POWER TO THE RAILROADS

Maybe you're a suburbanite and take the eight-five to your job in the city. Well, sir, Nickel alloys have just about revolutionized the railroad business—given it new life just as it became evident that old style equip-

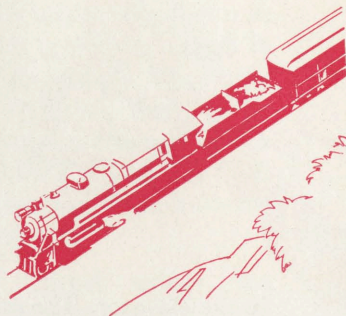
ment couldn't continue to carry the increasing load of traffic. The use of Nickel steel in boilers has so greatly increased their strength that locomotives equipped with them can haul much heavier loads than they were formerly capable of pulling.

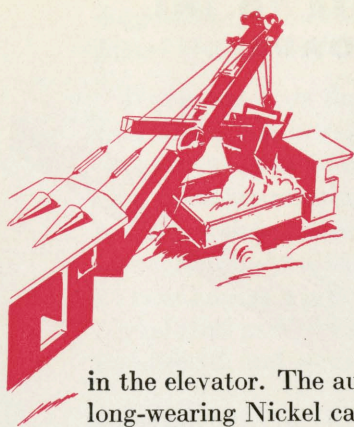
That is even more important than it sounds. Before the advent of Nickel alloys, locomotives were as big and heavy and clumsy as they could stand to be, and the alloys reduced their weight at the same time they increased their strength.

Arriving in town, you leave the train in a terminal brightened by the use of Nickel-copper or stainless steel—which is a Nickel-bearing steel—for architectural trim. Going from the terminal to the subway, you pass through a turnstile that is sprung when you drop into the slot a Nickel alloy five-cent piece.

Leaving the subway, you walk through a street lined with tall office buildings—and the newest of them are gleaming with exposed Nickel alloys.

Farther along, a foundation is being dug. Nickel steel shafts give strength and shock-resistance to the burrowing power shovel. The life of the crawling tractors down there has been vastly extended by the use of Nickel alloy steel





in parts that must stand abuse. The cranes are lighter and stronger than they used to be—made so by use of that wonderfully tough alloy, Nickel steel.

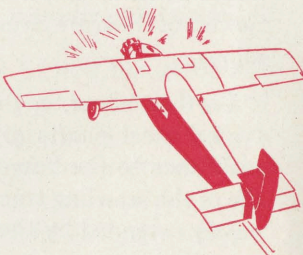
When you enter your own building you haven't left Nickel behind. It rides with you in the elevator. The automatic door stop is of long-wearing Nickel cast iron. So also are the cable drums.

WIDELY USED IN AIRPLANE CONSTRUCTION

When you open your mail, you find letters that have come by air. Let them remind you that Nickel alloys are widely used in airplane construction. To those alloys the high efficiency of our modern aero engines is due. In the case of the airplane, just as in the case of the automobile and the railroad the strength of Nickel alloys provides safety at speeds which could not be attained without them.

Zing! There goes the telephone bell—reminding you that loading coils of the magnetic Nickel alloy Permalloy prevent tone distortion and make possible long distance telephony, and that a wear-resistant Nickel iron gear prevents excessive play in those dial gadgets.

Looking around the office, you meet the cheering glint of Nickel in half a hundred places as you whirl into your morning's work.



BACK IN THE KITCHEN

No matter what restaurant you pick at lunch-time, you'll find Nickel a mighty big factor in its operation. Back in the kitchen, it not only outshines, but vastly outwears metals which haven't had the advantage of being alloyed with it.

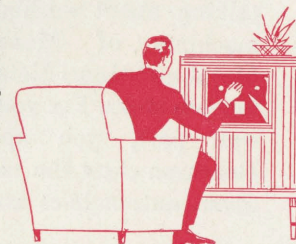


Nickel makes the whole equipment good-looking, sanitary and durable. While it costs more than yesterday's galvanized steel, it is actually much cheaper in the long run without regard to its other advantages.

Returning from lunch, you drop in at the bank and find yourself surrounded by white and gleaming grilles. Nickel again! Nickel is the whitening, brightening factor in modern white metal alloys.

Maybe you leave the office a little early and have time to use the ferry instead of the tube. Whether you go to the ferry by bus, trolley car or taxi, Nickel is still playing a vital part in getting you there—also in getting you across the river.

So you come to the end of your working day—but not to the end of Nickel's service to you. At dinner the radio is going. It uses screen grid tubes, of course; and those tubes have Nickel cathodes and plates, to say nothing of Nickel grids. As a matter of fact, it may be said that every metal part of the tubes either consists of Nickel, or contains Nickel as the principal alloying element.



NICKEL PLAYED A BIG PART



After dinner somebody suggests a trip to the movies. It is a toss-up between two pictures. Other things being equal, you decide you'll go to the one that has been produced in technicolor; and although you probably don't realize it while you're enjoying the

show, Nickel played a big part in the picture's production. As in other chemical processes, corrosion-resisting Nickel alloys are essential in the special machinery used in developing and transferring color film.

It's eleven o'clock when you leave the movies—but that's not such a late hour when you run into old friends you haven't seen for quite a while. Of course, you invite them home with you. When you get there, you open the door with a Nickel silver key and break out a bowlful of ice cubes from an electric refrigerator with pressure tight Nickel cast iron compressor parts and polished trim of Nickel silver or Monel Metal.

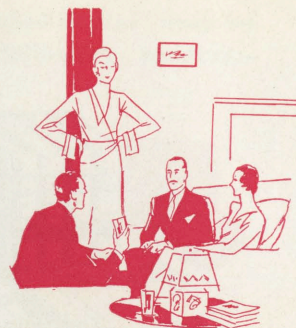
WASHING MACHINES OF MONEL METAL

While the women are fixing up some refreshments, you hear them talking about washing machines of Monel Metal, and Monel Metal kitchen sinks. For your own part, you and Robinson chew the rag about automobiles and



motor boats. But, dog-gone! Nickel sticks right in the picture.

The automobiles and the boats in the catalogues you spread out are all aglitter outwardly with non-corroding Nickel alloy parts, and also rely heavily on Nickel alloys for the moving parts that must stand the gaff.



Oh, but it's a funny world! So many of us in it know so little about it!

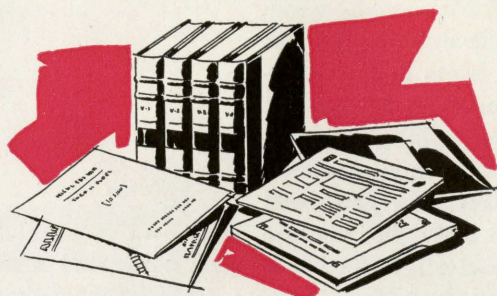
When you and your missus and the Robinsons are all taking it easy together in the living room, surrounded by comforts that Nickel contributes to, listening to a radio program brought to you by Nickel, something comes under discussion that you are moved to disparage.

Yes, sir—and I can hear you saying this as plain as can be:

"It isn't worth a Nickel!"

But that was last night. Here's hoping you stop and think before you use that phrase again.

Floyd Gibbons



A WEALTH OF DATA

For years The International Nickel Company, through its staff of engineers and research men, has been gathering information on the properties and practical applications of Nickel and its alloys. Much of this data has been used as the basis for widely distributed literature which has provided valuable assistance to industry. This literature includes technical bulletins, working instructions, and experience records in many different industrial fields—both in the United States and abroad. Fill out and return the enclosed post card and we shall gladly mail you the available publications on the subjects checked.

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