

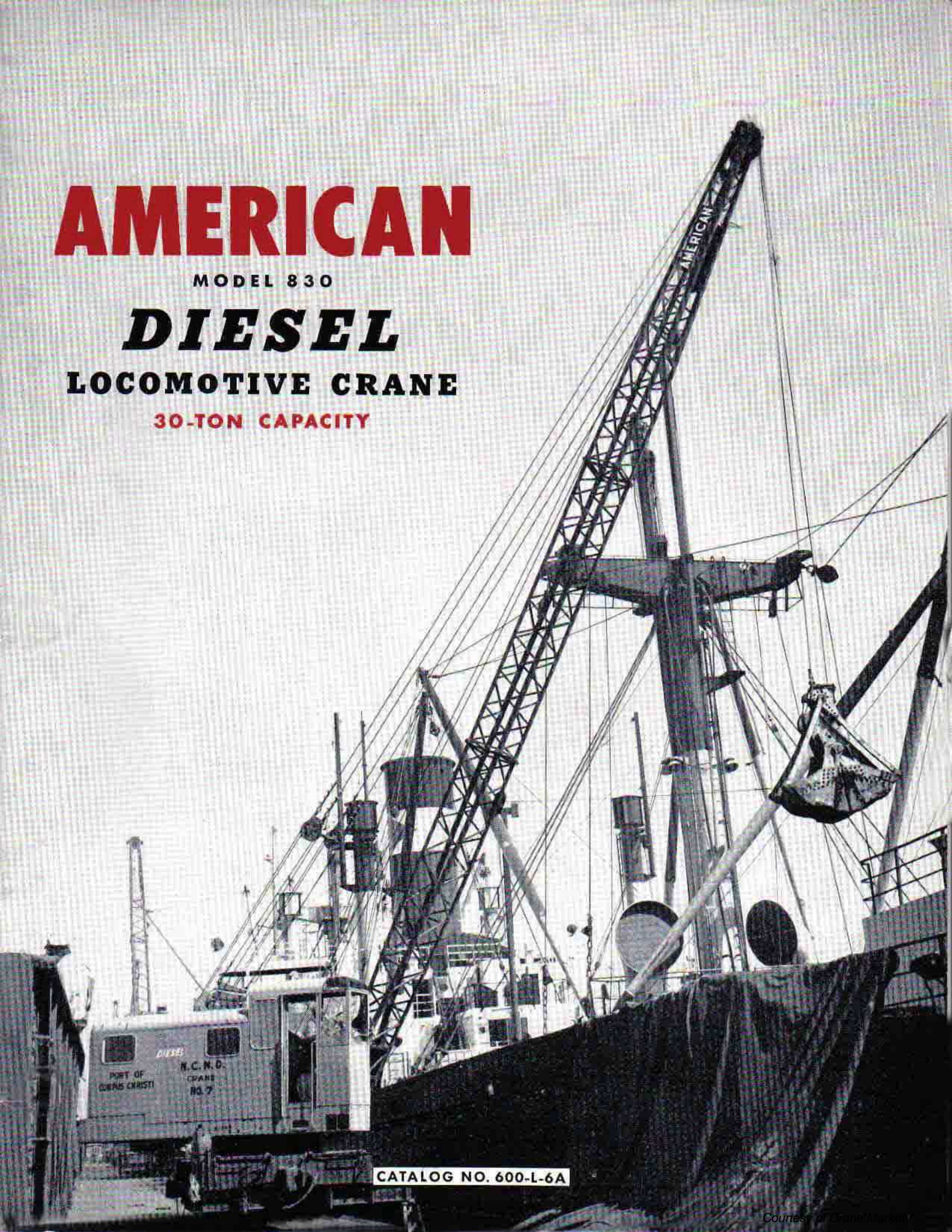
# AMERICAN

MODEL 830

## DIESEL

### LOCOMOTIVE CRANE

30-TON CAPACITY

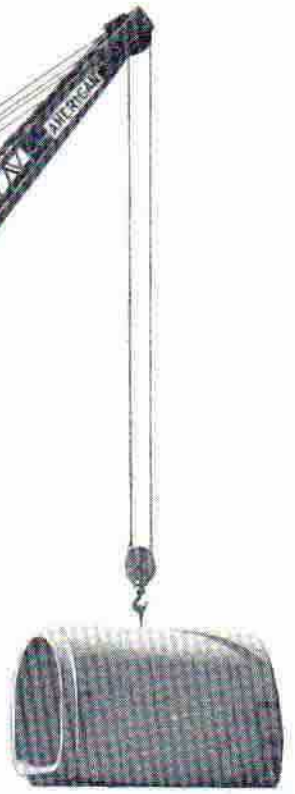
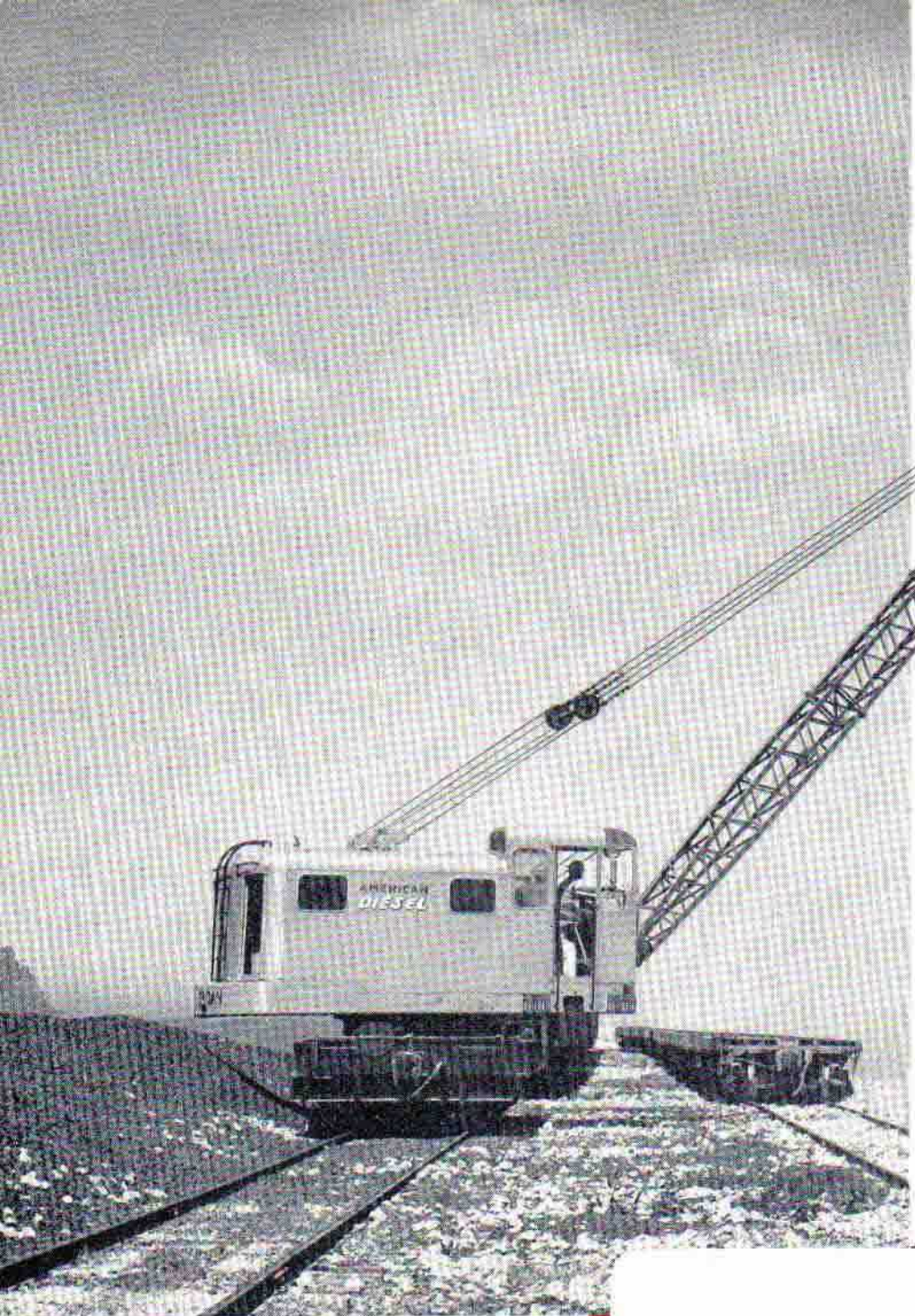


DIESEL  
PORT OF  
CORPUS CHRISTI  
N.C.N.D.  
CRANE  
NO. 7

CATALOG NO. 600-L-6A

Courtesy of American Crane & Shovel Co.





# AMERICAN

***For Maximum  
Economy . . .***

For years, economy of operation and maintenance has been an outstanding feature in AMERICAN Cranes. Today, AMERICAN Diesel Locomotive Cranes are bringing costs down still lower. Fuel costs of less than a few dollars a day are reported from many jobs.

Maintenance costs have been cut to an all-time low by the use of tough alloy steel shaftings; heat-treated, hardened steel gears; ball and roller bearings throughout; splined shafts; enclosed travel gears, running in oil; and dozens of other features pioneered and first introduced in AMERICAN Locomotive Cranes. Sealed ball and roller bearings cut lubrication problems—servicing is extremely simple . . . all parts are readily accessible.



# **AMERICAN** *For Maximum Production . . .*

Ask the nearest AMERICAN Locomotive Crane operator or owner. He'll tell you operating and maintenance costs on his AMERICAN are at a minimum.

Owners everywhere are getting top production from AMERICAN Locomotive Cranes—setting heavy loads requiring hair-line spotting or fast cycle production work with grapple, bucket or magnet.

The AMERICAN Locomotive Crane is designed for internal combustion engine power—not just a converted steam crane. Engines can be furnished to utilize the most economical fuel in your locality—Diesel, gasoline, propane or butane.

AMERICAN HOIST, pioneers in research, experiments, and tests, has produced a Crane that incorporates outstanding features of design. And every one of these features has been fully tested and proved to give owners the maximum in low cost production. Top speed is available for fast bucket or magnet work, yet perfect control enables you to safely and accurately place heavy loads when necessary.

Read through the pages of this book. If there are any questions in your mind, a note to AMERICAN HOIST will bring the desired information by return mail.

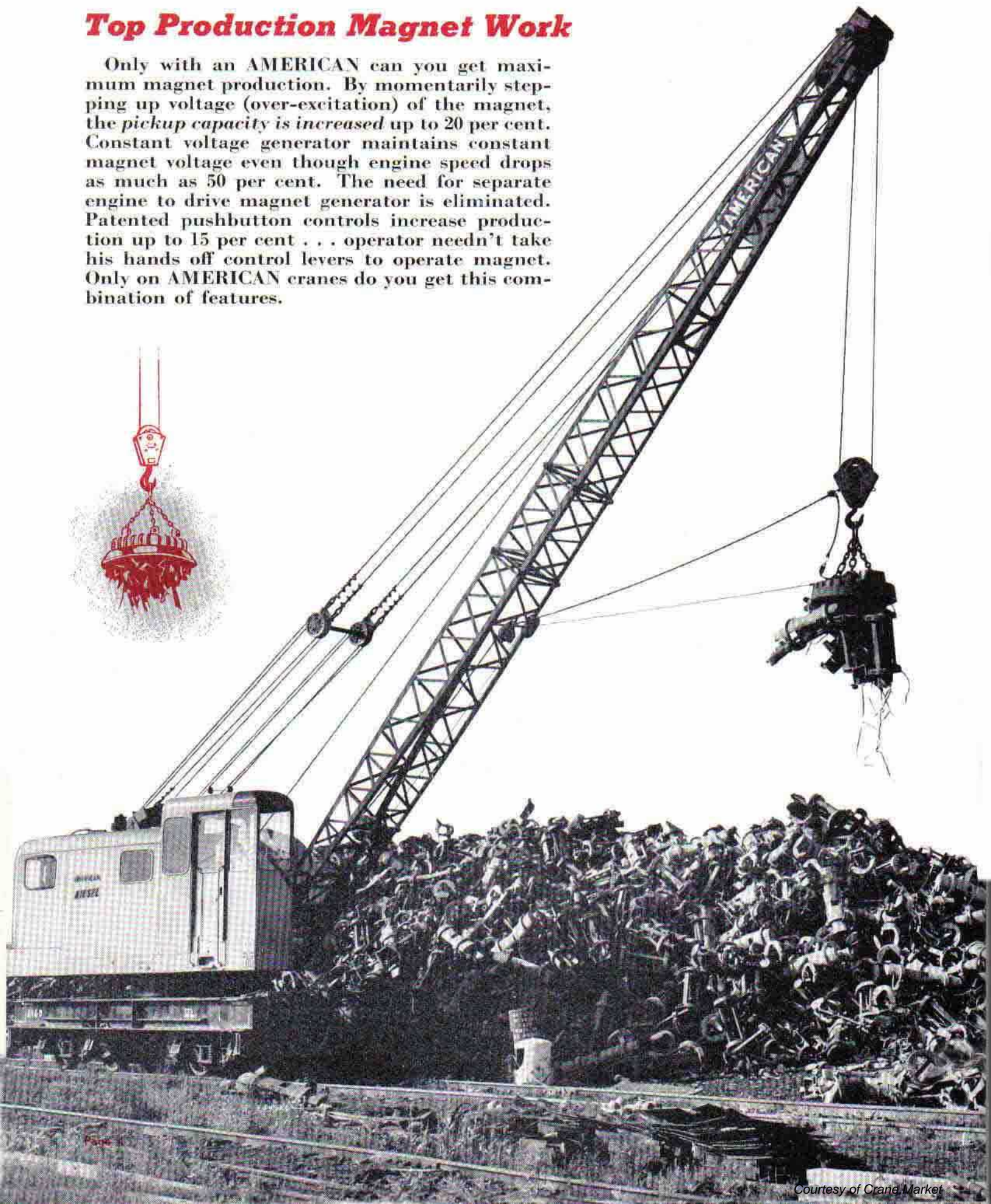
# **AMERICAN** **DIESEL**





## Top Production Magnet Work

Only with an AMERICAN can you get maximum magnet production. By momentarily stepping up voltage (over-excitation) of the magnet, the pickup capacity is increased up to 20 per cent. Constant voltage generator maintains constant magnet voltage even though engine speed drops as much as 50 per cent. The need for separate engine to drive magnet generator is eliminated. Patented pushbutton controls increase production up to 15 per cent . . . operator needn't take his hands off control levers to operate magnet. Only on AMERICAN cranes do you get this combination of features.







## ***High Speed Bucket Work***

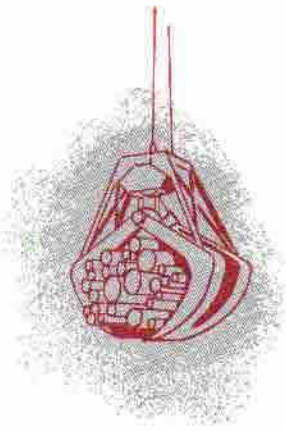
Bucket work requires a crane to swing almost constantly. This is usually exhausting work for the operator.

The speed and ruggedness of the AMERICAN Model 830 assures owners of a high volume output without undue operator fatigue. Actually, finger-tip air controls are an incentive for fast, efficient work. Your operator is just about as alert at the end of his shift as at the beginning.

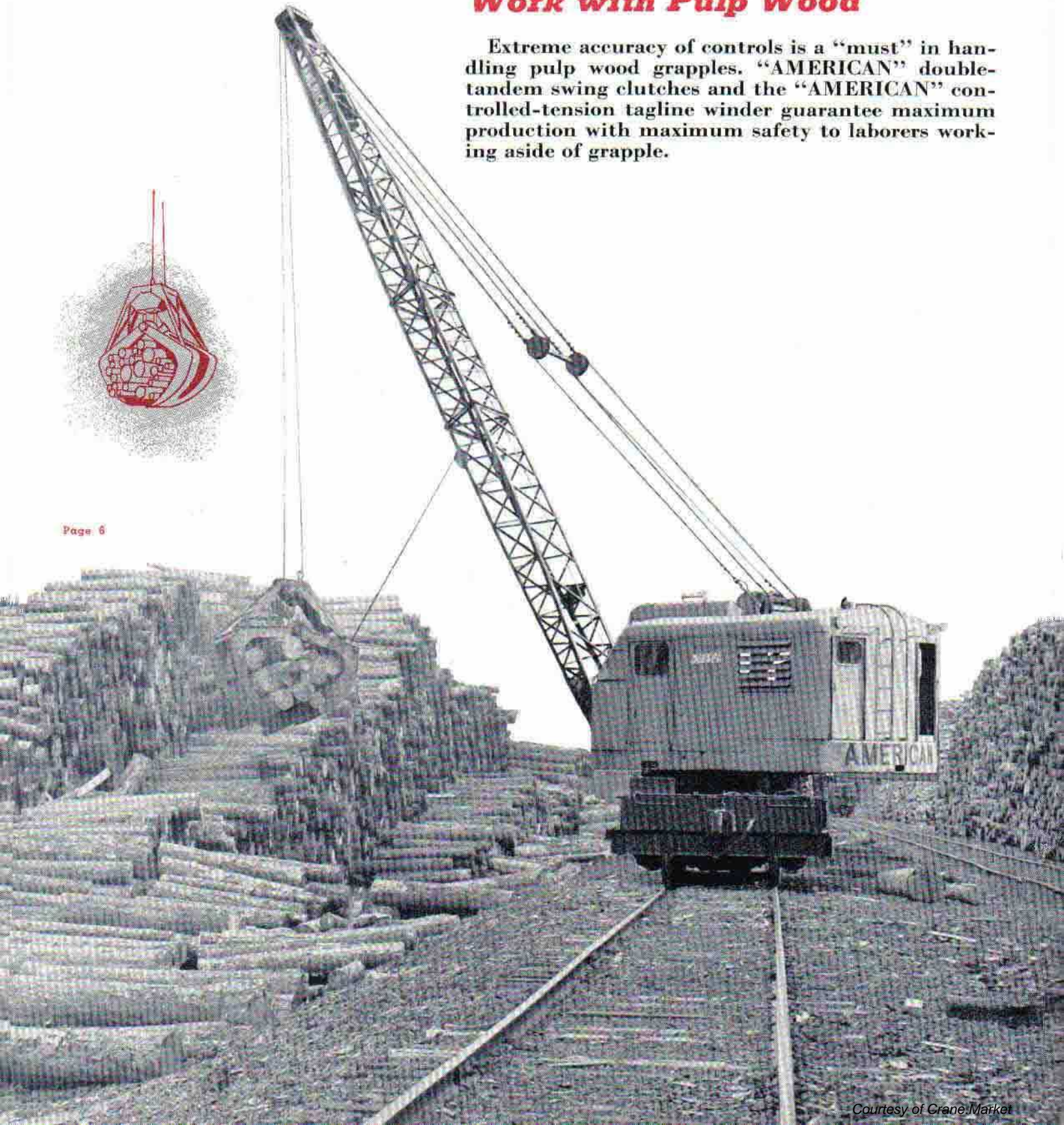


## ***Maximum Safety in Grapple Work with Pulp Wood***

Extreme accuracy of controls is a "must" in handling pulp wood grapples. "AMERICAN" double-tandem swing clutches and the "AMERICAN" controlled-tension tagline winder guarantee maximum production with maximum safety to laborers working aside of grapple.



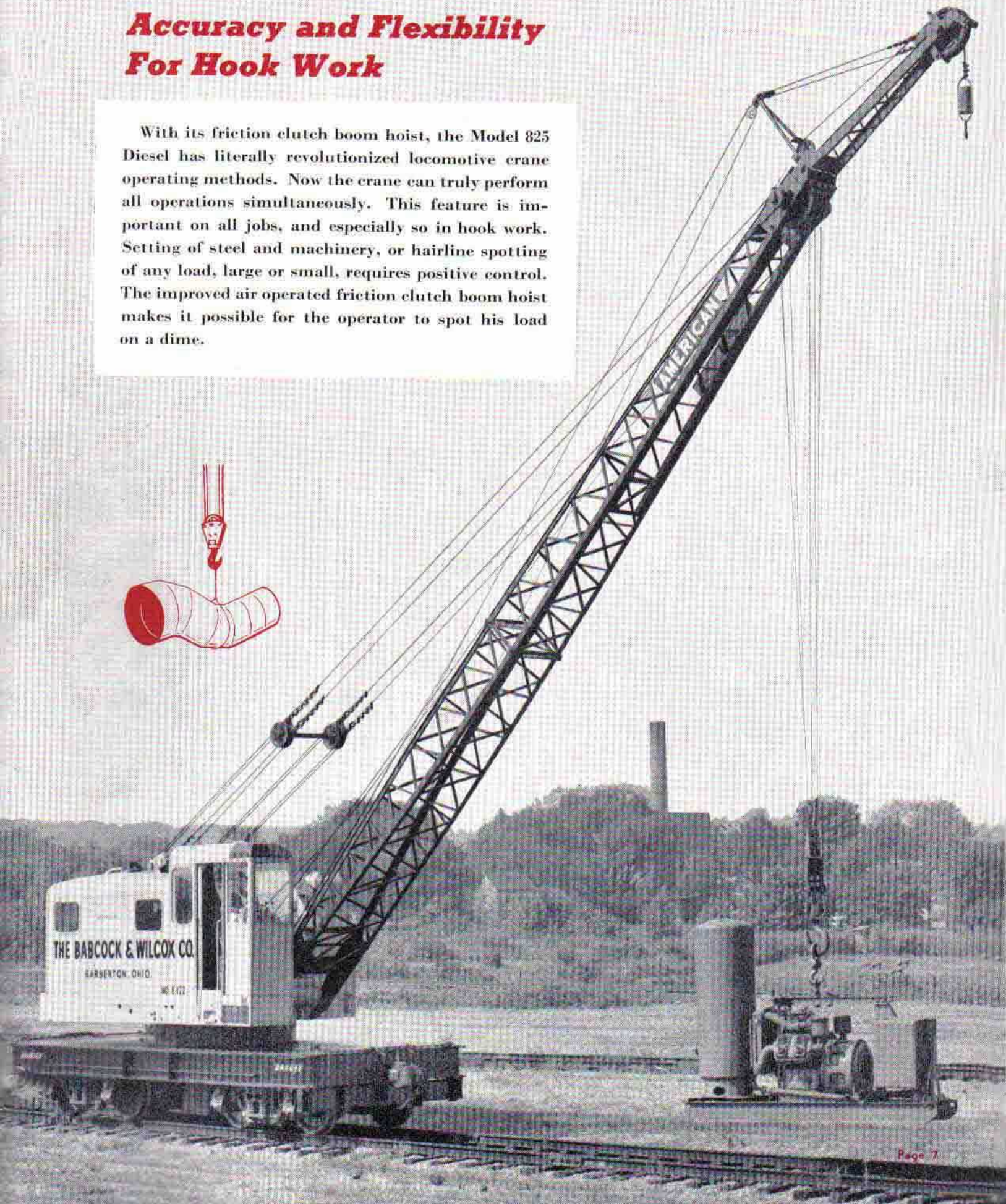
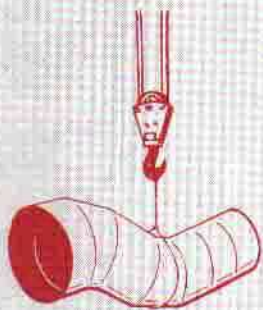
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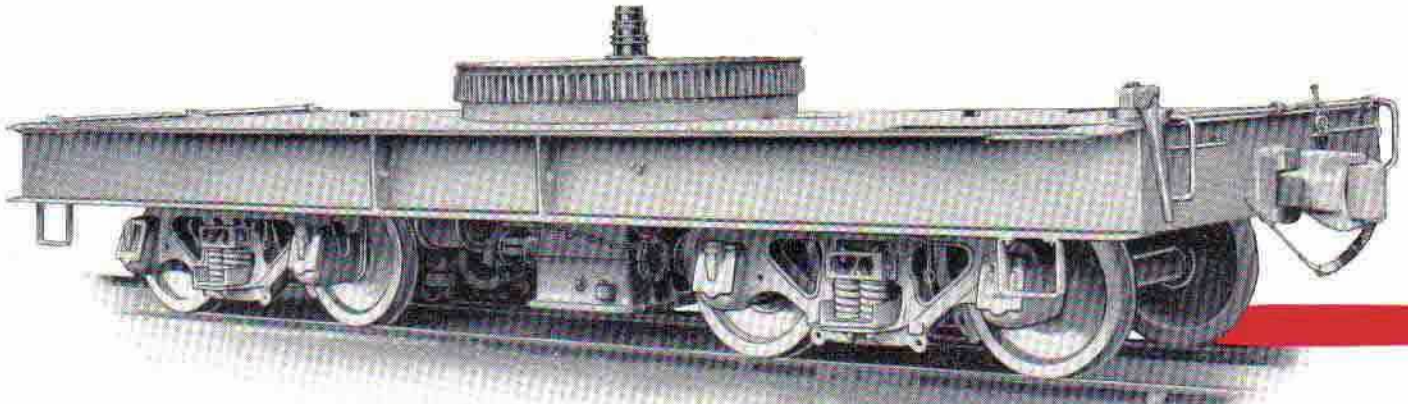


## ***Accuracy and Flexibility For Hook Work***

With its friction clutch boom hoist, the Model 325 Diesel has literally revolutionized locomotive crane operating methods. Now the crane can truly perform all operations simultaneously. This feature is important on all jobs, and especially so in hook work. Setting of steel and machinery, or hairline spotting of any load, large or small, requires positive control. The improved air operated friction clutch boom hoist makes it possible for the operator to spot his load on a dime.







## ***Carbody***

The AMERICAN carbody is a single, all-welded steel unit . . . no bolts or rivets to work loose. Heavy steel "H" side members joined by rigid cross braces at ends and center, form a deep box section. Top side is completely covered with heavy steel plate welded in place. Couplers and other fittings meet all AAR requirements.

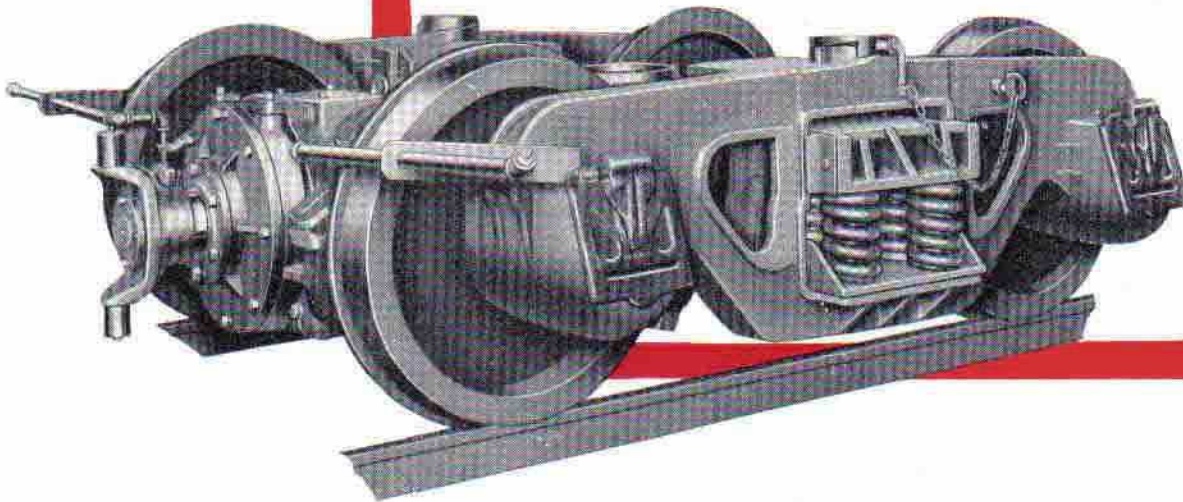


## ***Split Axle Gear***

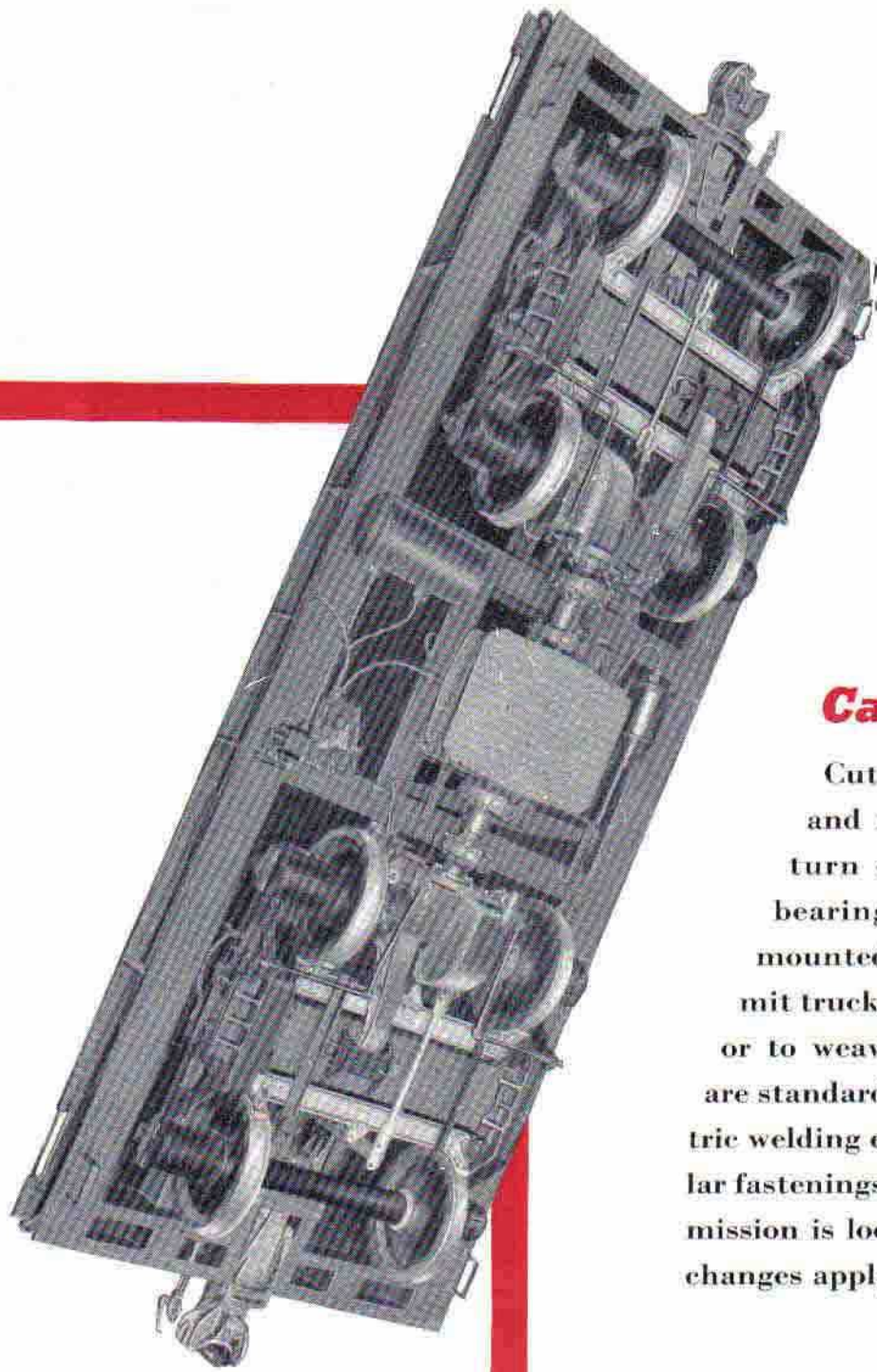
The gear is heat-treated, hardened steel with machine cut teeth. Both halves are securely bolted to hub. Axle gear is split type for easy replacement if ever necessary.

## ***Trucks***

Trucks are specially designed and built by AMERICAN for locomotive crane service. Rolled steel wheels are 33" Class U, multi-wear type. Journal boxes are integrally cast with heavy steel side frames . . . bolster is supported on eight large coil springs.







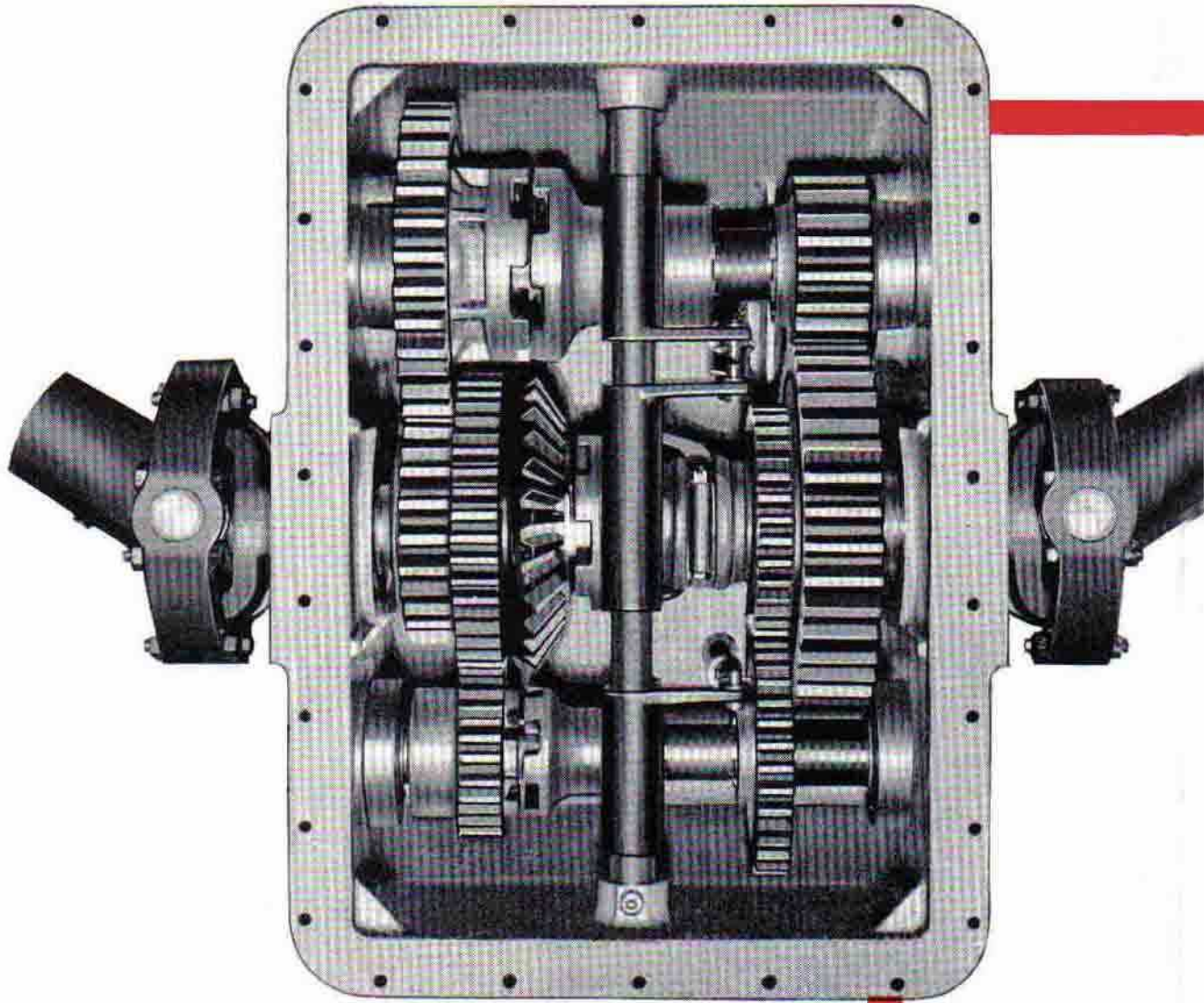
### ***Carbody, Underside***

Cut steel gears are fully enclosed and run in an oil bath. All shafts turn on heavy-duty anti-friction bearings. Multiple universal joints mounted on sliding splined shafts permit trucks to swivel around sharp curves or to weave on rough track. Air brakes are standard on both trucks. Modern electric welding eliminates rivets or other similar fastenings that loosen with wear. Transmission is located under carbody so speed changes apply only on travel motion.

**AMERICAN**  **DIESEL**  
**Locomotive Crane**

MODEL 825

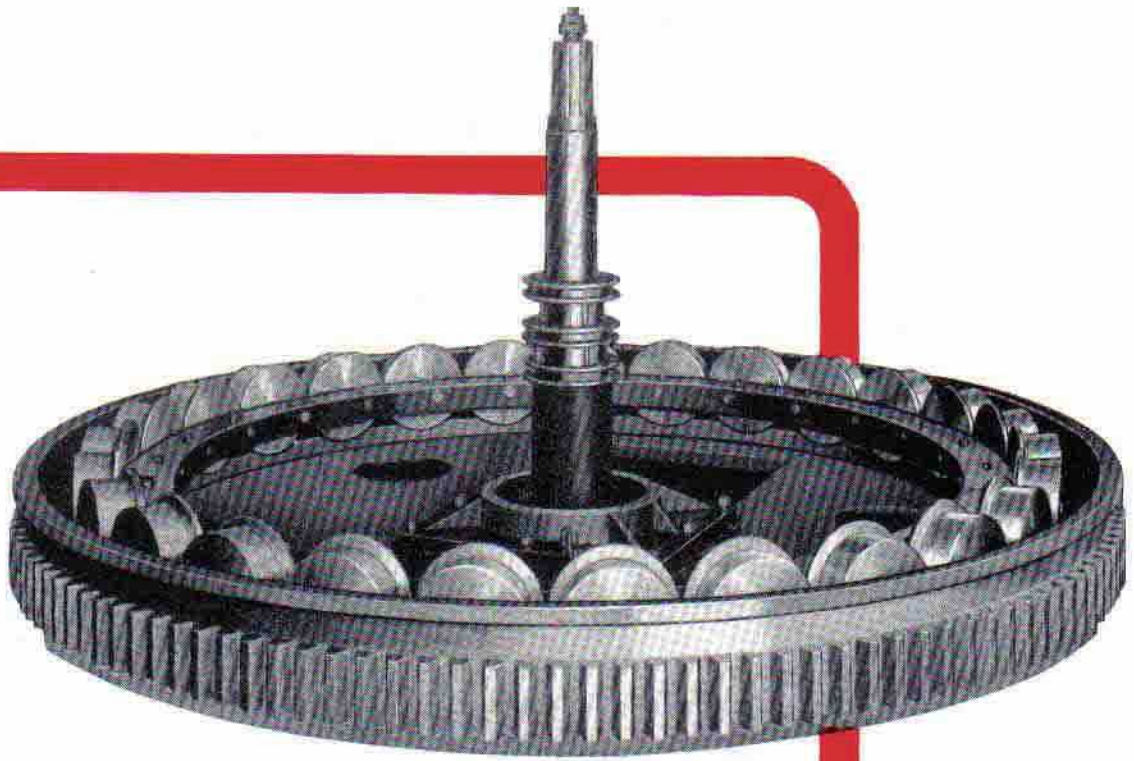




## ***Transmission***

Three-speed selective type transmission permits rapid switching or track movements without excessive gear speed above deck. All gears are of steel, precision cut for quiet, smooth operation—hardened and heat-treated for long, trouble-free service. Located under the carbody, the entire unit is readily accessible for inspection and servicing. All shafts are splined and are equipped with anti-friction bearings. The entire assembly is cased and runs in a constant bath of oil. *Operator can shift from one speed to another while crane is in motion.*

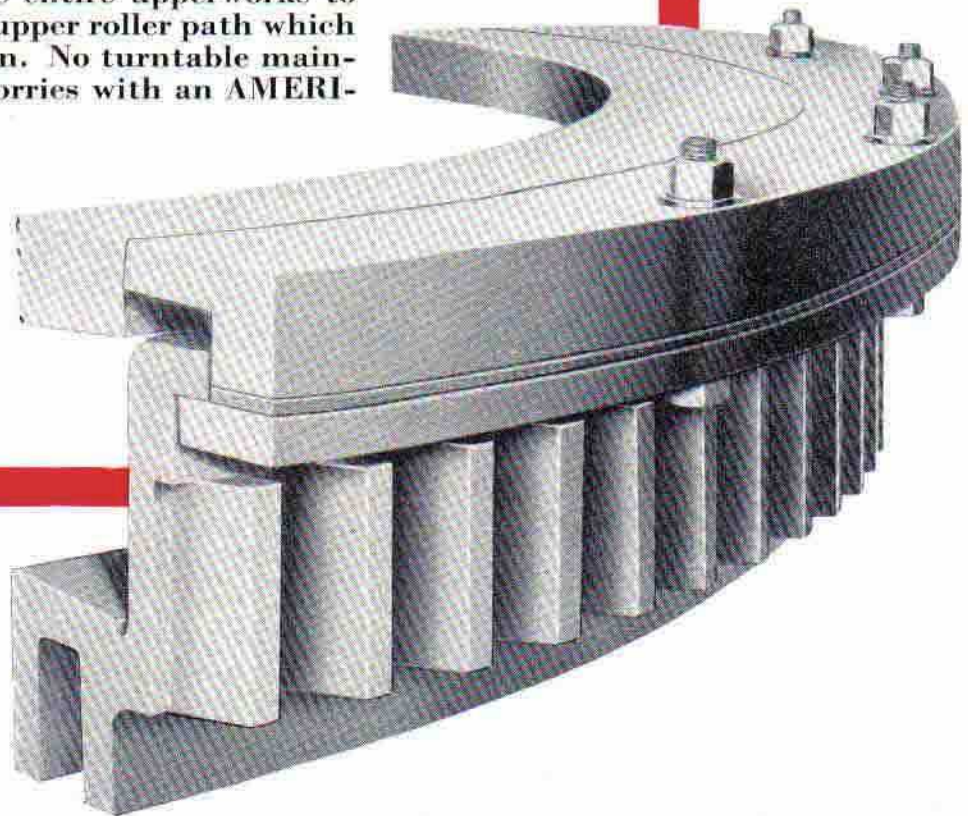




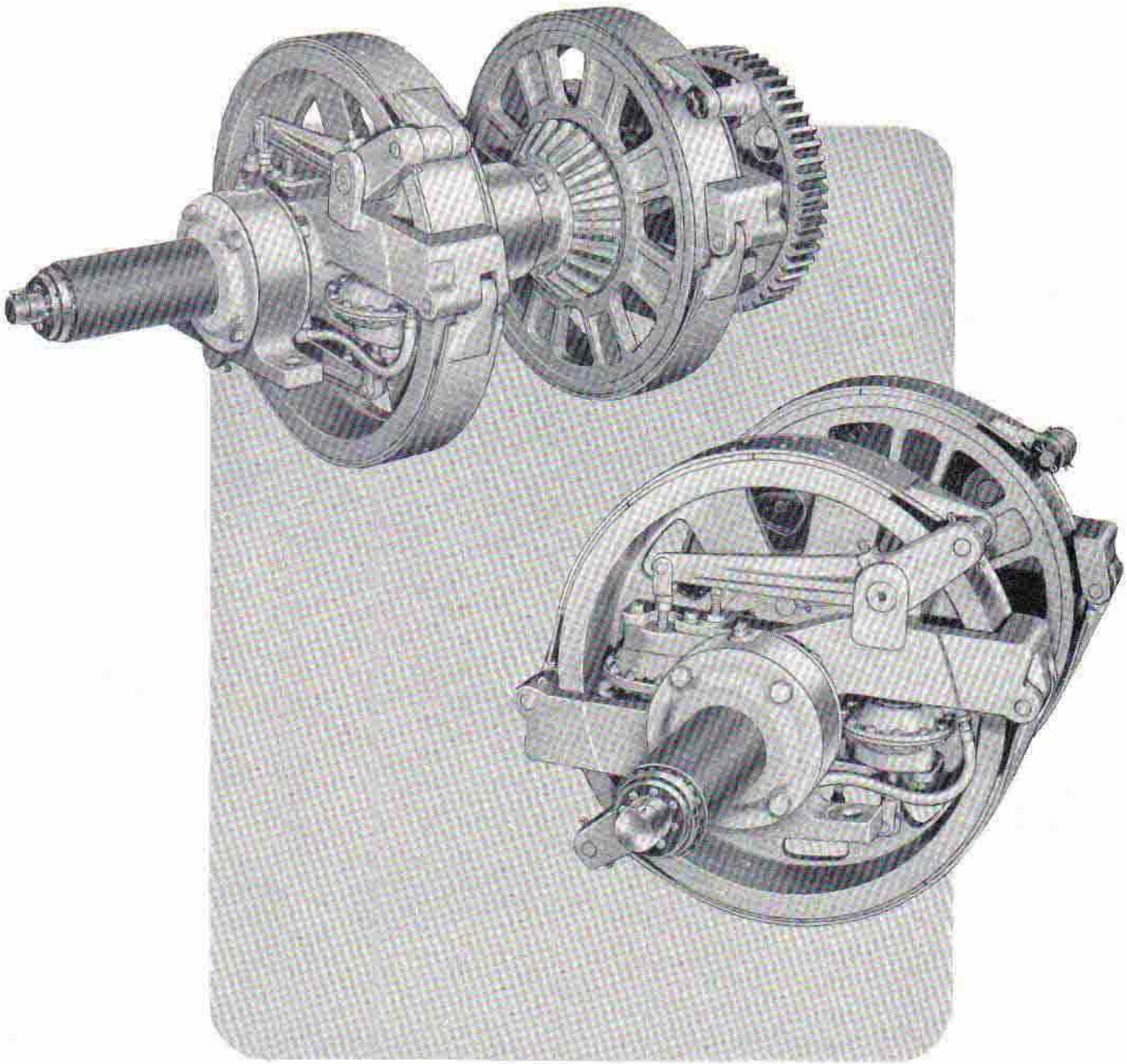
## ***Interlocking Gib Ring and Roller Path***

Large, conical roller bearings carry the down loads of the entire upperworks, boom and loads included. No weight is carried on roller cage or roller axles.

Massive steel gib ring locks entire upperworks to the carbody . . . incorporates upper roller path which absorbs load shocks and strain. No turntable maintenance costs, no king pin worries with an AMERICAN crane.







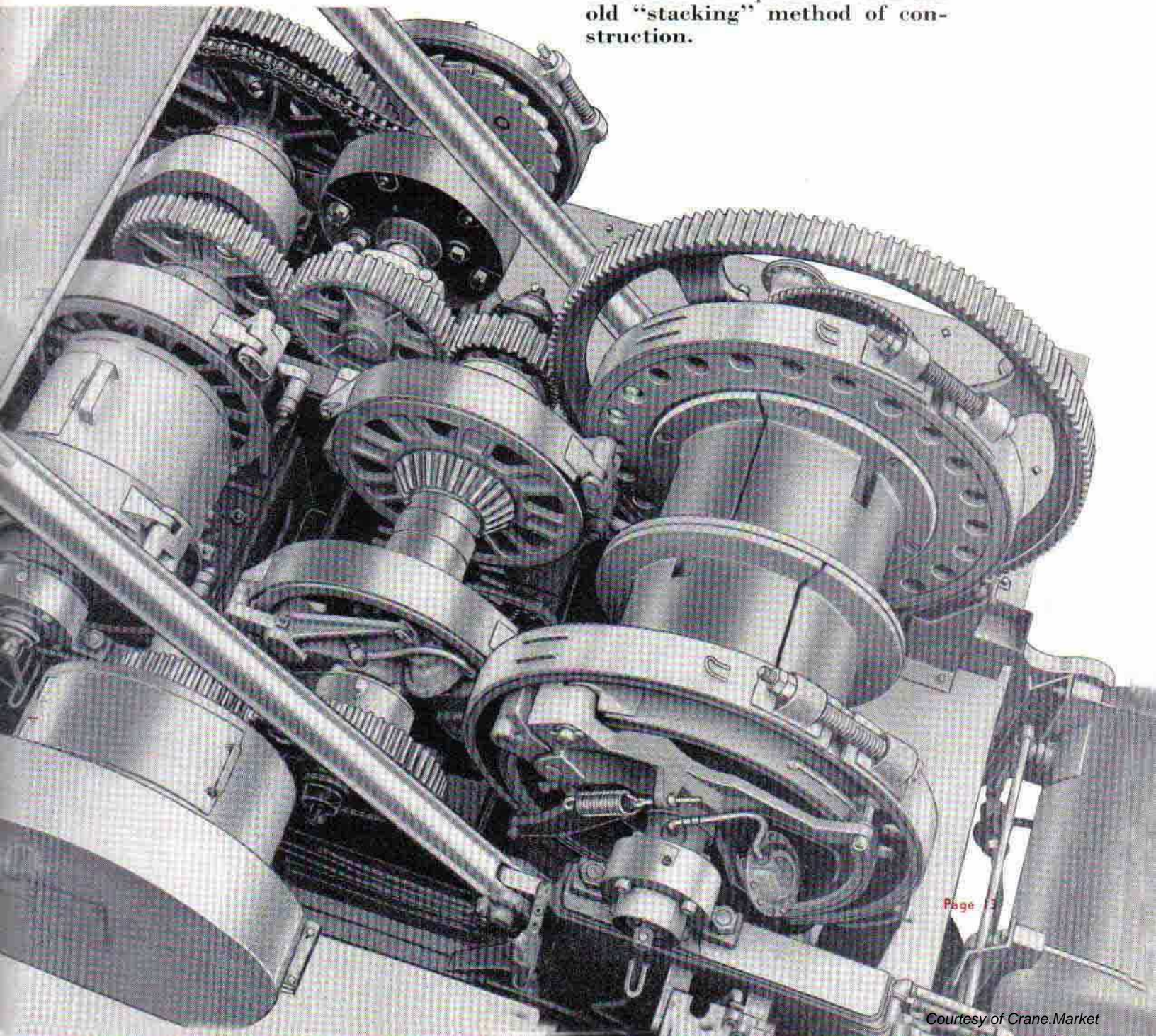
## ***The American Swing Clutch Assembly***

Big double tandem band clutches with short arc and uniform pressure offer utmost smoothness, positive control. Two half bands, each with separate air chamber, both operated by a single valve, permit full contact of clutch surfaces to drums. Swing and travel clutch parts are interchangeable.



## **Deck Machinery**

Years of experience in locomotive crane building resulted in the clean, orderly, and efficient machinery layout shown below. Notice the compactness of the entire unit, and yet each part is easily accessible for inspection, adjustment or service. Exposed moving parts are amply guarded for personnel safety. Notice also how the parts and assemblies hug the deck. This feature permits lower and absolutely rigid bearing members, and lowers the center of gravity. For servicing, *any* horizontal shaft can be entirely removed without disturbing any other horizontal shaft, an operation that is impossible with the old "stacking" method of construction.



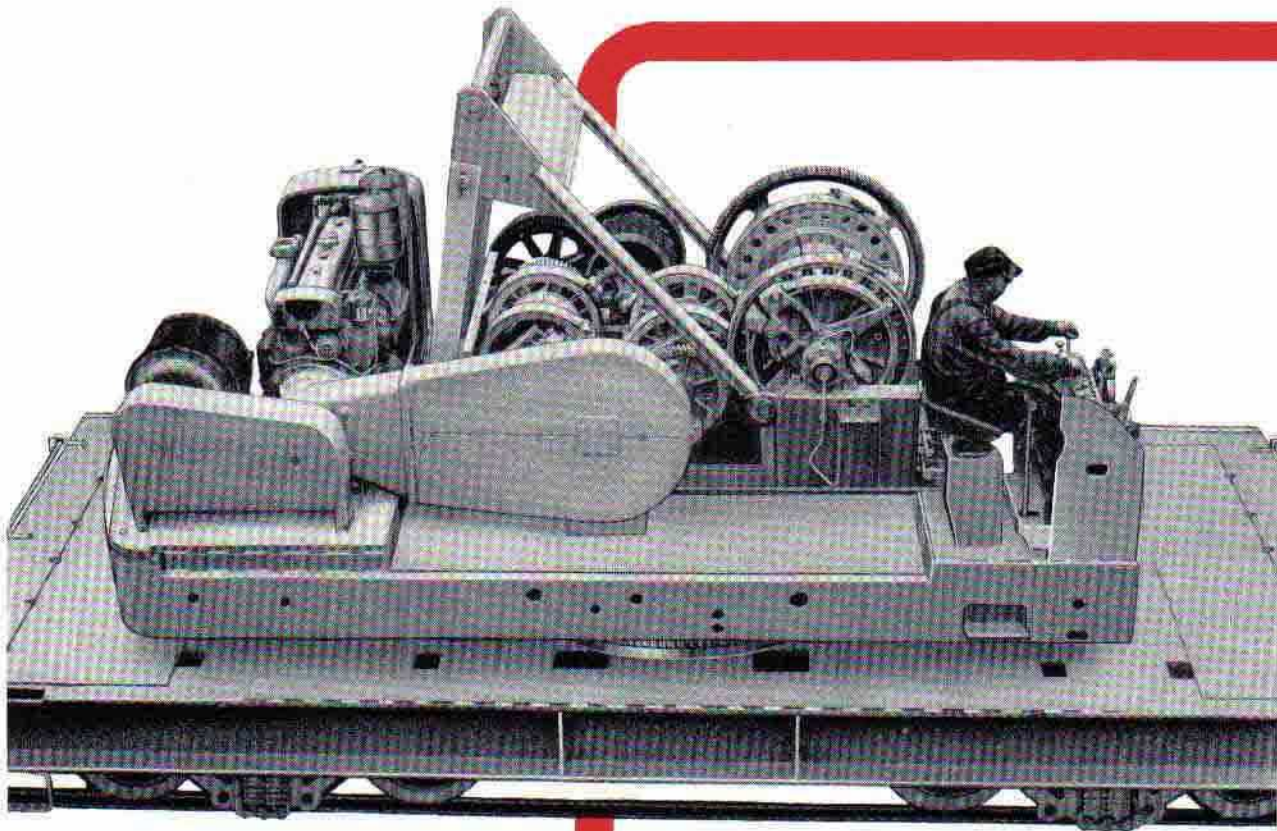


## ***Machinery Deck***

Fabricated of rolled steel, the machinery deck will never crack from a blow or shock. Electric welding eliminates riveting and bolting—keeps the deck solid. The entire deck is braced and cross-braced internally and covered with heavy steel plate. Operator platform is integral with the deck—not just “hung on.” Just like a modern locomotive, the cab is on the right front of the machine. Located forward of the boom foot, the operator has a clear view of the load.

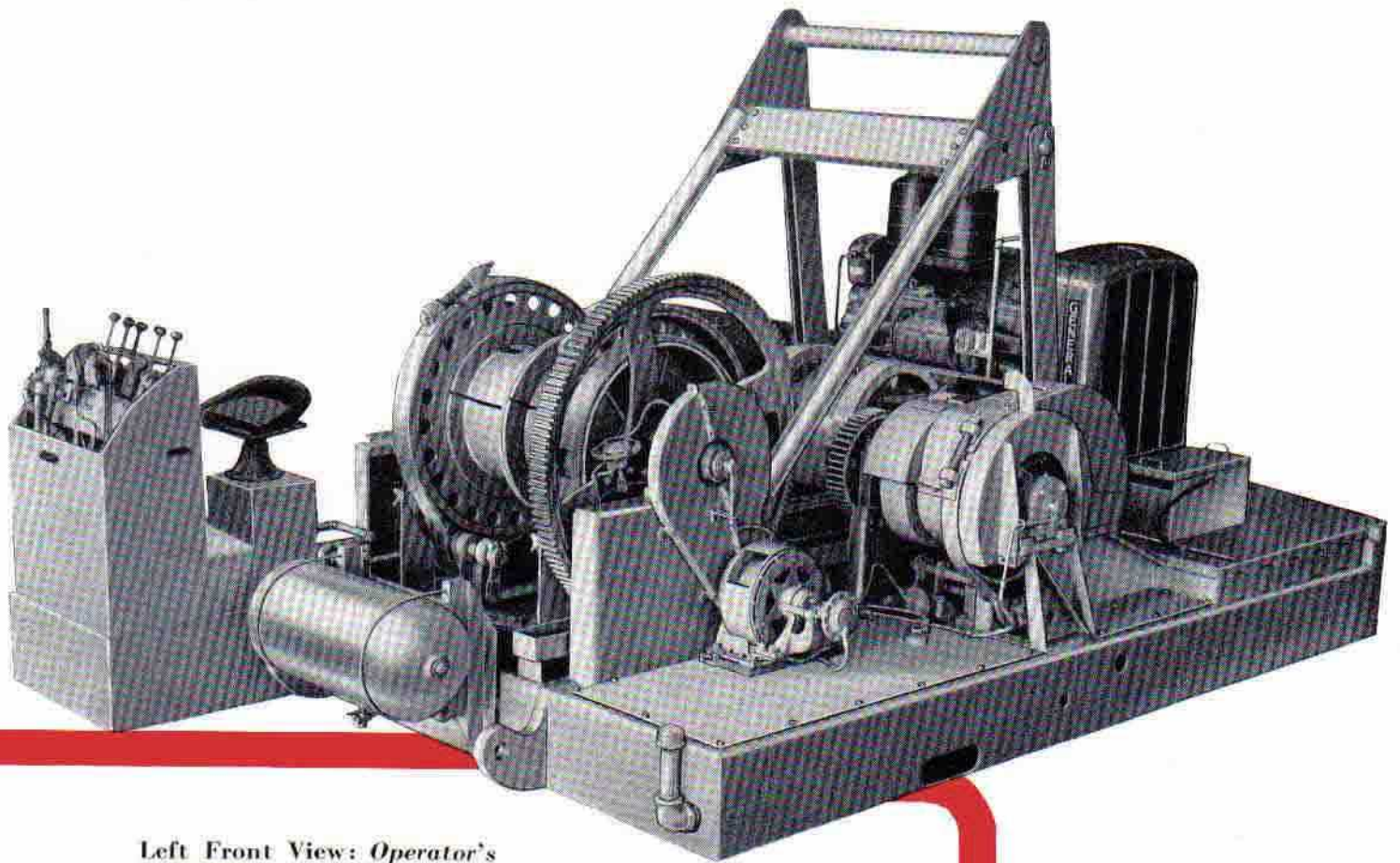
He does not look through a maze of wire rope and boom lacing to see the load or the rail ahead.

Mechanically the AMERICAN Diesel Locomotive Crane is in a class by itself. *Not just a converted steam crane—not an adaptation of a smaller or larger crane,* but a unit engineered and designed from the wheels to the boom tip as a Diesel Powered 25 ton Locomotive Crane.



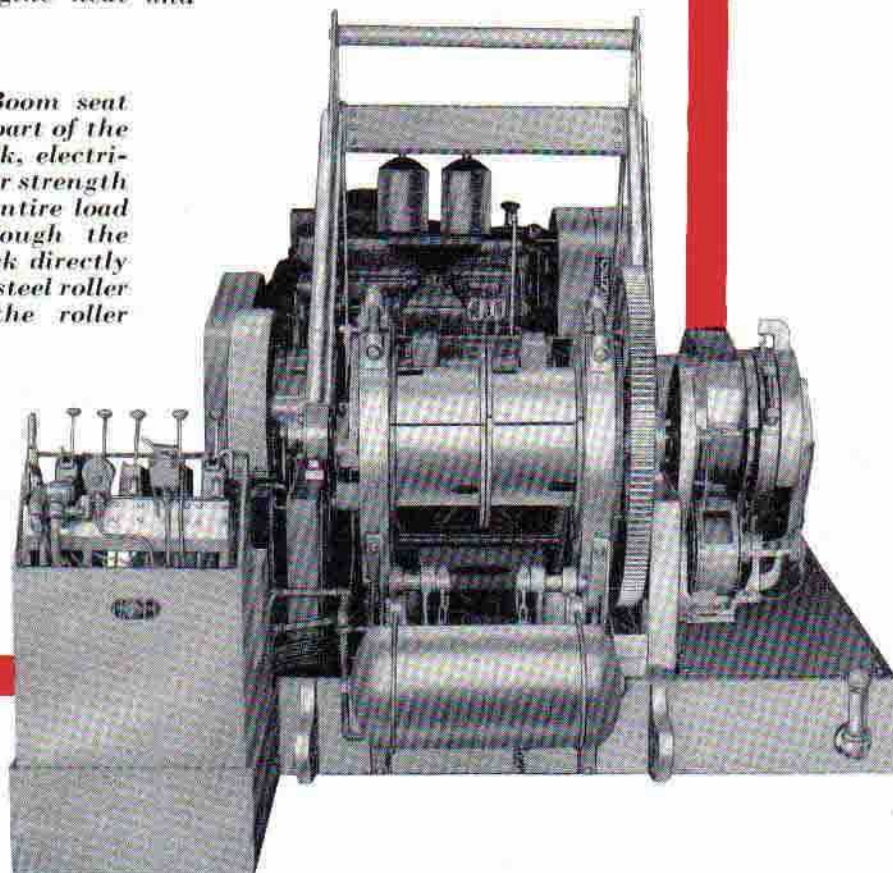
*Right Side View: Notice the smooth overall look of the machinery deck. Each unit has its place without crowding or stacking.*





*Left Front View: Operator's platform and controls placed well out in front, as far as possible from engine heat and noise.*

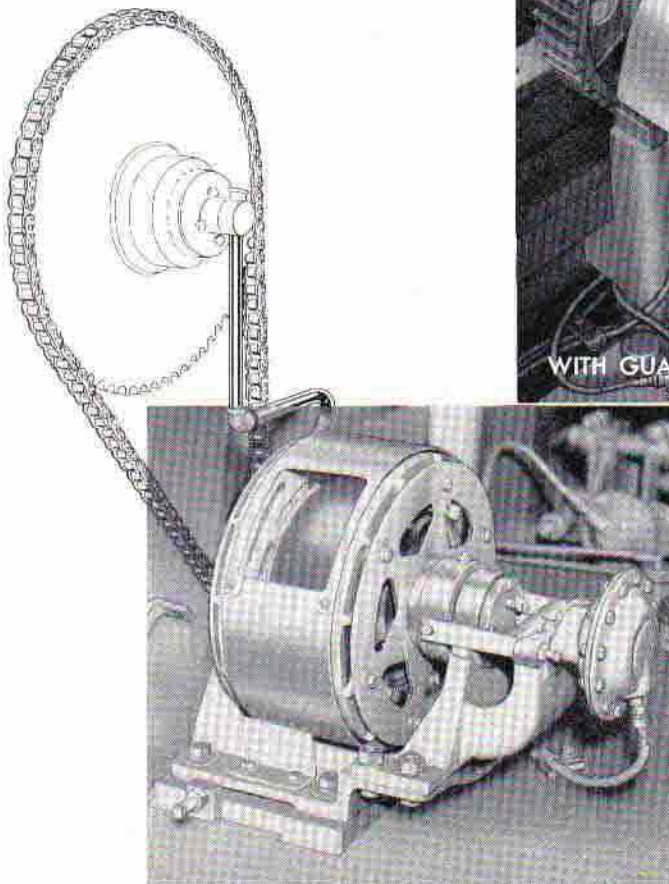
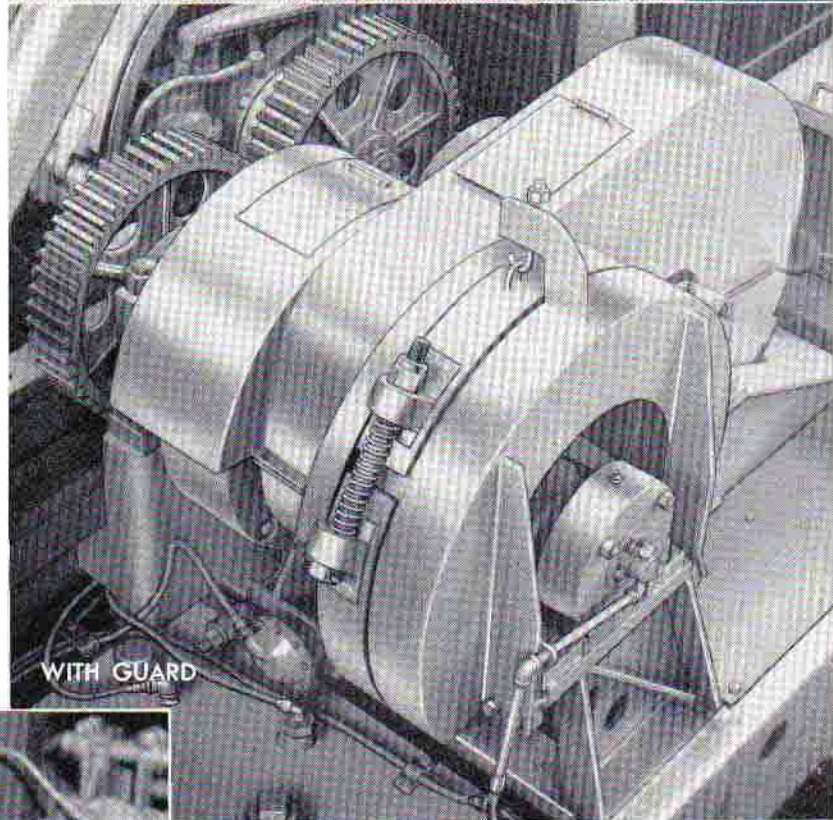
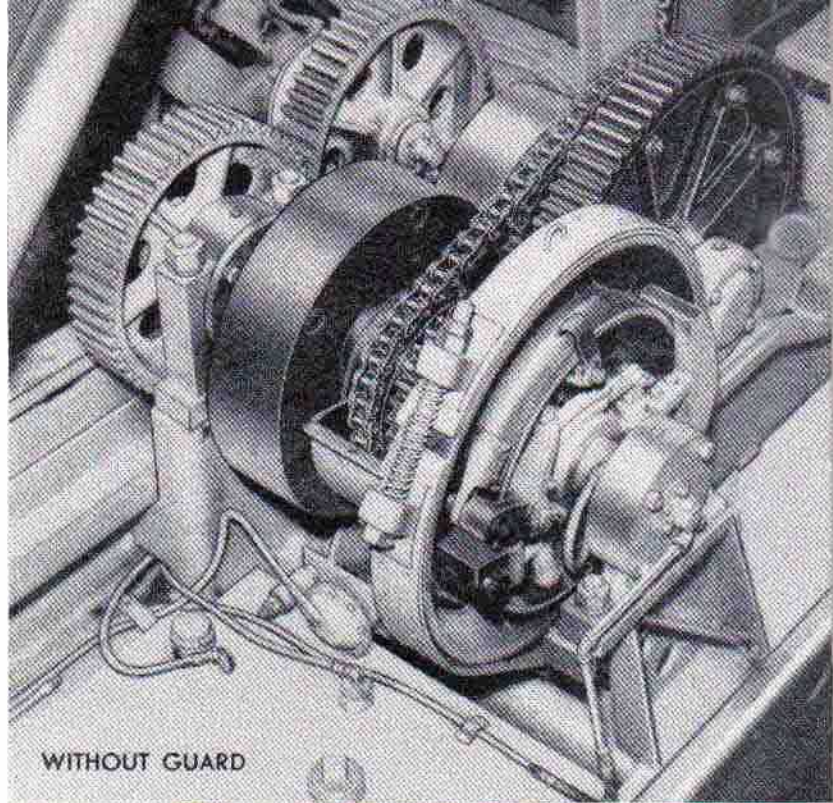
*Front View: Boom seat is an integral part of the machinery deck, electrically welded for strength and rigidity. Entire load is carried through the machinery deck directly to the massive steel roller bearings of the roller path.*





## Boom Hoist

AMERICAN features a usable boom hoist in a crane which can truly perform all operations simultaneously. Use it continually if you desire—the inefficient, heat producing worm gear has been eliminated. Just throw in the clutch and raise or lower the boom while the crane is hoisting, swinging, or traveling. Controlled lowering speed for maximum safety. Typical AMERICAN construction with heavy steel cut tooth spur gears, enclosed and running in oil.



*Tagline Winder: A unique friction-type tagline winder, specially designed by AMERICAN, gives the operator instantly adjustable control of tagline tension without leaving his seat at the control panel. Driven by roller chain from the main drive, the winder aids the operator in positioning every load, whether bucket, grapple or magnet. Tension is also easily released for changing front attachments.*



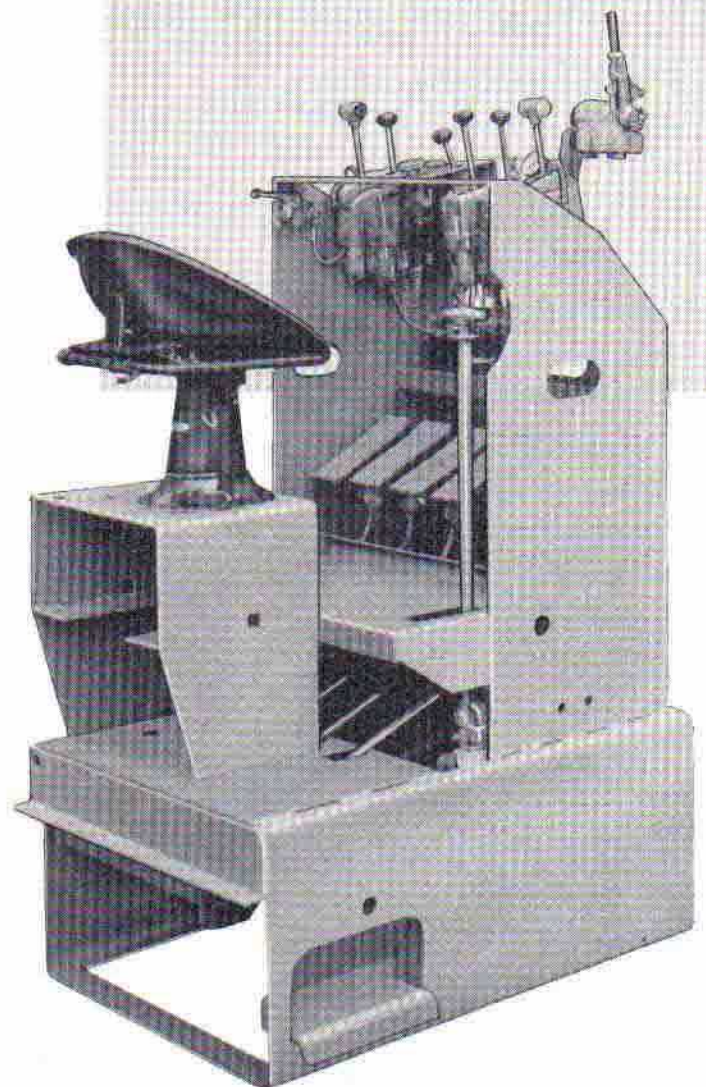
## **Perfect Visibility From the Operator's Cab . . .**



### **ASK THE MAN IN THE CAB!**

● Even the world's finest locomotive crane can be no more efficient than its operator. For that reason, American Hoist engineers have given the 825 DIESEL the most comfortable, orderly and ingenious cab arrangement ever created. The cab is forward of the main deck mechanism, to right of boom. Operator sits high and close to the boom at the best possible angle for guiding his load. Windows front, side, top, and rear permit excellent view even in cold weather operation. The cab is fully partitioned from machinery deck . . . clean, quiet and comfortable at all times.

### **Anti-Fatigue Air Controls**



## **Operators Comfort Increases Production**

AMERICAN cranes result in a constant high rate of production. The cushioned operator's seat is easily adjusted up, down back, forward or tilted to suit any size man. AMERICAN air controls are banked in the lever stand, all within easy reach. Clutch controls are completely air type

. . . reach rods, linkages, etc., have been eliminated, thereby greatly reducing operator effort and resulting fatigue.

These factors alone permit full speed work all day, every day . . . with an AMERICAN your operator can increase production by as much as 20 per cent!

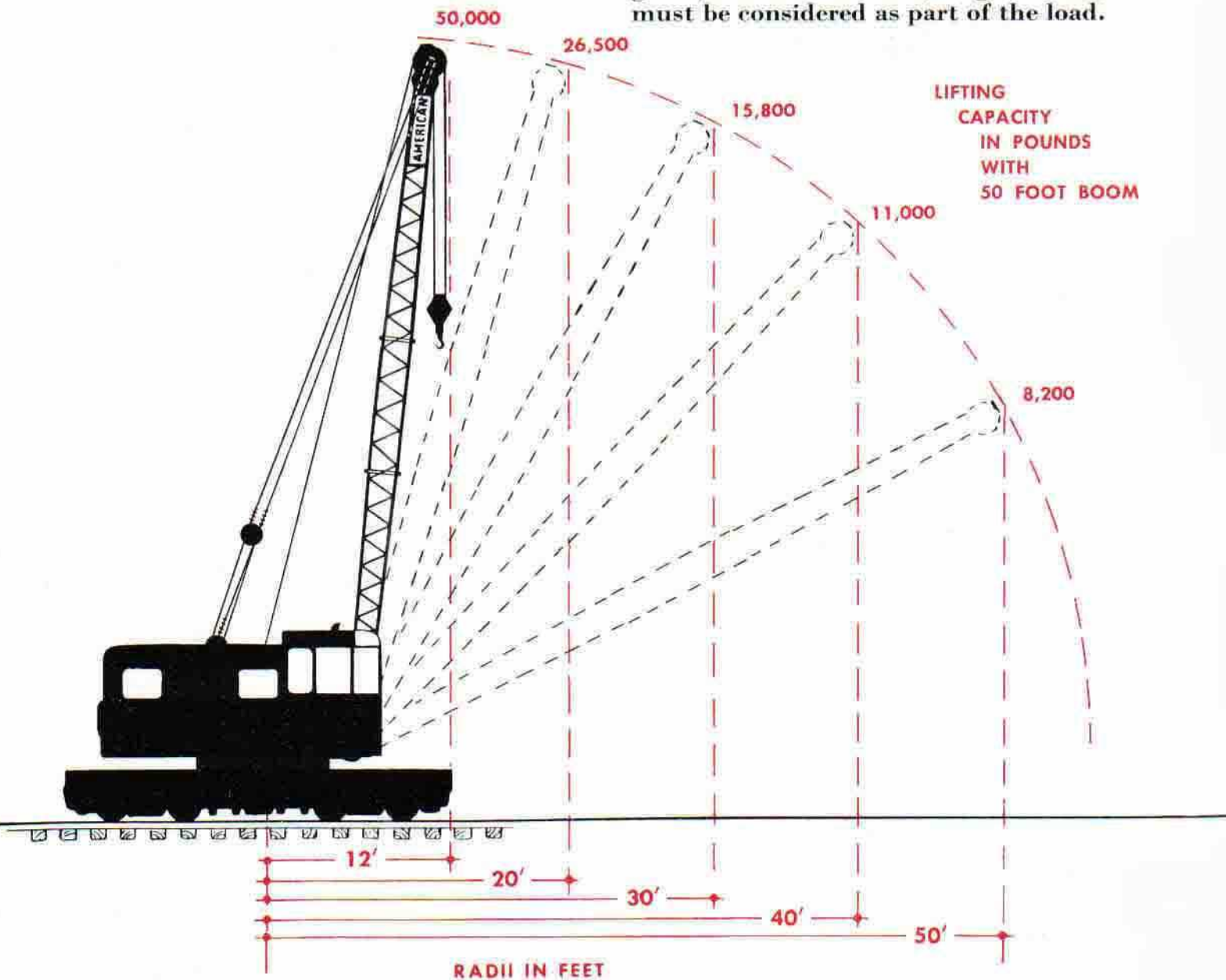


# AMERICAN DIESEL Locomotive Crane

MODEL 825

## Stability Rating

Safe lifting capacities on the hook are graphically shown in the illustration below. When computing stability ratings, the actual work being performed must be taken into consideration. All lifting devices, such as blocks, grabs, clamshell buckets, magnets, etc., must be considered as part of the load.



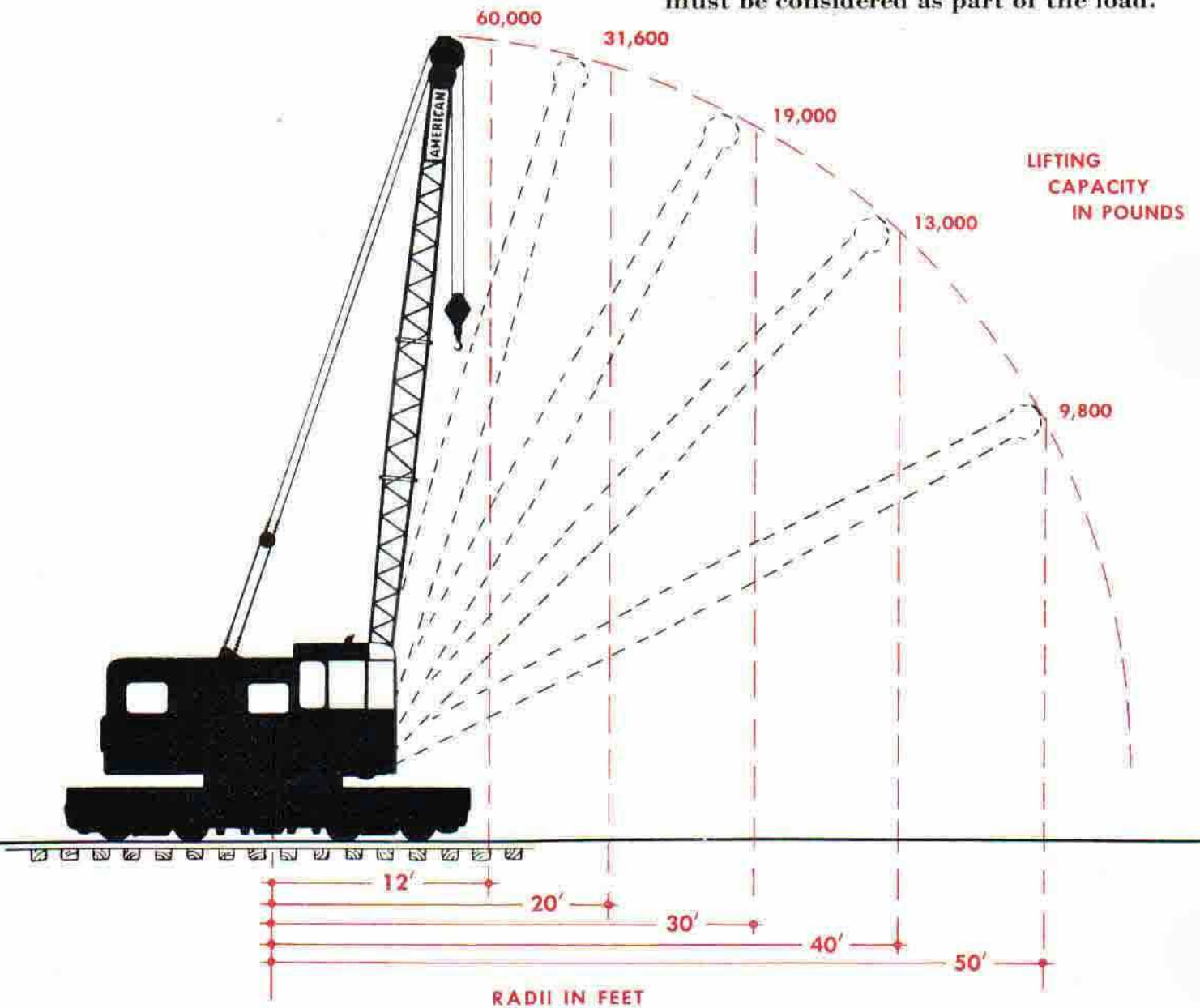


# AMERICAN DIESEL Locomotive Crane

MODEL 830

## Stability Rating

Safe lifting capacities on the hook are graphically shown in the illustration below. When computing stability ratings, the actual work being performed must be taken into consideration. All lifting devices, such as blocks, grabs, clamshell buckets, magnets, etc., must be considered as part of the load.





# General Specifications

## Model 825 AMERICAN Locomotive Crane

Shipping weight, 110,000 lbs. . . . Working weight (50' boom), 132,000 lbs.

### LIFTING CAPACITIES—50' BOOM

RADIUS	WITHOUT OUTRIGGERS	WITH OUTRIGGERS
12'	50,000	50,000
15'	38,000	44,500
20'	26,500	31,000
30'	15,800	18,500
40'	11,000	12,900
50'	8,200	9,600

### TRAVEL SPEEDS AND DRAWBAR PULLS

Low gear — 1.98 miles per hour—12,510 lbs. Drawbar pull

Second gear— 6.40 miles per hour— 3,410 lbs. Drawbar pull

High gear —11.30 miles per hour— 1,630 lbs. Drawbar pull

Optional gears available for higher travel speed or greater drawbar pull.

SLEWING SPEED . . . 2.5 revolutions per minute.

HOISTING . . . 13,500 lbs. at 208 FPM for heavy hook work.

10,600 lbs. at 208 FPM for bucket or magnet work.

CLUTCHES . . . Outside band on drums and boom hoist. Double tandem outside band on slewing and travel. All with AMERICAN graduated air controls.

BRAKES . . . Outside band mechanically operated.

GEARS . . . Heat treated alloy steel—all with cut teeth except bull gear.

SHAFTING . . . Alloy steel—heat treated.

BEARINGS . . . Anti-friction type.



St. Paul, Minnesota Plant

## AMERICAN HOIST & DERRICK COMPANY



# General Specifications

## Model 830 "AMERICAN" Locomotive Crane

Shipping weight, 120,000 lbs. . . . Working weight (50' boom), 156,500 lbs.

### LIFTING CAPACITIES—50' BOOM

RADIUS	WITHOUT OUTRIGGERS	WITH OUTRIGGERS
12'	60,000	60,000
15'	45,000	52,600
20'	31,600	37,000
30'	19,000	22,200
40'	13,000	15,200
50'	9,800	11,500

### TRAVEL SPEEDS AND DRAWBAR PULLS

Low gear — 1.98 miles per hour—14,900 lbs. Drawbar pull

Second gear— 6.40 miles per hour— 4,080 lbs. Drawbar pull

High gear —11.30 miles per hour— 1,950 lbs. Drawbar pull

Optional gears available for higher travel speed or greater drawbar pull.

SWING SPEED . . . 2.5 revolutions per minute.

HOISTING . . . 15,000 lbs. at 208 FPM for heavy hook work.  
12,000 lbs. at 208 FPM for heavy bucket or magnet work.

CLUTCHES . . . Outside band on drums and boom hoist. Double tandem outside band on slewing and travel. All with "AMERICAN" graduated air controls.

BRAKES . . . Outside band mechanically operated.

GEARS . . . Heat treated alloy steel—all with cut teeth except bull gear.

SHAFTING . . . Alloy steel—heat treated.

BEARINGS . . . Anti-friction type.



## American Hoist and DERRICK COMPANY