

FILE NAME: Armco (ARM)

DATE: 1961

DOC#: ARM019

DOCUMENT DESCRIPTION: Annual Report - Accent on Tomorrow

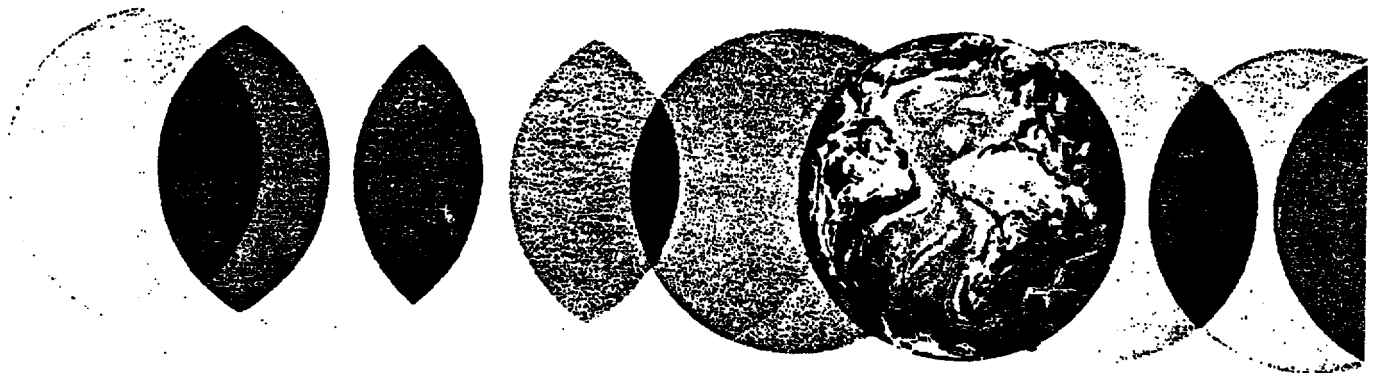
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(American rolling mill company)
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accent on tomorrow



**ARMCO
STEEL**





RUNWAY TO THE FUTURE

These are the eerie innards of a synchrotron . . . a massive machine that hurls tiny particles of matter around a magnetic "runway" at speeds over 60,000,000 miles an hour . . . and then smashes them into pieces infinitely smaller than the atom itself . . . unlocking their secrets for our future use. Like all such machines, it seeks greater understanding of our world and its fundamental nature.

To most of us, this imposing instrument could easily belong to another century . . . or perhaps to another world entirely. But it *does* belong to the here and now . . . and the Armco steel used in its construction proves that every future is built on a past.

The magnets which are its heart are made of a sophisticated "grandson" of Armco's first specialty steel . . . produced near the turn of the century.

At that time, the company was The American Rolling Mill Company: founded in 1900 with 35 shareholders . . . 325 employees . . . and one steelmaking furnace. It was a tiny company, even for those days, and its chances for survival were considered slim. It ignored the odds, however, and grew into what is now Armco Steel Corporation . . . a company with 40,000 employees, 70,000 shareholders, eight steel mills and more than 80 manufacturing plants, and sales offices throughout the Free World.

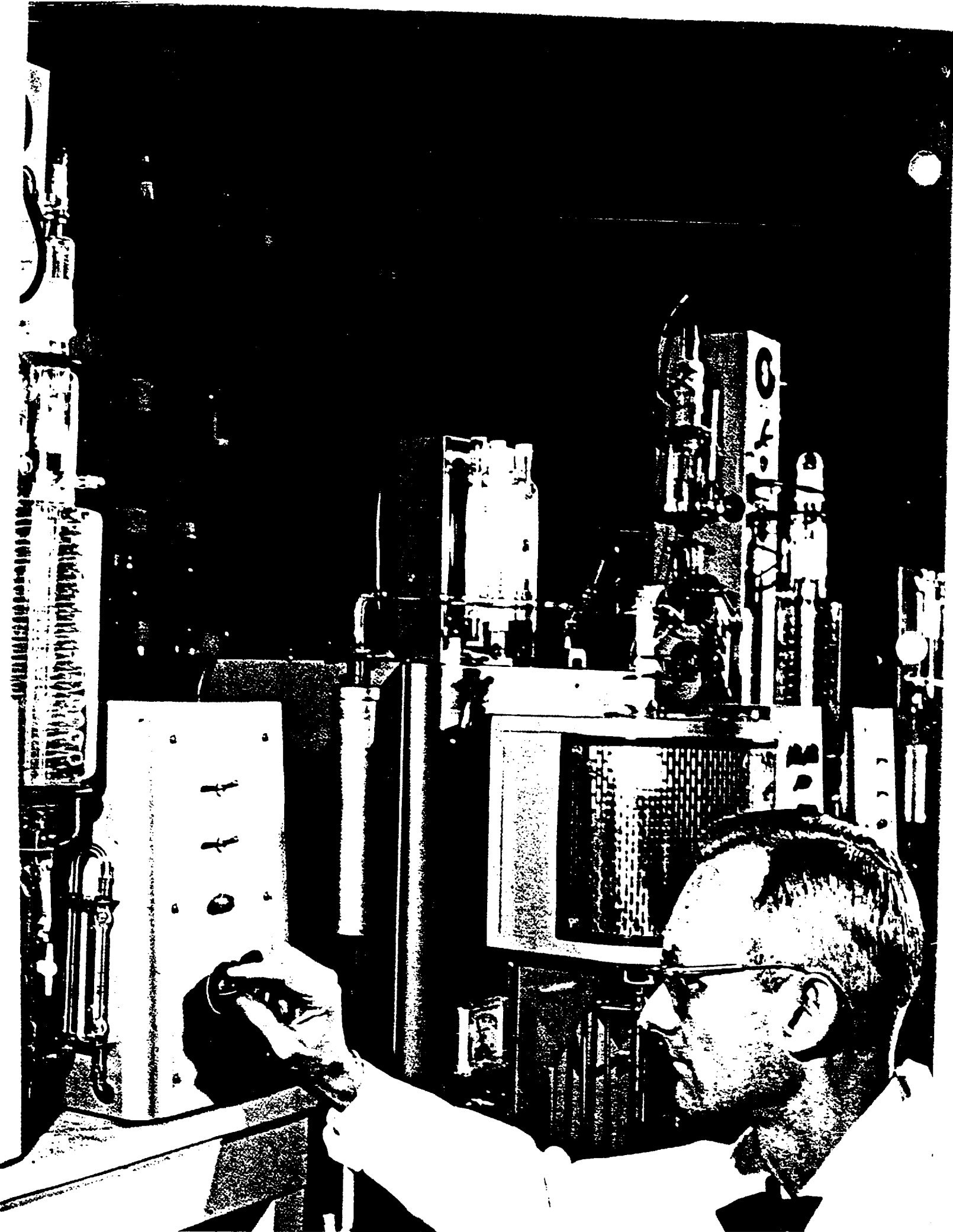
Armco's growth . . . a story of continuous effort to produce special steels for particular needs . . . has been based on three beliefs:

Research and innovation are the prime movers of progress.

A company's vitality depends on its ability to take advantage of the changing opportunities of the times.

People are a company's most important asset.

This booklet affirms and expands upon those beliefs, and attempts to show how Armco travels the runways to the future . . . why Armco's accent is always on tomorrow.



FIRST, THE IDEAS

The first research laboratory in the steel industry was established by Armco in 1910.

Research has since become "a way of life" for the company, and the number of research personnel has doubled every decade. Moreover, every Armco plant today is a "branch laboratory", and ideas flow freely between plant personnel and research scientists.

An idea can come from anyone—whether a trained chemist or a machine operator—and anyone can contribute to its success. At Armco, an idea receives the attention and effort of every single department that might be concerned with it.

This emphasis on close liaison between scientific and operating people has enabled the company to maintain a consistently high level of innovation and development of new steels and the processes to make them.

Better steels

Some of the most important breakthroughs in the history of steelmaking have come out of Armco laboratories.

Armco's electrical steels—originated on a commercial basis in 1903—made possible the large-scale use of lower-cost electricity. Power generating facilities continue to double each decade . . . and to this vast market has been added a demand from the glamorous world of electronics for new specialty electrical steels.

The company's enameling iron was the first sheet metal made specifically for porcelain enameling and Armco has always led in the technology of this specialty. The company's latest developments in this field have cut production costs on home appliances, plumbing fixtures, architectural panels and a number of other porcelain enameled products.

The basic design for the nation's most popular highway guardrails, a wide variety of alloy and stainless steel products, and non-aging drawing steels for automotive bodies are among other Armco innovations. Research has also brought forth many new drainage

An Armco research chemist checks the oxygen content in an experimental steel sample. To his right is a small induction furnace in which the samples are melted.

RESEARCH

products and sweeping new designs for pre-engineered steel buildings. Improved equipment for oil and gas production is also an outgrowth of Armco's research efforts.

Better processes

Equally as important as the new products introduced by Armco are the revolutionary steel-making processes it has developed.

The company built the world's first continuous sheet rolling mill at its Ashland, Kentucky, Works in 1924, an achievement that helped put the automobile, the refrigerator, the washing machine and countless other products within pocketbook range of millions of Americans.

A few years later, the company developed the Sendzimir continuous-coating process. Zinc and aluminum-coated steels made by this method are broadly used in appliances, automotive bodies, building panels and countless other products requiring extra corrosion resistance. Applications for these coated steels continue to grow by leaps and bounds.

Through the development of taconite ores in the Lake Superior region, Armco recently helped open new horizons for the production of pig iron. Research to perfect methods of producing iron-rich taconite pellets was carried out in association with the University of Minnesota, and in partnership with Republic Steel Corporation. Use of the taconite pellets has doubled iron output from Armco blast furnaces, reinforcing the company's position as a leader in blast furnace technology.

In all, Armco is continually seeking and analyzing new ways to use raw materials, to smelt iron, to melt steel and to refine steel products to meet ever-higher standards of performance. The prime aim is not only to meet the demands of today but also to anticipate those of the future.

The tradition of research is a fundamental strength of Armco, and from it will come ideas that—once transformed into metal—will help shape the future.

STEEL FOR ONE HUNDRED THOUSAND USES



The Armco Division is the largest of the company's five divisions and is an important supplier of steel for America's basic metalworking industries.

While high-quality steels for stamping and forming operations constitute a major part of the division's output, the products that most distinguish it are its *specialty steels* . . . developed by Armco for some of the most singular and unusual applications in industry.

Important Armco Division specialties include ALUMINIZED STEEL, especially valuable in automotive exhaust systems where it doubles the life expectancy of mufflers and other exhaust parts . . . zinc-coated steels for automotive bodies, ductwork and building panels . . . enameling iron for home appliances, architectural panels and plumbing materials . . . electrical steels for generators, guidance systems, nuclear equipment, and electric motors from the largest built to the tiny units which power electric razors.

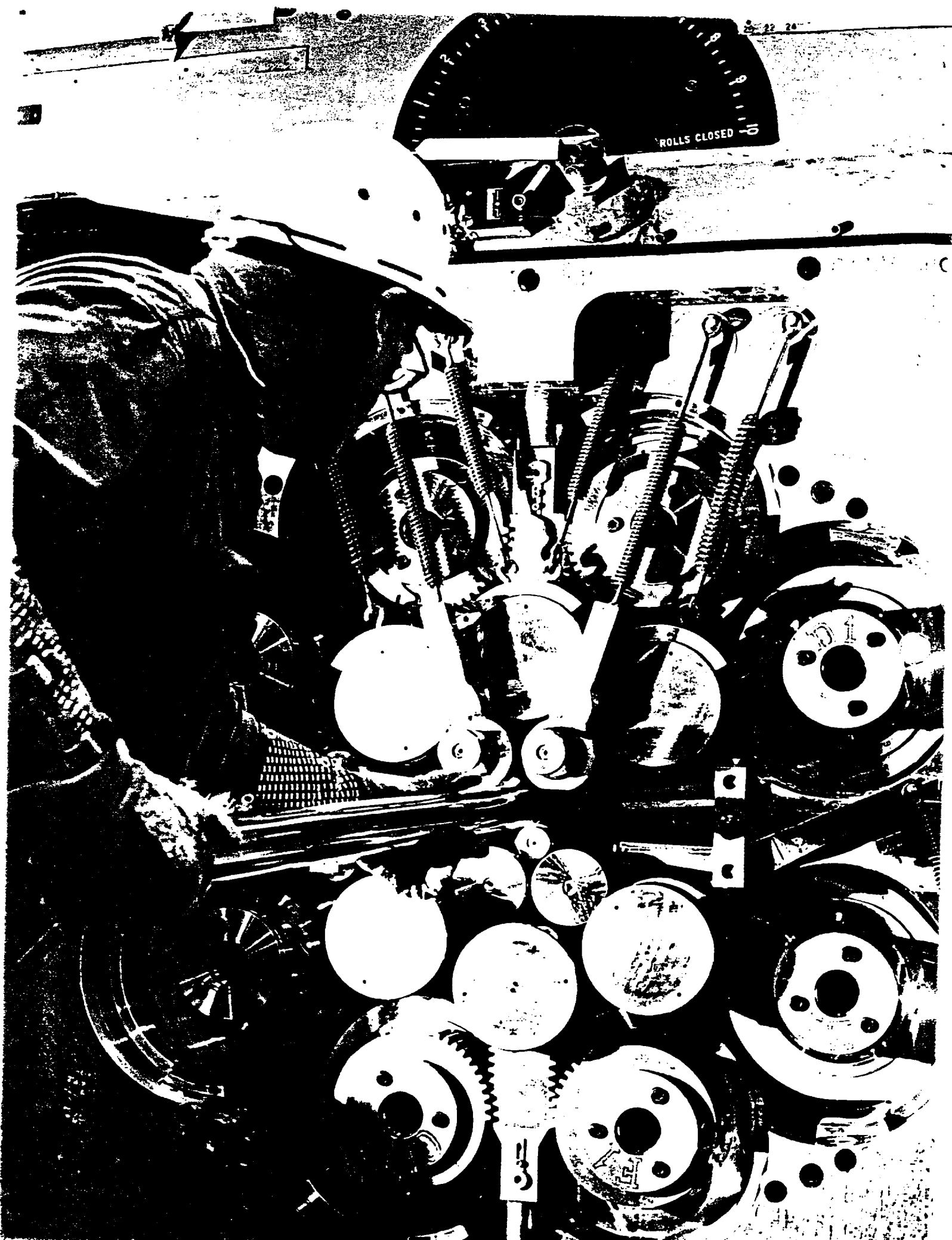
From milk to missiles

Also among the sophisticated specialties produced and sold by the Armco Division are the PH grades of stainless steel. Developed primarily for missiles and supersonic aircraft, they are now solving critical problems in many other industries.

Armco stainless ranges from huge ingots to stainless bar and rod, to *steel eight times thinner than this page* . . . and its applications range from rocket fuel tanks and aircraft forgings to caps on the teeth of milk cows.

In the center of industrial America

The Armco Division—with headquarters in Middletown, Ohio—has nine plants advantageously located throughout the East Central United States. The division's twenty-eight open hearth furnaces and nine electric furnaces are supported by six blast furnaces. Steel from these operations feeds three modern strip mills, and some of the most modern steel finishing facilities in the world.



The Armco Division plants at Middletown, Ohio, and Ashland, Kentucky, are fully-integrated facilities which convert raw materials into finished flat-rolled steels. Along with the Butler, Pennsylvania plant, each is also a large producer of coated steels.

Stainless steels are made at the Butler plant, and at Baltimore, Maryland. The Baltimore Works is the largest fully-integrated facility in the world devoted exclusively to the production of stainless steel bar and wire. Electrical steels are also made at Butler, and at the Zanesville, Ohio, plant.

At Ambridge, Pennsylvania, the Armco Division operates a major facility producing seamless pipe principally for the oil industry, welded pipe for a variety of uses, and smaller-diameter conduit for the ever-expanding housing and industrial markets.

Other types of pipe, as well as highway guardrails, drainage structures, and other formed products are made at the Middletown, Ohio, fabricating plant.

Small diameter tubing is produced in Piqua, Ohio, and fabricated into parts for a variety of products including outdoor furniture and picnic tables, small television towers and masts, and golf carts.

Service and cooperative effort

Sales offices are located in principal cities throughout the country, with sales staffs made up of highly-trained personnel. Since the Armco Division manufactures so many specialty products, a variety of technical services are offered on a continuing basis to Armco customers, and close liaison is maintained among operating, sales, research and market development staffs.

The benefits being derived from the Armco Division's continuing program of technological improvement and cooperative effort are enhancing the company's already strong position as a basic supplier to America's metalworking, petroleum and construction industries . . . as well as establishing it as a leader in steel technology for the electronics, communications and aerospace industries.

Built like a precision watch, this powerful Sendzimir mill meets exacting customer requirements in rolling close-tolerance stainless steels.



STEEL FOR THE GROWING MIDWEST AND SOUTHWEST

The Sheffield Division is a pioneer producer of steel products west of the Mississippi. It is an important supplier of carbon and alloy steels to industry all over the Midwest and Southwest.

The division's principal products are sold to the oil, construction, agricultural, defense, transportation and mining industries. Sheffield also serves national markets with bolts, nuts, forgings, grinding media, wire, alloys and other special-purpose steel products.

Modern facilities for progress and growth

The Sheffield Division operates major facilities in Kansas City, Missouri, where it is headquartered, and in Houston, Texas. A third plant is located in Sand Springs, Oklahoma.

The Kansas City facilities produce the widest range of products in the division, concentrating particularly on steels for the fast-growing construction industry. Products include bars, structurals, wire, rods, fence, nails and bolts. A new fully-automated bar joist plant is also located there.

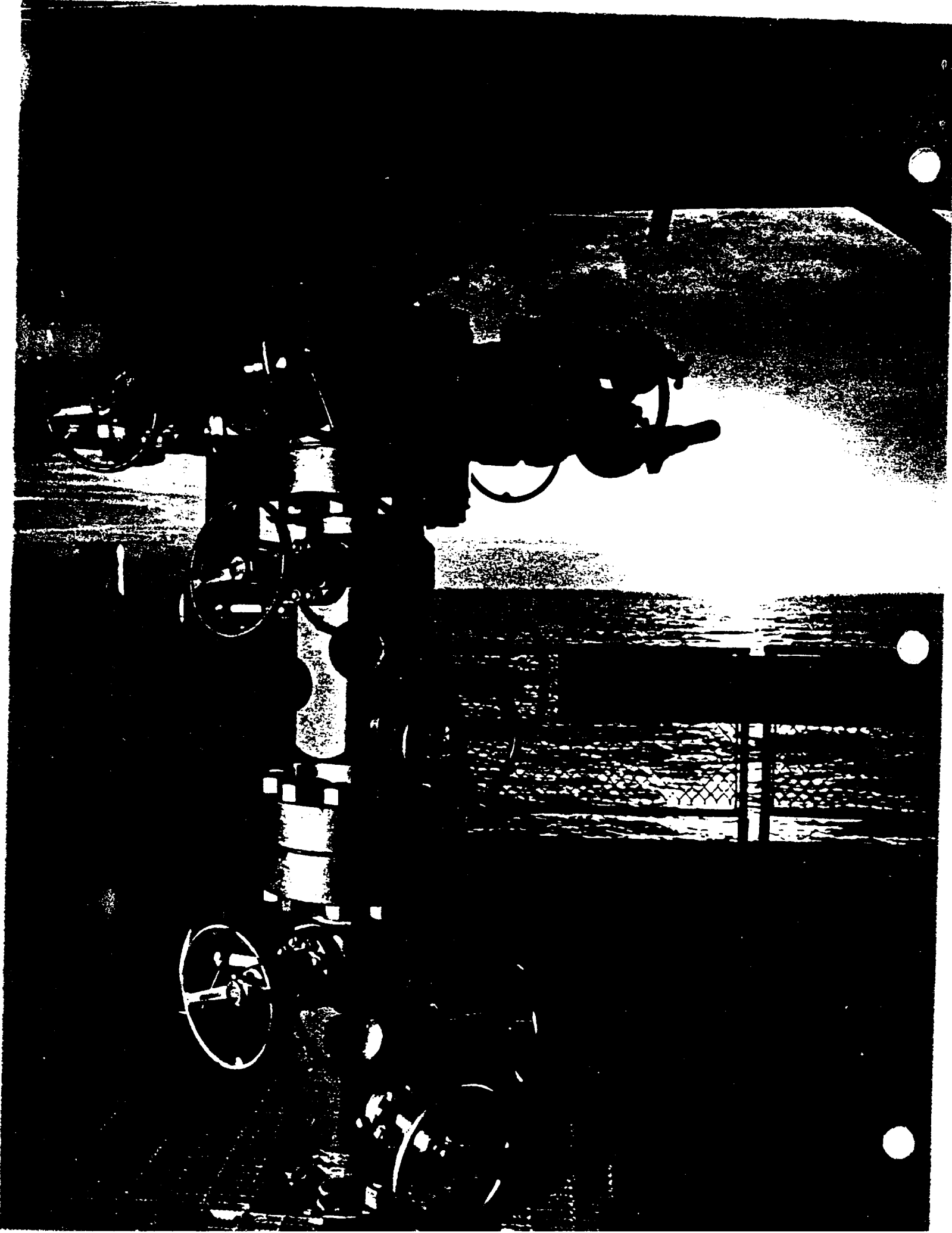
The Houston Works is one of the Southwest's largest industrial installations, and the only completely integrated steel plant in that area of the country. The plant produces a broad spectrum of steel products, but specializes in steels for the oil, defense and mining industries. One of the world's most modern plate mills and wide plate heat-treating units is located at Houston.

Sheffield's Sand Springs plant, near Tulsa, is a major producer of Armco's "Crescent" concrete reinforcing bars, a high-bond bar designed for the construction industry.

To make steels as varied as the markets it serves, the Sheffield Division has twelve open hearths, six electric furnaces, and one blast furnace.

The division has sales offices located in principal cities throughout the Midwest and Southwest . . . and as markets in these fast-growing areas continue to expand, so too will the Sheffield Division.

Sparks fly as steel joists are welded automatically along a computer-operated production line.



TOOLS FOR TODAY'S ENERGY ...AND TOMORROW'S

The National Supply Division is a leading supplier to America's primary energy industry: petroleum.

The division manufactures and markets a wide variety of oil field machinery and equipment. National's drilling rigs, derrick equipment, pumping units, and rotary machines are used in all parts of the world where oil and gas are produced or sought. The division's products are made at plants in Houston and Gainesville, Texas, and in Los Nietos and Torrance, California.

Direct sales to the people "on the scene"

In addition to having an extensive sales organization, National Supply Division operates 120 oil field supply stores in North, Central and South America. Dealing directly with people "on the scene", they supply customers with immediate service and counsel. Products made by nearly 8,000 other manufacturers are also sold, including rock bits, engines, valves, maintenance supplies and hand tools.

In addition to drilling and production equipment, the division also produces forgings, castings, aircraft parts, ordnance material and special types of heavy machinery.

The future demand for oil

With only seven percent of the world's population, the United States consumes forty percent of its energy. Within a generation, this huge hunger is expected to double . . . with foreign demand rising even faster. Faced with this demand, the petroleum industry will require new and improved tools for exploration and production.

National Supply's program of product development and service will supply them, whenever and wherever they're needed.

Outlined, against a sunrise in the Gulf of Mexico, this "Christmas Tree" controls the flow of natural gas from producing zones beneath the earth's surface.



STEEL PRODUCTS FOR CONSTRUCTION

The Metal Products Division of Armco manufactures a complete line of steel buildings and drainage products. The division is a pioneer in the development and production of corrugated metal drainage and construction items, and of pre-engineered steel buildings.

Products from the division are found all over the continent . . . on the great new Interstate Highway System . . . at microwave stations in British Columbia . . . logging operations in Washington . . . dam construction in Texas and tobacco warehouses in North Carolina . . . wherever fabricated steel products can be used.

Service that spans the continent

The Metal Products Division operates 49 plants, located in 25 states and eight Canadian provinces.

Products made at these plants include pipe-arch structures, spiral welded pipe, "nestable" pipe, highway guardrail, piling, bin-type retaining walls and steel buildings.

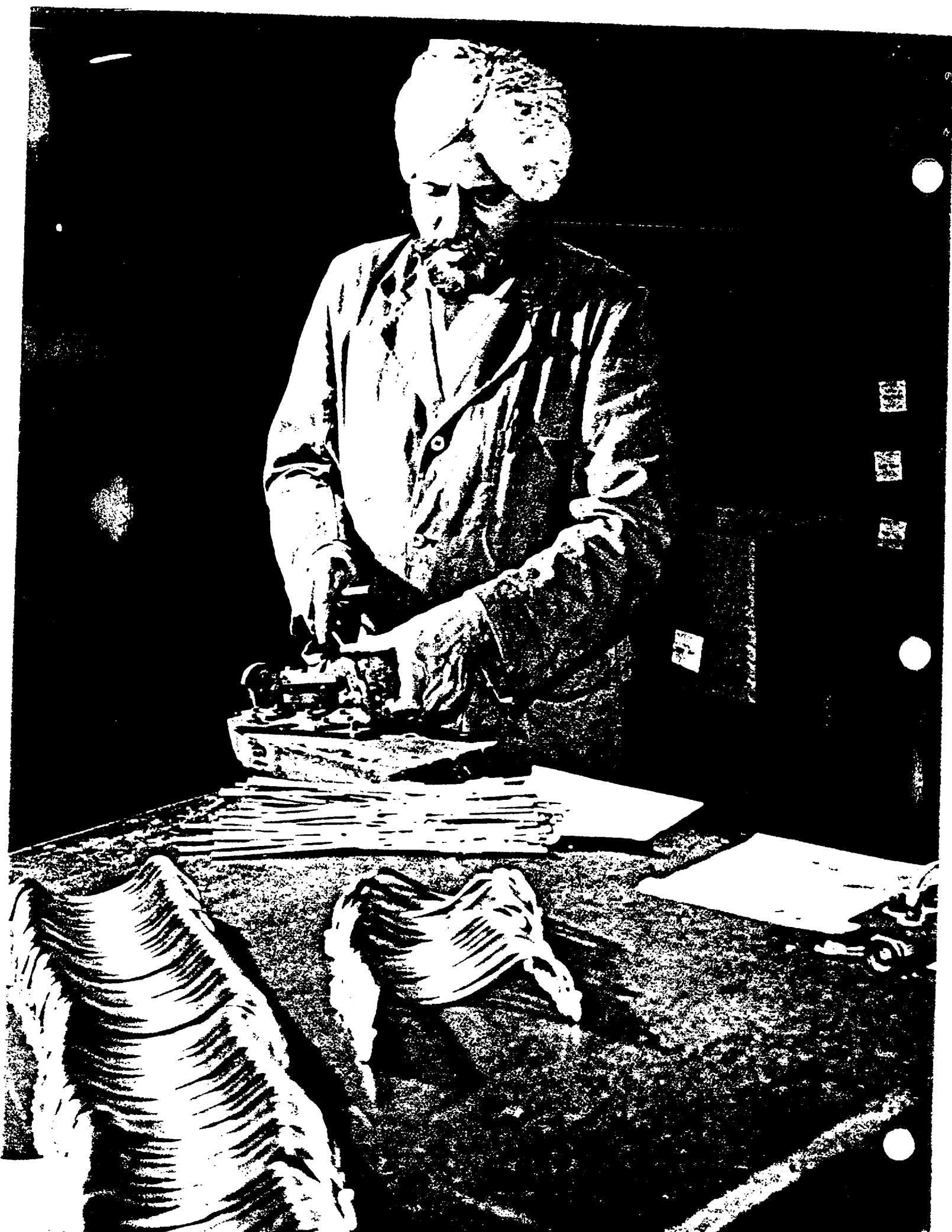
The division has a nationwide sales force of more than 300 trained engineers who operate from sales offices all over the country. Steel buildings are also marketed through company-appointed dealers.

An outstanding special feature of Metal Products' operations is specialized customer service. In the planning stages of construction, division engineers and technical personnel are available to consult with customers on a wide range of product applications. The division's construction service will also install or erect Armco products at any time, in any location a customer wishes.

A role in the future

The products made and sold by Metal Products Division have always supplied markets where industry, agriculture, construction, and transportation are expanding. With the increasing importance of land reclamation, water conservation, highway and street modernization and industrial growth, the Metal Products Division will play an ever-greater role in the future of Armco.

Steel for modern office buildings ranges from roofs to gleaming doorposts, from sidewalls to window frames. This is a pre-engineered Armco building constructed of standard Armco components.



STEEL PRODUCTS FOR THE FREE WORLD

The operations of Armco International extend to more than twenty countries of the Free World . . . in Europe, Australia, Central and South America, Africa and Asia.

With headquarters in Middletown, Ohio, Armco International operates a global network of manufacturing installations, warehouses and sales offices, and distributes Armco products outside the United States and Canada.

Major exporter and manufacturer

Many of Armco International's products are made in the corporation's domestic plants and exported to foreign buyers. However, the division operates 18 overseas plants where additional steel products are manufactured . . . including many items designed specifically for foreign markets. Included among these are Bundy tubing for appliances and automobiles, and formed products for construction, drainage and fuel storage.

The division also serves as sales representative for related products of a number of other manufacturers, both American and foreign. Among the more important of these allied products are welding equipment and machinery, and electrodes.

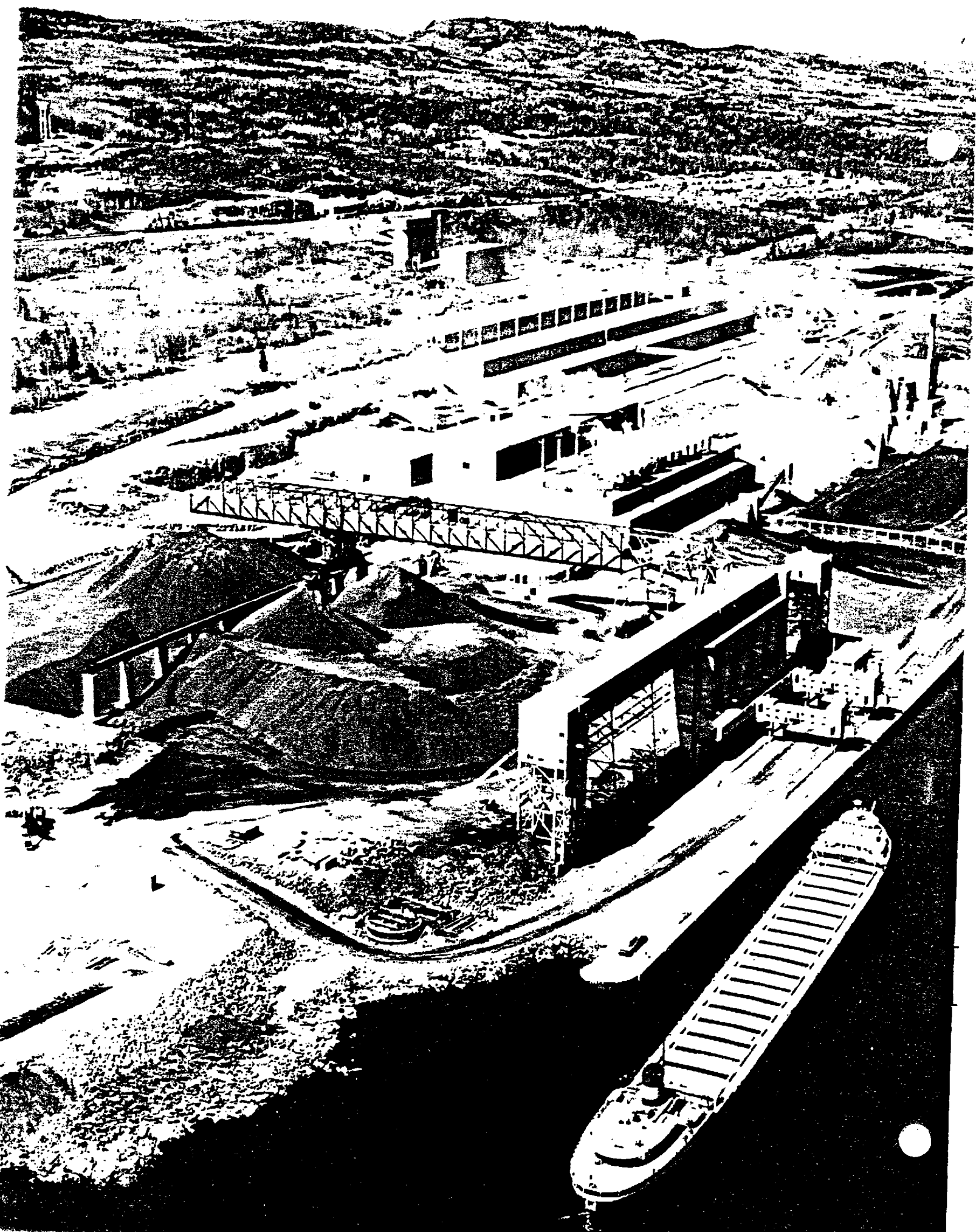
Since many Armco patents are licensed for use abroad, Armco International also provides technical aid to overseas producers under long-term fee and royalty contracts. The company's engineering and operating personnel often train foreign steelmen in Armco methods and technology, and also supervise the design and construction of steel plants in many parts of the world.

Long experience and continuing growth

The experience of Armco International in world trade dates back nearly fifty years to the company's first venture in Brazil. Since then, each of the division's growing installations has become an integral part of the economy in which it operates.

With the "revolution of rising expectations" becoming more and more a fact, Armco International's long experience will be a major asset in successfully meeting the growing demand for steel products around the world.

Special Bundy tubing forms—used by European appliance manufacturers—are shaped by a Sikh workman at Armco's Letchworth, England, plant.



RAW MATERIALS FOR ARMCO'S STEELS OF THE FUTURE

As Armco plans ahead for its facilities and its products . . . it also plans ahead for the raw materials from which its steels of the future will be made. The company has a continuing program of development for the three prime steelmaking materials: iron ore, coal and limestone.

Most important source of Armco's iron ore today is the Reserve Mining Company, jointly owned by Armco and Republic Steel. This company extracts iron from vast supplies of taconite rock at its Silver Bay, Minnesota, facilities. The ore is then processed into marble-sized pellets and shipped by lake boat and rail to Armco plants in Ohio and Kentucky.

Some taconite pellets, barged down the Mississippi, are also used at the Houston plant. Houston's principal ore source, however, lies in company-owned deposits in East Texas.

To assure even greater ore reserves, Armco has an interest in the Iron Ore Company of Canada, which mines direct-shipping ore in the great Labrador fields . . . and also produces iron-rich ore concentrates from lower-grade deposits.

For coal, Armco looks to its mines in West Virginia and Oklahoma. Reserves in Central West Virginia provide coking coal for the company's Ohio facilities, and Oklahoma mines supply coke ovens at the Houston Works.

Armco also owns limestone quarries in Ohio and Texas. Steel scrap, alloying elements and other materials required by steelmaking furnaces are acquired from outside sources.

Few industries must plan as far ahead as steel. Armco has made its plans and carried them out. The company's reserves are more than adequate to meet the needs of tomorrow.

At Armco's jointly-owned taconite processing facilities at Silver Bay, Minnesota, an ore carrier inches toward the dock to pick up a cargo of iron-rich taconite pellets for use in Armco blast furnaces.

WHAT ABOUT HUMAN RELATIONS?

Industry and people are not divisible.

Without skilled and imaginative people, the most modern facilities in the world would be virtually useless—surely unproductive. So a company, in reality, is no more or less than the collective effort of individual men and women . . . the enthusiasm, loyalty and vitality of people.

Armco management has always believed in building and preserving the best possible human relations with all groups and individuals the company touches, whether within the organization or outside it. Their efforts in this area are built on a background of innovations once thought revolutionary . . . but now almost universal.

Armco people were the first in heavy industry to have group insurance; the first in the steel industry to have an eight-hour day; and first to enjoy a wage plan which, fifteen years later, was made the pattern for the whole steel industry.

The meaning of these forward steps, and many others like them, can never truly be measured. But it can be said that in years when the steel industry has been rocked by nationwide strikes, about half the company's major installations, and most of its smaller ones, have remained in full operation.

The company has thus been able to offer more security to employees, greater stability to plant communities, steadier continuity of supply to customers, and more constant earning power to shareholders.

The first "industrial constitution"

The cornerstone of Armco's human relations efforts is *Armco Policies*, an "industrial constitution" written by Armco's founders and adopted by the Board of Directors in 1919. Since that time, it has served as a guide in the conduct of the company's relations with all its publics.

Armco Policies was probably the first document of its kind in industry. In effect, it established the responsibilities of Armco people and the fundamental principles of the company's management . . . to set firm objectives, to be a good citizen, to guarantee individual opportunity, and to build an organization of men and women whose beliefs and goals are in harmony with each other.

Knowledge to meet opportunity

In accord with the *Policies*, Armco tries in all ways to help its people prepare for advancement and to improve their skills in whatever areas they may desire.



The company has had for many years a comprehensive management development program, and recently developed a significant innovation in this field called "The Profession of Management." This film and seminar program sets forth Armco's business philosophy, as well as teaching the principles of scientific management.

In all, the great variety of personnel development methods employed by Armco are brought to bear on just one aim: to provide its people with the knowledge needed to make the most of each opportunity the future presents for them and for their company.

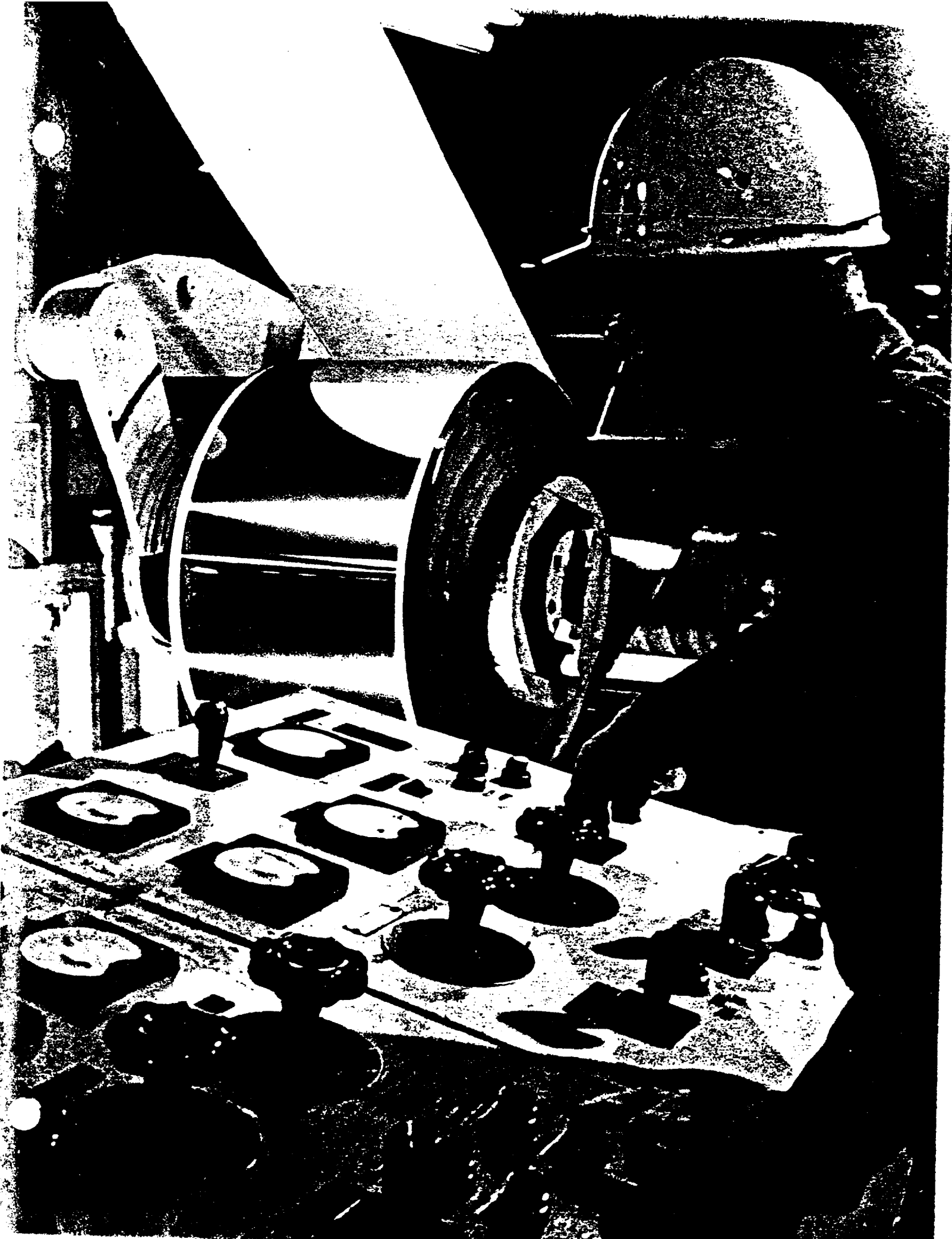


New steels are
born at
Armco

ARMCO PLANTS, PRODUCTS AND MARKETS

Operating units	Plants	Products	Markets
ARMCO DIVISION	Ambridge, Pa. Ashland, Ky. Baltimore, Md. Butler, Pa. Hamilton, Ohio Middletown, Ohio (2) Piqua, Ohio Zanesville, Ohio (Armco Division also operates coal mines at Montcoal, W. Va., and quarries at Piqua, Ohio.)	Carbon and alloy steel sheet, strip and plate Aluminum-coated steels Electrical steels Enameling iron Lead-coated steels Stainless steels (all forms) Zinc-coated steels Wrought steel wheels Tubing Formed products Spiral welded pipe Oil well casing, drill pipe Standard pipe products Rigid conduit Electrical metallic tubing	Automotive Appliance Construction Aircraft and missile Electrical equipment Agricultural Processing industries General manufacturing Railroad Petroleum
SHEFFIELD DIVISION	Houston, Texas Kansas City, Mo. (2) Sand Springs, Okla. (Sheffield Division also operates the Evans Coal Co., Ft. Smith, Ark., iron ore mines in East Texas, and 15 wire and wire rope warehouses in 12 states.)	Carbon and alloy steel blooms, billets, bars, plates, structurals, wire rods, springwire and manufacturers' wire Reinforcing bars and welded wire fabric Grinding balls and rods Bolt and forged products Joists Nails Woven wire fence, barbed wire and baling wire Wire rope, slings, high carbon wire, strand, and stress relieved wire and strand Tank heads	Construction Agricultural Mining Aircraft and missile Petroleum Shipbuilding Railroad General manufacturing Logging Automotive Marine
NATIONAL SUPPLY DIVISION	Gainesville, Texas Houston, Texas Los Nietos, Calif. Torrance, Calif. (National Supply Division also operates 120 oil field supply stores in all major oil producing areas of the United States, Canada and Venezuela.)	Rotary drilling and well servicing rigs Rotary machines Hydraulic drives and pumping equipment Derrick equipment Slush pumps Drill Collars, sucker rods and tool joints Torque converters Triplex plunger pumps Well control equipment Forgings and castings Special machinery	Petroleum Construction Industrial Utilities Aircraft and missile Shipbuilding Municipal
METAL PRODUCTS DIVISION	Forty-nine plants in 25 states and eight provinces of Canada	Corrugated metal drainage structures Pre-engineered steel buildings Spiral welded pipe Highway guardrail Tunnel liner plate Sewer pipe Pile shells and pipe piling Retaining walls Water control gates Free-standing canopies Bridge plank Conveyor covers Gasoline and oil storage tanks	Highway—county, state and federal Municipal Educational Railroad Industrial Commercial Agricultural Utilities Petroleum Federal and state agencies
ARMCO INTERNATIONAL	Eighteen plants in 14 foreign countries (Armco International also has 38 warehouses in 14 foreign countries)	Tubing Corrugated metal drainage structures and pipe Welding electrodes Grinding balls Steel buildings and metal lath Water control gates (Plus foreign sales of Armco's U.S.-made products and numerous allied products.)	Foreign governments, industry and commerce

AT RIGHT: An Armco specialist operates the electronic controls of a bright annealing unit for stainless steel. Used in decorative trim, the stainless is wound in coils along with a special paper to protect its gleaming surface during shipment.



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LESS THAN 100
SHARES

SHARES \$200 EACH

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LESS THAN 100
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INCORPORATED UNDER THE
LAWS OF THE STATE OF OHIO

THE AMERICAN ROLLING MILL COMPANY

PURSE PAID AND NON-ASSIGNABLE

This Certifies that One & Noce

is the owner of One share of the American Rolling Mill Company, which share is subject to the provisions of the charter and the laws of the State of Ohio, and the same is not assignable, and the owner is not entitled to any dividend or interest on the same until the same is paid in full. The share is not subject to any lien or claim of any kind, and the owner is not entitled to any vote or dividend on the same until the same is paid in full. The share is not subject to any lien or claim of any kind, and the owner is not entitled to any vote or dividend on the same until the same is paid in full.

Witness my hand and seal of office this 17 day of August 1928

COCKEY & SONS
THE AMERICAN ROLLING MILL COMPANY

REGISTERED
THE FIFTH UNION TRUST COMPANY

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