

\$5,000 for Byrd

By
EDWIN E. SLOSSON

Director
Science Service

NOW that Commander Byrd is preparing for his flight across the South Pole, we publicly call his attention to the department entitled "Catching Up With the World" published in Collier's, June 12, 1926. For there was quoted the offer of Overseer Voliva of Zion to give \$5,000 for evidence that this earth is a globe.

The General Overseer makes his position very plain in the sermon which he gave at the Shiloh Tabernacle, Zion, Ill., Lord's Day Afternoon, October 14, 1923, in which he said:

"If there is a person in the United States who can give me one fact that shows that this earth is a globe—the shape of an orange, hanging in space, rotating on an imaginary axis and revolving in an imaginary orbit—I will give him five thousand dollars. That is the kind of 'bunk' that is given to the children in the schools all over this country. . . . It is too absurd for any thinking man or woman to accept for a second! The people do not think nowadays, and those who have swallowed evolution and astronomy never did think.

"Mr. Amundsen, according to the papers the day before yesterday, is arranging to circle the North Pole. Let him circle the South Pole!"

According to Voliva's theory of the cosmos, the world is flat like a plate. The sun, which is thirty-two miles in diameter, has his tabernacle set at the tropic of Cancer, from which he travels to the tropic of Capricorn and back beneath the solid dome of the firmament. The North Pole is situated in the middle of the circle of the earth, and therefore there is no great difficulty in crossing it as Amundsen did, but an impassable wall of ice running around the rim on the southern edge of the earth keeps people from falling off.

"When we used to dig holes for fence posts," says the General Overseer of Zion, "my father would say, 'Be careful, boys, or you will hit John Chinaman on the head with your spade!' That is correct, according to the globular theory. In Australia everybody ought to be walking with his head down, but that is not the case."

The Rev. Mr. W. G. Voliva came from Australia, so he certainly ought to know which end of the Australians is up. I suggest that Commander Byrd be awarded the \$5,000 if he surmounts the ice barrier and comes out on the other side.

Muscle Shoals and Birth Control

THOUGH the Muscle Shoals Bill somehow got lost in the President's pocket in the hurry of the adjournment of Congress—if it did adjourn—the main issue involved remains, not so much before Congress as before the world at large, as the most serious

problem of the future: how to keep up the nitrogen supply.

For the question of how many people can live on the surface of this limited sphere of ours depends upon the food supply. So long as food cannot be made by the chemist it must be grown from crops. How much food can be

grown depends upon how much nitrogen the crops can get. There is plenty of free nitrogen in the air, but the crops cannot make use of it. So long as nitrogen could not be supplied in usable form by the chemist, the crops had to depend on the bacteria that colonize on the roots of legumes. The bacteria are remarkably numerous and industrious and prolific. A new generation comes on every twenty minutes or so. But the population of the colonies in the soil could not keep up with the increase in the human population above ground, which was living off their leavings.

The human race has more than doubled since 1800, when science began to interfere with the processes of nature.

Twenty years ago it became apparent to chemists that if the multiplication continued the human race would have to go on half rations within a century unless means were found to increase the nitrogen supply.

So the chemists set themselves to thinking, and they found the means, several means.

Now that the chemists have come to the aid of the bacteria in the fixation of nitrogen the day of world famine is postponed but cannot be indefinitely averted unless the manufacture of synthetic fertilizers continues to increase and the birth rate continues to decrease.

Last year the world production of nitrogenous fertilizers was 1,250,000 tons, but it would take sixteen times that to replenish the farm lands of the United States alone.

But Muscle Shoals does not figure as a factor in this problem so much as the farmers hope or the fertilizer manufacturers fear. For by one of these sudden shifts in profitable processes characteristic of chemical industries the chief factor in the production of ammonia and nitrates has ceased to be cheap water power and has become cheap coal.

The new process employed by the Mont Cenis coal mining company at Solingen, near Düsseldorf, works at lower pressure and so requires much less power. The hydrogen comes from the waste gases of the coke ovens. The nitrogen comes from the air. A more efficient catalyst combines the two gases, and that makes ammonia. Fixed nitrogen fertilizers are likely to be a by-product of the coking business, and the farmer will then be dependent upon the miner.

Money Mad

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women have been singularly successful in the market. They take their profits quicker than men, are less inclined to let their winnings ride for higher hurdles, and they're harder fighters (possibly because they haven't been at it as long) and they'll suffer paper losses with greater fortitude than their men will. . . .

Look! Do you see that broker who just galloped across the floor from No. 2 post to No. 8 where General Motors is being traded? The one who seems to have no eyebrows. Maybe they've been burned off; he's been singed enough, Heaven knows! Well, he's supposed to have made two million dollars in three days by correctly interpreting a single word that he overheard in a brief conversation between a railroad president and a banker. The word was "but."

He knew the two were discussing the stock of the railroad. He heard only the railroad man's voice and heard the tone change suddenly. The president sighed deeply and exploded: "BUT—" He sold that stock short. He was right!

Lambs Build Their Own Trap

THE man he's talking to is one of the biggest speculators in the market. A curious thing about him is his pet superstition. The majority of traders are wildly superstitious. But this one would rather lose \$1,000 than part with a cent before the market opens at ten o'clock. He will refuse a loan to his best friend. He wouldn't give his wife a nickel before ten in the morning. He rides downtown in a taxicab, but never pays for it until noon.

He believes it is bad luck to begin the day with an outgo of money. He is convinced that he'd be sure to lose consistently all day if he were to part with a cent before ten. But if he receives money he's joyous. That's a sign that he's bound to win that day. If he finds a check in his mail, he's jubilant. But he takes no chances. Every morning before he leaves home his wife hands him a dollar. She's been doing that for years. And he's been a highly successful man for years.

There are traders who never neglect to start every week with a little flyer in some stock which, at one time or another, has fetched them a large profit. No matter how small the operation may be, they never fail to sell or buy that stock every Monday morning. The financial reward or penalty of the deal is nothing. They're starting the week right.

There are brokers who avoid \$2 bills as they would leprosy, and there are others who turn their backs and shudder at the sight of a \$50 bill.

There are brokers who would fire an employee who permitted tape from more than one kind of ticker to flow into the same basket.

One of the most consistent of the hunch players is the vice president of a large industrial organization who is in love with the figure 77. He has a standing order with his broker to buy any one of a long list of stocks at any time it is quoted at that price. He swears it has never failed him and that he has never failed to make a profit by buying at 77.

"Don't sell short when the sap is running up the tree," says one operator.

"Bunk," replies his friend; "the saps are always up a tree."

Nevertheless he can't be laughed out of his pet superstition.

"Tuesday is always reaction day in a bull market," says another.

"Lady Luck can't read," sneers his friend. "Not even a calendar."

And finally there's a speculator whose good fortunes date back to that day when he bought a yellow motor car. He'd not have a car of any other color. He'd rather walk ten miles than ride in any vehicle that isn't yellow. Before he takes a railroad journey he is very careful to get clear of the market because yellow coaches are rare.

The Stock Exchange is a market

place for securities. That summarizes its chief function. Its services to the community are those common to all properly conducted market places in that it affords opportunity to dispose quickly of what you wish to sell and to acquire without waste of time that which you want to buy.

Its value to the economic life of the country may best be visualized by considering what conditions would be if it did not exist. You might hold the shares of a certain corporation and, being pressed for cash or desiring to be rid of those securities that you might possess others, desire to sell. If there were no central market where you could dispose of your shares, it would be necessary for you to enter upon a long search for somebody who wanted to buy them. Failing to find such person, you would be at the mercy of your local banker.

It was the existence of this condition that was back of the creation of the New York Stock Exchange in 1792. And, coupled with this fundamental reason for a stock exchange is the establishment of a fair and standardized price of securities through competitive bidding.

In the normal procedure of its business the Stock Exchange is decorous enough and conservative enough. But let something like a bull pool get busy on a stock and toss it skyward in hugely conspicuous leaps and the public gets excited. All thought of the true value of the stock is lost.

For example, let us take the stock of a company which happens to be quoted at 50. Its true value, based upon the assets of the company, may not be more than 25. The normal buying and selling of that stock may have been responsible for the inflation of twenty-five points.

But suddenly something happens to inspire the general public with the idea that the stock is going to 100. There are only a million shares, and presently the public has boosted that stock to \$100 a share, \$150 a share!

The stock is all out of financial proportion. In the meantime the true book value of the shares may have fallen to \$20 or \$10 a share. While the public chases the will-o'-the-wisp the corporation may have lost ground. Thus, in the old days, panics were born. The original bull pool, having gathered in a majority of the stock, and having waited for the ignorant outsiders to boost the price to grotesque heights by emulating them, and then having inside information, suddenly throws everything it holds on the market.

Before the dupes have come to their senses they have bought the pool's holdings at prices they themselves have helped create.

Luck and Nerves

THAT'S not the fault of the institution we know as the Stock Exchange. It has no rules governing widespread public folly, and can't have. The governors of the Stock Exchange are forever warning the investor to investigate first. Then calmly consider the risk you take, your duty toward your family. Then if you can afford it, buy.

But, the same broker warns you, buy OUTRIGHT. Only he who has much excess cash can afford to buy on margin, and usually he doesn't do it. Generally it's the man who can't afford to lose who buys on margin. He does so because he hasn't the money with which to buy outright.

But nothing like calm judgment influenced the average speculator's actions during the recent big bull weeks. There you had men and women joining the bear ranks and selling short when they were never quite sure what a bear in the market did nor what short selling involved. They learned.

They learned that the bears, by whatever means presenting itself, struggle to reduce prices—usually by selling

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9960 OLYMPIC GAMES could be run off in DUNLOP CITY



THE Olympic Games this summer are being held at Amsterdam, Holland, in a stadium $10\frac{1}{3}$ acres in area. "Dunlop City," which the 100,000 acres of Dunlop productive properties would form, would be vast enough to run off 9,960 Olympic Games at one time.

What is the secret of Dunlop's great growth? Basically there is only one reason—*Dunlop Tires are better tires*—and have been for 40 years.

This is easy to believe when you realize that Dunlop possesses tire building advantages enjoyed by no other manufacturer. Dunlop owns and operates its own wide-spread rubber plantations. Dunlop resources total more than \$195,000,000. Over 40 years of continuous production have given Dunlop the greatest of all tire-building experience. These resources and experience are converted into tires by 45,000 craftsmen and engineers.

There are other incidental causes, less impressive but equally important. They answer such questions as:

"Why does Dunlop pay such high premiums in order to get the choicest Egyptian cotton for Dunlop cord fabric?"

"Why is every bit of this cotton spun in Dunlop's own spinning mills?"

"Why is such care taken in analyzing, blending and compounding Dunlop rubber into the toughest compound ever achieved?"

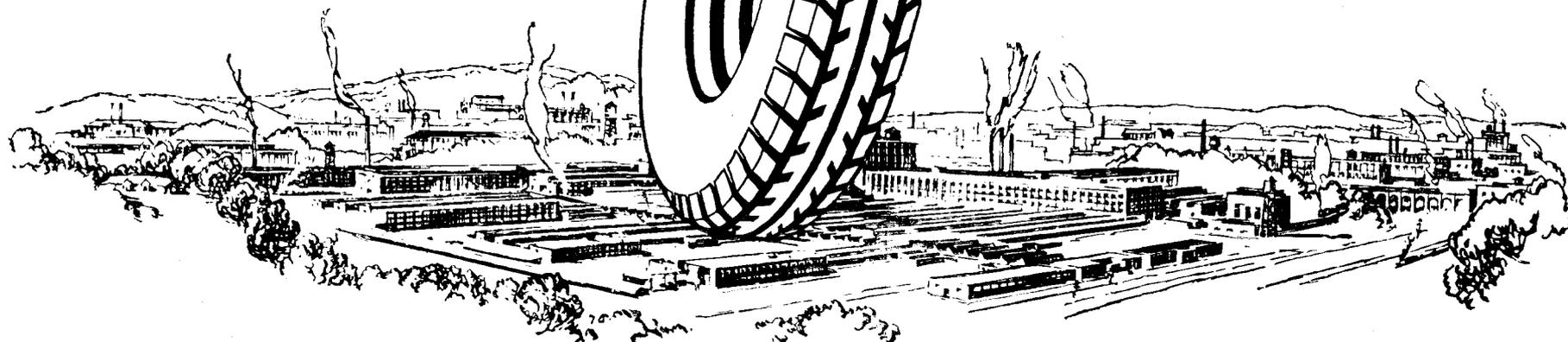
Taken together, these details mean two things:

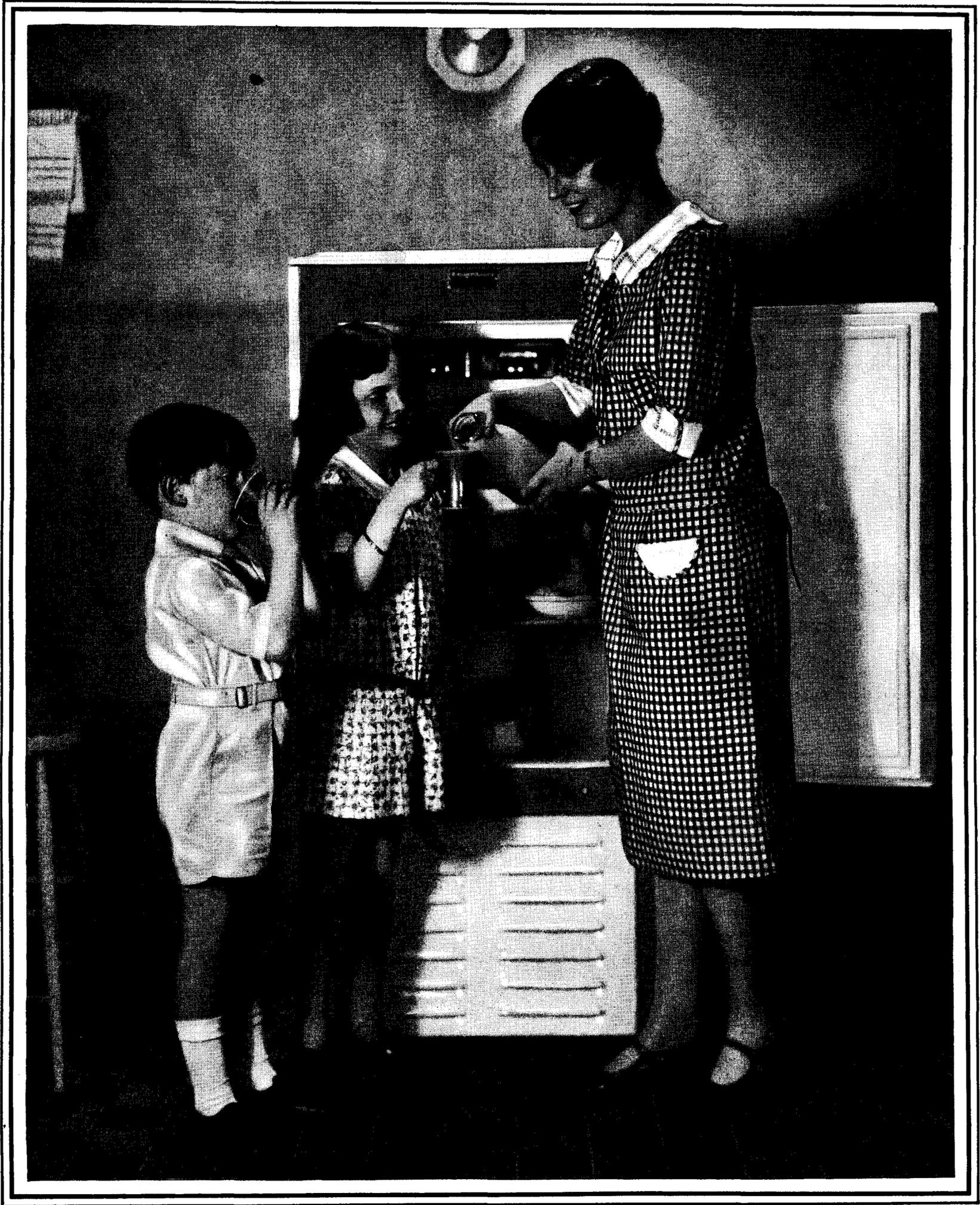
1. It is Dunlop's policy to make consistently *better tires*.
2. This policy can be uniformly lived up to because Dunlop has absolute control of product from raw materials to finished tire.

Naturally, Dunlop seeks to select its dealers with the same thoroughness it selects its raw materials. And that explains why the service of Dunlop dealers is so proverbially satisfactory.

More than 26 million Dunlop tires are in use today. These millions of motorists know that Dunlop tires are *better tires*. You will profit from this knowledge as soon as you choose Dunlops for your car.

DUNLOP TIRE & RUBBER CO.
BUFFALO, N. Y.





GENERAL

FRIGIDAIRE *and* THE OPEN MIND

TWELVE years ago General Motors asked: "Is there any service which can be rendered *inside* the home comparable to the service which the automobile renders *outside*?"

Already the Delco-Light division was carrying the comforts of electric light and power to farm homes. Electric refrigeration was in its infancy, and General Motors, acquiring Frigidaire, set its research organizations to work to improve it.

Having accomplished this, the next step was to increase production and reduce costs so that the price could be brought within the reach of every home.

To the solution of this second problem many departments of General Motors contributed. The research laboratories in Detroit worked with the laboratories in Dayton, the home of Frigidaire. The Fisher Body Corporation was consulted in the design of the cabinets. The same engineering principles which have made automobile construction so economical were applied, for the first time, to the production of refrigerators.

Today Frigidaire is the world's largest selling automatic refrigerator. General Motors' resources and experience have made it possible to produce a low-priced model which is \$570 cheaper than the lowest priced model of five years ago. All over the nation—and indeed all over the world—food is better preserved and health is safer because this big problem was met with adequate resources and an open mind.

PRODUCTS OF GENERAL MOTORS

"A car for every purse and purpose"

CHEVROLET
PONTIAC
OLDSMOBILE
OAKLAND
BUICK
LASSALLE
CADILLAC

All with Body by Fisher

GENERAL MOTORS TRUCKS
YELLOW CABS AND COACHES
...

FRIGIDAIRE
The Automatic Refrigerator
...

DELCO-LIGHT
Electric Plants
...

Delco-Remy Electrical Equipment-Harrison Radiators-Delco-Remy Lovejoy Shock Absorbers-Jacox Steering Gears-A C Spark Plugs-A C Speedometers-A C Oil Filters-New Departure Ball Bearings-Jaxon Rims, Wheels and Tire Carriers-Brown-Lipe-Chapin Differentials-Hyatt Roller Bearings-Inland Steering Wheels-Klaxon Horns
...

General Motors passenger cars, Frigidaire, the automatic refrigerator and Delco-Light electric plants may be purchased on the standard low-cost GMAC Time Payment Plan

TUNE IN—General Motors Family Radio Party. Every Monday evening, 8:30 Eastern Standard Time. WEAJ and 31 other stations associated with N. B. C.

MOTORS



By · JACK · BINNS

Welcoming Suzanne

PRACTICALLY all of the NBC staff members are talented musicians irrespective of their duties in the organization that keeps the Red and Blue chains on the job of holding up their end in the realm of radio entertainment. Take the case of genial Johnny Johnstone, the gent who keeps us all posted on the coming doings in the Fifth Avenue studios. Johnny can ramble up and down the pianoforte with an agility that may account for his prolificness on the typewriter.

This much of his musical talent had been displayed on many of those emergency occasions when scheduled soloists or accompanists suffered from lapse of memory—but Johnny sprang a new talent during an all-staff program which WEAJ put on. Without previous warning he suddenly burst into song as a whispering baritone while otherwise engaged in punishing the keys of the concert grand for the attentive microphone. This new talent intrigued me very much until I learned that Fate had been good to Johnny a few days previously and then it was that I realized that, after all, he may have been just crooning, by means of his favorite station, to Suzanne, the little lady who has taken up her abode permanently in the Johnstone menage.

Oh! Yes, It Is

THE phrase "good night" may be said in so many different ways that it can convey an infinite number of impressions, but Ralph Frees, one of the announcers at KOA, Denver, has developed a tone while enunciating it that has brought Rocky Mountain flapperdom to his feet. At least the chronicler of KOA's doings avers such is the case, and, as a proof, cites the number of letters from listening shekesses and Shebas that are cluttering up Ralph's mail.

Had said chronicler stopped right there, all would have been within the bounds of possibility, but he proceeds to "gild the lily" by adding: "All this is most disconcerting to the modest young man whose whole heart is centered in his announcing and his musical studies."

World-Wide Vision

THE newspapers recently carried an item relating to a new television apparatus that was demonstrated before members of the American Physical and American Optical societies in the Bell Laboratories in New York City. The scientists assembled in New York "saw" Charles Bittinger, a cartoonist, at work in Boston, his drawings being clearly visible while they developed at the point of his facile pencil.

Back of this brief news item is one of the most fascinating pieces of apparatus that the electric art has yet produced. It involves the first television screen big enough to be viewed by a large audience in a fair-sized room.

In order to establish the illusion that presents a moving picture of living things, a pinpoint of light must dart over this screen at the rate of forty thousand flashes every second. These flashes vary in intensity so that when viewed by the eye they paint upon the mental screen of the observer a complete picture of the distant scene that television is bringing to him.

The ingenious apparatus that achieves this seemingly miraculous result includes a long vacuum tube filled with pure neon gas. This tube is bent back and forth so that it forms fifty parallel sections close to each other. Through its center there runs a spiral wire from one end to the other. On the outside twenty-five hundred separate pieces of metal foil are pasted on the back portion of the glass wall forming the tube, and each of these pieces of foil is connected by an individual wire to a high-speed distributor.

Every time a high-frequency current is applied to one of the outside pieces of foil and the internal wire, the neon tube will glow in front of that particular spot. The distributor has to revolve so that it delivers a high-frequency current to each of the twenty-five hundred pieces of foil sixteen times every second. Moreover, it must do this job in exact unison with the revolving scanning disk that is "looking at" the scene in a distant city. If it should get out of step the slightest fraction of a second the moving picture that shows up on the face of the big vacuum tube will either be distorted or else ghostlike figures will flit across it and destroy the picture that is being presented.

This brief description gives an idea of the complexity of the problems that confront those patient investigators who are seeking to extend the range of our vision by means of radio so that eventually we may look around the earth and see what people on the other side of the world are doing.

Old-Fashioned Chaser

QUITE recently the male quartette that does the close-harmony work for the Columbia Chain stations sang the quaint ditty "Rum, Rum, Jamaica Rum."

I have been wondering ever since whether or not it was a quail of conscience that caused the Columbia Network program arrangers to make sure Frank Croxton sang "Water Boy" the next night.

Money Mad

Continued from page 30

heavily or inducing other holders to sell. By selling short they meant that they sold stock they did not then possess at a figure below the market and promising to deliver it at the low price on a certain date.

If, on that certain date, the stock had fallen below the figure at which they had agreed to deliver they gladly bought and made a profit in the selling. But if the market had not fallen enough and they had to buy shares at a price higher than that at which they had promised to sell they properly mourned.

Just what created the bewildering situation through which they were passing is still a matter of much debate. Here you are informed that an excess of cash combined with a lull in business was responsible. Men found their business affairs stagnant. The markets were overloaded and the buying was slow and thin. Therefore men took their time and their money and spent both in the stock market.

Believe what you choose, or what you can understand. Perhaps it came about because of America's huge banking reserves and the consequent easy credit. It came to a staggering halt when the lending banks increased the interest rate on money.

At any rate, the situation was out of hand. All the stock required to be sent across the heavens was whisperings about it—provided those whisperings included the words "amalgamation," "merger," "buying for control," etc.

Not that it matters here. Something like order has been restored, although the marginal buyers are still numb from the shock. The crowds in the brokerage offices have dwindled to the regulars; the brokers themselves and their clerks are slowly catching up with sleep.

Viewing the littered field of battle now that the smoke has lifted, you see more to inspire cheer than to cast down the heart. The country's money is more evenly distributed, anyway.

Here's an actor who made \$40,000 in six weeks by quick dips into Vanadium steel, Schulte Cigar Stores, Public Utilities of New Jersey and Wright Aero; and there's Barney, a waiter still in spite of the \$90,000 which he won by carefully assaying the market tips he received from his customers and cautiously placing thereon the \$5,000 which they had given him in dimes and quarters for serving their lunches and dinners. Just samples.

Yonder's a stenographer who is richer by \$15,000. And what gives her the greatest joy is that she was able, thanks to the market, to pay the balance on that fur coat she bought last winter. It had her worried until she bought General Motors.

They're the small fry of course. The important money went to men like Wil-

liam C. Durant. They gauge his winnings at \$100,000,000 in Anaconda Copper, General Motors, United States Cast Iron Pipe and International Nickel. Nobody I talked to seemed to have anything like a correct estimate of the millions taken by Arthur Cutten of Chicago and his nephew Ruloff. They were most obscure men a few years ago. During the big excitement they were dealing in 200,000 shares a day—Armour & Co., General Motors, radio, copper, Montana Power. More samples.

The vast majority of brokers rejoiced at the coming of the lull. They were tired to death, and their nerves had gone bad. For example, they point out one of their number (he's feeling better now) who, at the height of the buying frenzy when four-million-share days were becoming accepted as natural products of such a market, fired his secretary for sneezing after cursing insanely.

He spent the next two days apologizing and beseeching her to return. She did.

The Next Bull Market

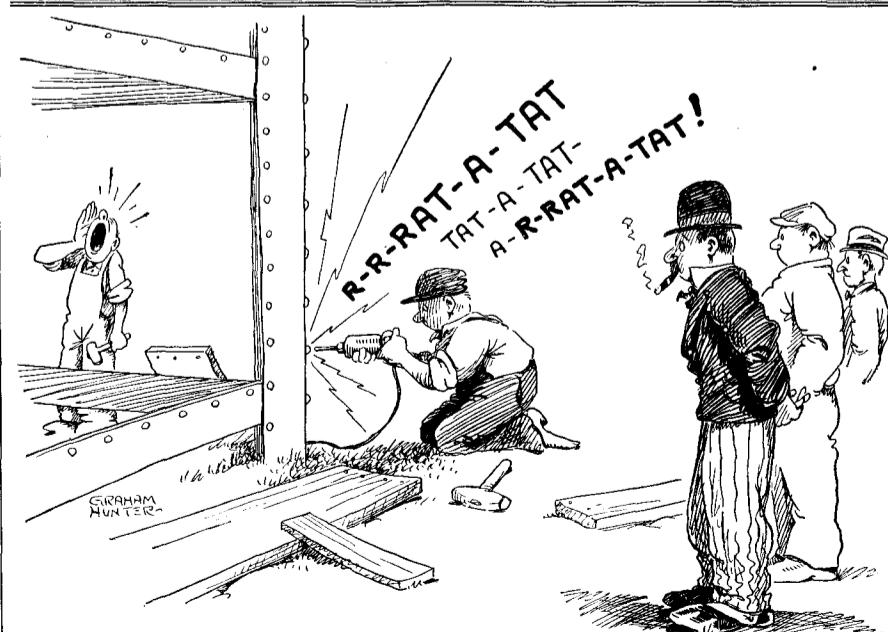
"SEE those shoes?" asked the broker who told me about the sneezing secretary. "A gentleman named Joe used to shine those. He'd been shining shoes in this building for eight years. Well, Joe's gone. Italy. He had saved \$5,000 and had two small life insurance policies. He put them into the hands of a small banker who lent him \$5,000 more, and with all of it bought stock in heaven knows what and in no time at all Joe had \$40,000 and is now about to return with his large family and live the life of Mussolini."

"That's nothing," retorted an insurance official. "I had a stenographer who made \$13,000 in General Motors in a month. Where she got the original money is her business. Anyway, it ruined her as a stenographer. She at once decided she was the reincarnation of Hetty Green and made a sort of investment trust of herself and \$13,000."

"She distributed her winnings over half a dozen stocks, buying some outright and hocking them with a banker for additional capital with which to buy others. Anyway, that was the general idea. It was complicated. Her young man, a stockbroker's clerk, gave it to her. It was too complicated. Too much for inexperienced eyes to watch. It collapsed, and out of her winnings she managed to save \$1,500 which she used as margin on some oil stocks or other, and, by gosh, she ran it to \$37,000."

But you could continue thus for weeks. The next bull market may make this one seem puny. Not that anyone knows.

The only thing Wall Street seems to know is that it is logical to expect another. When? Your guess is as good as theirs, they say.



"Golly! That reminds me; I've got a dentist appointment today!"