CHICAGO 1933

LINK-BELT COMPANY
SERVING INDUSTRY'S NEEDS

in the Handling of Materials and the Positive Transmission of Power

BY LINK-BELT

Souvenir Book 1933 of the Link-Belt Exhibit at A Century of Progress, Chicago, 1933
ILLUSTRATING
THE GROWTH
of an IDEA

One Sunday morning about 60 years ago, there came to William Dana Ewart, then a young implement dealer, the idea of a square detachable chain link.

Mr. Ewart appreciated the great need of a detachable chain drive—one that could be repaired in the field; and from this idea the Link-Belt organization of today has grown normally and steadily in much the same way as nature evolves the tall, sturdy oak from a little acorn.

Today, Link-Belt products embrace every industry, and encompass the world. They are varied, and include practically everything for handling materials mechanically and for the efficient transmission of power from one shaft to another.

A general catalog of considerably over a thousand pages is required to illustrate and describe these products adequately; showing that Mr. Ewart’s simple little idea, in the hands of Link-Belt Company’s founders and their successors down to the present day, has indeed had a very inspiring growth.

On the succeeding pages you will find what may be called a bird’s-eye-view of many of the things that Link-Belt makes besides conveying and power transmitting chains. Many special catalogs and folders are available to those desiring further information. Tell our nearest office which subject interests you, and literature covering it will be sent to you promptly.
Silent Chain Drive
In every industry, on practically every type of machine, the Link-Belt Silent Chain Drive continues to prove that it is the nearest thing to perfection in smooth, positive, unerring power transmission. "The most efficient and economical drive we could use" are the words of a user making the first replacement after 16 years of continuous operation.

Automotive Timing Chain
Quiet, durable and dependable are the Link-Belt Timing Chain Drives which builders of automobiles in every price class have adopted as standard factory equipment. Link-Belt distributors can supply a genuine Link-Belt chain from stock, to replace the timing chain on any chain-equipped front end.

Roller Chain Drive
For moderately high speed power transmission, as on intermediary drives in steel mills, saw mills, grain elevators, etc., and where the duty imposes severe, jerky and racking strains, as on trucks, tractors and road machinery—where the durability and economy of the Link-Belt Silverlink Roller Chain Drive will be found outstanding. And there is extra value in the Link-Belt curved roller.

Chain Drives for Every Use
For the many average classes of service, Link-Belt has light and heavy duty drives employing chains made of steel, malleable iron or PROMAL, operating on cast tooth wheels. Having a chain for every service enables Link-Belt engineers to make impartial recommendations. Chains made of PROMAL, the stronger, longer-wearing cast ferrous metal, are especially popular.

P. I. V. Gear
Modern machine drives, more and more, need variable speed control. This the Link-Belt P. I. V. Gear furnishes at the simple turn of a handle. The P. I. V. Gear provides not only Infinity Variable Speed Control but Positive Power Transmission from input to output shaft through a positive chain drive of unique design, without steps or dependence upon friction at any point.

Herringbone Speed Reducer
This quiet, efficient, compact, fully housed speed reducer has anti-friction bearings, is automatically lubricated, the gears running in oil; meets all safety laws; withstands severe shocks; and is available in speed ratios as large as 300 to 1. High speed motors may be used. These cost less, are smaller, and maintain a better power factor.

Worm Speed Reducer
For general industrial transmissions, where a dependable, efficient, enclosed drive of the right angle type is wanted, Link-Belt has available a comprehensive line of standardized worm-gear reducers in sizes up to 30 H. P. The popular sizes are carried in stock. All are equipped with anti-friction bearings.

Standardized Conveyor Drive
Complete, self-contained motorized conveyor-drive units, ready for immediate service, are made and carried in stock by Link-Belt's Caldwell-Moore plant, suitable for operating screw conveyors from 6 to 20 inches in diameter, requiring up to 15 H. P.
A Midget Silent Chain

"Industry's biggest little silent chain drive"—a 1/8" pitch silent chain, was perfected by Link-Belt to meet the growing demand for a positive, yet flexible drive for fractional horsepower units. There is no practical limit to the range of reductions and intricate problems are easily solved. The 14-wheel drive illustrated, employs chain of the duplex type.

Herringbone Gears

For heavy-duty continuous service, and where great strength and smooth, quiet operation are essential, the herringbone gear as made by Link-Belt and employed in its line of speed reducers, is particularly well suited. Large speed ratios for a given center distance. Used for driving elevators, agitators, drums, pumps, and machinery in steel plants, locomotive shops, etc.

Shaft Couplings

Flanged, Compression, Universal, and several types of Flexible Couplings can be furnished for connecting shafting securely in line. The Link-Belt "RC" Bivelink Roller Chain Flexible Coupling has great flexibility of design for meeting special conditions. Stationary couplings are available for all sizes; also revolving casings for the smaller sizes.

Short-Center Belt Drive

Increasing the efficiency of short-center belt drives by increasing the arc of contact, and automatically maintaining proper belt tension—is the Mecenco Short-Center Drive's function. It decreases initial belt tension; belt pull; bearing pressure; slippage; and power consumption. High belt speeds, large ratios, and vertical drives, are practicable.

Bucket Elevators

In back of Link-Belt's Bucket Elevators and Conveyors for handling loose materials in bulk, such as coal, ashes, sand, stone, grain, sugar, etc., is an engineering and manufacturing experience of over half a century. Centrifugal Discharge, Perfect Discharge, Continuous-Bucket, and Gravity Discharge and Pivot Bucket Elevator and Conveyor types are furnished, depending upon which type best fills the requirements.

Continuous-Bucket Elevator

High capacity at slow speed; buckets secured close together on one or two strands of chain, or on a belt, with the front of each bucket forming a chute for discharge of succeeding bucket; buckets fed direct through a feeding leg—these features fit the Continuous-Bucket Elevator well for handling crushed stone, ore, coal, and other bulky or gritty materials.

Gravity-Discharge Elevator

The Gravity-Discharge Bucket Elevator-Conveyor, employing two strands of chain, with V-shaped buckets at intervals, is designed for the gentle handling and discharge of coal (or other friable, nonabrasive materials), as at retail coal pockets, locomotive cooling stacks, and powerhouses. The buckets push the material along upper run trough to any desired discharge point.

Peck Carrier

As the buckets of the Peck Carrier are pivotally suspended between two strands of chain, they are always upright, permitting a single carrier to transport material horizontally, vertically, and again horizontally, or in other vertical-plane paths. Slow moving, very efficient and economical...the Peck Carrier is popularly employed in power houses for handling both coal and ashes with one installation.
Flight Conveyor
The Flight Conveyor is inexpensive in first cost, and was developed for conveying materials horizontally, or up inclines of not over approximately 45 degrees. The steel trough along which the flights push the materials, can be fitted with discharge openings and gates to suit specific needs. Often used as a coal distributing conveyor at the smaller power plants, and over retail coal pockets.

Apron Conveyor
The Apron Conveyor, with overlapping steel pans attached to two strands of roller chain, operates slowly on tracks which are horizontal, or inclined at angles up to 26 degrees, and being so ruggedly constructed, has a low maintenance cost. The use of stationary retaining sides permits a greater depth of material (coal, crushed stone, etc.) to be carried.

Drag Chain Conveyor
The Drag Chain Conveyor, much used for conveying sand, consists of one or more strands of wide-link chain sliding in a trough and carrying the material along. The chain is operated slowly, and may be of malleable iron, PROMAL, or steel construction. A reversible cast-steel drag chain is often used in conveying hot or cold cement clinker—a very abrasive product.

Power Hoe (Drag Scraper)
With the Power Hoe, which lends itself especially well to irregularly shaped property, one man can store or reclaim most bulk materials at any normal capacity per hour. The hoe, or scoop, is operated to and fro by means of an engine, a wire rope, and properly designed sheaves supported on posts or other form of anchorage.

Belt Conveyor
Conveying large quantities of material at a low cost per ton is work to which the Belt Conveyor is ideally suited, because of its small power consumption, and the large capacity that results from the conveyor’s continuous delivery of material—coal, coke, sand, dirt, chemicals, etc.—at a relatively high speed. The modern Belt Conveyor employs anti-friction supporting idlers.

Conveyor Idlers
Why ruin a good conveying belt by using "cheap" idlers? Free-turning, accurately made idlers assure the belt conveyor a good roadbed for economical operation—minimum friction losses—and the lowest maintenance cost. Link-Belt makes a full line of anti-friction, pressure-lubricated idlers, as well as various types of plain bearing, grease cup idlers.

Belt Conveyor Trippers
For discharging coal, sand or other loose materials at any point along horizontal travel of the belt conveyor, a Link-Belt Tripper of either the hand, self, or automatically propelled type can be furnished. The Link-Belt "Tank" Tripper, with its indestructible welded structural steel frame, combines lightness, strength and stability in its advanced design.

Screw Conveyor
Consisting of a continuous spiral which "screws" the material along in a U-shaped trough, the Screw Conveyor is valuable for handling such small-sized material as grain, cement, cottonseed, pulverized coal, sand, etc. It discharges at end, or through openings in bottom of trough. Low first cost—simple construction—requires little headroom.
Ribbon Conveyor
The Ribbon Conveyor has a continuous spiral steel "ribbon" with a clear space between it and the central pipe to which the ribbon is secured... and is particularly adapted for handling sticky materials, such as molasses, hot tar, asphalt, sugar, etc. Material of this character would build up on the flight of the solid-flight screw conveyor.

Apron Feeder
The steel pan type feeder is used where delivery point is at a distance from hopper; will operate inclined; moves slowly; and can be built very substantial. The Link-Belt Heavy-Duty Manganese Steel Apron Feeder here shown is especially well adapted to handling extremely heavy, large, lumpy and abrasive materials—stone, ore, coal, etc.

Reciprocating Feeder
The Reciprocating Feeder assures a uniform flow of material from hopper to adjacent crusher or conveyor. Its reciprocating plate has high retaining sides, and forms the bottom of the hopper when plate is stationary. In operation, the material discharges over end of plate at a uniform rate as the plate recedes. It is an inexpensive and very efficient feeder.

Crusher
For reducing run-of-mine coal to commercial or mechanical-stick size, Link-Belt has Single-Roll and Two-Roll Crushers, and can furnish Bradford Breakers, and hammer or ring crushers, where they are better suited to the conditions. Link-Belt crushers are also used for crushing coke, cinders, gypsum, salt, foundry refuse, shales, etc.

Skip Hoist
The Skip Hoist is especially well adapted for making high lifts, elevating abrasive or corrosive materials, and the handling of large lumps, as well as fines. It is popularly employed for handling coal, coke, ashes, sand and stone. Link-Belt Skips are economically applicable to large or small capacity—even to elevating but ten 20-cu. ft. buckets of ashes per hour.

Automatic Loader
The periodic automatic filling of skip hoist buckets without overflowing, presents a problem that the Link-Belt Automatic Loader solves admirably. It assures automatic loading so long as there is material in the receiving hopper, and automatically cuts off the flow of material to bucket at the right time. Modern practice favors automatic loading wherever possible.

Dump Hoppers and Gratings
The track dump hopper is often constructed of steel plate suitably stiffened, the railroad track being supported over it on girders of adequate strength for the span. The steel grating keeps out foreign materials, and lumps that are larger than the general run of lumps the discharging, crushing or conveying machinery is designed to handle.

Elevator Casings
Bucket Elevators are usually enclosed in a steel or wood casing, to protect the elevating medium, and to return any spillage to the bucket. Steel elevator casings are most generally used, and our facilities are unsurpassed for manufacturing these, in sections of convenient length, with flange angles for bolting them together securely.
Rotary R. R. Car Dumper

With the development of the rotary dumper, the economies of the lifting type of dumper have been brought within the economic reach of those whose unloading requirements are fairly low. The Link-Belt Rotary Railroad Car Dumper will unload any type of open-top railroad car from the smallest to the largest, completing the unloading cycle in 1½ minutes.

Grain Car Unloader

Large grain elevators employ the Link-Belt automatic tilting type of Grain Car Unloader, which is capable of unloading any size car of wheat, oats, or corn in 6 or 7 minutes. Besides faster unloading, at reduced cost, this machine automatically removes the grain doors without destroying them, and permits their use over and over again.

Bunkers and Bins

Steel bunkers of the catenary suspension, hoppers and other types are designed and built by Link-Belt for any capacity, for the boiler house or over-bunker storage bins are required. Here illustrated is a circular bin of small capacity, used for loading line, which is delivered to it by a Link-Belt skip hoist.

Stoker Spouts

When the coal supply bunker in the boiler house is located above and in front of the boilers, the stokers are fed direct through circular, steel, swinging spouts attached to the bunker discharge gates, as illustrated. A traveling weigh larry is used when overhead bunker is located at end of boiler room, or away from the stokers, and for keeping a record of weight of coal consumed by the boilers.

Traveling Weigh Larry

When the traveling weigh larry is used for distributing coal to stokers, the overhead bunker may be located wherever it is most convenient; and coal is made available to any stoker hopper from any part of bunker; weighing and recording the amount of coal delivered to each stoker is a check on boiler plant efficiency.

Automatic Coal Stoker

The Link-Belt Automatic Underfeed Screw Stoker incorporates the Link-Belt Variable Speed Drive and Standardized Front-End Assembly Unit. It is made in a number of sizes for boiler capacities from 10 to 350 B. H. P., and assures all the present-day advantages of automatic stoker firing, plus unusual reliability.

Silo Coal Storage

Boiler houses need only be large enough to house the boilers and auxiliary apparatus when the Link-Belt silo coal storage system is used. The upper part of silo has a live storage compartment into which the elevator discharges, and from which coal is withdrawn for the stokers. Reserve storage forms when the live storage hopper overflows into the silo proper.

Industrial Cars

Drop-side coal charging cars; V-shaped side-dumping ashless cars; coke charging cars for gas plants; swivelng scoop cars dumping to either side or forward; electrically-propelled glass-batch mixing cars—all are within the scope of Link-Belt's engineering and manufacturing facilities.
Retail Coal Pockets
The retail coal yard may employ either ground storage, with portable loaders for reclaiming coal to trucks; or overhead pockets with delivery chutes and gates; or both schemes. The pockets, now commonly of concrete silo type, are usually fed by a gravity-discharge bucket elevator and distributing flight conveyor; a pivoted bucket carrier, or a trolley-bucket conveyor system.

The "Autoveyor"
The Link-Belt "Autoveyor" is a fully-automatic trolley-bucket system for unloading coal (or coke) from hopper-bottom cars direct to any point along top of storage piles of any height, at maximum speed, without transfer, and with minimum degradation. Bucket discharge is itself upon contacting the storage pile, the discharge being a gentle flowing of material over pile.

Discharge Gates
The Duplex Gates shown, which in this installation assure instantaneous delivery of prepared sand from overhead hoppers to mounds, are but one of many types of discharge gates Link-Belt has for overhead bin, track hoppers, coaling stations, and conveyor troughs. These comprise the various styles of vertical and horizontal slide gates, and undercut gates for side or bottom discharge.

Locomotive Coaling Stations
As in power plants, the Peck pivoted bucket carrier is popularly used on locomotive coaling stations works, handling both the coal and the ashes. The gravity-discharge bucket elevator-conveyor and the skip hoist are two other commonly used types, the selection of the conveying medium depending upon the capacity desired, local conditions, and individual preferences.

Water-Intake Screen
A refuse-free condenser water supply is assured wherever the Link-Belt "Clean Water" Traveling Screen is installed in the intake, for collecting, elevating and disposing of grass, leaves, twigs, seaweed, fish, etc. Water sprays automatically clean the traveling screen and discharge the refuse into a sluiceway. Usually the screen is run a short time at infrequent intervals.

Vibrating Screen
All materials, fine or course, light or heavy - clay, coke, sand, fertilizer, ore, stone, etc. - seem to yield to the vibration of the mechanically-vibrated, Link-Belt Vibrating Screen, and classify themselves in strict accordance with their size. Its uniform vibration keeps the mesh open, and makes the screen's entire screening surface 100% effective.

Rotary Disc-Grizzly
The Rotary Disc-Grizzly is very efficient in the screening or "scraping" of large size materials, such as stone, coke, coal, etc. It handles the material gently, has large capacity, and in many instances is used where the cylindrical revolving screen would formerly have been employed. The disc shafts all operate in the same direction but at different and successively higher speeds.

Revolving Screens
For screening coal, coke, sand, gravel, stone, etc., there is a Link-Belt revolving screen to meet every requirement where this type of screen is suitable. This comprises hexagonal, cylindrical and conical revolving screens of the through-shaft type, including conical sand and gravel washing screens (illustrated); and transposition-type screens without through-shaft.
Sand and Gravel Washers

The Link-Belt Dewatering Screw has a scrubbing action on sand, and keeps the loose and other foreign matter in suspension to be carried away in the overflow, thus assuring a clean and dry sand for use where the specifications and inspection are rigid. Link-Belt has a complete line of washing and dewatering units, of the log, screw, flight, scrubber and screen types.

Automatic Sand Separator

A good sand separator for automatically removing the impurities with the overflow water, is one of the most important operating units of a sand washing plant. Link-Belt was first to develop the automatic-discharge conical sand separator, and many of these efficient units have been in successful operation for 15 years or more.

Shaw Sand Classifier

The Shaw Sand Classifier uses a combination of surface current and rising current classification principles, and produces the cleanest, dryest, and most accurately sized sand, of any form of sand separator made. It is the only sand separating device that entirely keeps dirty water from getting into the product. The construction is simple, and the regulation easy.

Meat Slicers

The bacon that you had for breakfast this morning may have been sliced with a high-capacity, motor-driven Link-Belt Meat Slicer, of which several models are available, capable of slicing 100 pork chops, 285 slices of bacon, or 500 slices of direct beef per minute. The Link-Belt Slicer illustrated is slicing beef.

Foundry Conveyors

As foundries must handle from 150 to 200 tons of material (pig, iron, coke, limestone, scrap, molding sand, patterns, flasks, etc.) to produce one ton of castings, it is apparent that the industry has economic need for mechanical-handling equipment. Here shown is a mold conveyor, with prepared sand hoppers overhead, and vibrating screen shakeout in foreground.

Foundry Sand “Revivifier”

Experienced foundrymen who have used the Link-Belt Revivifier say that it is unequalled for sand conditioning. It breaks up lumps and pellets, and thoroughly mixes all particles, thus assuring an evenly tempered reconditioned sand. The Revivifier also quickly brings about an appreciable reduction in temperature, if the sand is hot when delivered to the machine.

Automatic Power Shovel

The Automatic Power Shovel will prove its economy in unloading almost any material which can be scooped up—grain, cement, cinders, fertilizer, fuller’s earth, etc. The operator draws the scoop into box car and stops. Slack in rope serves to engage winching mechanism, wind up the rope, and pull loaded scoop to discharge point at car door.

Bridge Trolleys

The traveling Bridge Trolley finds its principal use at steel mills and water terminals, for the rapid unloading, storing, and reclaiming of coal and ore. The bridge extension over water is usually hinged, so it can be raised to clear ships’ masts. Generally speaking, the bridge may be high enough to permit forming a storage pile 50 ft. deep.
Coal Retarding Conveyors

Where coal mine openings are on mountain sides, the mine cars are brought to the surface, hauled to car dumper, and dropped into a hopper from which the run-of-mine coal is usually fed to a Retarding Conveyor for lowering it to the screening and preparation plant. Retarding Conveyors of apron, belt, and flight types are in use.

Coal-Recycling Tower

The high standing of Link-Belt built coal preparation plants has been attained by adhering to a policy of designing the plant to fit the conditions, to operate economically, and to prepare coal which will successfully meet selling competition. The Traveling Re-Screening Tower illustrated, preparing run-of-storage coal, is essentially a tippie on wheels.

Mine Car Dumper

Link-Belt Power-Driven Rotary Mine Car Dumps are built to meet the requirements of the individual property. For the rapid dumping of small and medium sized cars, the Link-Belt Gravity Rotary Dumps is well suited. Cars are dumped by gravity under control of a brake; counterweights serve to restore the empty car to its upright position.

Rock Car Dumper

Especially developed for mountainous regions, the Link-Belt Power-Driven Side-Tilting Rock Car Dumps, here shown dumping coal mine refuse down mountain side, permits using mine refuse for grading and extending the yard. The dump is portable and can be placed anywhere along the outside track. Car can be placed, dumped and removed inside of three minutes.

Chain Car Haul

Chain Car Haulers are employed for hauling and feeding loaded mine cars from mine entry to the car dump, and for returning the empty cars to the desired elevation. Link-Belt Car Haul chains, all of which are of rugged, dependable proportions, can be furnished with rigid, spring or gravity type car-engaging pushers, as desired.

Coal Washeries

The difference in specific gravity of coal and refuse is utilized in the Link-Belt Simon-Carves Wash Box, illustrated, to effect a separation in the water by means of six pulsations. These pulsations lift the coal into the upper current, while the refuse drops on to the sieves and passes out through the refuse gates.

For Dry-Cleaning Coal

Here shown is a Link-Belt Spiralizing Plant for the dry mechanical separation of bituminous coal and refuse. Pneumatic Concentrating Tables also are available for dry-cleaning. It matters not whether the coal is to be wet or dry cleaned for the market—Link-Belt’s line of coal cleaning, dust extracting, sizing and handling equipment is complete.

Shaking Screens

To produce clean and properly sized coal is the main function of the coal preparation plant. The sizing is done over screens, usually of the shaking and vibrating types. The flexible-support type of shaking screen, here shown in a coal tipple, has also been employed very effectively in the domestic coke preparation plant.
Coal Loading Booms

The Coal Loading Booms usually is the hinged, discharge section of a combined picking table and loading boom conveyor, of apron or flight type, serving to deliver sized coal into open-top cars with practically no drop or breakage. The loading boom section is arranged to be raised or lowered by an overhead hoist, thus regulating the discharge height.

Box Car Loader

(Mastertip)

The stationary-mounted, pivoted, adjustable Mastertip Box Car Loader does not throw the material it is loading, but conveys it without violence to the interior of the car. The conveyor (a rubber-covered belt or a steel apron) can be swung into car and placed in loading position by one man in but a few seconds.

Box Car Loader

(Portable)

A Link-Belt Pratt Box Car Loader, and one man to direct its discharge into any portion of car, can easily load a car with sand, salt, lump lime, ores, super-phosphate, etc., in an hour. It is an inexpensive self-contained portable belt conveyor, which is readily wheeled inside the car to the loading position.

Portable Flight Conveyor

Deep conveyor flights to handle large lumps; high steel trough sides; swiveling wheels and axles; a quick-acting, safe, power-operated raising and lowering mechanism—these features fit the "Biminius type" Link-Belt Portable Flight Conveyor especially well for handling biminius coal, coke, anthracite coal, etc. It will handle 90 tons of coal an hour if fed at this rate.

Portable Belt Conveyor

If you unload materials from cars to pile, or load from pile to trucks or cars, the Link-Belt Portable Belt Conveyor will likely be found ideal, as it handles practically any loose material with economy, and in the sturdiest mechanical hands and unloader of its type. Portable Belt Conveyors are available in standard lengths of 21 ft. to 60 ft.

"Grizzly" Crawler Loader

Here is a self-propelled, self-loading, large capacity loader that crawls as it digs as it loads—the Link-Belt "Grizzly" Crawler Bucket Loader for handling sand, crushed stone, coke, coal, etc. For cleaning domestic coke, taken from ground storage, it is equipped with a Link-Belt Vibrating Screen, which handles the coke gently to avoid degradation, and screens out the breeze.

Hand-Propelled Bucket Loaders

The first portable loader for handling coal and similar materials into trucks, uses of the bucket elevator type, and this type, modernized, is still used a great deal in this hand-propelled style. Within its capacity, the Link-Belt Type "A" Bucket Loader with shaking screen, has no superior for handling anthracite coal gently and screening it clean.

Portable Bag Piler

For storing heavy bags of raw sugar, etc., there is a Link-Belt Self-Propelled, Double-Boom Bag Piler with 25 ft. maximum lift, the discharge height of upper boom being adjustable to suit height of pile. A 15 ft. Bit Single-Boom Bag Piler, hand-propelled over floor, is available for handling the lighter bags. Either piler can also convey the bags back to floor.
Electric Car Spotter
Time and money can be saved in placing cars on the exact spot for loading or unloading—by using the Link-Belt Electric Car Spotter, instead of waiting for a switch engine or using laborious hand methods. It is always ready, pulls in any direction, consumes no power while idle, and can move from one to six loaded railroad cars.

Large-Capacity Car Pullers
At large grain elevators or other plants where a great number of cars are handled each day, a Car Puller of the type here depicted is regularly employed. This machine can be furnished with either one or two winding drums of proper size for wire rope, and built throughout for the work to be done.

Rope Car Haul
The cost of shifting cars with a power-driven Endless-Cable Haulage System is insignificant—compared to the expense of doing it with a locomotive. Rollers support the main haulage cable at intervals, the one end of the car or attachment rope being provided with a hook, and the other end with a hand-controlled grip for engaging the moving cable.

Truck Hauls
Many water terminals employ Link-Belt Freight Ramps and Truck Hauls for loading and unloading vessels. The carrier hinged, counter-weighted and adjustable to ship's deck level—may be a traveling platform, or a conveyor chain with pushers for engaging the trucks. One carrier may convey loaded trucks, and another return the empties.

Cane Car Dumper
The Link-Belt Cane Car Dumper, side-discharge type and hydraulically operated, has proved by actual performance over a period of many years, that it is the most efficient, simple, rugged, and economical means yet devised for dumping sugar cane. It requires very little attention in operation, and entails practically no expense for upkeep.

Cane and Bagasse Carriers
Link-Belt double-overlapping steel apron conveyors, with slots accurately formed in dies, are usually employed for handling sugar cane from car dumper to crusher, and carrying the bagasse between mills. For conveying bagasse to furnaces in boiler room, or to storage pile, double-around roller chain and all-steel flight conveyors are regularly used.

Grasshopper Conveyor
Named after its hopping, reciprocating motion, the Grasshopper Conveyor is frequently used under the centrifugal, for handling sugar without crushing or grinding the crystals. The “jumping” motion imparted to the conveyor’s self-cleaning, large-capacity, flexibly-mounted steel trough, shales down the intermittently-received batches and discharges the sugar in a continuous stream over the end.

Bagasse Feeders
Link-Belt Bagasse Feeders are so constructed that the escape of sparks or hot air, and the entry of cold air into the furnace, are effectively prevented. The temperature cannot be lowered or combustion interfered with. The feed roller of the rotary type feeder delivers the bagasse to furnace—uniformly, without clogging.
A composite view of the 16 plants and warehouses that make Link-Belt service possible.

Below are several views of the Link-Belt Exhibit at A Century of Progress Exposition, Chicago.
Canning-Plant Dump

From the smallest part to the complete installation—from wagon dump to cooling tank conveyor or packing room—the Link-Belt line of conveying and power-transmitting machinery for the canning plant is complete. Here illustrated is the Link-Belt Dump for tilting wagons or trucks of corn, peas, etc., endwise, and discharging the load to a conveyor.

Peeling Table Conveyor

Everybody is busy in modern fruit and vegetable canning plants employing the Link-Belt Sanitary All-Steel Peeling Table for keeping the peelsers supplied, and conveying away the peels and refuse. Greater output; reduced payroll; a better, cleaner product; and sanitary working conditions result from the use of this rectangular-path continuous plate conveyor.

Ice Crusher

As much ice can be crushed in the Link-Belt Ice Crusher in a few minutes, as can be broken by hand in an hour's time. Its smooth, continuous operation saves ice, time and labor, and avoids sloppy, wet conditions. Moreover, the product is uniform, clean, and free from wood splinters or other foreign materials.

Portable Car Icer

Refrigerator cars must be iced promptly after being loaded with perishable produce, and frequently they have to be revisited in transit. The Link-Belt Car Icer does this work very efficiently. It is furnished in trailer style, or mounted on truck chassis. The upper part folds down to clear trolley wires, bridges, etc., permitting icer to go anywhere.

Unloading Towers

Ordinarily, water-borne coal, arriving in vessels, is removed by dunnage buckets which are hoisted and dumped direct into storage, or into a hopper from whence the coal is conveyed to bolder-house. The Link-Belt Coal Unloading Tower here shown, equipped with two grab buckets, can unload either one or two barges of coal at a time.

Traveling Direct Unloader

The electrically operated traveling Direct Unloader, controlled by operators located on the structure in clear view of the work, is used at water terminals for the direct transfer of material from cars to ship, or vice versa, at a rapid rate. The Link-Belt Direct Unloader illustrated is equipped for both grab bucket and hook block service.

Self-Unloading Ships

Conveyor-equipped Self-Unloading Ships, as used on the Great Lakes, can serve economically those docks which, through lack of adequate and fast enough unloading facilities, are unable to attract the large ships with low freight rates. Large quantities of raw materials, such as sand, gravel, cement, limestone, and coal are transported and discharged in this way.

"The Dodge System"

A "Dodge System" plant for storing anthracite coal in large quantity may consist of a number of groups of two Trimmers with a central, pivoted Reload for re-claiming coal from the side of pile under either Trimmer. As the Trimmer conveyor has a movable bottom, the coal is really laid on peak of pile, keeping degradation at its minimum.
Coal Loading Piers
An interesting Link-Belt equipped marine loading plant is that here shown, which handles coal, gravel, stone, bulk pitch, etc., at a high rate of speed, from railroad cars direct to ship, without provision for intermediate storage. The handling equipment includes a rotary railroad car dumper and a ship-loading bucket elevator.

"Telescop ing" Ship-Loader
The "Telescoping Chute", Traveling Ship-Loader illustrated (designed and built by Link-Belt), handles briquettes from railroad cars direct to hold of ship, with practically no drop or breakage, the chute being lowered into ship. It is just another picture showing the adaptability of Link-Belt engineering experience, and the scope of the manufacturing facilities at your disposal.

Cooling Barges
Both wooden and steel barges have been equipped with Link-Belt coal reclaiming machinery for cooling ships at sea. The equipment varies but usually includes, besides tunnel reclaiming gates, a gravity-discharge bucket elevator with or without apron conveyor (a), and for the discharge of coal to ship—a telescopic chute or a pivoted belt conveyor.

Log Stacker
The modern pulp mill must unload and reclaim thousands of cords of spruce logs annually, in the process of reducing them to pulp for paper-making. Among the handling equipment employed are Link-Belt Chain-type Conveyors, including Portable Stackers like the one illustrated; and the Link-Belt Crawler Crane with self-filling wood grapple.

Overhead Conveyor
Flexible, adaptable, inexpensive, easily installed and altered, and economical of power and maintenance expense, the Overhead Conveyor permits straight-line production without costly rebuilding. The power-propelled conveying chain is suspended on edge from tracks running on an overhead track, and has attachments for holding the articles individually or in containers. No floor space is used.

Package Conveyors
"Handling things from where they are to where you want them" very often is work that a conveyor of the flat-top wood-shed apron type can do faster, in a more orderly way, and at less expense. Link-Belt Apron Conveyors are handling mail sacks, castings, machinery parts, crested stoves, barrels, boxes, baskets, etc.

Rigid-Tray Elevator
The Rigid-Tray Elevator, consisting of metal carrying trays rigidly secured to two slow-moving elevating chains at suitable intervals, is one of the simplest and least expensive media of elevating barrels, logs, boxes, etc., from one floor to another. Automatic pick-up is effected with the aid of stationary skids at the loading floor.

Suspended-Tray Elevator
Elevating or lowering; the Double-Strand Centrally- and Pivottally-Suspended-Tray Elevator is ideal for handling barrels, boxes, rolls and bales between any two of a number of floors. The fingers of the carrying trays pass between the fingers of the loading and unloading skids, thus effecting automatic pick-up and discharge. Any of the skids may be hinged and thrown out of position.
Assembly Conveyors

Many a workman would have to get along without a car if the automotive industry depended on Assembly Conveyors and its other highly mechanized cost-reducing, production-expediting methods of manufacture. Assembly Conveyors are also employed in the manufacture of such commodities as stoves, batters, etc. They take various forms, being designed in each instance to suit the individual need.

Ruf-Nek Oil Pump Unit

It is customary to use a submersible pump to bring oil from a surface of a well, when the gas pressures are inadequate to raise it. Here the Link-Belt Ruf-Nek Pumping Unit, illustrated, finds frequent application. Its counterweights are quickly adjusted to balance the pumping load accurately for any and all conditions.

Locomotive Crane

Track-type Locomotive Cranes have been a Link-Belt product for 38 years, and are now made for either gasoline, Diesel, electric or steam operation. They can be operated with hoist block, grab bucket, wood grapple, chain slings, lifting magnet, pile driver, or railroad ditching attachment. Cranes of 110-ft. radius, with 5 cu. yd. bucket, have been furnished.

Crawler Shovel

For general excavating, digging from bank, and handling large, oversizing material that must literally be torn loose, the Link-Belt Crawler Shovel is the machine to use. Its ability to dig several feet below grade also makes this shovel the most practicable machine for many grading and stripping jobs. The capacities range from 3/cu to 23/4 cu. yds.

Crawler Dragline

The Crawler Dragline is ideally suited for drainage work, wide trenches, deep cutting, clean-out work, excavating under water, removing overburden, and where it is necessary or desirable to work from above the material. On Mississippi levee work, Link-Belt X-55 Draglines have dug earth from borrow pit and loaded 261-1/2 yd. cars in 10 hours.

Trench Hoe

For trench work up to 8 ft. wide at bottom, and depths up to about 20 ft., in soil of such nature as will stand up and not cave in with the sides of trench nearly vertical, the Link-Belt Trench Hoe will give the best results. Besides excavating and back-filling trenches, Link-Belt Trench Hoes will also lay pipe.

Crawler Crane

The grab-bucket-equipped Crawler Crane is suited for unloading bulk materials from cars to stock pile, trucks, or overhead bins; re-loading from pile; back-filling; excavating in light and medium soil, or sand and gravel from natural deposits; clean-out work in pits and reservoirs; dredging; etc. For handling machinery, packages, etc., a hook block is used.

Skimmer

Here shown is a Link-Belt Crawler Crane equipped with Skimmer Scoop, excavating to a depth of about eight inches of lime rock. Link-Belt Crawler are many machines in one—shovel, trench hoe, dragline, crane, skimmer scoop, etc., all without changing the body of the machine. This ease of convertability is a very valuable feature.
Jak-Tung Truck

Truck, storage unit and trailer is the Jak-Tung Truck, which handles loose, bulk, package or heavy material up to 6,000 lbs., and is furnished with platform or various styles of bodies. The tongue is removable and raises the truck's front leg off floor when it is hooked in, transferring the forward weight to the jack-tongue wheels.

Pomal

PROMAL is a super-service metal which has outstanding qualities of strength and resistance to wear, surpassing those of malleable iron. Developed by Link-Belt several years ago, Promal is now used not only in the production of Link-Belt cast chains, but also for electrical hardware castings, and parts of lawn mowers, excavators, engines, hair clippers, etc.

Castings

Malleable Iron, PROMAL, Gray Iron, Semi-Steel and Steel Castings can be furnished. Link-Belt maintains malleable foundries at its East Works, Indianapolis; Promalizing furnaces at Indianapolis and Toronto, iron foundries in Philadelphia, Chicago, and Elgin, Ill.; and steel foundries in Chicago and Philadelphia. The Philadelphia subsidiary, Dodge Steel Company, produces electric steel castings.

Sewage Treatment Equipment

Link-Belt Sewage Treatment Equipment includes: Mechanically Cleaned Bar Screens; Mechanical Grit Chambers; Mischler Collectors for Primary Tanks; Mechanical Aerator; Elevated Diffusers for Aeration Tanks; Elevated Diffusers for Mixing Tanks; Fine Screens; Sludge Collectors for Final Tanks; Rotary and Reciprocating Distributors for Sewage; Sludge Bed Cleaners; Portable Belts for Sludge Handling; etc.

Mechanical Bar Screens

Link-Belt Straightline Mechanically Cleaned Bar Screens have spaced parallel bars on which the larger floating solids in incoming sewage collect, and a mechanically operated rake for continuous removal of the accumulating solids, thus assuring an even flow of sewage through the channel. The machine may be set vertically or inclined, and used in small or large plants.

Screen and Grit Collector

The Combined Type "C" Straightline Screen and Grit Collector is especially designed for economical use at small or medium size plants. Its main element are a hopper; a bar screen; and a bucket elevator for removing grit from hopper. On return run, rake teeth on buckets clean the screen. An adjustable weir regulates currents through hopper.

Grit Collector and Washer

The Link-Belt Straightline Grit Collector and Washer was developed to collect the settled grit, and to wash it free from putrescible organic matter. This unit consists of a settling tank provided with a scraper-type collector; and an inclined washing and dewatering screw to which the collector conveys and discharges the grit at bottom of tank.

Screw Machine Work

Screw Machine Work and Special Gears constitute specialties of the company's Dodge Works in Indianapolis, where Link-Belt-Silicon Chain has been produced for many years. The Dodge Works is well equipped, with its battery of modern screw machines, punch and drill presses, milling machine grinders, etc., to do special work in quantity, also including case-hardening or heat-treating.
Mieder Sludge Collector
The Mieder Collector, for primary settling tanks, consists of a traveling bridge with a deep hinged scraper for moving sludge along bottom of tank toward influent end. On returning, the scraper is raised to skim oil and grease from the surface of liquor. The machine is semi-automatic in operation, and may be transferred from tank to tank.

Mechanical Aerator
Each blade of the revolving paddle wheel of the Link-Belt Straightline Aerator, lifts a small sheet of water into the air, and produces surface waves, causing circulation of the mixed liquor throughout the tank. Operated at a speed suitting the characteristics of the sewage, this simple machine aerates every portion of the tank effectively.

Elevated Diffusers
Link-Belt Elevated Diffusers, located about four feet below surface of sewage, require less air pressure and reduce the power consumption materially, compared with diffuser plates used in the bottom of tank. Aerator-Mixing Tanks for Water Treatment also have given excellent results. Aeration removes CO₂, while the thorough mixing action effects a substantial saving in chemicals.

Fine Screens
For the fine-screening and clarification of municipal and industrial sewage, the Tank Sewage Screen, with its slowly-revolving drum and effective brushing mechanism, has no equal in efficiency in removing suspended solids, and in economy of first cost, operation or upkeep. Effective clarification is assured through the use of very fine apertures, and the elimination of clogging.

Final Settling Tanks
The Link-Belt Straightline Collector, with its slow-moving scrapers, assures efficient, continuous removal of sludge from final settling tanks of rectangular form. The Link-Belt Sludge Collector for radial flow tanks, is pivoted at center of tank, and is traversed radially while the flights move the sludge to a central discharge point.

Cement Plants
The cement industry has long recognized the value of labor-saving mechanical handling equipment as a means toward assuring continuity of operation; rapid handling of materials; and lower production costs. Link-Belt conveyors; portable loaders; crawler and locomotive cranes; car spotters; bin gates; chain drives; power transmission parts; coal and eleva handling equipment; crushers, etc., are used.

Clay Working
Crawler shovels; portable loaders; bucket elevators; vibrating screens; belt conveyors; pan conveyors; silent and roller chain; drives; speed reducers; variable speed transmissions; gears, bearings, chains, pulleys, clutch, etc., are among the many products Link-Belt supplies to the clay working industry. The Link-Belt vibrating screen is unsurpassed for the difficult job of screening clay efficiently.

Coal Mining
Whether the coal operator is looking for a complete tipple, a wet or dry cleaning plant, or some accessory to modernize existing equipment, Link-Belt engineers stand ready to assist him in arriving at the lowest-cost-way of accomplishing the desired results. And the company’s replacement and repair parts service is backed by large stocks and long experience.
Foundries

Link-Belt foundry engineers have accumulated knowledge of mold, sand and casting handling; based on years of experience in applying mechanical handling and sand conditioning equipment to a variety of foundries. They will be glad to assist in placing your foundry on a better paying basis. Practical mechanization can cut costs. Let Link-Belt help you.

Glass Works

Power shovels for unloading box cars; stationary and traveling elevators to storage bins; crushers; batch mixing cars; jaw crushers; conveyors for batch; molten glass, cullet, finished ware, coal, ashes; screens; portable loaders; power transmission equipment; cranes and locomotive cranes—among the cost-reducing, production-expediting machinery Link-Belt has furnished the modern glass factory.

Grain Elevators

Grain Elevators use Link-Belt power shovels or the Link-Belt Grain Car Unloader for unloading box cars; car pullers; screw conveyors; anti-friction belt conveyors and machinery; bucket elevators; silent and roller chain drives; hermetic and worm gear speed reducers; distributing and loading spouts; etc. Both terminal and country elevators have profited thereby.

Gas Plants

Link-Belt belt conveyors; pivoted bucket carriers; drag chain conveyors; rotary disc grinders; vibrating screens; portable loaders; crawler and locomotive cranes, and skip hoists are among the equipment used by gas plants. The belt conveyor is an ideal coke conveying unit. At the water-gas plant, the skip hoist is popular for unloading coke to storage bin.

Oil Well Drilling

Notable among the Link-Belt equipment this industry employs, are rotary sprocket chain; silent chain driven; speed reducers; the Ruff-Nick pumping unit; finished-steel roller chain drives; oil well countermbalances; and vibrating screens for salvaging rotary mud. Many oil field parts are now made of Link-Belt PROMAL castings.

Oil Refining

Fuller's earth, used in large quantities in filtering oil, is handled by Link-Belt power shovels; screw feeders; bucket elevators; and belts, flight, and screw conveyors. Petroleum coke is frequently handled on portable conveyors. Link-Belt barrel conveyors, driving machinery, etc., are also used by the industry. Book 1217 covers Fuller's Earth Conveyors.

Cotton Oil Mills

Screw conveyors, the vertical screw lift, anti-friction belt conveyors, bucket elevators and drag elevators are used extensively in the cottonseed crushing industry. Cans are placed with the Link-Belt car spotter. Beef is unloaded with power shovels. Caldwell bolt reels remove the bell and sand. Many chain drives and speed reducers are used.

Stone and Lime

Link-Belt pioneered in the application of elevating and conveying machinery to the handling of stone and lime. Among the Link-Belt equipment used are crane shovels and cranes; portable loaders; skip hoists; bucket elevators; belt, apron and screw conveyors; disc grizzly; vibrating and cylindrical screens; chain drives; speed reducers; car spotters, etc.
Power Plants

If you are building for the future, use Link-Belt coal and ashes handling and condenser water screening equipment, as you will find it to be the most economical "in the long run". Many of our power plant installations of 20 and 25 years ago are still operating economically. We equip both large and small plants.

Sand and Gravel

Sand and gravel pits and preparation plants offer abundant opportunity for the economical application of Link-Belt conveying, handling, washing, sizing and loading equipment. Each installation should be studied as an individual problem, and a type of conveyor or handling equipment chosen to meet the requirements at that particular location.

Central Concrete Mixing Plants

Rapidly mixed concrete and dry batching plants use Link-Belt handling equipment for the low-cost production of high grade concrete. Bucket elevators, conveyors, unloading shovels, feeders, etc.—Link-Belt service includes everything for handling materials from cars or trucks to the batching; plus valuable experience in selecting the right equipment for the installation.

Saw Mills

Saw mills are extensive users of mechanical conveyors as part of a carefully planned system of handling. Chain conveyors are especially popular. There are conveyors for the log hauler transfer and sorting table conveyors; and conveyors for sawdust and refuse wood. Link-Belt builds conveyors and driving machinery for every class of sawmill service.

Paper Mills

Pulpwood conveyors and stackers; conveyors for chemicals, chips and refuse; power plant coal and ashes handling machinery; traveling water-intake screens; portable loaders; car spotters—all these are commonly used in pulp and paper mills. Link-Belt slant and roller chain drives, and speed reducers, are extensively employed for the efficient transmission of power.

Railroads

Railroads use Link-Belt bucket conveyors and skip hoists at locomotive cooling stations; car spotters for "spotting" cars over track hoppers; power plant equipment; unloading towers; car dumpers and conveyors at marine loading piers; grain car unloaders; ditching shovels; crawler and locomotive cranes; portable loaders; driving machinery, etc. The Link-Belt line is complete.

Road and Levee Building

Building roads through the nation's scenic spots, with the help of Link-Belt crawler shovels, is constantly making vacationing by motor more and more enjoyable. And in constructing levees along the Mississippi, many Link-Belt crawler draglines and movable belt conveyors have been used. A levee building conveyor is shown in action.

Municipalities

Municipalities use Link-Belt sewage and water treatment equipment; garbage conveyors; power plant coal and ashes handling machinery; portable loaders; crawler and locomotive cranes; power transmission machinery, etc. The water for the Buckingham Fountain in Chicago, passes through a Link-Belt traveling "Clean Water" Intake Screen, which automatically disposes of the refuse.
Sugar Factories
From the unloading of the sugar beets—to the white sugar for your coffee. From the handling of sugar cane to the delivery of raw sugar to railroad car or ship—and again in the refinery, Link-Belt mechanical handling and power transmission machinery is used at every step of sugar manufacture.

Canning
The operation of canning plants is confined to seasons of limited duration, and the work must proceed efficiently, without interruption. Canners of corn, peas, tomatoes, fish, etc., all know the dependability of Link-Belt conveyors, conveyor chains, and transmission machinery. Efficient handling makes the canner’s limited season more highly productive of both output and profits.

Dairy and Bottling Plants
Link-Belt has had a long experience in the art of conveying bottles, and in adapting Link-Belt chains to bottling, labeling, cupping, pasteurizing, bottle washing, and similar machines. Conveyors also handle cases, milk cans, power plant coal and ashes, and whatever else there is to be handled continuously and in bulk in these plants.

Metal Mining
In the crushing, screening and preparation of iron, copper, nickel, gold and other ores, considerable heavy-duty apron feeder and belt conveyor equipment is employed. Carloads upon carloads of Link-Belt driving machinery and anti-friction belt conveyor idlers have been furnished to the gold mines in the “north country” of the Province of Ontario.

Automotive Industry
Slow-moving, pace-setting, mechanical conveyors are the very back bone of the automobile production plant—the means for the orderly assembly and production of automobiles en masse. Link-Belt chains, chain conveyors, apron conveyors, and overhead trolley-type conveyors, are used in practically every process of automobile manufacture and assembly.

Steel Mills
Bucket elevators, ship holsters, apron conveyors and belt conveyors are used in handling coal, coke, ore, stone and ashes at the steel mill. Traveling water intake screens automatically clean the intake water. Link-Belt conveyors and drive chains are especially popular on draw bench, roll conveyors, cooling racks, and normalizing furnace work.

Meat Packers
The meat packing industry is numbered among the most extensive users of Link-Belt conveying and power transmitting equipment. This includes cutting conveyors, conveyors for carcasses, meats, sausage, cans, coal, ashes, etc. Link-Belt power-operated meat slicers are used by the foremost packers, for the rapid, economical slicing of bacon, beef and fresh cuts.

All Industries
Machine tool builders, printing establishments, salt manufacturers, fruit packers, radio manufacturers, chemical producers, oyster packers, breweries, flour and feed mills, poultry producers, building supply yards, amusement parks—all are users of Link-Belt conveying and power transmitting machinery. Its use extends throughout the industries of the world; and Link-Belt’s long experience in applying this equipment is ever at your disposal.
Ewart Detachable Link-Belt
is the standard for the transmission of power where the strains are not too
great, and the speeds not too high; also for conveyors and elevators of moderate capacities and lengths.

Steel Link-Belt
is of detachable type, following general working dimensions of Ewart Link-Belt of corresponding numbers, but will not intercouple with it. Formed from strip steel and heat treated, it has great relative strength and durability.

"400" Class Pintle Chain
was designed to operate on same sprocket wheels as Ewart Link-Belt, and furnish greater strength; or protect the joint from gritty materials, where the open hook would be objectionable. Furnished either riveted or detachable.

"H" Class Saw Mill Pintle Chain
is of similar joint construction to "400" Class Chain, but provided with ample wearing shoes for protection against the effects of dragging or sliding in troughs, or on floors and runways, in conveyors and transfers.

"GL" Class Pintle Chain
similar to "H" Class Pintle, but each end of barrel has a shoulder interlocking with recessed side bar of adjacent link. Furnished with Safe-T-Head Rivet, or with bolted joint.

"H" Class Refuse Chain
is similar to "H" Class Pintle Chain, but broader, for conveying general mill refuse in quantity, slabs, sawdust, etc. Front of barrel is shaped to act as pusher.

"GL" Class Refuse Chain
is similar to "H" Class Refuse Chain, but each end of barrel has a shoulder interlocking with recessed side bar of adjacent link. Furnished with Safe-T-Head Rivets. Used for handling refuse.

Steel Refuse Chain
An inexpensive chain for handling saw mill refuse, and similar bulky materials. Made in pitches from 6" to 10", and widths from 7" to 19 1/2". Furnished in five different styles, with a liberal assortment of wheel sizes.

Transfer Chain
Links assembled with Safe-T-Head Rivets; adapted to slide in runways and carry lumber, boxes, bar iron, etc., on top of parallel strands of chain. Made in "Roof Top" construction, or with flat tops, broad or narrow.
"C" Class "Combination" Chain
A combination of alternate cast block links (Malleable Iron, PROMAL, or Cast Steel), and outside bar steel side bars, connected by steel pins or rivets.

"700" Class Chain
is similar to "400" Class Pintle Chain, but of heavier design and longer pitch. Assembled with Safe-T-Head Pins. A strong serviceable chain for heavy elevator, conveyor and power transmission work.

"800" Class Ley Bushed Chain
Has renewable hardened steel bushings which are exposed to the wheel, to resist wear between chain and wheel, besides resisting wear between links and pins.

"900" Class Chain
similar to "400" and "700" Class, but provided with renewable case-hardened steel pins and bushings. Used principally for heavy power transmissions.

"1100" Class Roller Chain
Side bars cast with projections at one end which telescope, forming rigid barrel over which roller turns freely. A substantial and durable roller chain.

"MR" Class Roller Chain
has rollers turning on barrels formed by abutting instead of telescoping end bar projections from side bars. Used for power transmissions, and elevator and conveyor installations.

"GL" Class Roller Chain
is similar to "MR" Class Roller Chain, but each end of barrel has a shoulder interlocking with recessed side bar of adjacent link. Used for elevating and conveying work.

Rivetless Chain
A drop forged steel chain (not "SS" Class) which has a wide range of profitable applications for heavy duty conveyor and elevator service.

Ice Chain
("SS" Class). Low priced, simple and strong chain for elevators and conveyors handling ice, coal, or packing house products, etc.

"SS" Class Steel Chain
The short pitches for drives; made with offset or straight side bars; with or without bushing or rollers, to meet conditions requiring extra strength, ruggedness and durability.

"SS" Class Steel Chain
Long pitch chains for engineering work; made with plain carbon steels, or special alloys, special heat treatments, etc., for varied conditions of service.
Shouldered Pin Chains
("SS" Class) are well proportioned, accurately made, and have high tensile properties. Used principally on special machinery, and for relatively slow speed transmissions, and operating mechanisms.

"Leaf" or "Balance" Chains
("SS" Class). These chains are well designed and proportioned for use as balance or counterweight chains, wrench chains, hoisting and mechanical operating chains.

Block Type and Draw Bench Chains
("SS" Class). Slow speed chains of high tensile strengths, for metal drawing, steel transfer, and car haul service. Usually furnished riveted.

Link-Belt Silent Chain
The most efficient and durable medium for the transmission of power at high speeds. Used for driving machines in every industry; also in very wide use for front end drives on motor cars.

"RC" Class Roller Chain
is a high grade Bushed Roller Chain, accurately made of special steels, to close tolerances, and run on cut tooth wheels.

Link-Belt Books and Folders

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>125</td>
<td>Silent Chain Drive Data Book</td>
</tr>
<tr>
<td>126</td>
<td>Silent Chain Drives from Stock</td>
</tr>
<tr>
<td>1145</td>
<td>Automotive Silent Chain Engineering Data</td>
</tr>
<tr>
<td>1177</td>
<td>Silent Chain Drives for Cotton Ginners</td>
</tr>
<tr>
<td>1220</td>
<td>Silent Chain Drives for Paper Mills</td>
</tr>
<tr>
<td>801</td>
<td>Silent Chain Drives for Grain Elevators</td>
</tr>
<tr>
<td>1003</td>
<td>Silent Chain Drives for Printing Presses</td>
</tr>
<tr>
<td>1091</td>
<td>Silent Chain Drives for Public Buildings</td>
</tr>
<tr>
<td>1206</td>
<td>Midget Silent Chain Drives, 3/8&quot; Pitch</td>
</tr>
<tr>
<td>1274</td>
<td>P.L.V. Gear—Variable Speed Transmission</td>
</tr>
<tr>
<td>1215</td>
<td>Herringbone-Gear Speed Reducers</td>
</tr>
<tr>
<td>1319</td>
<td>Herringbone Gears</td>
</tr>
<tr>
<td>1457</td>
<td>Silverline Roller Chain for Driving and Conveying</td>
</tr>
<tr>
<td>131</td>
<td>Roller Chain Flexible Coupling</td>
</tr>
<tr>
<td>1192</td>
<td>Steel Chains for Conveying and Driving</td>
</tr>
<tr>
<td>1050A</td>
<td>Promal Chain Heat Linger</td>
</tr>
<tr>
<td>765</td>
<td>Chains for Bottlers, Canners, Packers</td>
</tr>
<tr>
<td>1166</td>
<td>Roller-Top Sorting Table Chain for Saw Mills</td>
</tr>
<tr>
<td>864</td>
<td>Armament Park Chains</td>
</tr>
<tr>
<td>1354</td>
<td>Sugar Mill Chains</td>
</tr>
<tr>
<td>1251</td>
<td>Hyper Drive Forged Rotary Chain</td>
</tr>
<tr>
<td>1394A</td>
<td>Red-Hot Rotary Chain</td>
</tr>
</tbody>
</table>

GENERAL CATALOG—1088 pages
Index

Aerator, Mechanical .................................. 34
Automotive Industry .................................. 41
Autowyor, The ......................................... 14

Barrels, Coiling ......................................... 18
Beans, Coal Loading .................................. 10
Hammers and Bits ..................................... 12

Casting .................................................. 49
Carriers, Case and Baggage .......................... 23
Carts, Impounded ...................................... 13
Chains, Lifting ......................................... 33
Castings .................................................. 12
Cement Plants .......................................... 33
Clamps, Automotive Timing ........................... 4
Clamps, Midget Scout ................................. 9
Clamps, Summary of .................................. 42
Clamper, Shovel Scour ................................ 16

Coaling Station, Locomotive ......................... 14
Coal Mining ............................................. 32
Collector, Grit (and Washer) ......................... 33
Collector, Master Switch .............................. 24
Concrete, Mixing Plants, Central ..................... 14
Concrete, Apron ........................................ 29
Concrete, Assembly .................................... 29
Concrete, Belt ......................................... 29
Conveyors, Coal Retarding ......................... 18
Conveyors, Drag Chain ............................... 6
Conveyor, Bridge ...................................... 29
Conveyor, Flourmill ................................... 17
Conveyor, Greenhouse ................................ 23
Conveyor, Overhead Trolley ......................... 29
Conveyor, Package .................................... 29
Conveyor, Parking Table .............................. 25
Conveyor, Portable Belt .............................. 17
Conveyor, Portable Flue .............................. 17
Conveyor, Ribbon ...................................... 19
Conveyor, Screw ....................................... 9
Cotton Oil Mills ........................................ 27
Cottlings, Stalk ........................................ 9
Crate, Crawler ........................................ 31
Crane, Locomotive .................................... 33
Crane, Shovel, Coal, Etc. ............................ 34
Crusher, Ice ............................................ 26

Dairy and Bottling Plants ............................. 49
Diffusers, Elevated ................................... 34
Diss-Grinder, Rotary .................................. 13
Drain, Chain, Every Use ............................. 31
Drum, Roller Chain .................................... 6
Drum, Short-Cent Hub ................................ 6
Drum, Silent Chain .................................... 4
Drum, Standard-Stand Conveyor ..................... 5
Dry-Grinding Coal ...................................... 19
Dumper, Cane Car ..................................... 23
Dumper, Mine Car ..................................... 23
Dumper, Root Car ..................................... 18
Dampers, Rotary B. R. Car ............................ 12

Elevators, Bucket ..................................... 7
Elevators, Continuum-Bucket ........................ 7
Elevator, Gravity-Discharge ......................... 22
Elevator, Rigid Tray ................................... 26
Elevator, Rundament-Tree ............................ 26

Feeder, Acrow ......................................... 30
Feeders, Baggage ..................................... 23
Feeder, Baggage-Carrying ......................... 31
Foundries .............................................. 36

Gas Plants .............................................. 36
Gas, Desiccating ...................................... 14
Glass Blowers ......................................... 24
Glass Works ........................................... 30
Grain Elevators ....................................... 36

Haul, Chain Car ...................................... 19
Haul, Horse Car ...................................... 21
Haul, Truck ............................................ 22
Haul, Ship ............................................. 11
Hoppers and Greetings, Dump ....................... 11

Ice, Portable Car ..................................... 26
Irons, Bolt Convers ................................... 9
Inlays, Adjacent ......................................... 41

Lorry, Traveling Weight • ........................... 21
Leaves Building ....................................... 20
Locators, Automatic .................................. 11
Locators, Horse Car ................................ 20
Locators, "Greatly" Crawler ......................... 21
Locators, Hand-Pushed, Bucket .................... 21

Most Packers ......................................... 41
Metal Mining .......................................... 40
Minerals ............................................... 59

Oil Refineries ........................................ 12
Oil and Gas Drilling .................................. 37

P. L. V. Gear ........................................... 5
Paper Mills ............................................ 39
Peach Carriers ......................................... 39
Pipes, Coal Loading .................................. 28
Pipe, Coal-Rim Bag ................................... 27
Pocerol, Keraul Coil ................................. 24
Power Box ............................................. 3
Power Plants ......................................... 38
Pumps .................................................. 82
Pumps, Large-Capacity, Car ......................... 32
Pumps, Unit, Fuel-Oil ............................... 30

Railroads .............................................. 39
Radium .................................................. 5
Radiators, Harrington-Spald ........................ 1
Radiators, Worn Sheet ................................ 3
Reversor, Feeder, Bollard ........................... 17
Road and Level Building ............................ 39

Sand and Gravel ...................................... 38
Saw Mills .............................................. 46
Sawmills, Automatic Band ........................... 15
Screws, Fine (Brass) .................................. 34
Screws, Mechanicals, Etc. ........................... 33
Screen, Mesh ........................................... 12
Screen, Stratified-Disc-Grizzly ....................... 33
Screen, Shredding ..................................... 16
Screen, Vibrating ..................................... 15
Screws, Water-Uni-Top .............................. 15
Screw-Machine Work ................................ 32
Screws, Tuning, Equipment ......................... 33
Ships, Self-Unloading ................................. 28
Shovels, Graders ..................................... 27
Shovels, Automatic Power ........................... 17
Shovels .................................................. 33
Shutters, Mast ......................................... 16
Shutter, Electric Car .................................. 33
Slackers, Cane ......................................... 18
Slacker, Log ........................................... 13
Slacker, Automatic Coal ............................. 13
Steel Mills ............................................. 41
Stone and Lime ........................................ 39
Storage, Silo, Coal ................................... 13
Storage Systems, "Dodge" Coal ..................... 27
Sugar Factories ........................................ 46

Tackle, Ship's, Etc. ................................... 33
Tackle, Ship's, Etc. ................................... 33
Towers, Coal Re-Screening ......................... 18
Towers, Unloading .................................... 77
Tramways, Bridge .................................... 17
Trench Hoe ............................................ 20
Trench, Drainage, Conveying ....................... 21
Truck, Job-Terr ....................................... 32

Unloader, Grain Car .................................. 13
Unloader, Traveling Direct ........................... 37

Washes, Coal .......................................... 19
Washes, Sand and Gravel ............................ 16