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The
SCOVILL
STANDARD

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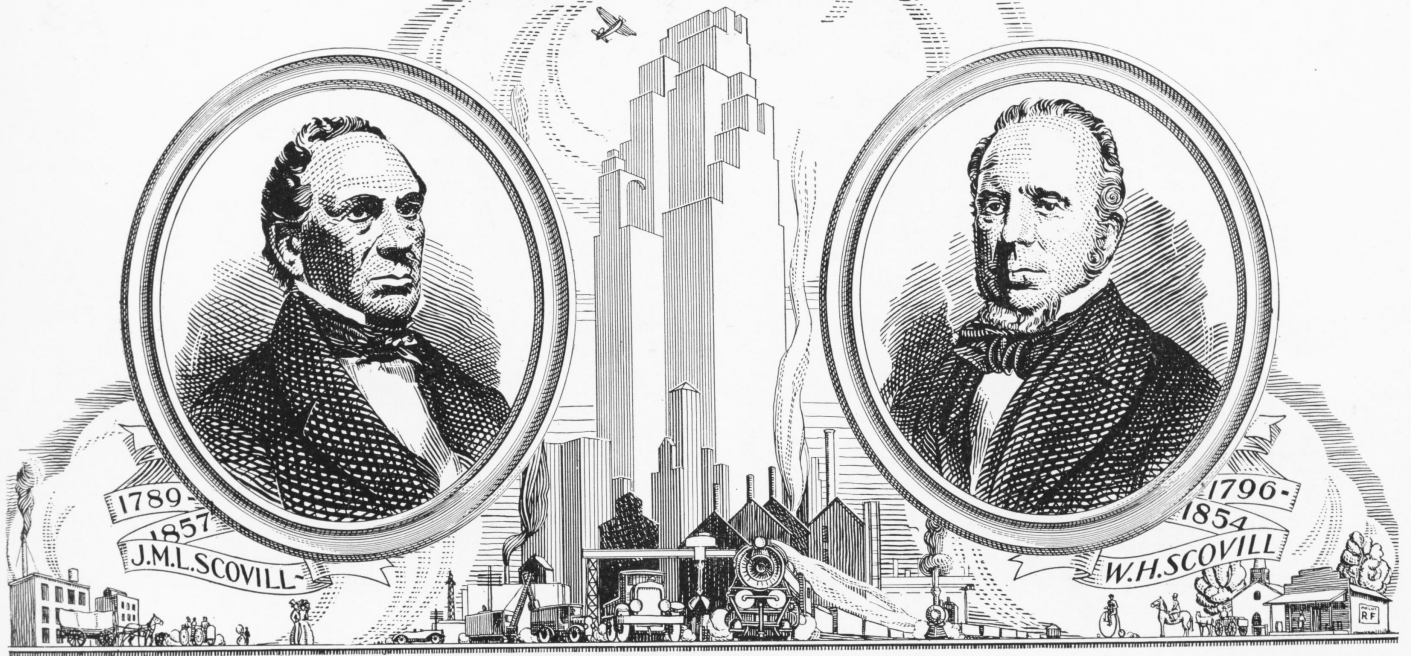
RED METAL DISCOVERED
IN DARKEST AFRICA

FROM PINS
TO PHOSPHOR BRONZE



WHAT IS MORE ENDURING THAN BRASS

Editorial:



CRAFTSMEN AND "WORKERS"

"YES," said a purchasing agent, speaking to one of our executives, "I will assume that you have ample modern equipment. You couldn't do the volume of business you do without adequate machinery. But what I'm interested in right now is personnel; tell me something of the men behind the machinery."

A fair question, we feel, and one which we consider important in determining where to place an order. Here you have the answer, almost word for word as delivered by a man who has spent more than a quarter of a century in close contact with Scovill employees.

"Craftsmanship," he said, "begins with the skill exercised in the handling of materials. In a broader sense, of course, craftsmanship may be said to include the discovery of materials, the determination of the properties of these materials and the constructive skill in handling. For the workman, however, and in the plant of actual production, the skill with which mate-

rials are handled establish the worker as a craftsman or as 'just another worker.'

"The love of good work and the satisfaction in successful accomplishment are powerful motives. And these qualities still live in the hearts of men today. If the modern craftsman is perhaps not as picturesque as the craftsman of other days, it does not mean that he is not as much an artist at heart. He is merely more efficient than his predecessor. The craftsman of today has called scientific knowledge to his aid. And in almost every instance he is producing more and infinitely better work than the craftsman of old.

"You say that you will assume we have sufficient modern equipment since we handle successfully a large volume of business. You are right, of course; and it follows that we have a staff of highly skilled workers—craftsmen—for without them all the machinery in the world would not keep our quantity and quality up to the Scovill Standard."



WHAT IS MORE ENDURING THAN BRASS



THE SCOVILL STANDARD

A Monthly Magazine Exemplifying 128 Years of New England Manufacturing Ideals

Published by Scovill Manufacturing Company, Waterbury, Conn.



VOLUME THREE

JULY, 1930

NUMBER ONE

Voice-writing with the Ediphone

By J. E. SEASE

Manager Ediphone System Service, Thomas A. Edison, Inc.

IS YOUR imagination sufficiently vivid to surmise what life would be without the electric light, or the telephone, or electric railway cars, or the phonograph and Ediphone, or the movies or the radio? It is almost impossible to imagine such a state of things.

The wonder is not so much that we have these and many other marvelous conveniences as it is that they emanated from the brain of one man, Thomas Alva Edison. Question may arise as to the inclusion of the telephone and the radio in the above list. Though the telephone was invented by Bell, its subsequent success was due to the improvement made by Edison through his invention of the carbon transmitter. Radio is absolutely dependent on Edison's discovery in 1875 of the phenomenon caused by electric waves in free space, which he called "Etheric Force." In 1883, he discovered he could

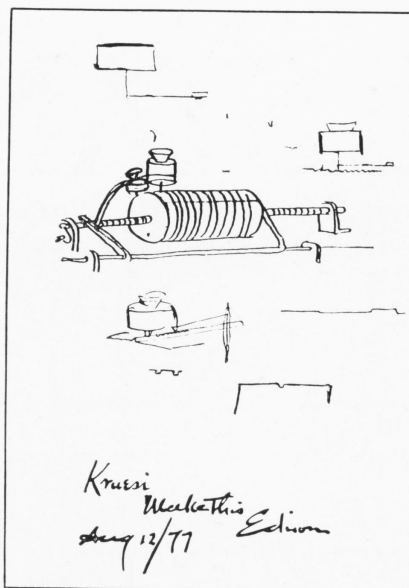
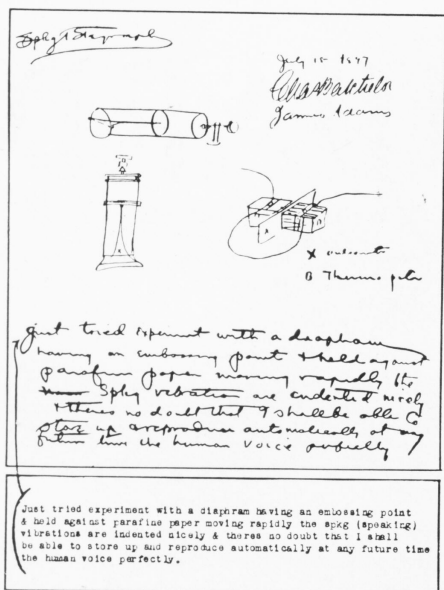


The Wizard of Menlo Park. Thomas A. Edison, famous American inventor.

control the flow of current through a lamp or tube, which led to the development of the radio tube—this was termed the "Edison Effect." The radio telephone is merely a glorified form of Edison's carbon telephone transmitter. Had Mr. Edison not discovered these things, radio telephony, other than that of the dot-dash, crystal-receiver type, might not be known.

And today, Thomas A. Edison, despite his 83 years of age, continues his efforts to invent and discover new conveniences for mankind with the same relentless vigor and keen resourcefulness.

One of Mr. Edison's more important inventions, of course, has been the Ediphone. Incidentally, the word "Ediphone" is a trade name to designate the Edison Dictating Machine, which consists of the Phonograph combined with a series of his supplemental inventions; the whole comprising a system



Reproductions from old originals which tell their own stories.

of great value to the busy executive for promptness and ease of despatching his business correspondence.

Before discussing Mr. Edison's development of the Ediphone in detail, let us briefly review some of his other achievements. As everyone knows, his creative career began when he learned telegraphy under the tutelage of a station agent. Then he began to invent. When he was 23, he invented a new stock-ticker, receiving \$40,000 for it and for other improvements in that line. From that moment he worked in his own miracle factory. He gave all his time—day and night—to the Herculean task of repairing and creating whole trades and industries. A list of his inventions would fill this page. Among them was the quadruplex telegraph system, the microphone, the phonograph, the incandescent lamp, the lighting system, the electric railroad, radical improvements in the dynamo, the tube for the radio, the motion-picture camera, the fluoroscope, cement machinery and the Ediphone. He also invented an entirely new type of storage battery—a nickel steel alkaline type.

Edison's Favorite Inventions

Of all his inventions, the phonograph and Ediphone have always remained favorites. He gave to them many years of his life, taking out over 100 patents on improvements.

It is now 53 years since the phonograph and Ediphone were born. Their invention was no

lucky accident. Edison was at that time improving the automatic telegraph. He found he could reproduce the Morse dots and dashes on a revolving cylinder.

"If dots and dashes," he thought, "why not the human voice?" This was a new idea. No other human brain had ever conceived of such a thing.

As a result of his thoughts on the matter, in August, 1877, he made a design of the first phonograph. He gave it to a Swiss mechanic named John Kruesi. Kruesi made it, but not without a protest. He declared it was the most ridiculous idea he had ever heard of. But he made it, and when it was finished, Edison spoke into the mouth-piece, saying: "Mary had a little lamb, its fleece was white as snow."

The First Dictation

Then he screwed back the recording disk, turned back the cylinder, screwed the reproducing disk and turned the handle. The machine spoke. It said very plainly: "Mary had a little lamb, its fleece was white as snow." No other invention has created such a furore as "Edison's Talking Machine." At once, the whole world knew of it.

That Edison understood the far reaching uses of his invention, particularly its adaption to business, is shown in an article by him appearing in the *North American Review* of 1878, in which he described its use as—"for taking dictation, for taking testimony in court, for reporting speeches, for the reproduction of vocal music,

Edison and one of his early inventions. The tinfoil phonograph, invented in 1878, when he was 30 years old.



for teaching languages, for correspondence, for civil and military orders, for reading to the sick in hospitals and for various other purposes too numerous to mention."

During the period from the date of filing the fundamental patent December 24, 1877, until 1885, Mr. Edison was engaged in the monumental task of distribution of electricity for lighting and power. The phonograph was temporarily undeveloped.

In 1885 a renewed activity took place. The period between 1885 and 1890 produced notable contributions to the art as evidenced by the granting of eighty United States Patents relating to the art of recording and reproducing dictation. The activity of Messrs. Bell and Tainter (the only other important contributors) during this period is evidenced by the granting of ten patents.

Then followed a period of dullness in the art from 1890 to 1905, a time lapse of fifteen years. Edison experienced with others these deterrent conditions at that time:



"An Ediphone at a man's desk tells the World that he values his time."—THOMAS A. EDISON.

- (a) Electrical distribution of power was not general.
- (b) The typewriter was new, receiving over-powering attention.
- (c) The phonograph became attractive for amusement.

In 1905, however, Edison boldly began operations once more with his business phonograph, the forerunner of the modern Ediphone.

He made his machine move at a touch without any foot-pedals. He made the capacity of one cylinder 1,200 words. He made it possible for every cylinder to be shaved 100 times. He added a sound modifier and a speed control and an electric repeat. He made it simple and fool-proof, and patient and very polite, so that it would repeat a sentence as often as desired. It

became fifty inventions in one.

His basic idea was that the voice should be used as a pen. There was no word in any language for such an idea. He called it "voice-writing."

Since then, Edison has worked from time to time to

(Continued on page 18)



SNAP FASTENERS

The Scovill line of snap fasteners is complete. Customers may purchase fasteners for use on the sheerest silk gloves as well as for use on automobile carpets. And all of them are made to the same standard of Scovill excellence.

Fasteners intended for use on light weight material have a very easy action to prevent tearing the material; fasteners used on work garments, leather goods, carpets, etc., have a hard action.

Scovill also has a complete line of fastener attaching equipment which has been developed to meet the demand

for a rapid and economical means of attaching Scovill fasteners. These machines range from the small hand press to a double head model capable of attaching some 13,000 fasteners in eight hours. Scovill tack button machines, designed in the Scovill drafting

room and manufactured in Scovill shops are sturdily built to give dependable service on high speed production. They have all been thoroughly tested with Scovill tack buttons and they are regularly inspected by expert mechanics from Waterbury, Atlanta and Chicago.



Economy and the Modern Engineer

By COL. A. C. DOWNEY

Member Advisory Board of K. T. Keller; Vice Pres., Chrysler Corp., Detroit, Mich.

WHEN we speak of engineering for economy we mean just that. Once upon a time an engineer was a good engineer if he could design an automobile which would run—there was no such thing as a price limit to hamper him. But the modern definition of a good engineer is quite different. The real engineer today is the one who sets out to design a car, say in the lower price class field, which is better than anything existing in that price class and which can be manufactured and sold at a profit, and then does the job.

The engineer who is able to do that has to work hand in glove with the production manager and the purchasing agent. He considers his problem to be *their* problem and he is not only willing but eager to get their cooperation and help.

Thus it is that the organization of a modern corporation resembles the organization of our national government. In government we have the legislative, the executive and the judicial branches, each exercising

definite functions and having definite prerogatives, but each also acting as a check or balance on the other departments. In the modern corporation we have generally the engineering, the production, the sales and treasury departments, each exercising its own functions and having its own prerogatives, each acting as a check or a balance on the other.

Such was not true of the early automobile companies. They were often unbalanced from a personal standpoint. They were brought into being through the efforts of an inventor, an engineer, a production man or an enthusiastic salesman. There was no such thing as full cooperation; each man was usually busy with his own problems which he kept exclusively his own. The policies and products of such corporations reflected the

personal peculiarities, ideas and policies of an individual.

Since all of us are more or less in possession of what is commonly known as "single track minds," we all have a different perspective on the human race. Many of the



Chrysler executives at opening of the Chrysler Motors' Engineering Laboratories. Left to right, front row: Walter P. Chrysler, President and Chairman of the

Photo Ewing Galloway

Board; Rudolph Zeder, guest of honor. Back row: O. R. Skelton, Executive Engineer; Carl Breer, Executive Engineer; Fred M. Zeder, Vice President in Charge of Engineering.

failures of the old automobile companies may be charged directly to the unbalanced personnel of the companies.

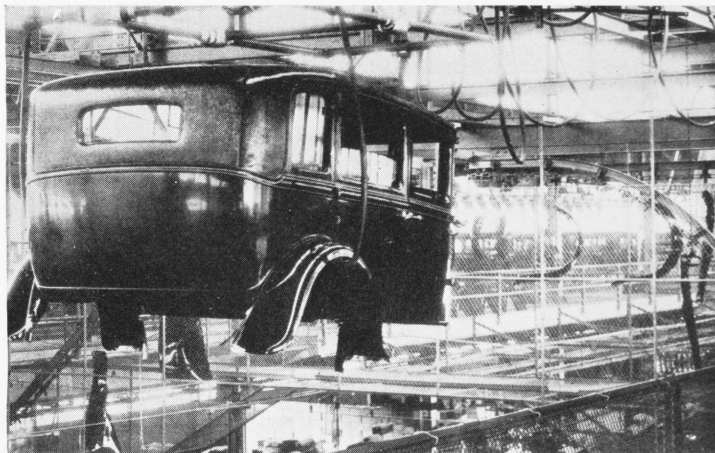
Consequently, it is not unusual to find with the personnel of the modern automobile corporation a group or variety of minds. Each man may be a specialist in his particular line, and his fundamental contribution to the welfare of the corporation will be upon the subject matter in which he specializes, but he will contribute in addition thereto those individual viewpoints which in the aggregate are so essential in connection with the proper conduct of business.

The modern type of organization keeps each isolated department performing its functions in an economic manner. If the engineering department, in an effort to attain a given result, brings out an extravagant design under this system of organization, it becomes not only the right but the duty of the purchasing and production departments to so inform the engineering department.

It was once true that the engineer resented any discussion or criticism of his design, and the theory of organization just spoken of did not obtain the desired results. That time has passed, however, and the modern engineer welcomes the advice and counsel of the heads of other departments. As a matter of fact, if he is a good engineer, he solicits a discussion of the matters involved.

For the modern engineer is generally a stockholder in the corporation in which he is employed. Perhaps he has a professional desire to attain the ultimate in anything which he designs, but that desire is tem-

Photo
Ewing
Galloway



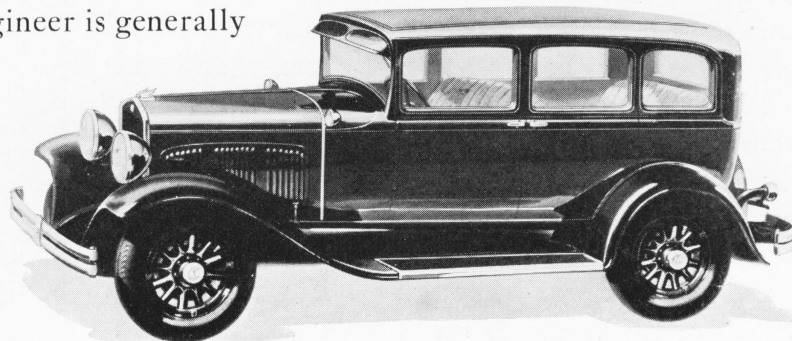
Lowering the body onto the chassis in the assembly line in the Chrysler factory at Detroit.

pered by the fact that no matter how perfect his design is, the public is the final arbiter. If the public does not accept his design or it cannot be manufactured without excessive costs, the result will be decreased sales, smaller margins of profit and consequent depreciation of stock values.

Thus, in the final analysis, the balance sheet issued by the treasurer of a corporation is the true measuring stick by which we may evaluate the merit of an engineer's accomplishment.

And right now I would like to mention the oft repeated statement relative to the fallacy of building to a price. This statement is correct in the main, but there is a distinction. In the automobile industry it is necessary to build to a price class. The directing head of a business in conjunction with his sales manager, determines the type and price class of a car which should be designed by the engineering department. It then becomes the duty of the engineering department to design accurately, conscientiously and to the best of its ability a car which will meet these requirements.

And that is where the distinction between good and mediocre engineers is shown. With an unlimited bankroll and the sky as a limit for list price an engineer with only ordinary ability can
(Cont'd on page 18)



A view of a completed Chrysler Six Sedan.

Mobile Goods



Photo
Ewing
Galloway

Hundreds of millions of gold in the Reichsbank in Berlin. This photo, taken in the vaults under the bank, shows the gold that stabilized the mark.

COMMERCE, industry and agriculture are first claimants on the bank credit of the country. In recent years, with the great excess of gold, we have met the needs of commerce, industry and agriculture at the same time that we were expanding credit against securities. But merchants and producers have first claim, and the gold of the world is abundantly adequate to meet their legitimate needs.

A "shortage of gold" has been the subject of much discussion recently, and there have been warnings even of an impending "gold panic" in the course of the next two or three years. Fears have been expressed that trade will be strangled and commodity prices forced ruinously low, unless immediate steps are taken to pool the gold reserves of the world, so that interest rates may be made very low again and excess bank credit made once more abundant.

Wide Variance of Views

On the other hand, there has been expressed an incredulous optimism, which points to the ratio of reserves to combined notes and deposits of the Federal Reserve Banks, well above 70 per cent, and asserts that there is an abundance of gold. Holders of this view also usually demand, however, that the Federal Reserve authorities should make interest rates very low.

I share neither of these views. There is enough gold in the central banks of the world to make it easy to supply all the bank credit that is needed

for legitimate business purposes, and the annual production of gold is ample to meet the legitimate needs of business expansion. But there is not enough gold in the world to enable us to continue the rapid expansion of bank credit of recent years, during which bank credit has been used as a substitute for investors' savings in financing the mortgage market, financing the building trade, financing the one-sided flow of goods in the export trade, and, above all, financing an unprecedented stock market speculation. The "gold panic" is not a matter for the future. The "gold panic" occurred in the autumn of 1929, with the great stock market crash, which dispelled the illusions which an abnormal concentration of gold in one country had created.

Banks must be prepared at all times to meet the calls of their depositors for cash on demand. Banks must be kept liquid. Cash reserves are only one part of the general problem of liquidity. The bank whose general assets are highly liquid needs less cash than the bank the bulk of whose assets are slow. The country whose banks place the bulk of their resources in highly liquid forms can get along with much less gold than this same country would require if its banking assets were chiefly slow and liquid loans and investments.

A classical illustration of this point is, of course, pre-war England, which did a world-wide banking

Benjamin M. Anderson, Jr., was born in Columbia, Missouri, May 1, 1886. He was graduated from the University of Missouri in 1906; he received the degree of Master of Arts from the University of Illinois in 1910, and the degree of Doctor of Philosophy in Economics, Philosophy, and Sociology, from Columbia University in 1911.

Upon the completion of his work for the doctorate at Columbia University, he was appointed instructor in Economics at that University in 1911, and in 1913 Assistant Professor. He was then called to Harvard University as Assistant Professor of Economics, leaving that institution in 1918 to enter the banking field. He became Economic Adviser for the National Bank of Commerce in New York City in 1918. Since 1920 he has been Economist of the Chase National Bank of the City of New York.

Eases Gold's Strain

By BENJAMIN M. ANDERSON, JR., P.H. D.

Economist, The Chase National Bank

business with a surprisingly small gold reserve. In the first place, the London money market held a large volume of the quick debt of the outside world, timed so that maturities came daily which need not be renewed, or need be renewed only at an advance in rates. Again, more commodities were dealt in in London than in any single center. London had a great body of speculative buyers, who knew their outlets, and were prepared to buy at a concession in price, almost any commodity on very short notice. Truly liquid bank loans could be made on virtually any commodity. What came to London became liquid, and everything came to London. London, therefore, needed less gold than other centers needed.

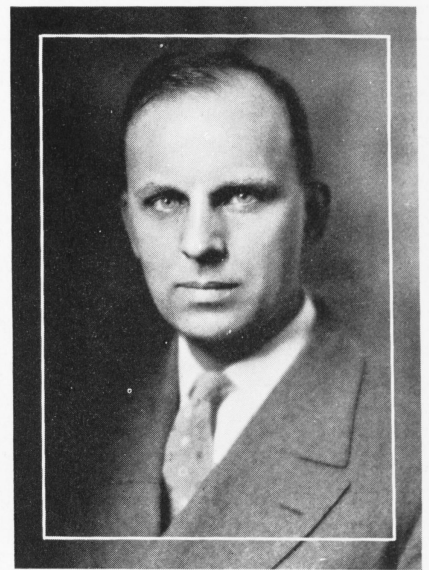
Bank Credit Standards

Bank credit remains liquid most easily when it is not excessive, and when bankers are in a position to insist upon the usual banking standards in extending credit. When bank credit is very excessive and rapidly increasing, as was almost steadily the case with us between 1921 and the middle of 1928, bankers are faced with the alternative of having idle funds on hand, or of placing them in unusual uses. During this period, commercial bank holdings of real estate mortgages increased over 200 per cent. There

Dr. Anderson is the author of three books, "The Value of Money," "Social Value," and "The Effect of the War on Money, Credit and Banking in France and in the United States." For the past ten years his chief writings have appeared in the "Chase Economic Bulletin," issued by the Chase National Bank. He is best known for his work in the theory of value and prices, his investigations in money and banking, his statistical studies on foreign and domestic trade, his studies of the European financial and economic situation, and the underlying factors of American business.

Dr. Anderson is a banker and student of business affairs whose writings and addresses on financial and industrial subjects have attracted wide attention both in the United States and in Europe. He is a professional economist, and is also a practical banker.

was a very rapid increase in instalment finance paper. Banks bought bonds in great volume, and collateral loans against stocks and bonds increased with great rapidity. For the National banks, the ratio of security loans and in-



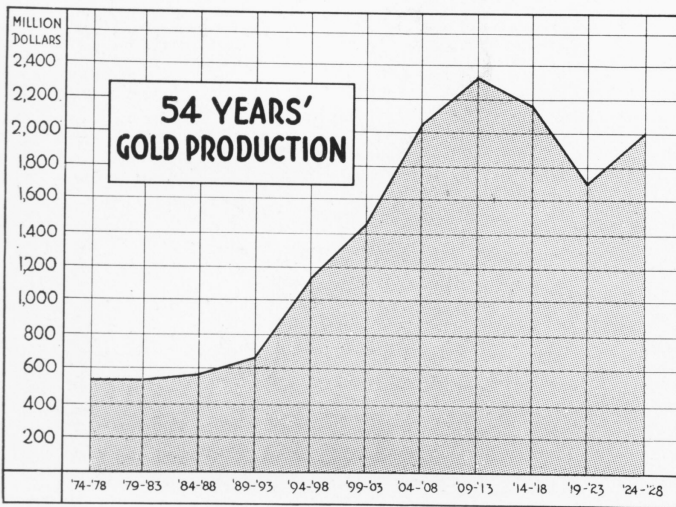
DR. B. M. ANDERSON, JR.
Economist, Chase National Bank

vestments to total loans and investment rose from 42 per cent in 1921 to 55 per cent in 1928, while, for the six hundred reporting member banks in the great cities, the ratio rose from 46 per cent to over 60 per cent. Commercial paper eligible at the Federal Reserve Banks declined greatly in percentage.

The banks in Europe have similarly experienced a decline in liquidity during this period. Fifty per cent is the customary deadline for British banks, in the ratio of their relatively slow loans to customers, or "advances", to their deposits. The remaining fifty per cent they wish to place in vault cash, cash with the Bank of England, bills of exchange, short loans and call loans against bills of exchange, and other highly liquid assets. By June of 1927, however, this figure for the London clearing banks had reached 54 per cent. It rose to a peak of 56.2 per cent in April, 1929, and despite some liquidation, it still remained at 54.6 per cent in December of 1929. On the Continent, in many countries, a similar development has taken place.

What Makes Easy Money

Easy money depends not only on the cash reserve position of banks, or on the gold position of central banks and Federal Reserve Banks; it depends also upon the general liquidity of bank assets. At the present time, the money markets of the world show a very wide disparity between the rates on highly liquid credits and rates on those which are slower, or which have been overdone. In the United States, mortgage money is



A visual representation of the world's gold production for 54 years.

not easy, and rates are high. Yields on foreign bonds are very high and rates on customers' loans against securities are firm. On the other hand, acceptance rates are very low, and the three-month paper of the United States Government goes at less than two per cent.

If it should develop that the existing volume of bank credit is too great to be comfortably maintained with the existing volume of gold, commerce, industry and agriculture need not on that account fear that credit available for their purposes will be curtailed. American bankers have regularly in the past had to deal with situations of that kind. It was a very frequent autumn episode, when the increase in demand for hand-to-hand currency pulled down the reserves of the banks and made some liquidation of bank credit necessary. It happened in 1923. When this occurred commercial credits were not restricted. On the contrary they were expanded to meet the autumn trade needs, and credit needed for crop moving was provided. What happened was, very simply, that the banks contracted their credit to the securities market, either by selling bonds or by reducing collateral loans on securities, or both.

Claimants for Bank Credit

As said before, commerce, industry and agriculture are first claimants on the bank credit of the country. The securities market must content itself with what is left. During recent years, with the great excess of gold, we have met all such situations by a further expansion of total bank credit, meeting the needs of commerce, industry

and agriculture at the same time that we were expanding credit against securities. But merchants and producers have first claim, and the gold of the world is abundantly adequate to meet their legitimate needs.

The fundamental solution of the problem of a comparative shortage of gold is to be found in increasing the mobility and the liquidity of goods, through less restricted international trade. When nations interpose serious obstacles to the receipt of goods from one another, a great deal of the export trade is handled on the basis of long credits, which either make slow loans in the banks, or else require the exporting country to take foreign bonds. These credits must grow from year to year to provide for new exports, and to provide for interest on previous credits. The country which has an excess of gold can expand bank credit for a time in such a way as to take care of this. Exporting countries which are short of gold find increasing difficulties in doing it. In any case, it is an impossible basis for permanently satisfactory export trade. When, however, goods can move with adequate freedom from country to country, and when exports can be paid for with imports, a very different situation is presented.

Short-time, self-liquidating credits, largely on an acceptance basis, can then take care of a great volume of export and import business, and the world's supply of gold is abundantly adequate for that. We can economize gold by increasing the mobility and liquidity of goods.

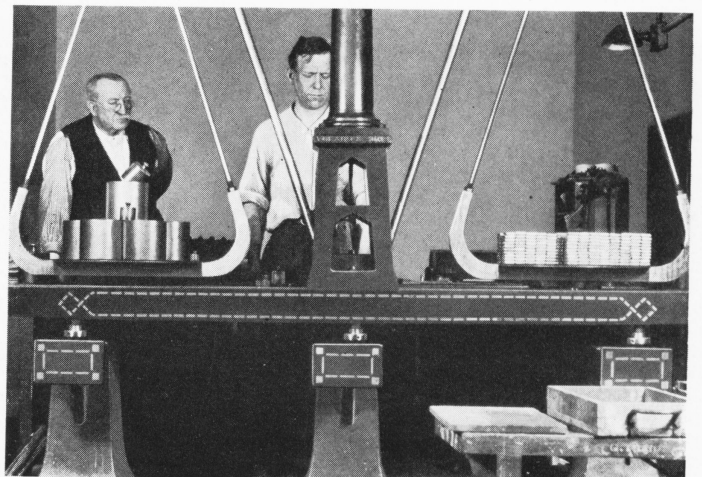


Photo Ewing Galloway

Weighing small gold bars in a U. S. Assay Office, where impurities are removed from the metal and gold yielding value of the ore ascertained.

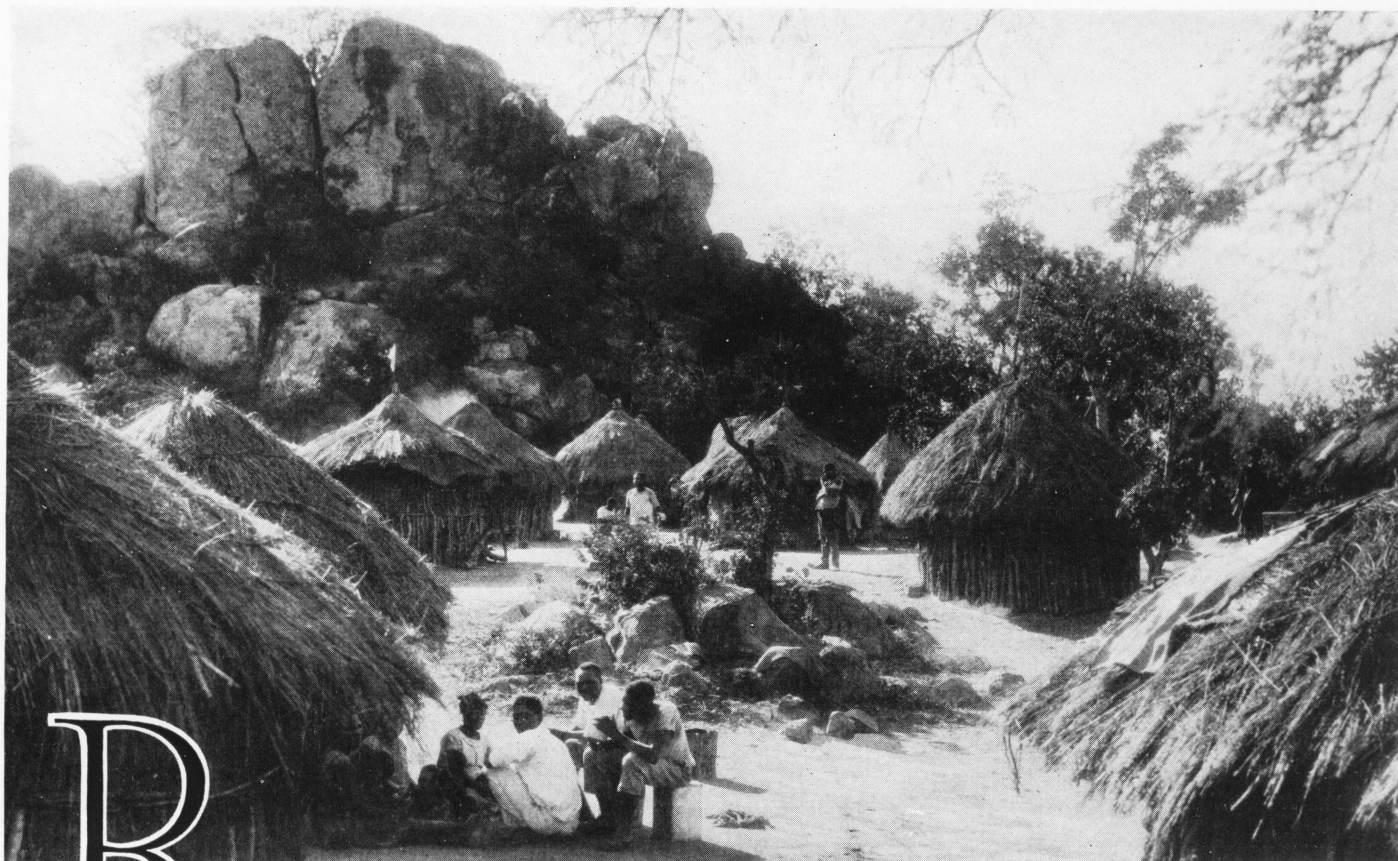


Photo Ewing Galloway

A typical village scene in South Rhodesia.

R ED Metal Discovered in Darkest Africa

DEEP in the heart of the "Dark Continent" the magic of the white man is turning wilderness and jungle into centers of industrial activity. But the white man's magic is not alone responsible for the era of civilization that is beginning in Africa. For he is but taking from the earth the magic of Nature—copper, one of the oldest known metals.

It is rather hard, at first thought, to associate industrial prosperity with Central Africa. For here, in the interior of this continent, is the heart of the explorer's paradise, the big-game hunter's stamping ground. The land abounds in many varieties of big game and is populated sparsely by villages of savage blacks. It is wrapped in its entirety in ignorance and bound by the ties of a superstition bred of centuries of unenlightenment. In hundreds of thousands of square miles of such land the only means of transportation is walking, and that on narrow paths worn smooth

by the constant tread of naked feet.

In this country the total extent of the native's world is limited to the dozen or so little villages within his immediate surrounding. His knowledge of an outside world, other countries, oceans, cities, civilization, is non-existent. Here ever-present death lurks amid the trees, creeps on softly padded paws in the long grass around the water hole.

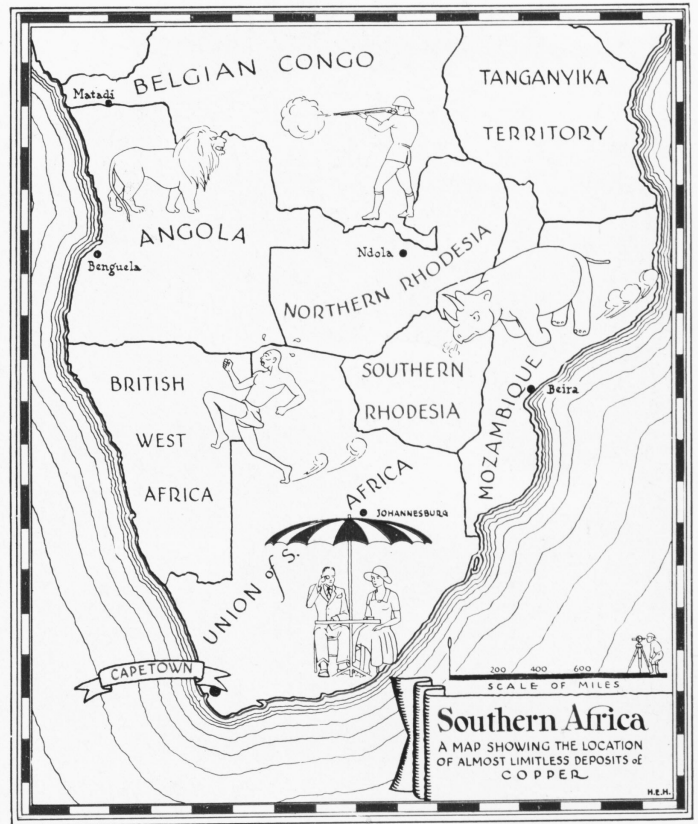
Imagine now, in the very heart of such a country, townsites paved with streets, electricity, radio, airplanes, power plants; great smokestacks towering above the topmost branches of the forest trees; giant smelters, with their enormous reverberatory furnaces; the hum of machinery, and in fact all the equipment of modern scientific industry and mechanical invention. This offers a limited portrayal of the phenomenal development, during the last three years, of Northern Rhodesia.

What is the reason? Copper: red metal that has been discovered in darkest Africa. It is believed that metal in hundreds of millions of tons, in thousands of square miles—in fact, a field that may prove the richest and largest in the world—has been discovered.

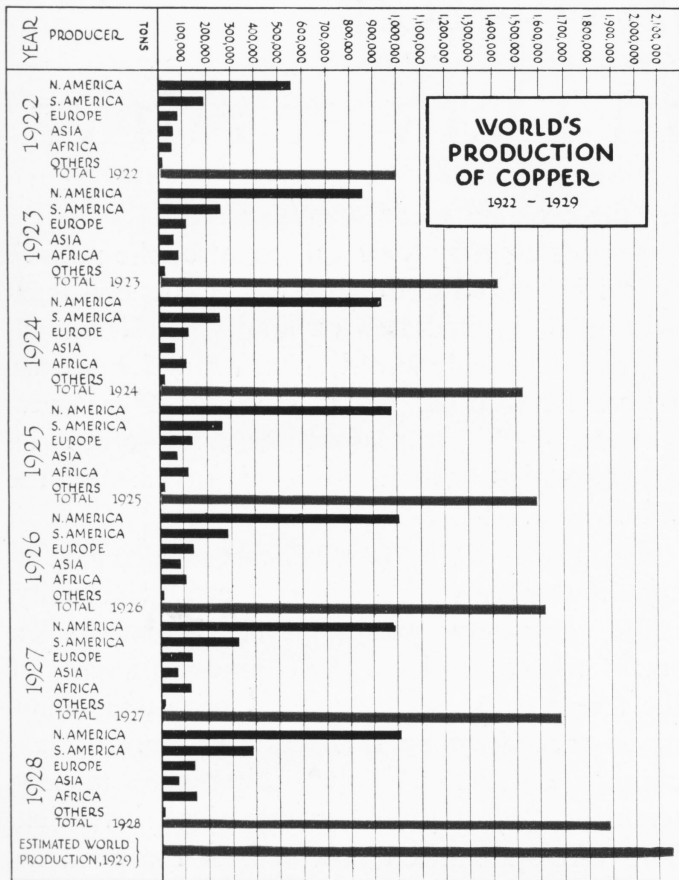
The Great Unknown

A few years ago Northern Rhodesia was a tract of country almost unknown to the world at large. For years after the energy and genius of Cecil John Rhodes first opened up the country, it lay dormant. A few individuals did a certain amount of desultory prospecting, but they were handicapped by the fact that a fair thickness of geologically recent detritus overlies the whole country hiding the rock outcrops and covering up the surface showings of potential mineral wealth.

It was not until 1923 that the first of the big concession companies came into existence. The government then granted exclusive prospecting rights over 52,000 square miles of land in return for a guarantee to expend a certain sum of money



Southern Africa, where the recent discovery of large copper deposits is transforming the jungle into an industrial center.



in the country annually. This company brought in trained geologists and engineers and scattered them over the country, and by the end of 1926, it was realized that there were huge possibilities for wealth in minerals there.

The Great Discovery—Copper

As soon as this became apparent other companies were formed, more concessions granted, and now almost the whole of Northern Rhodesia is taken up by concessions from government of exclusive prospecting rights. Within the last year one of the greatest and richest copper fields in the world has been discovered.

There are difficulties, of course. The thousands of miles which separate the country from so-called civilization means that the importation of machinery, European food and living necessities is difficult and costly. Labor offers another problem. The native men never have worked in their lives, nor have any of their ancestors. Their women have done all the unpleasant jobs—hoed the gardens, kept the huts in good shape, cut and carried the grass for thatching the roofs, and so on. If a family moved its habitat, all the house-

(Continued on page 21)

Where the world's output of copper for the last eight years came from. It is believed that Africa's production in the future will be much greater than at present.

Highlights from Historic New England



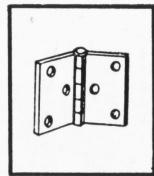
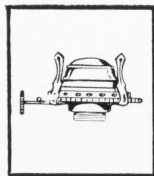
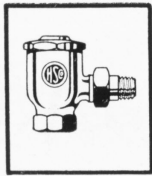
No. 1. Connecticut's First House.

Connecticut, home of Scovill Manufacturing Company, was probably first settled by the Dutch, though both the Dutch and the English claimed this distinction.

In 1633, 131 years before the founding of Waterbury, William Holmes and others, acting under the authority of Governor Winslow of Plymouth, prepared the frame and other materials for erecting a house, put them on board a boat and sailed for Connecticut. When they entered the Connecticut River, they found the Dutch had erected a light fort and planted two pieces of cannon on "Dutch Point" in Hartford. Holmes disregarded the Dutch command to turn back and proceeded up the river. Arriving at the mouth of the Farmington River, Holmes landed at what is now Windsor, Connecticut, and here erected the first house in Connecticut.

In 1635 a number of people from Massachusetts came into Connecticut and settled at Windsor, Hartford and Wethersfield. In November of the same year J. Winthrop the younger, commissioned by Lord Say and Seal and others, took possession of the mouth of the Connecticut River and thus shut out the Dutch forever.

The first court was held at Hartford on April 26th, 1636. In June of that year another party of settlers led by Reverend Thomas Hooker reached Hartford. At the close of the year, Connecticut had a total of about 800 settlers, living in the three towns on the river and in the garrison at the mouth of it. These hardy people were the nucleus about which the present State of Connecticut was to form.



From Pins to And 1000



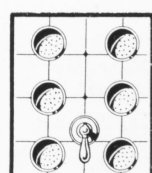
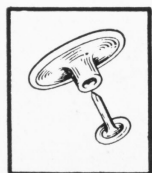
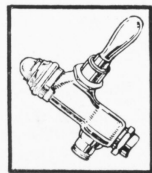
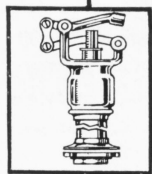
Since 1802, when the present Scovill Manufacturing Company was begun as a humble button shop, the organization has continually increased in size and scope. This growth has been progressive; step by step. While buttons were originally the only product manufactured, it was not long before a rolling mill was built and operations widely increased.

Soon the product was diversified by the manufacture of lamps and other brass articles, and a machine constructed to cover buttons with cloth opened up a large field of manufacture for modern dress buttons, fasteners, etc.

By 1835 the plant of the Scovill brothers was a thriving one and rolled brass, brass wire and a number of manufactured products were being turned out.

When the company became incorporated, in 1850, as Scovill Manufacturing Company, the merger included not only the brass mill and the button shop, but also a patent butt hinge factory which had already been established and operated in a neighboring town. The popularity of kerosene oil as a lighting fuel led to the company's designing the well-known "Queen Anne" burner, and shortly after 1860 the company entered largely into the manufacture of German silver and became famous for its plating of copper with gold, silver and platinum.

Some time before the company had begun its issue of business coins and medals, examples of excellent die-work. At the beginning of the Spanish War Scovill received government contracts to make brass shells for rifles, brass parts for the elementary type of time fuse in use at that period, cupro-nickel bullet jackets, and shell cases, and in addition, the production of loaded and assembled shrapnel shells—all of which gave its artisans very valuable experience that



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Phosphor Bronze

in Between

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ts. s expanded greatly the war activities, to the manufacture variety of manu-

rticles. cope of Scovill ac-

f its products. : brass and bronze nickel silver sheet,

Admiralty condenser tubing; high speed screws in brass and

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d parts; cartridge plates; eyelets and ration discs; plan-

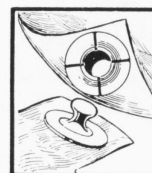
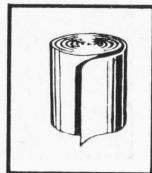
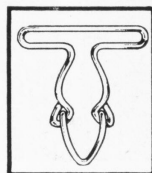
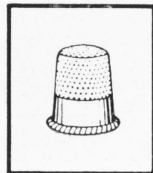
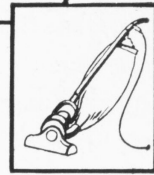
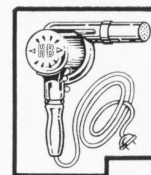
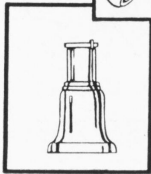
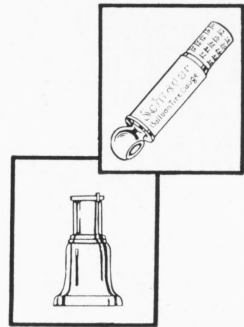
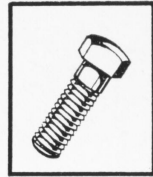
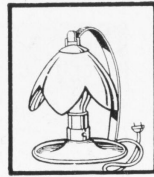
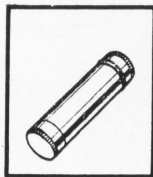
containers; shaving containers; cream igarette cases; hub essories; brass cast-

uttons.

Yet the mere listing of Scovill-made products does not begin to give the complete picture of the operations of this organization. In the first place it is almost impossible to list everything that can be manufactured, for Scovill can make practically anything that can be made of metal—and that includes products in copper, brass, bronze, nickel silver, aluminum, steel and other metals. And in addition, such a bare presentation takes no cognizance of the development work carried on in Scovill's well-equipped and thoroughly manned research laboratories.

In these laboratories expert scientists and engineers have developed under conditions of precision 160 alloys, one of which will meet any ordinary requirement. These alloys are constantly being improved and new ones developed. Many Scovill customers bring their manufacturing problems to these engineers and scientists—problems having to do with proper alloy or the efficiency of certain metals—and receive invaluable aid in solving them. Problems of production, of design, of construction, of color—almost every conceivable aid is rendered by the complete organization that is the Scovill Manufacturing Company. And often, Scovill's aid is given unsolicited to its customers. In a rapidly changing industry such as, for instance, the radio industry, Scovill engineers keep abreast and slightly ahead of the market trends in design and construction, and set manufacturers who use Scovill-made condensers are assured not only of a quality product always, but of a product that is in keeping with the very latest developments in the industry.

Thus does Scovill steadily practice the principles of cooperation which have been responsible for its continued growth over a period of more than a century and a quarter.



From Pins to Phosphor Bronze *And 1001 Items in Between*

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During the World War Scovill's output included: (1) Over 21 million time and combination fuses, completely assembled. (2) Over 19 and one-half million artillery shell cases made in finished form. (3) 4 and one-half million percussion fuses completely assembled. (4) Approximately two billion brass cups for cartridge shells and over 443 million cupro-nickel cups for bullet jackets.

In this period the plant was expanded greatly and with the cessation of the war activities, Scovill immediately turned to the manufacture of mill products, and a great variety of manufactured parts and finished articles.

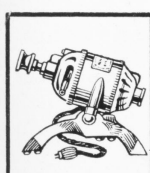
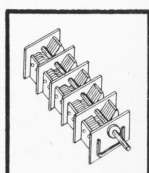
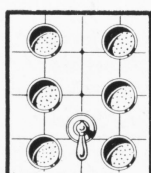
Some indication of the scope of Scovill activities is given by a listing of its products.

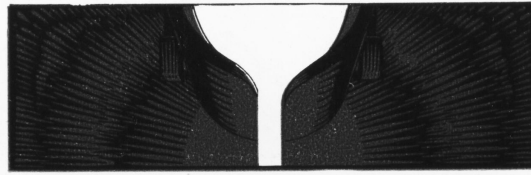
In stock products include: brass and bronze sheet, rod, wire and tubing; nickel silver sheet, rod and wire; cup drawn admiralty condenser tubing and special muntz tubing; high speed brass rod; cap and machine screws in brass and steel; buttons and button attaching machines; suspender and overall loops, slides and buckles; snap fasteners for all purposes; butts and hinges; Queen Anne burners; sewing thimbles; small motors; electric vibrators; vacuum cleaners; drink mixers and soda fountain appliances; closet tank fittings; shower fittings and trap-pings; plumbers' brass goods; paper clips and pins. Made to order: electrical wiring supply parts; radio condensers and parts; cartridge cups; clock bridges and plates; eyelets and grommets; ferrules; identification discs; plan-chets; vanity cases; lip stick containers; shaving soap boxes; metal boxes and containers; cream jar covers and bottle tops; cigarette cases; hub caps; parts for motor car accessories; brass cast-ings and forgings; uniform buttons.

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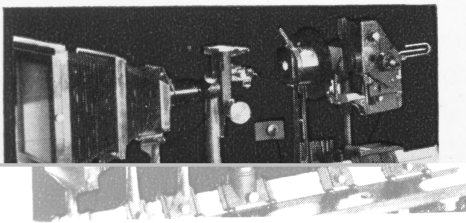




THE SCOVILL MELTING POT

ICE CREAM: Great quantities of Copper are used annually by the ice cream producers in America. Copper tubing, pipes, troughs, pans and freezers are specified by one of the largest ice cream manufacturing companies in this country as a special safeguard towards purity and cleanliness in its ice cream.

CHEMISTRY AND TEST: The Scovill Chemistry and Test Department has recently been equipped with a new metallurgical microscope. The apparatus was built by E. Leitz, Inc., and is one



of the finest of its kind. With this new optical instrument photographs can be taken at magnifications of from 10 to 8,500 times.

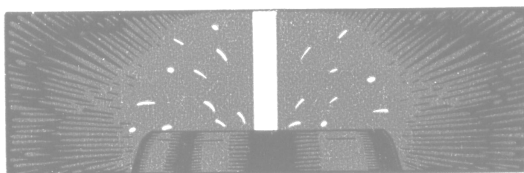
FISH SCALER: A special machine made of one of the copper alloys has been developed to help keep up with the world's demand for fresh fish. One man, using this machine, can scale about 40 fish per minute—regardless of their size—compared to the average of three fish per minute by hand. Thus is

copper, "the world's most useful metal" utilized in a machine that will scale approximately 50,000 pounds of fish a day.

TRANSFORMERS: Four of the largest electric power transformers ever built, recently constructed by the Westinghouse Electric and Manufacturing Company, contain, together, sixty tons of Copper windings for cores and coils. There are more than thirty-two miles of Copper wire, weighing fifteen tons, in the windings of each transformer. Other uses of Copper and Brass in these four units are: Copper wire and Brass and Copper terminals in the electrical circuit; heavy T-beams of cast Bronze to brace the coils; bushing flanges of cast Bronze,

used on the cover to prevent high magnetic losses which would occur if other materials were employed; and terminals containing Copper and Brass.

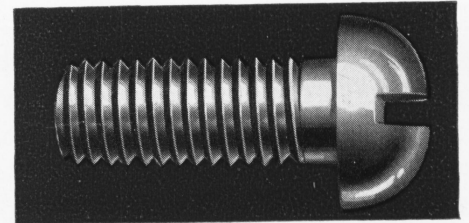
GRINDING: Demand for greater production, refinement and flexibility in the grinding machine and the development of modern abrasive materials and grinding methods is responsible for the enormous increase in the personnel



of the Scovill Grinding Department. Twenty years ago this department employed six or eight men. Today this number has been increased to one hundred.

EMPLOYEES: There are 23 active employees in the Scovill Organization who have seen forty-five or more years of continuous service with the company.

CAP SCREWS: A stock of nearly 15,000,000 Cap Screws at



Waterbury, Chicago, Newark and

San Francisco assures Scovill customers of prompt service in filling orders for standard sizes.

PATENTS: Recent statistics, issued by the Commissioner of Patents, disclose the fact that 42,251 patents were granted in 1929. It is interesting to note that 1,121 patents were issued to citizens of Connecticut, which state ranked second in the number of patents granted per capita. Three other New England States stand among the first ten with respect to per capita honors: Massachusetts, New Hampshire and Rhode Island.

Swinging Around the Circle with Scovill

No. 7 San Francisco



Gabriel Moulin from Galloway

“**O**PEN wide your Golden Gate, California where I come” ran a popular song of a few years ago. Merely as a matter of information it may be stated that the Golden Gate is always wide open; the sun-kissed shores of California form a hospitable land, and native as well as adopted sons are always ready to dispense a cheerful greeting to newcomers. The far-famed California hospitality is not a myth but an actual fact.

Lest it be assumed too readily that California is a land of golden promises and sun-kissed fruits alone, however, consider the fact that San Francisco, principal city of the state, had, in 1927, 2,092 industrial plants with a payroll of \$61,133,952 annually and turned out \$429,728,194 worth of manufactured products. The city ranks second only to New York in ocean-going commerce and leads every city west of Chicago in bank debits, resources, and deposits. It is third to New York and Chicago in stock exchange transactions and leads the west as an insurance center. Rest assured that California and San Francisco are of extreme importance in the commercial, industrial and financial world of today.

Los Angeles Covered Next Month

The seventh stop on the swing around the Scovill Circle is the San Francisco Office of the Scovill Manufacturing Company, located at 434

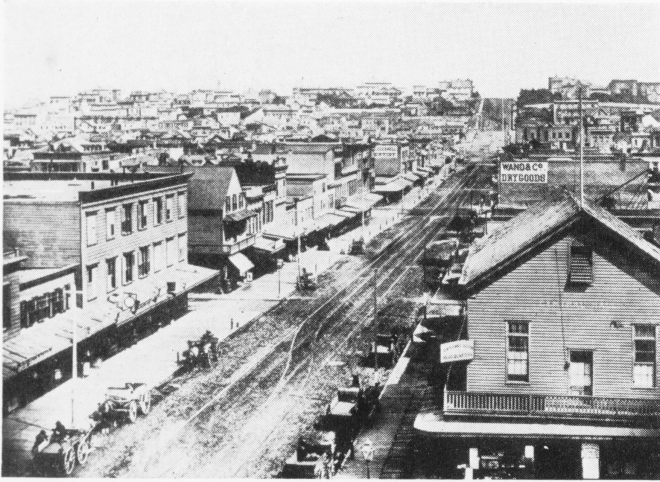
Brannan Street. To be concisely correct, this seventh stop should include also the Scovill Office in Los Angeles, for the Los Angeles Office together with the San Francisco Office is under the direction of Mr. George D. Engle, District Sales Manager for the Western Territory. But each of these branch offices is an important link in the Scovill chain, and since each of them is rich in historical interest, they will be treated separately. Readers of the “Scovill Standard” are to have the privilege of visiting with us San Francisco this month and Los Angeles next month.

San Francisco an Old City

Although the discovery of gold in California in 1848 and the subsequent rush of prospectors to that section of the country is directly responsible for the present growth of San Francisco, the town actually antedates our present government.

In July, 1769, Don Gaspar de Portola, governor of Lower California, left San Diego in his search for Monterey. Several months later members of his little band discovered San Francisco Bay and the tip of the peninsula whereon the city is situated.

In 1775, Don Manuel Ayala sailed through the Golden Gate in the “San Carlos,” a packet of the Spanish Royal Navy and the first vessel to sail through the Golden Gate.



An old view of Second Street from Market. In this neighborhood the Scovill office and warehouse was opened in 1925, and the present location is not far from this section which was at one time an exclusive residential district.

A land expedition, commanded by Col. Juan Bautista de Anza, arrived on the peninsula in 1776 and established the Presidio and the Mission Dolores. The following year Padre Junipero Serra, father of the California Missions, arrived. With the establishment of the Presidio and the subsequent establishment of the pueblo of Yerba Buena, began the San Francisco of today. Thus, San Francisco, from the date of its founding, is as old as the Liberty Bell and older than our present form of government.

In 1806 Russia made a faint attempt to establish a settlement and lay claim to the territory, and in 1811 an outpost was established by Count Rezanov some miles north of the city. Things continued peaceably, however, until war was declared by the United States on Mexico on May 13, 1846.

On July 9, 1848, Captain John B. Montgomery of the U. S. Navy, arrived with the sloop-of-

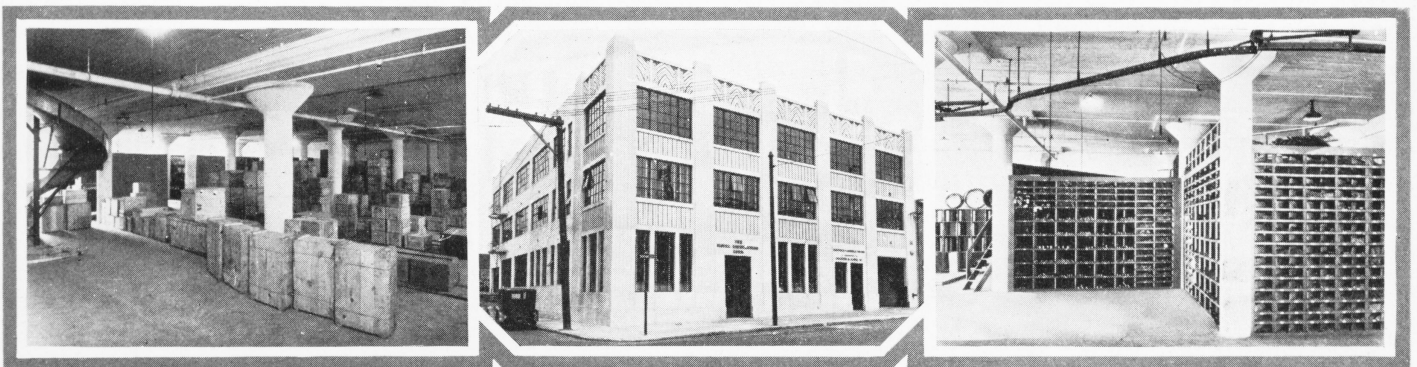
war "Portsmouth" and raised the American flag on the plaza, known today as Portsmouth Square. In 1850, California was admitted to the Union.

The discovery of gold in 1848 at Coloma, El Dorado County, California, started a frenzied rush of men from all over the world. In the influx of settlers and prospectors that followed, New England may claim a place in San Francisco heritage, for many of the Argonauts of the gold rush days were from the New England states. Yankee seamen, too, were among those who joined in the mad scramble for the precious metal. Clipper ships, unmatched masters of the sea, made the perilous voyage around the Horn with cargoes and passengers from Boston. During the first half of 1850, 200 square rigged vessels came into the port and early the next year some 700 others arrived, many of which were abandoned by the crews in the rush for gold.

San Francisco Developed Overnight

At that time San Francisco was a city of some 20,000 people with three daily newspapers, seven churches, two theatres and a jail. Commercially the city leaped to the importance of Philadelphia. During this period San Francisco experienced her darkest days. Crime was rampant. Robbery and violence became so common that in 1851 a Vigilance Committee of 5,000 men was formed and established law and order by driving the criminal element from the town.

After the decline of gold production, between 1855 and 1860, San Francisco came into her own as the Pacific coast's main port. Through world trade the city grew substantially. It developed into a strong banking center with the creation of manufacturing plants, foundries, and the de-



Scovill's San Francisco Office and Warehouse, and two interior views. Left, portion of second floor showing part of Oakville-American Pin Division Stock. Right, mill products stored in racks on first floor.

velopment of railroads and transportation facilities. By 1900 San Francisco was a city of 342,782 people.

But once more the city was to receive a severe setback. On April 18, 1906, it was laid in ruins by a fire. The handicap brought about by this catastrophe was soon overcome, however, and the ruins were but a foundation for what was to be a bigger and better San Francisco. The spirit and courage of its citizens were not dampened and the work of reconstruction was soon begun.

New City Arose Phoenixlike

Once again disaster was to be turned into a stepping stone. Today there are few traces of the terrible holocaust, and due to the comparative recent date of construction of its buildings, San Francisco has been called the most modern city in the world. Certainly its up-to-date business and residential sections are as typically representative of modern America as may be found in the United States.

Recently the Scovill Manufacturing Corporation reduced the number of remaining traces of the San Francisco fire by one by having erected on long lease a three-story office and warehouse building on the site of one of the early residences left in ruins. The Scovill Office in San Francisco was begun several years before this, however. After a period of representation through the Engle-Reid Company, Scovill decided to open its own offices on the Pacific Coast.

The office was opened on January 1, 1925, at 651 Folsom Street and Mr. Geo. D. Engle was appointed District Sales Manager for the West-



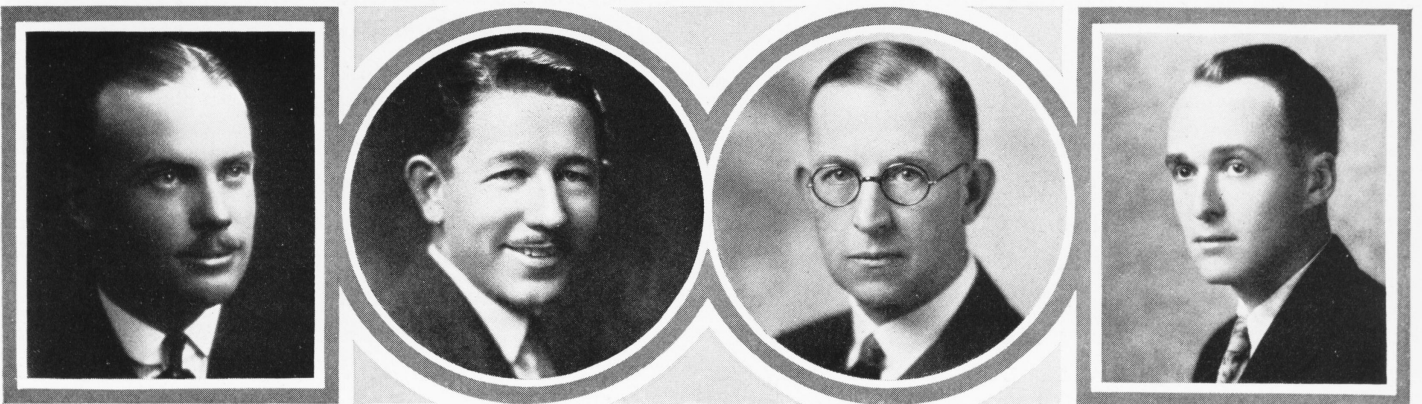
San Francisco's financial district skyline. In the background may be seen Yerba Buena Island and across the bay the Berkeley Hills.

ern territory. These offices were jointly occupied by one of its subsidiaries, then the American Pin Company Division, now known as the Plumbers' Brass Goods Division. Mr. Kenneth M. Reid was appointed District Sales Manager of that division in the Western territory.

Increased business in the various lines soon found the Folsom Street location to be inadequate and in November, 1929, the organization moved to its present quarters at 434 Brannan Street, where every modern facility has been installed to increase and maintain established Scovill service.

Mr. Herbert B. Schalk, who joined the San Francisco organization in November, 1927, devotes his time to the furthering of the Scovill interests in the sale of Mill Products, Manufactured Parts, etc. The functions of the San Fran-

(Continued on page 20)



Scovill's Pacific representatives: Mr. George D. Engle, District Sales Manager for the Western territory, and Mr. Kenneth M. Reid, District Sales Manager of Plumbers' Brass Goods Division. Mr. Charles R. Barry of the company which represents Oakville-American Pin Division in San Francisco. Mr. L. J. Eade of Doliver & Bro., Western representatives of Scovill's Button and Fastener Division.

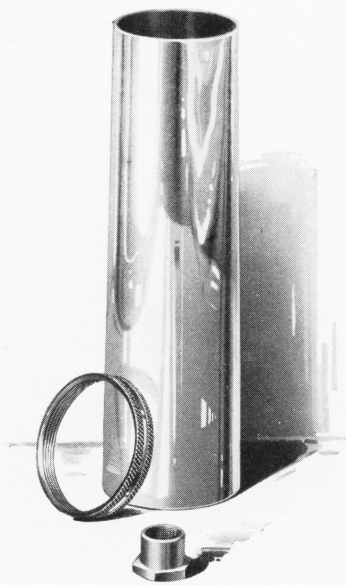
VOICE-WRITING WITH THE EDIPHONE

(Continued from page 3)

time on the Ediphone, further improved it and added advancements which enabled it to keep up with the methods and progress of modern business.

Every detail in design that has been needed to satisfy the business office has been developed and carried out. Correction systems were made practical and standardized. Wooden equipments were supplanted by steel. Recording and reproduction were made more practical and comfortable for the business office. But the greatest impetus to the general use of voice-writing was Edison's introduction of a special universal motor that would operate quietly on alternating as well as direct current. More than 90% of the territory of our country employs alternating current. When this power problem was solved in 1908, voice-writing began its greatest popularity.

Today, of course, the Ediphone is a well known and widely used business appliance. All over the world, in every important city, there are



The above cylinder—used on the Shaving Machine—is one of the Ediphone parts made of Scovill Brass. The bakelite mouth-piece of the Ediphone Speaking Tube screws into this Brass ferrule. The Brass nut is another part made of Scovill Brass which has been found most satisfactory in meeting Ediphone requirements.

local Ediphone Service Organizations which stand ready to serve the users of the Ediphone.

The stenographer's Ediphone is installed at her desk. She types directly from the executive's voice. She simply writes as if he were standing at her desk dictating directly to her. Among other conveniences, she is provided with electric keys at the front of her typewriter, to be touched with the thumbs like the space bar in stopping or repeating the voice.

It is very doubtful that any producing organization in the world uses more rigid inspection methods than the Edison plant. Every process, every type and lot of raw material entering into the manufacture of the Ediphone must pass frequent scientific and practical tests. Mr. Edison himself not only demands this procedure, but often participates in it by visiting the particular research

sections where it is carried out.

Needless to say, the parts of the Ediphone which are made of brass are vitally important to

(Continued on page 19)



ECONOMY AND THE MODERN ENGINEER

(Continued from page 5)

do the job. The real engineer buckles down to the task of turning out a good car to the required limits, and with the aid of the production manager and the purchasing agent does it.

How To Get Best Results

It is evident that the best results can be obtained only by giving full faith and credit to the views of the other man, by cooperating in fact as well as theory with the heads of the other departments. This is what the modern engineer has learned to do, and the production man and the sales chief and the purchasing agent have learned to do likewise. It is purely and simply a question of "playing ball" together for the ultimate good of the organization.

It has been my experience that about 99 and

9/10 per cent of all divergent views are caused by failure to obtain and analyze full and complete facts regarding the subject under discussion. When a buyer tells me that an engineer has released something which in his opinion unduly increases the cost of a car and that he could get no place in a discussion of the matter with the engineer, I generally find that the buyer did not know all the facts in the case. If he did know the facts he had not conveyed them to the engineer. In either case, when the buyer goes thoroughly into the matter, he usually finds that either he is wrong, or the engineer when properly approached, would change his release. Certainly such things work themselves out when discussed coolly and intelligently by modern engineers and buyers, who are working for a common cause.

The primary objective of the early automotive

VOICE-WRITING WITH THE EDIPHONE

(Continued from page 18)

its efficient and durable operation. Take, for example, the brass base for the cylinder on the shaving machine, illustrated on page 18. Unless this were of thoroughly dependable quality and absolutely to specifications, the Ediphone could not be expected to give either satisfactory or enduring service.

Scovill-Made Items

The brass cylinder base is only one part among many which Scovill Manufacturing Company furnishes to the Ediphone Company. Other indispensable parts made of Scovill brass are ferrules for the mouth-piece of the speaking tube, nuts, screws, pins, gears, and the like.

Before the Ediphone Company decided to use Scovill-made brass in the Ediphone, it was tested in every conceivable way in the Edison laboratories. It passed every test with flying colors. And in actual use for the manufacture of these parts, it has borne out every superiority indicated in the tests.

Scovill mill products have proved completely dependable and have contributed in no small way to the mechanical and practical efficiency of the Ediphone. Once more copper and its alloys, fabricated to the high standards of the Scovill Manufacturing Company, have proved of definite benefit to mankind.

ECONOMY AND THE MODERN ENGINEER

(Continued from page 18)

engineer was to produce a vehicle that would run. Then the company would endeavor to secure capital enough to produce these cars in sufficient quantity to meet sales demands. The entire invested capital of the company sometimes did not exceed the cost today of one first class dynamometer. They had no adequate facilities, no adequate tools, and such a thing as a laboratory was unheard of.

If there were twenty ways to secure a result and the engineer attained it in the most expensive way, he was still a good engineer. For the engineer's function was merely to secure a result. That isn't true any longer, however. When production facilities were found to exceed demand the engineer was faced with a new problem. The

Quick ~ Courteous Service



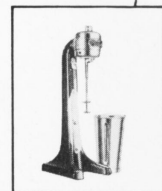
Pleasing PATRONS at the Fountain

The quality and quickness of the service received at modern soda fountains is in no small way responsible for the popularity they enjoy.

Operators vie with one another for the favor of the public, and leave no improvement untried which promises to please patrons.

The Gilchrist Company, a subsidiary of the Scovill Manufacturing Company, has for years cooperated with soda fountain owners to help them serve the public better. Today they supply a host of fountain necessities designed to aid in serving patrons with greater speed, attractiveness, and economy.

Under the banner "Better than need be" goods the Gilchrist Company manufactures, and sells through jobbers to thousands of confectionery and drug stores the country over the following fountain necessities: cone dispensers, glass holders, flat ware, ice chippers, picks, planes, scoops, shredders, ice cream dishes, ice cream transfer ladles, lemon squeezers, strainers and the well known combination—the Gilchrist Electric Mixer and the Gilchrist Electric Hot Cup.



“A copy of the Gilchrist catalog of “better than need be” goods will be sent to you for the asking.”

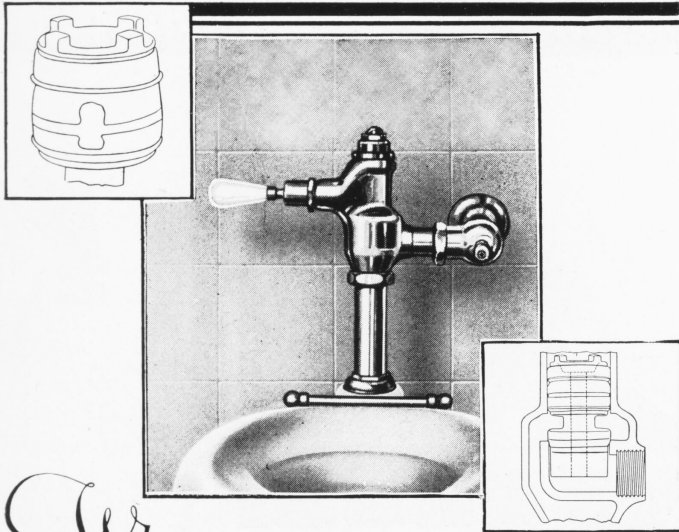
A SCOVILL PRODUCT



THE GILCHRIST COMPANY

NEWARK SUBSIDIARY OF NEW JERSEY SCOVILL MANUFACTURING COMPANY

GILCHRIST MAKERS OF “Better than Need be” Goods



Why
SCOVILL FLUSH VALVES
*Give Lasting,
 Efficient Service*

A cross section of the Scovill Flush Valve shows that it is constructed to give the maximum efficient service.

The keynote of its entire makeup, is simplicity. There is only one working part, with the exception of the handle, and that is the plunger. This plunger has a long bearing surface snugly fitted in the cylinder walls, and operates quietly.

The Scovill Flush Valve is self lubricating. It never clogs, because it is constructed to reject foreign matter which may interfere with the free passage of water through it. Regulation of the length of flush is controlled from the outside, without shutting off the water supply; a turn of a slotted screw which is secured by a lock nut on the cap, and the work is done.

The Scovill Flush Valve has proved that it is capable of operating without attention, and without servicing, or replacement for many years. Its simplicity of construction has had favorable comment from architects, sanitary engineers, and builders the country over.

Ask your sanitary engineer or plumber about tarnish proof Chromium Plated Scovill Flush Valves when you discuss your plumbing needs with him.

FLUSH VALVES SHOWERS
 BATH FIXTURES
 MISCELLANEOUS BRASS GOODS

Scovill Manufacturing Company
PLUMBERS' BRASS GOODS DIVISION
 WATERVILLE, CONN.

engineer found himself up against the task of designing a better automobile than his competitor and in so doing, designing one, the component parts of which could be manufactured and purchased without economic loss.

I believe that these two duties rest more heavily upon the automotive engineer today than at any other period in the history of the industry. The engineer of tomorrow will be faced by these same demands with even greater severity. He must design for economy.

SWINGING AROUND THE CIRCLE WITH SCOVILL
 —SAN FRANCISCO

(Continued from page 17)

cisco organization are contributed to by Miss M. Brunner, Miss J. Alfonso, and Mrs. C. P. Anderson, as well as by R. Sprague and M. Rad-dich, who are ever ready to quickly dispatch customers' orders and maintain the standard of service for which Scovill is noted.

Scovill Storage Warehouse and Office

The first floor of the building is devoted to storage of the Main Plant materials, Brass, Bronze and Nickel Silver in Sheet, Wire, Rod and Tubing. Adjoining the warehouse, are the Scovill offices and those of the Plumbers' Brass Goods Division. The second floor offices are occupied by Chas. R. Barry Co., Pacific Coast representatives of the Oakville-American Pin Division. The products of this division are warehoused in an especially provided space on the second floor. The third floor is set aside for the storage of materials of the Button and Fastener Division, the Gilchrist Company, and the Hamilton Beach Company—the two last mentioned being subsidiaries of the Scovill Manufacturing Company.

The Button and Fastener Division of Scovill Manufacturing Company is represented in the Western Territory by Dolliver & Bro., located at 619-621-623 Mission Street, San Francisco. Dolliver & Bro. is one of the oldest and best known firms in California. It was opened on May 12, 1868 by Thomas and Samuel Dolliver, two brothers who had left their New England home to wrest a fortune from the new El Dorado. Although these brothers did not find gold in the new territory they did establish a business that has lived as a monument to their industry and integrity.

Dolliver & Bro. have the confidence of their customers and their business has grown to one of the largest in this line in the United States and covers Australia, Mexico, Central and South America, Japan, China, India and Siberia. It was founded on strict integrity and built up by a policy of good faith and fair dealing to all. They are able representatives for this important division of the oldest brass manufacturing company in America.

Splendid Outlook

In its new quarters, the San Francisco Office of Scovill Manufacturing Company under the direction of Mr. Engle, confidently awaits the future. A population of 1,500,000 is within a radius of fifty miles of San Francisco, and the estimated 1930 population of the city is placed at approximately three-quarters of a million. San Francisco's waterfront is lined today with ships destined for every port in the world and flying the flag of every maritime nation; the peaceful presidio where Spanish soldiers once fought their game-cocks, and mission fathers tolled the angelus is bustling with commercial activity; and out beyond, at the entrance to the mighty Pacific, the Golden Gate still stands, serene and unchanged, wide open and welcoming.

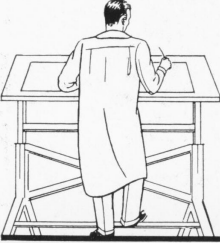
RED METAL DISCOVERED IN DARKEST AFRICA

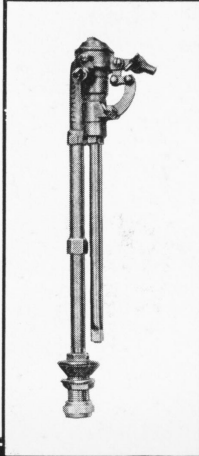
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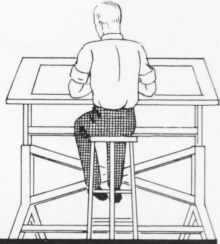
hold possessions were gathered into one bundle and the woman carried it on her head.

The first difficulty, then, was to make these natives work. To do so the government placed a "hut tax" of \$2.50 on each adult male native, and this had to be paid in cash. There was only one way for them to obtain cash. They had to go to work for the white men. But even now the problem is not wholly solved, for the native will usually work only about six months of each year. The wages—for the "raw" native—amount to about \$2.50 a month at the start plus his food. And even though he has learned to covet the cheap goods of the traders, he is usually able to earn enough in six months to pay his tax and buy some of the kaffir truck from the traders. He then goes back to his village to do nothing for the rest of the year.

M-VB
M-VB
M-VB







The M-VB No. 1 Elevated Ballcock designed and constructed primarily for replacement work.

M-VB CLOSET TANK FITTINGS


All M-VB Closet Tank Fittings are designed and constructed to serve well, and wear well and long.

The work they do depends upon the need. The M-VB No. 1 Elevated Ballcock illustrated above is used primarily for replacement work. The No. 17-A Elevated Ballcock is especially adapted for use in high pressure territories, or where an exceptionally quiet ballcock is required. Other types of elevated M-VB Ballcocks serve definite requirements, and include the Back Supply Ballcock for use in a low tank which has a back supply connection. The No. 60 and No. 55 Submerged Ballcock, and the No. 4 High Tank, Top Supply Ballcock, all meet existing needs.

All M-VB Ballcocks are easily and quickly installed because they are standard, and made for the need. For over twenty years they have been the choice of users and plumbers because they combine correct design, select materials and skilled workmanship, assuring durable, dependable, economical service.

The Morency-Van Buren Plant, Sturgis, Michigan, also manufactures M-VB single and double acting levers, tank valves and spuds; and M-VB hinges in various styles. All genuine M-VB Valves, Levers and Ballcocks have the Letters "M-VB" cast on them. Insist on M-VB for your needs.

A SCOVILL PRODUCT



Scovill Manufacturing Company

MORENCY-VAN BUREN DIVISION

Sturgis Michigan

M-VB
M-VB
M-VB



EVERY PIN PLAYS a PART

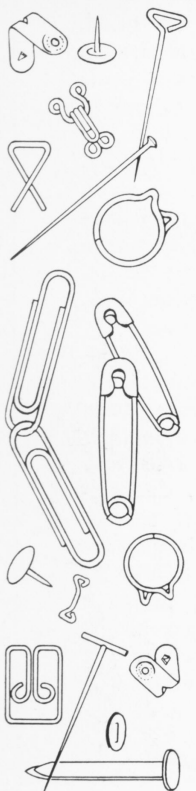
Every pin produced by the Oakville-American Pin Division of the Scovill Manufacturing Company plays a part in business throughout the world.

And every pin, from head to point, is in a class by itself because it is cut out for the special part it plays.

There is a heavy Oakville-American Pin for papers and coarse materials. The medium weight pin is for ordinary use. The slender elegant pin is for Milady's silks and satins. The rust-proof brass pins have a part all their own as do the adamantine steel pins.

And this division of the oldest brass fabricating plant in America also supplies Safety Pins, Hooks and Eyes, Thimbles, Snap Fasteners and a complete line of paper fastening devices, stocked by office supply dealers in all parts of the globe.

You'll like the way Oakville-American products perform in your business.



But the heart of the copper belt in Africa is rapidly changing. The diligence and perseverance of the pioneers have discovered a number of mines with huge potential futures. There are Bwana M'Kubwa, Nkana, Roan Antelope, Chambishi, Mufulira, N'Changa, Mindola, Baluba, and several others. At each of these town-sites are being laid out, great power plants being erected; concentrators, shops, smelters, stores, streets, schools, hospitals are under construction.

Three new railroads have been laid down and put into operation and others are in the process of construction. Giant steel structures, bridges, automobile roads, service stations, telephone lines, hotels, film theatres, clubs and so forth are springing up everywhere. Millions of dollars are being expended annually.

Airplane Aids Development

The airplane is playing a large part in this development. Some 20,000 square miles of country already has been surveyed and mapped by aerial photography and a further 60,000 square miles is being surveyed at present.

The first airplane that took off from N'Changa was a memorable event. Thousands of natives had flocked to the air field. They had never seen such a thing before. When the engine burst into a roar and the machine started off across the field, men shouted and women screamed. Almost instantly they vanished into the forests. Soon, however, they returned, their fear gone. They have come to accept it as some more of the magic of the white man. Their reception of the radio was similar. Amazed at first, they later accepted it as white magic and have given radio throughout the land the fanciful name "Nsambo ya Mpepo"—"Wire of the Wind."

It is said that in a few more years the district will be producing more than 1,000,000,000 pounds of copper a year. But the world can absorb it. Since the world war the world's consumption of copper has steadily increased each year. This is due not only to the rapid advancement and expansion of the electrical industry, modern scientific discoveries and so forth, but also to the fact that the population of the world is steadily increasing. Especially is this true in the large cities and industrial centers where

A SCOVILL PRODUCT



OAKVILLE-AMERICAN PIN DIVISION
Scovill Manufacturing Company
WATERBURY, CONN.

copper is used far more than in the rural and less populated areas.

Demand for Copper Increases

In 1928 the world production of copper was 1,916,471 tons of 2,000 pounds. By 1929 production increased to 2,136,021 tons. On the basis of the increase in consumption shown steadily during the last few years, the demand for copper by the middle of this decade should reach, theoretically, some 3,000,000 tons. The immense copper fields discovered in Africa should do much towards supplying the increased tonnage. Since 1922 the production of copper in Africa has increased nearly three times. In 1922, 58,219 tons were taken from Africa. In 1929 the dark continent produced 142,599 tons.

It is not at all surprising that Africa should be rich in red metal. Rich mineral fields have been known to exist there for some time. These consist of gold and diamonds in South Africa, Southern Rhodesia and the Gold Coast; of gold at Kilo; of diamonds, copper, zinc and lead in Northern Rhodesia and Katanga; tin and platinum in the Transvaal; chromium in Southern Rhodesia; and important phosphate deposits along the Atlas Mountains. The only productive African oil-field is on the coast of the Gulf of Suez, but oil shale is known in South Africa, Nigeria and elsewhere; rich coal-fields are worked in the Transvaal, Natal and Southern Rhodesia; and coal also occurs in Tanganyika Territory, Nyassaland and Nigeria. Iron ores are widespread, as are also deposits of bauxite and manganese, which are most extensively worked on the Gold Coast. The chief African mica mines are in Tanganyika Territory.

With this array of mineral wealth it is not surprising that Africa should contain large quantities of copper. On the contrary it would have been surprising had not this most useful metal been discovered there.

Africa's ancient history is shrouded in mystery. The early records of that continent and its people are comparatively unknown. It is to be hoped, however, that copper will be instrumental in opening up this vast country to the mutual benefit of the "Dark Continent" and other countries of the world.

Servants that ALWAYS SERVE

Day by day in many ways and in all parts of the home, Hamilton Beach products serve faithfully and efficiently to lighten labor.

The Hamilton Beach Vacuum Cleaner does the cleaning chores. Because of its triple action service, it has an insatiable appetite for dust and dirt which hibernates in long and short nap rugs. This widely used labor saver is guaranteed for two years.

The Hamilton Beach Motor, a powerful little worker for its handy size, turns sewing machines, and with its attachments does the kitchen mixing, silverware polishing, knife sharpening, and fan turning.

The Hamilton Beach Vibrator and Hair Dryer act as beautifiers and health aids for all members of the household. And both of these famous products because of their efficiency and economy of operation, are used by professional people the country over.

Hamilton Beach Products are on sale at leading stores throughout the country. As household helps that serve faithfully and well to lessen home labor, they are worth investigating. Have them demonstrated to you by your local agent.

Hamilton Beach

MANUFACTURING COMPANY

Racine Wisconsin

SUBSIDIARY OF

Scovill Manufacturing Company



A SCOVILL PRODUCT



SCOVILL MANUFACTURING COMPANY, Waterbury, Conn.

The Oldest Brass Company in America and One of the Largest in the World

EXECUTIVE OFFICERS

E. O. Goss.....President and General Manager
J. H. Goss.....Vice President and General Superintendent
C. P. GOSS, JR.....Vice President and Supt. of Mill Depts.
G. A. GOSS.....Vice President
L. P. SPERRY.....Treasurer and Comptroller
W. M. GOSS.....Secretary
F. J. GORSE.....Assistant Treasurer
B. P. HYDE.....Assistant Secretary
T. B. MYERS.....Assistant Secretary

BRANCH OFFICES - WAREHOUSES - FACTORIES

CHICAGO, ILL.
1229 West Washington Boulevard.
Scovill Manufacturing Co., George S. Lemon, District Manager.
Plumbers' Brass Goods Division, and Morency-Van Buren Div., C. A. Baldwin, District Sales Manager.
Oakville-American Pin Division, C. W. Anderson, Sales Office Manager.
Hamilton Beach Mfg. Company, K. C. Bonde, Representative.
(Office and warehouse. Stocks carried of brass mill products, fasteners and cap screws, as well as products of Plumbers' Brass Goods Division, and Oakville-American Pin Division.)
900 Franklin St.
A. Schrader's Son, Inc., Sales office and warehouse.
A. E. Fay, Manager.

NEW YORK CITY
280 Broadway.
Scovill Manufacturing Company, George T. Power, District Manager.
Plumbers' Brass Goods Division, and Morency-Van Buren Div., L. S. Rothwell, District Sales Manager.
Oakville-American Pin Division, E. F. Brown, Sales Office Manager.
Hamilton Beach Mfg. Company, H. F. Shotten, Representative.

ATLANTA, GA.
95 Fairlie Street.
Scovill Manufacturing Company, D. W. Copeland, District Sales Manager.
Plumbers' Brass Goods Division, and Morency-Van Buren Div., H. J. Mason, District Sales Manager.

PHILADELPHIA, PA.
Franklin Trust Building, 15th and Chestnut Streets.
Scovill Manufacturing Company, Alfred C. Maule, District Sales Manager.

BOSTON, MASS.
80 Federal Street.
Scovill Manufacturing Company, Harry J. Lehman, District Sales Manager.
Plumbers' Brass Goods Division, and Morency-Van Buren Div., W. M. Hall, District Sales Manager.
170 Summer Street
Hamilton Beach Mfg. Company, H. B. Perkins, Representative.

PROVIDENCE, RHODE ISLAND
183 Public Street.
The Scovill Manufacturing Corporation, Frank J. Collins, Representative.
A branch of the Boston office.
(Office and warehouse. Stocks carried of brass mill products.)

TRENTON, NEW JERSEY
Muirhead and Ott Streets.
Plumbers' Brass Goods Division, Morency-Van Buren Div.
(Office and warehouse. Stocks carried of brass tank fittings.)

CINCINNATI, OHIO
49 Central Avenue.
The Scovill Manufacturing Corporation, F. L. Wiggers, District Sales Manager, Office and Warehouse. Stocks carried of Brass Rod.
Under general supervision of the Chicago office.

CLEVELAND, OHIO
1213 West 3rd Street.
Scovill Manufacturing Company, W. K. Wellman, Representative.

DETROIT, MICHIGAN
General Motors Building.
Scovill Manufacturing Company, Edward McCann, District Sales Manager, Room 7-153.
A. Schrader's Son, Inc., R. W. Davis, Mgr. Room 12-221.

SAN FRANCISCO, CALIFORNIA
434 Brannan Street.
The Scovill Manufacturing Corporation, George D. Engle, District Sales Manager.
Plumbers' Brass Goods Division and Morency-Van Buren Div., K. M. Reid, District Sales Manager.
Oakville-American Pin Division, Charles R. Barry Co., Representatives.
(Office and warehouse. Stocks carried of brass mill products.)
926 Howard Street
Button and Fastener Division, Dolliver & Brother, Representatives. Branch at Los Angeles. Service Branches, Portland, Oregon, Seattle, Wash.

LOS ANGELES, CALIFORNIA
2261 East 15th Street.
The Scovill Manufacturing Corporation, Ellsworth D. Goldsmith, Representative.
A branch of the San Francisco Office.
(Office and warehouse. Stocks carried of brass mill products.)
1151 So. Broadway.
A. Schrader's Son, Inc., of California, John Hoerger, Pacific Coast Manager.

AKRON, OHIO
705 Johnston St.
A. Schrader's Son, Inc., of Ohio, M. C. Stevens, Mgr.
(Factory, warehouse and Sales Office.)

TORONTO, CANADA
334 King Street, East
A. Schrader's Son, Inc., S. A. Howell, Mgr.
(Factory, warehouse and Sales Office.)

LONDON, ENGLAND
26-29 New Street, Westminster, S. W.
A. Schrader's Son, Inc., F. H. Gerrans, Mgr.
(Assembling plant, warehouse and Sales Office.)

PARIS, FRANCE
91 Bis Avenue de Terne
A. Schrader's Son, Inc., of France, James Sinstadt, Mgr.
(Assembling plant, warehouse and Sales Office.)

BERLIN, GERMANY
Reichsstrasse 89-111, Berlin Charlottenburg 9.
A. Schrader's Son, Inc., Otto Schober, Sales Representative.

MELBOURNE, AUSTRALIA
422 Little Collins St., Stock Exchange Bldg. Post Office Box 1922.
A. Schrader's Son, Inc., Proprietary Limited. E. P. Howard, Mgr.

THE HAGUE, HOLLAND
13 Korte Voorhout.
European Sales Office, Scovill Manufacturing Co., L. van Herk, Manager.

Divisions and Subsidiaries

MAIN PLANT DIVISION WATERBURY, CONN.

Manufacturers of brass, bronze and nickel silver alloys in the form of rod, sheet metal, wire and tubing. Specializing in the manufacture of brass goods of all descriptions: buttons and fasteners, thimbles, Queen Anne burners, ferrules, hinges; steel and brass cap and machine screws, containers, automobile parts, forgings, electrical and radio parts.

C. P. GOSS, JR., Vice President and Supt. of Mill Depts.—A. C. LUSHER, Supt. of Mfg. Dept.
E. S. SANDERSON, Sales Manager—B. P. HYDE, Sales Promotion—BRINTON CARRIGAN, Marketing Councilor

A. SCHRADER'S SON, INC., Brooklyn, N. Y. Makers of Pneumatic Valves Since 1844

W. T. Hunter, President and General Manager; F. Trismen, Secretary and Treasurer; H. M. Scheck, Assistant Treasurer; R. L. de-Brauwere, Sales Manager; A. G. Underwood, Assistant Sales Manager; M. H. Tisne, Manager Manufacturers Accessories Sales; P. L. Mitchell, Manager Dealer Relations; W. J. Kirkpatrick, Service Manager; S. D. Hopkins, Advertising Manager; S. T. Williams, Superintendent.

PLUMBERS' BRASS GOODS DIVISION

Waterville, Conn.
Bath and Shower Fixtures, Flush Valves and Miscellaneous Plumbers' Brass Goods
W. W. Bowers, Ass't. Secretary and Sales Manager.

THE GILCHRIST COMPANY

Newark, New Jersey
Soda Water Fountain Supplies, Electric Drink Mixers, Ice Cream Dishers, Ladles, Ice Picks, Spoons, Soda Glass Holders, Lemon Squeezers, etc.
Thomas Jameson, Treasurer and General Manager.

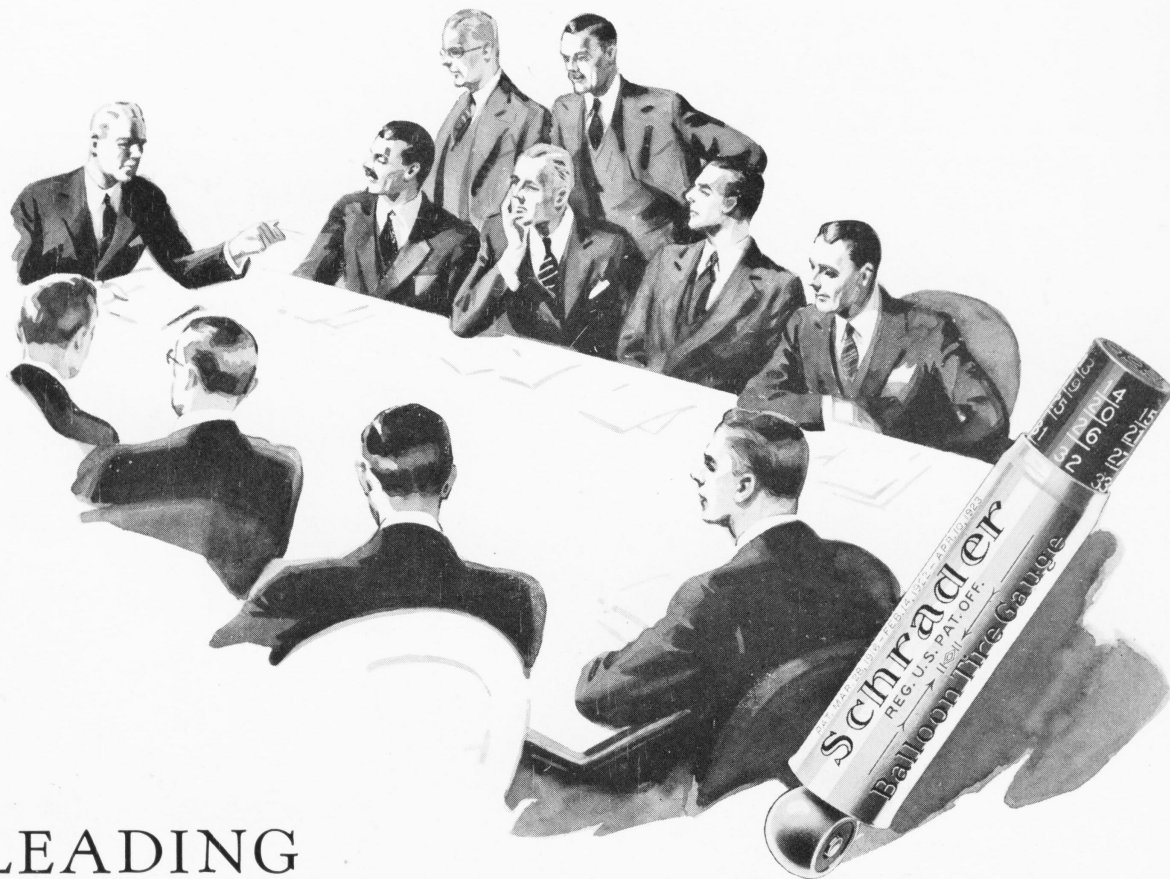
OAKVILLE COMPANY DIVISION, AND OAKVILLE-AMERICAN PIN DIVISION

Oakville, Conn.
Brass and Steel Common Pins, Safety and Special Pins, Paper Clips, Fasteners and Clasps, Piano Hardware, etc.
Bennet Bronson, Vice President; George Boden, General Manager; C. F. Doherty, Ass't. Secretary; C. C. Shee, Sales Manager, Oakville-American Pin Division.

MORENCY-VAN BUREN DIVISION
Sturgis, Michigan
Plumbers' Brass Goods, Tank Equipment, Flush Valves, etc.
R. H. Van Buren, Manager.
Tracy H. Van Buren, Ass't. Manager.

HAMILTON BEACH MANUFACTURING COMPANY

Racine, Wisconsin
Fractional Horsepower Motors, Electric Sewing Motors, Vacuum Cleaners, Electric Drink Mixers, Vibrators, Drink Heaters, Hair Dryers, and other Electrical Household Appliances.
T. B. Myers, Vice President and General Manager.
E. Q. Bangs, Secretary.



LEADING
TIRE MANUFACTURERS AGREE
THAT—

—even five pounds too little air reduces tire mileage 25 to 30%.

—By maintaining the exact pressure your tires require, you can eliminate at least 80% of all premature tire failures, but—

you must use an accurate, durable gauge. *The Schrader is such a gauge.* That's why leading tire authorities recommend it.

This gauge works on the "direct-action" principle. There is no intricate mechanism to get out of order.

Schrader Gauges are sold by more than 125,000 dealers throughout the world. Buy one today. Check your tire pressures every Friday. Notice how tire life increases by many miles per season. A. Schrader's Son, Inc., Brooklyn, Chicago, Toronto, London.

[Be sure it's a Schrader—Look for the name.]



Schrader



Makers of Pneumatic Valves since 1844

TIRE VALVES

TIRE GAUGES

SCOVILL THE WORLD OVER

- ★ General Offices & Plants
- ▲ Manufacturing Plants
- ▲ Factory-Warehouse-Sales Office
- × Warehouse & Sales Office
- Sales Office
- Ⓢ Assembly Plant-Warehouse-Sales Office
- ✦ Foreign Sales Office



Production Changes

Does your production cost curve show a tendency to mount and threaten the stability of your business? Production changes are often so rapid that the manufacture of new and improved parts forces the sale of obsolete numbers at cost or less. Is this true of your business?

Whether or not you have cause to worry, let Scovill help you cut overhead and clear the way for new profits. By making the Scovill organization one of your production units you can regulate production changes at will—you can increase the production of your factory without the outlay of additional moneys for expensive equipment and building. Tremendous manufacturing facilities for parts or finished articles of metal enable Scovill to fill orders for practically any quantity. Tools, dies, or machinery required for special work are designed and built within the Scovill plant; scientific procedure is insured by laboratory supervision of all manufacturing methods.

Call the nearest Scovill office TODAY.

General Offices and Main Plants

SCOVILL MANUFACTURING COMPANY

WATERBURY, CONN.

European Sales Office: SCOVILL MANUFACTURING COMPANY

13 Kotte Voorhout, The Hague, Holland