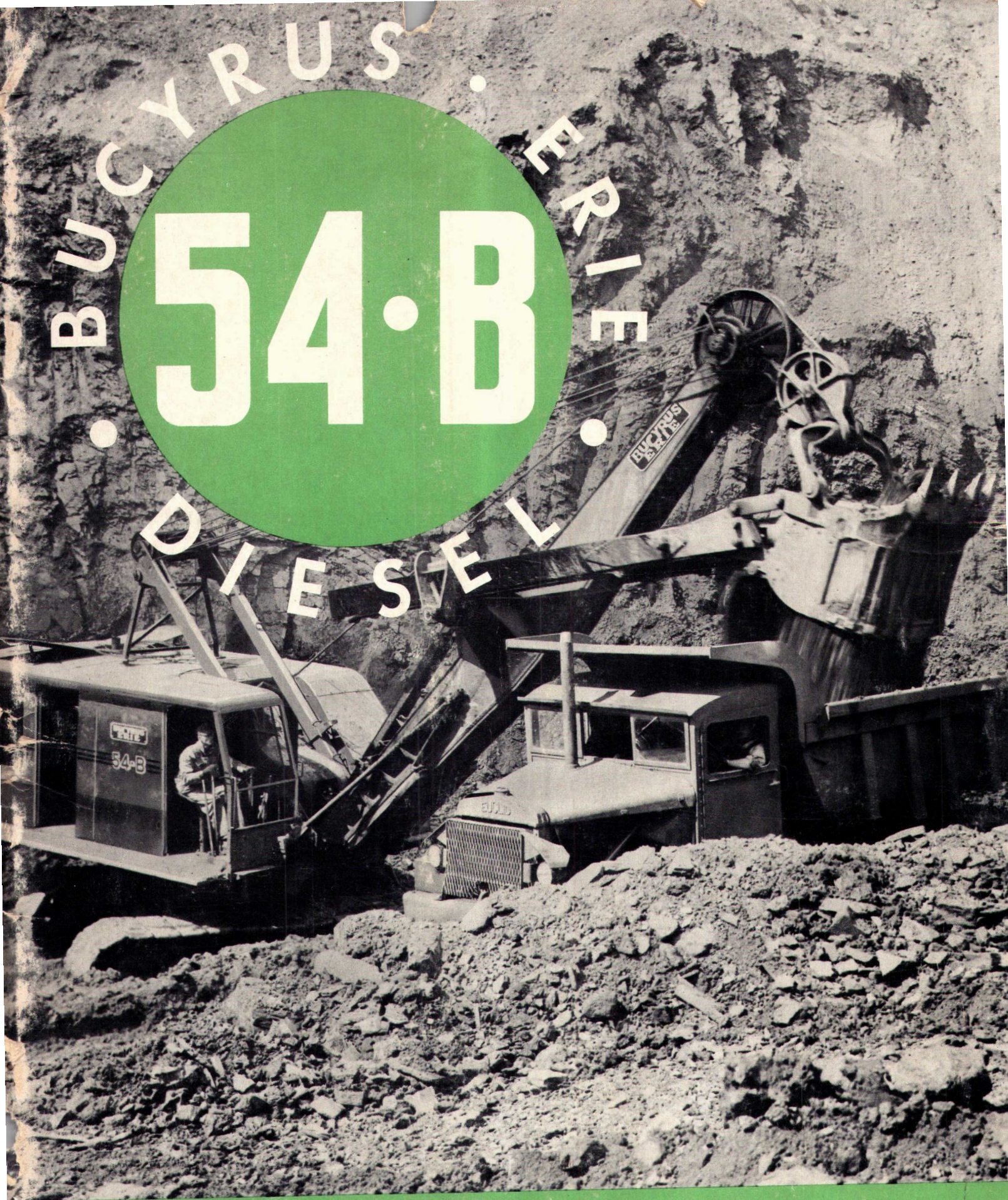


SHOVEL · DRAGLINE · CRANE

BULLETIN 54-B-6

SMALL MACHINE SPEED...

Capacity, strength and ease of control pay off on strip mining jobs. Here a 54-B dragline removes overburden at a Pennsylvania mine.

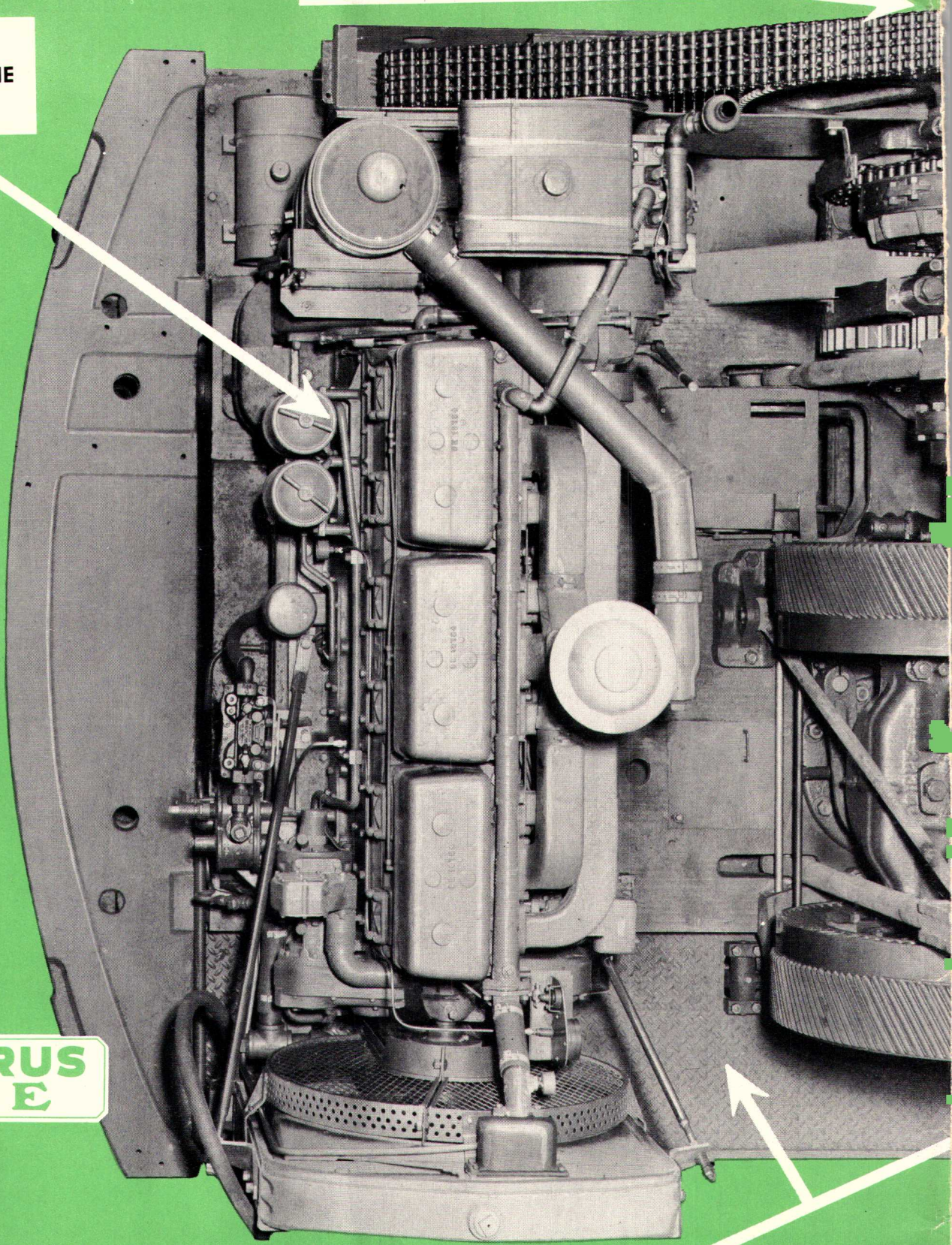
BIG MACHINE CAPACITY!

The 54-B is setting entirely new digging standards in its size range because it combines the capacity and strength of Bucyrus-Erie's famous quarry and mining excavators with the same type of control that has made the popular 10-B and 20-B machines so fast and smooth in operation. The field performance of the 54-B dragline and the 54-B shovel has proved that it is far ahead of any other machine of its size.

You won't accept that merely on our say-so, and you shouldn't. We suggest you watch a 54-B in action, for in no other way can you fully appreciate the control that makes speed so smooth and effortless.

If you can't actually see a 54-B at work, study the following pages to see "what makes the wheels go 'round". They will show you the major features, and many of the minute details, that make the 54-B the biggest digging dollar value on the market. Here is a machine whose every part has been thoughtfully "tailored" for smooth, long-lived performance. Get your operators to go over this bulletin. Ask them to tell you how the control, power and easy maintenance so thoroughly built into the 54-B will set new records for you.

A tough job is handled by a tougher shovel! A 54-B digs out rock in a 91-foot cut on a highway job near Pittsburgh, Pa.



CHAIN TRANSMISSION OPERATES IN OIL

See page 9

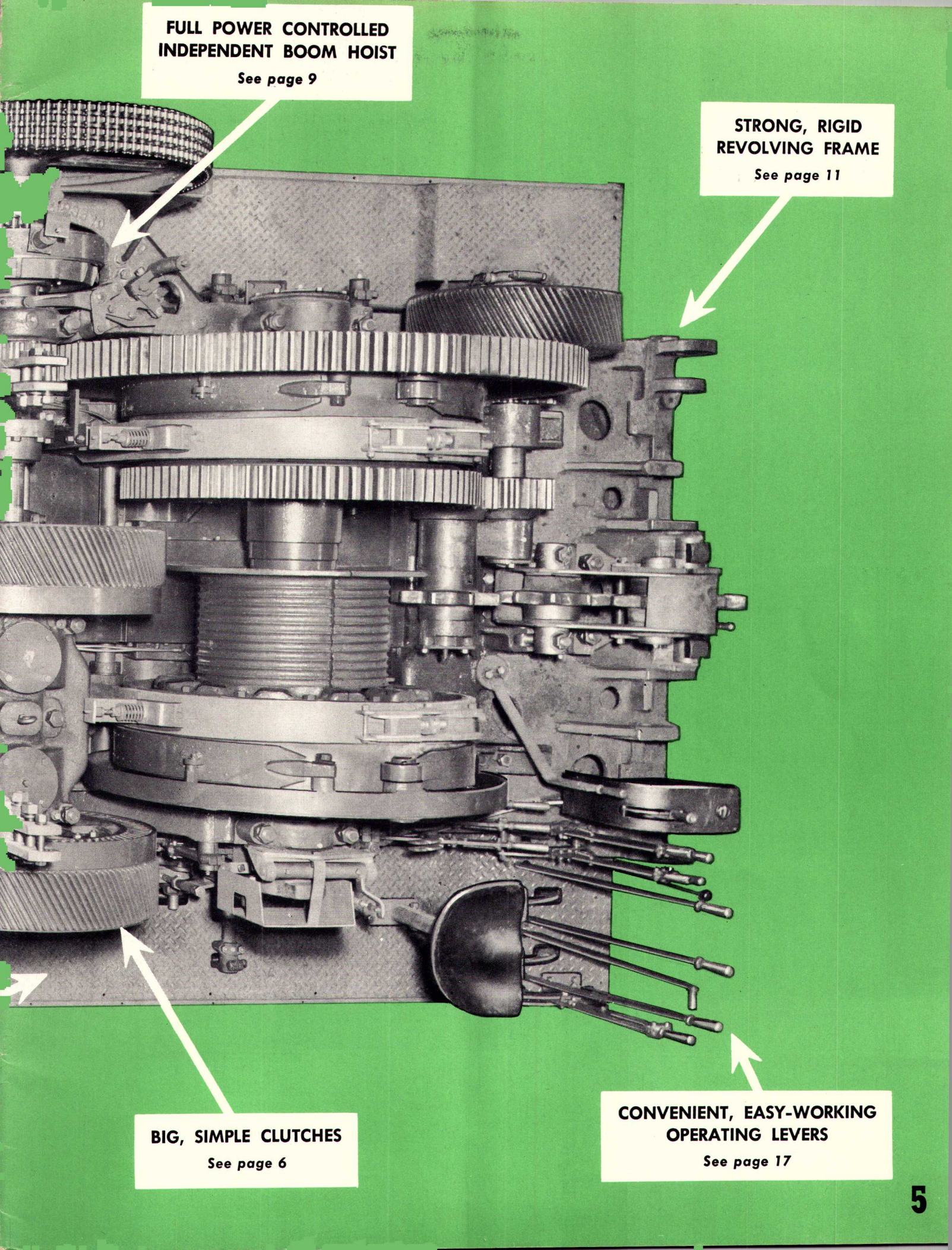
HEAVY DUTY 197 H.P. ENGINE

See page 9

BUCYRUS ERIE

EASY ACCESS TO MAIN MACHINERY

See page 6

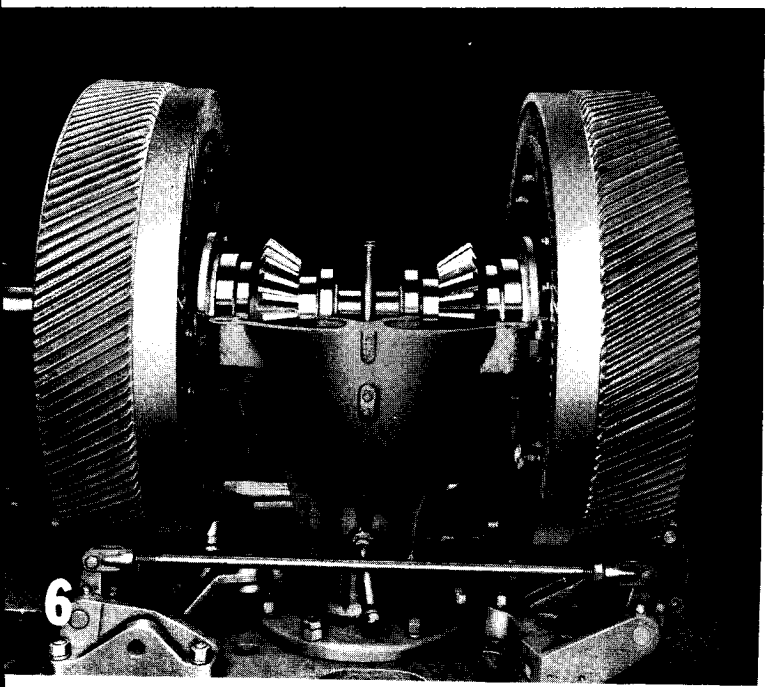

FULL POWER CONTROLLED INDEPENDENT BOOM HOIST
See page 9
STRONG, RIGID REVOLVING FRAME
See page 11
BIG, SIMPLE CLUTCHES
See page 6
CONVENIENT, EASY-WORKING OPERATING LEVERS
See page 17

MAIN MACHINERY...

Control so smooth it "puts the dipper in the operator's hand", permits the fullest use of all the outstanding features of the 54-B. The entire main machinery is so designed that it gets power to the point of action by the shortest route, at exactly the instant and in the amount the operator wants. There are no "middlemen" between the operator and the functions he controls.

● Only the best in clutches and brakes make such control possible. You'll find all 54-B brakes and clutches have the same basic characteristics. They are big, having the largest possible areas and diameters for cool effective operation. They are simple, with few parts to wear or to interfere with the speed of their response. Each clutch and brake requires adjustment for wear at only a single point. Easily accessible, these single-point adjustments can be made quickly and definitely. The entire operating mechanism is simple, and so connected that all levers require only light pressure, but give consistent direct response. Design is such as to give maximum interchangeability of parts to simplify maintenance. Above all, these clutches and brakes give the operator complete control of the full range of the 54-B's tremendous power.

Hoist and crowd-out clutches, mounted on the main drum shaft, are booster set. In this location, easy accessibility and greatest possible size are obtained with external band-type clutches. They are mounted side by side with the hoist and crowd brakes. Clutch bands are of two-part construction, and for further ease of maintenance are interchangeable. The clutches are so designed that no adjustments are necessary to compensate for operating temperature changes. The single-point wear adjustment can be made quickly and accurately, and stays put. Control is direct from lever to booster to band. Your operator can "feel" the reaction all the way, and it is the same on every cycle, at the beginning of the shift and the end, throughout the long life of the machine. With this direct operator-to-clutch design, wear does not reduce the sensitivity of control. The brake bands are also of two-part construction with single point wear adjustment where the two parts are joined, and are interchangeable. The operator controls the machine as completely, easily and accurately when it is old as when it is new.



The direct hand-set swing clutches are internal expanding type for greatest cooling efficiency in the work they have to do. With 60 per cent of digging time spent in swinging, these clutches (which also control propelling) are a key point in performance. They are big, with even greater area (by 30%) than the drum shaft clutches. An exclusive Bucyrus-Erie pre-loaded spring in the clutch linkage gives operating uniformity under a wide range of temperature variations, and in all classes of service. This pre-loaded spring has a cushioning effect highly desirable for swing service, yet gives maximum torque for propelling. The single-point wear adjustment on the swing clutches is easy to make. Positioning adjustment is simple and infrequent. And in addition, bands on these clutches are interchangeable and reversible end-for-end to simplify maintenance.

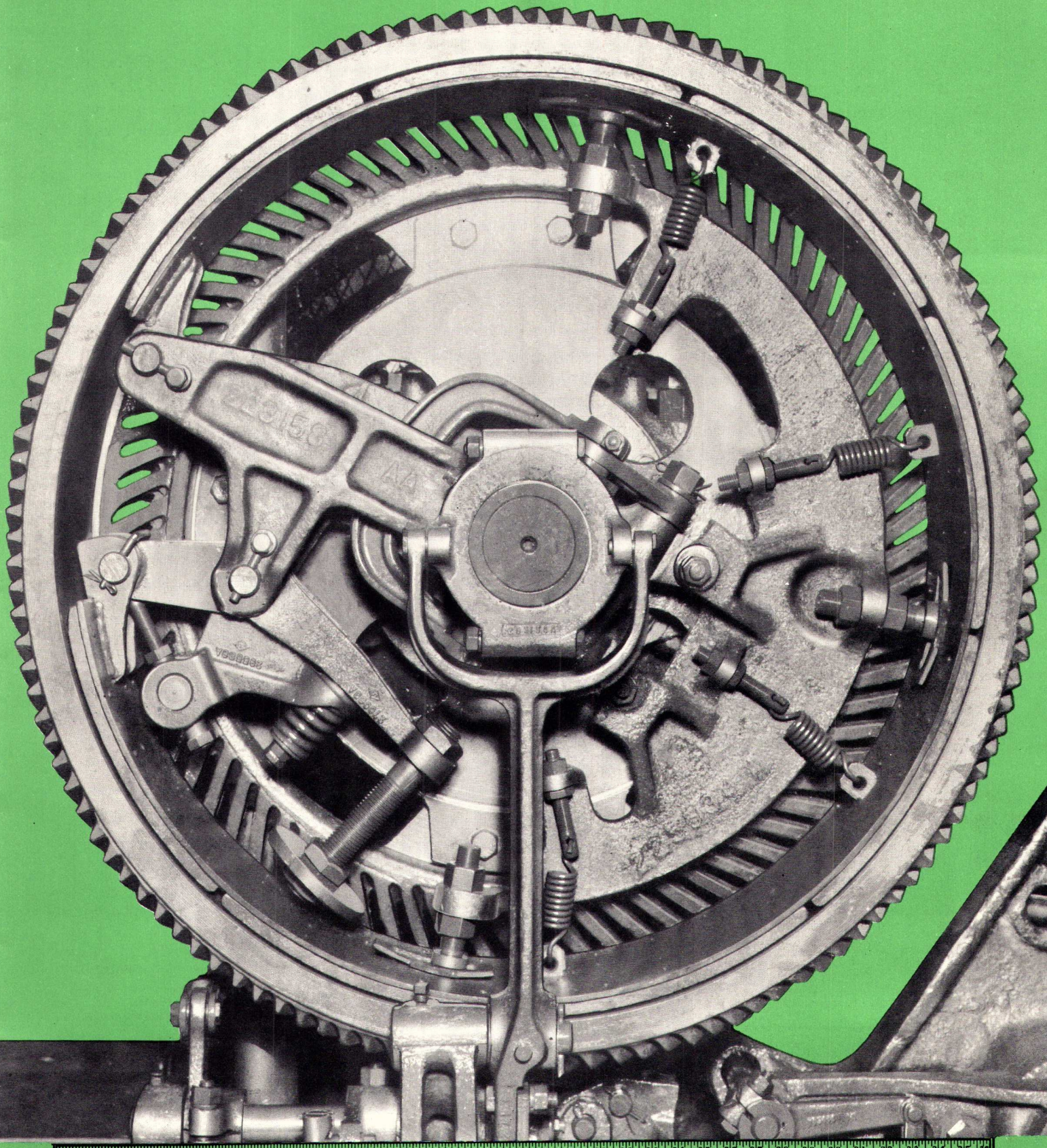
The clutch controlling the shovel crowd retract is of the same simple proven type as the big swing clutches.

● Bevel pinions of the swing unit are mounted independently on anti-friction bearings, enclosed in a rigid case, and operate in oil. Loads are carried from the pinions directly to the case. Consequently the horizontal shaft is not subject to radial deflections, which is added assurance of uniform swing clutch action. The bevel gear and the swing rack pinion are straddle-mounted between upper and lower bearings.

1. Smooth, easily accessible clutches

2. Smooth swing

3. Efficient transmission



CLUTCH BANDS ARE 36 INCHES IN DIAMETER

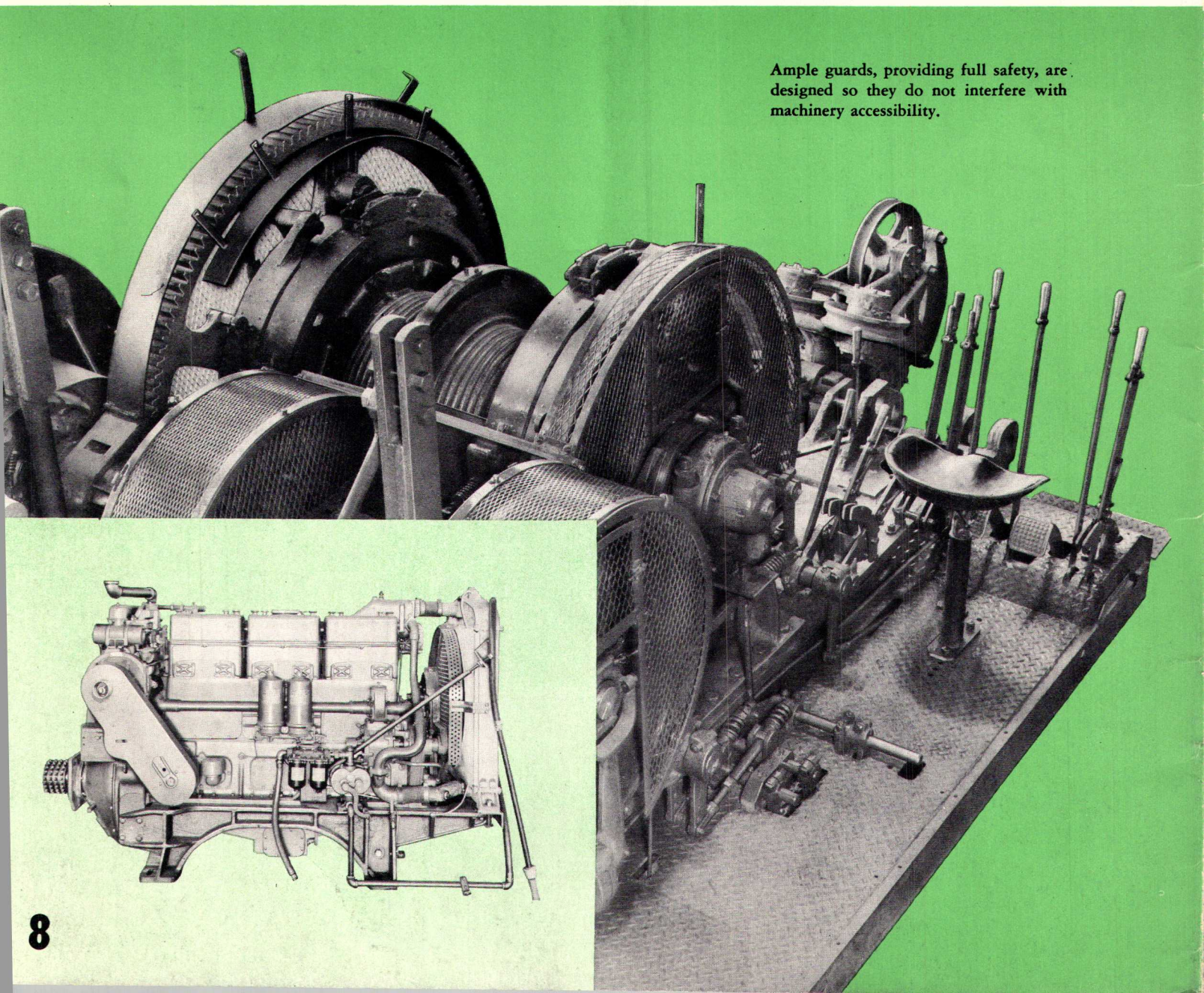
3. Power rides on anti-friction bearings in the 54-B. Primary transmission is by a wide shock-absorbing roller chain, simple and quiet in operation. The chain is enclosed in a horizontally-divided case, and operates in oil. It delivers power to the main transmission shaft which is mounted on anti-friction bearings.

This shaft is in two sections joined by a flexible coupling. Either section may be removed without disturbing the other. From this shaft, power goes to swing and propel, hoist, or crowd, by the shortest, most direct route possible. This means efficiency, quick response, and low maintenance requirements.

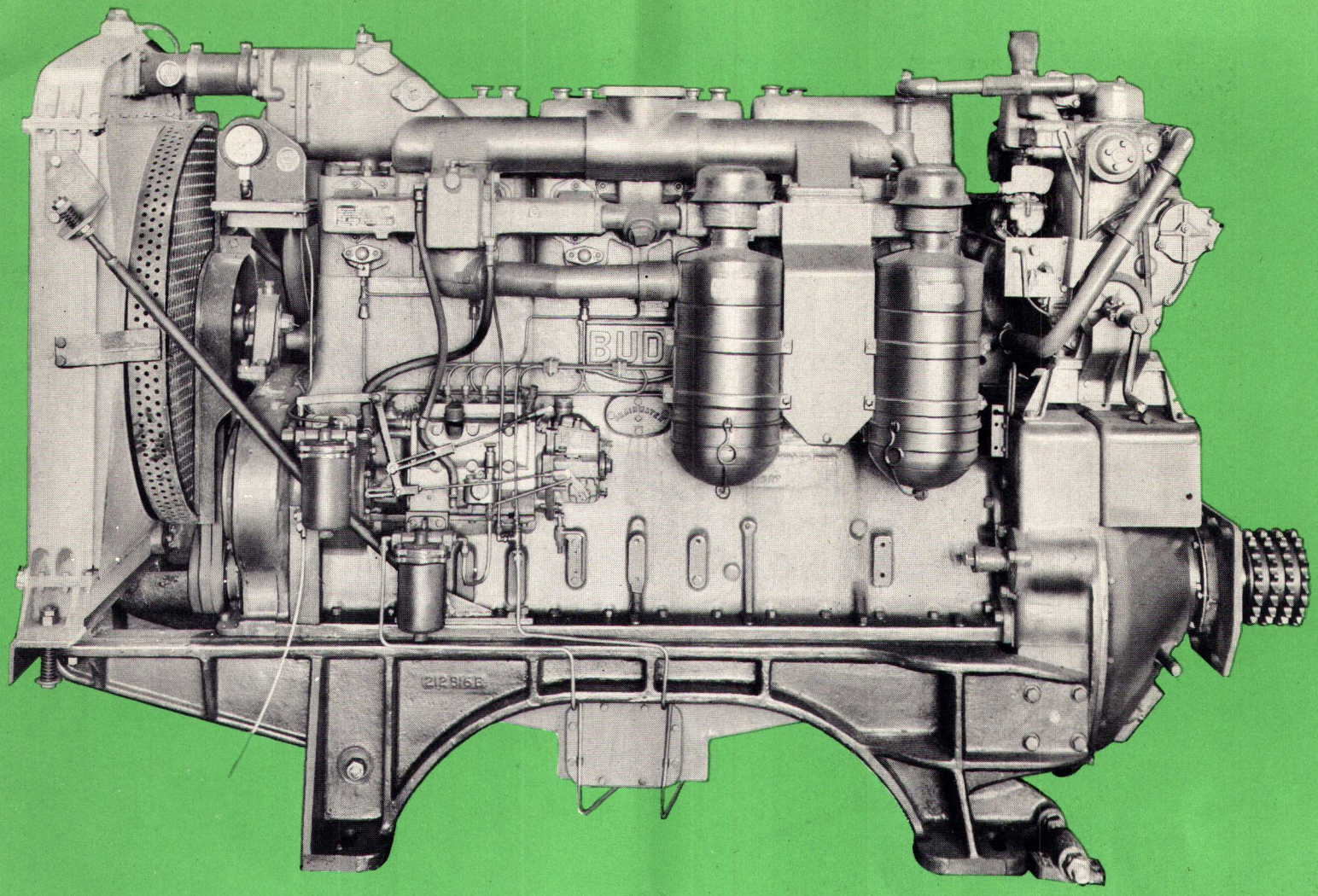
The 54-B boom hoist, independent of all other functions, gives full engine control of *both* lowering and raising, over a wide range of engine speeds. This is accomplished by a hand-set clutch for raising; a powerful brake for holding and stopping lowering; and an automatic ratchet which lowers the boom at machinery speed. In addition, a pawl engages teeth on the drum for locking in position.

The big diesel engine on the 54-B has been thoroughly proved in excavating service, It is a high-speed heavy-duty 197 H.P. engine specially "tailored" for the work it has to do. With low maximum pressures, it is a smooth-running unit with wear reduced to a minimum. Because of the "soft combustion", it starts easily, even in cold weather. A 200-gallon fuel tank, providing for 3-shift operation without refueling, is standard.

A stove connected to the water cooling system is available as special equipment for operation in colder climates.

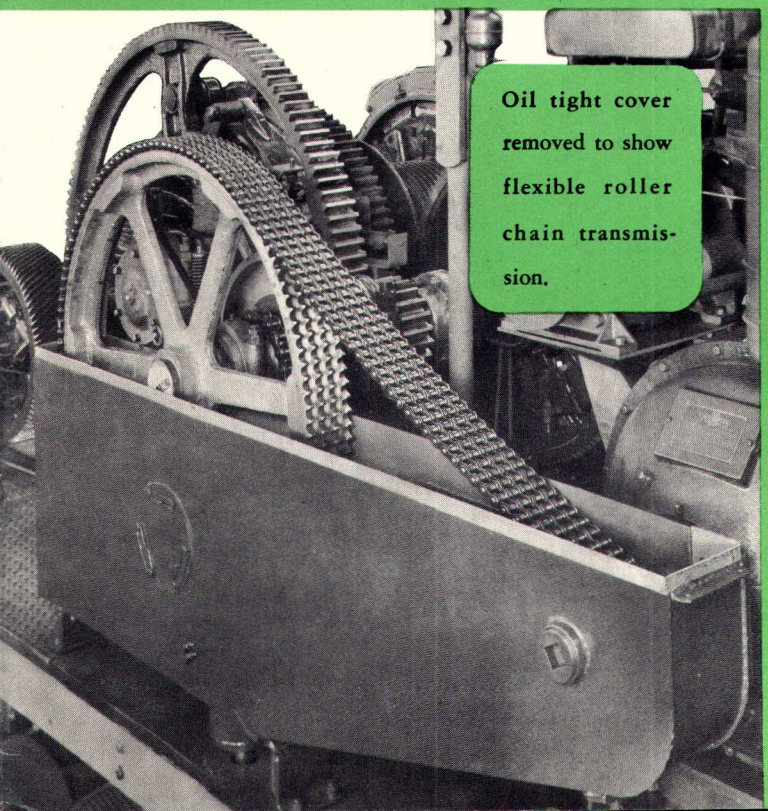


Ample guards, providing full safety, are designed so they do not interfere with machinery accessibility.

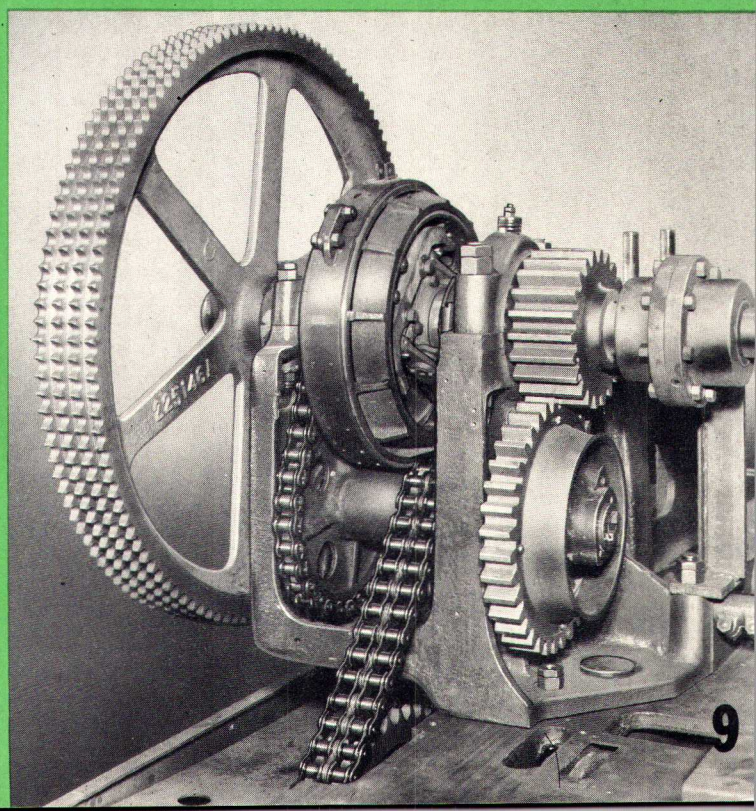


Heavy duty diesel engine has operating characteristics especially suited for excavating and lifting service. Note big starting engine, with all controls for starting centered in one place.

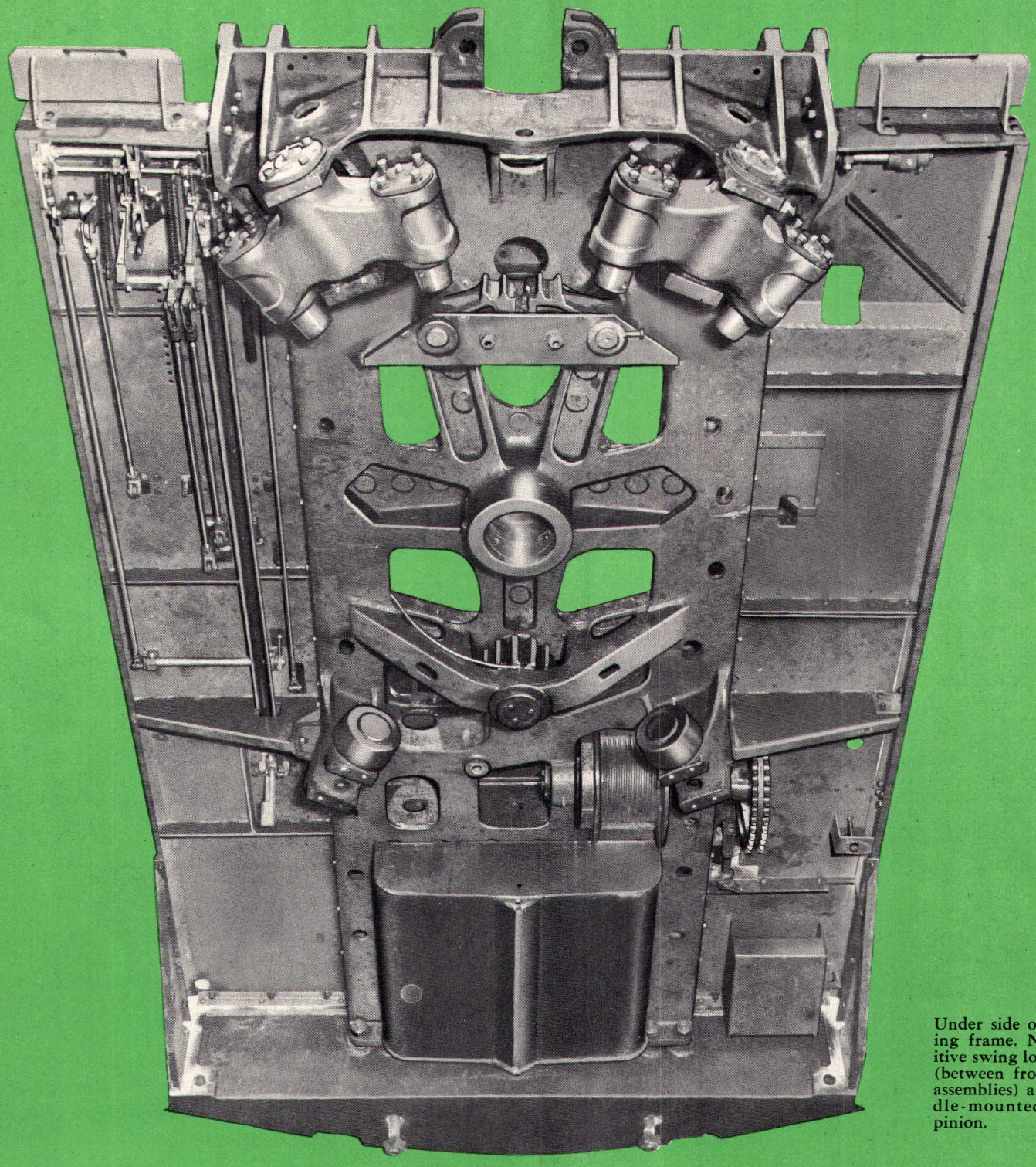
Note double reduction roller chain drive for boom hoist. Reverse gear meshes with main hoist pinion for controlled lowering.



Oil tight cover removed to show flexible roller chain transmission.



REVOLVING FRAME



Under side of revolving frame. Note positive swing lock pawls (between front roller assemblies) and straddle-mounted swing pinion.

1. Strength without bulk

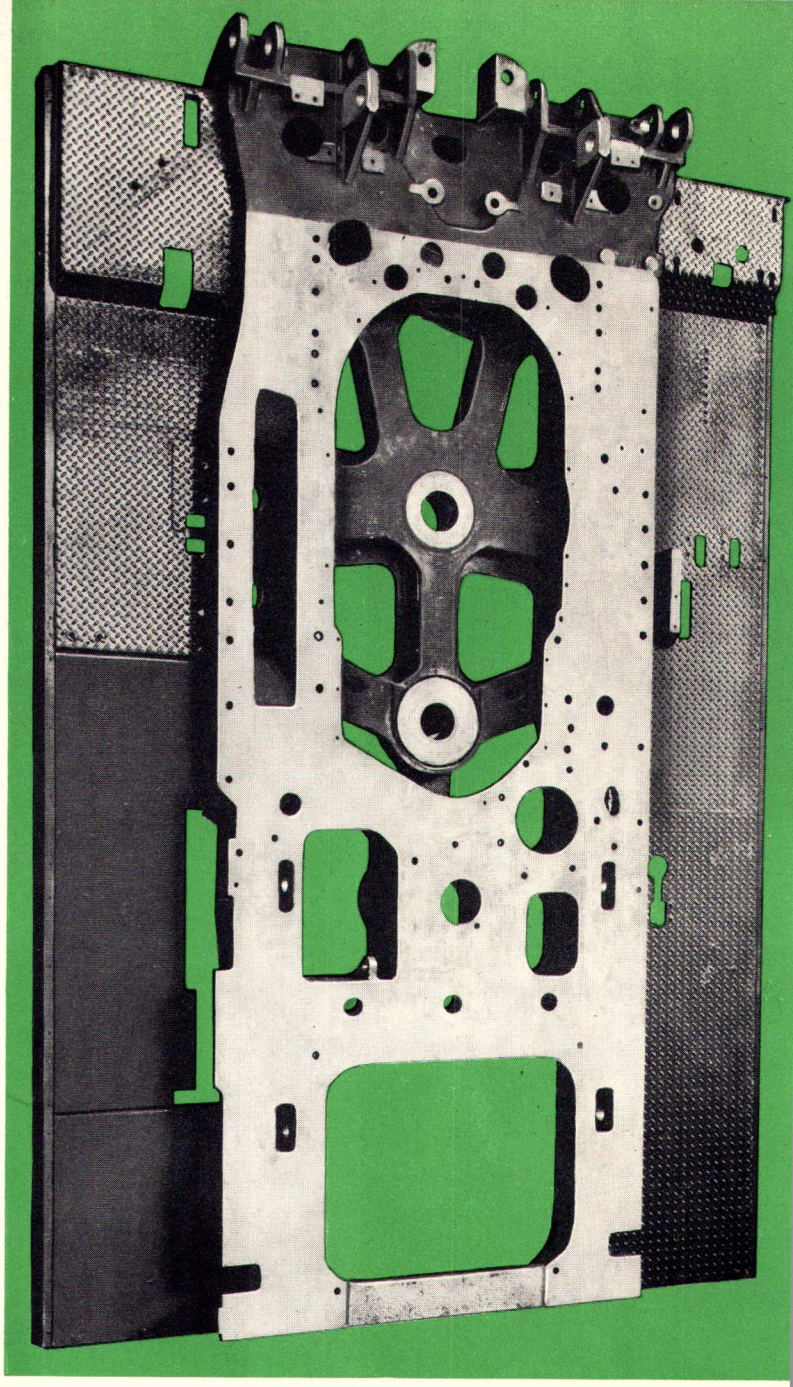
2. Enduring alignment

3. Conical hook rollers, no center pintle

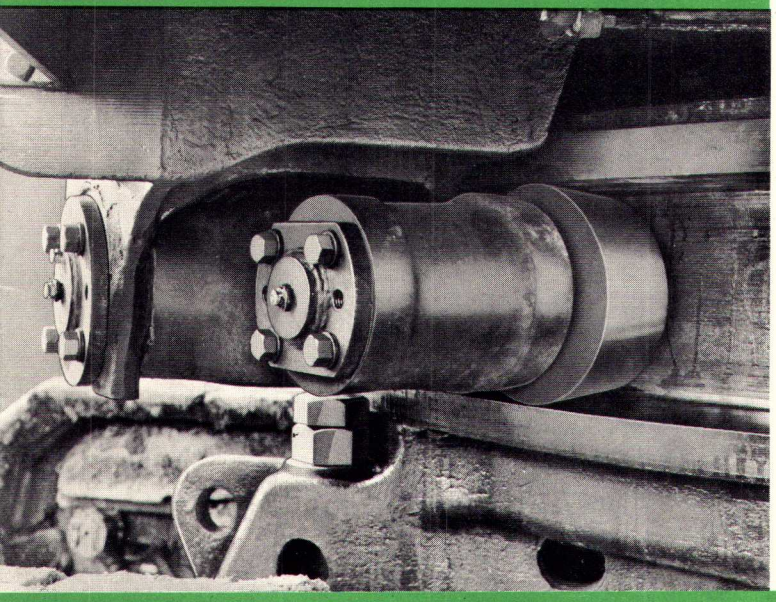
The 54-B revolving frame is a single casting, strong and rigid, extending clear back to form a firm base for all machinery and the power unit. 1. Special steel, developed in Bucyrus-Erie metallurgical laboratories and cast in Bucyrus-Erie foundries, makes possible an increase in strength with elimination of useless bulk that gives you a faster swing and reduced power consumption.

2. Extra strength and rigidity to hold the machinery in accurate alignment are provided by box section design. Horizontal gears are in a well in the revolving frame, covered for protection from dirt. This construction permits lowering main machinery and center of gravity. Main machinery side frames are securely bolted to the revolving frame, and locked in position by big shear plugs that relieve bolts of all shear strain. All bolts used on the 54-B main frames are high-quality heat-treated steel, machine finished and with double nuts. The standard counterweight consists of a single solid casting, and provision is made for extra counterweight castings for dragline work. Notice on page 10 the positive swing lock. Controlled from the operator's station, this lock secures the cab in any position. Also notice the strong straddle mounting of the swing pinion.

3. Conical hook rollers eliminate the need for a center pintle and the heavy reinforcement necessary to support it. By proper placement, these rollers minimize the loads transmitted between upper and lower structures. Two sets of large diameter twin rollers at the front, where heaviest loads are concentrated, operate on equalizing carriers which distribute loads evenly. Each roller, including the two individual ones at the rear, has ample strength to take the loads applied in fast operation. There is never any need to adjust these rollers because



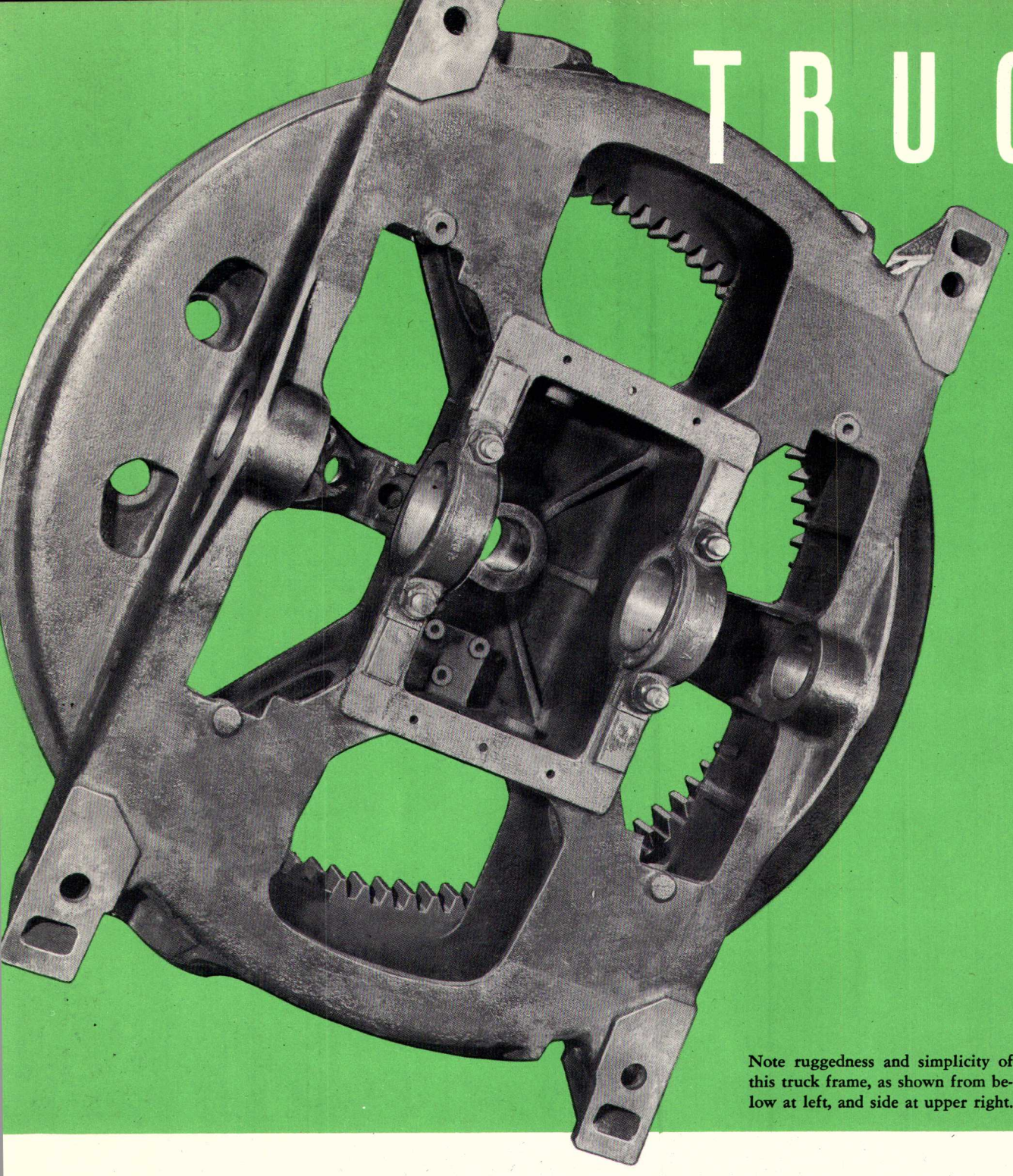
Twin roller assembly. Note double-flanged track.



they, and the hardened roller path, are built big enough and strong enough to take a lifetime of service without reduced efficiency. Pins are hardened to take wear. Bushings can be replaced, but even when they are completely worn out, the slack is not sufficient to reduce swing efficiency. With 54-B "lifetime rollers", there is no chance for trouble due to failure to make roller adjustments or due to making maladjustments.

There's no power lost in sliding with these big *cone* rollers. They give an easy-running high-speed swing, rolling naturally around the conical path. They do not develop flat spots like straight rollers which skid under load. Pins and bushings can be replaced without jacking up the machine.

TRUCK



Note ruggedness and simplicity of this truck frame, as shown from below at left, and side at upper right.

1.
2.
3.
4.
5.
6.

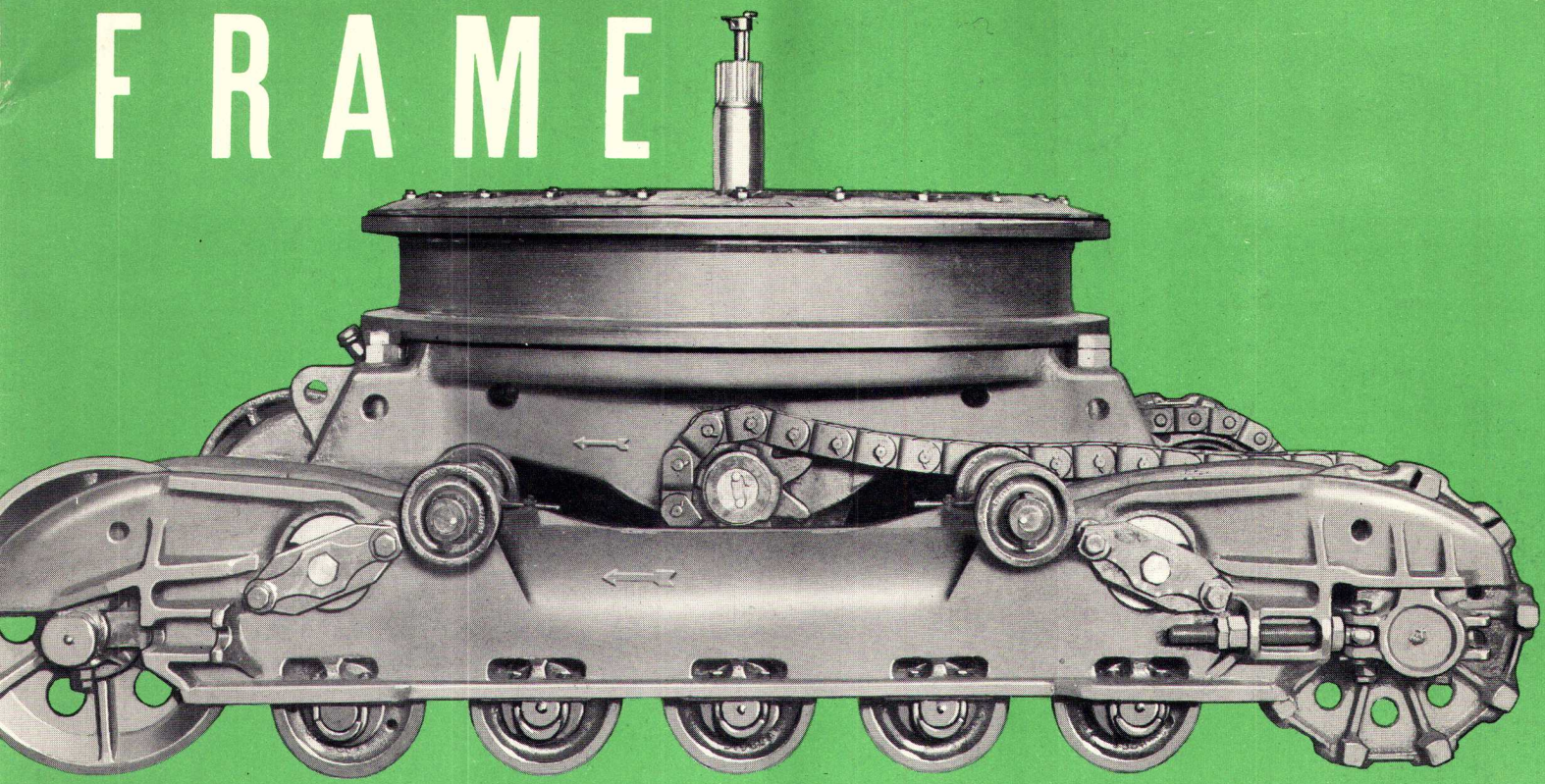
The 54-B truck frame is a single steel casting combining swing roller path and bearings for the single propelling shaft. The internal alloy steel swing rack has flame-hardened machine-cut teeth for long wear. It is bolted to the truck frame casting by means of equally spaced stud bolts. This construction permits rotating the rack as much as 180° to insure equal wear about its circumference.

1. Use of channel path for hook rollers gives a deep strong truck frame without increasing overall height or reducing ground clearance under the axles. Symmetrically placed spokes give added strength to the truck frame.

2. The 54-B construction gives unusual ground clearance. The chain drives are outside where material does not jam between them and treads. Moving in the same direction as the belts, they help climb over any obstructions that come under chains or sprockets.

3. The famous Bucyrus-Erie single-shaft drive is applied to the 54-B mounting through two bevel gears fully enclosed and operating in oil (gears illustrated on page 13). The machine has plenty of power for soft going and steep grades. Power is transmitted to cats through big multiple jaw steering clutches. You can make short sharp turns,

FRAME



Extra strength

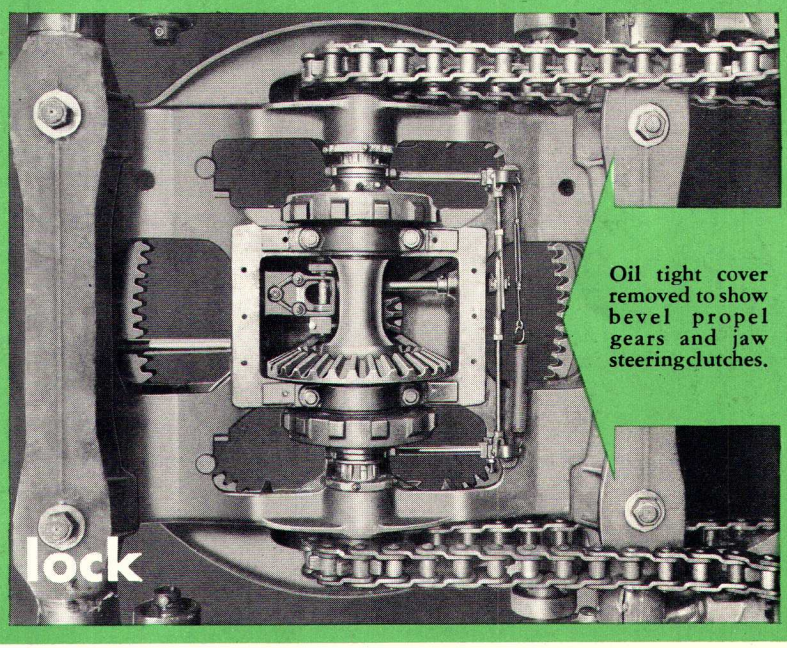
Big ground clearance

Single-shaft drive

Easy shipping

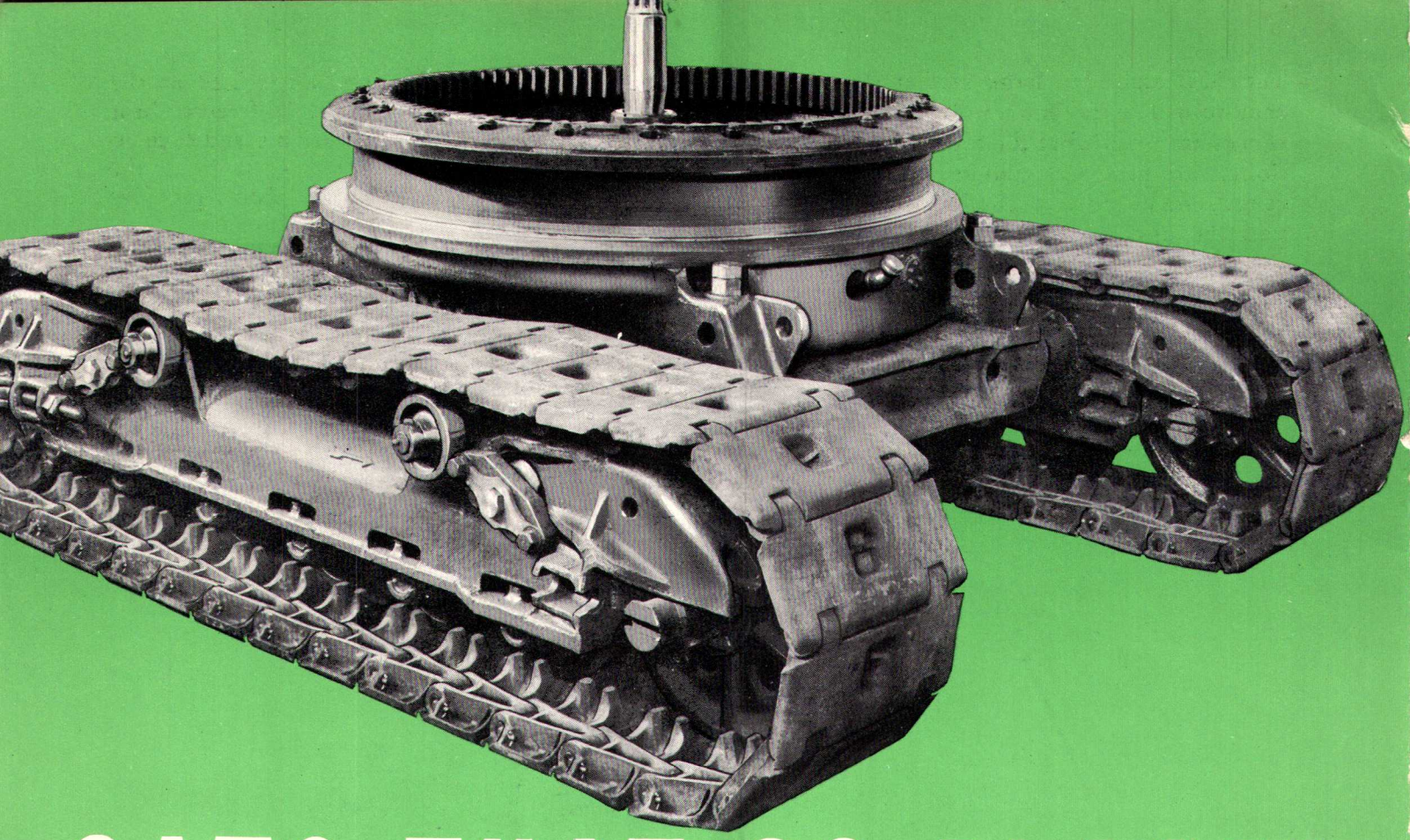
Long-lived treads

Positive flexible digging lock



Oil tight cover removed to show bevel propel gears and jaw steering clutches.

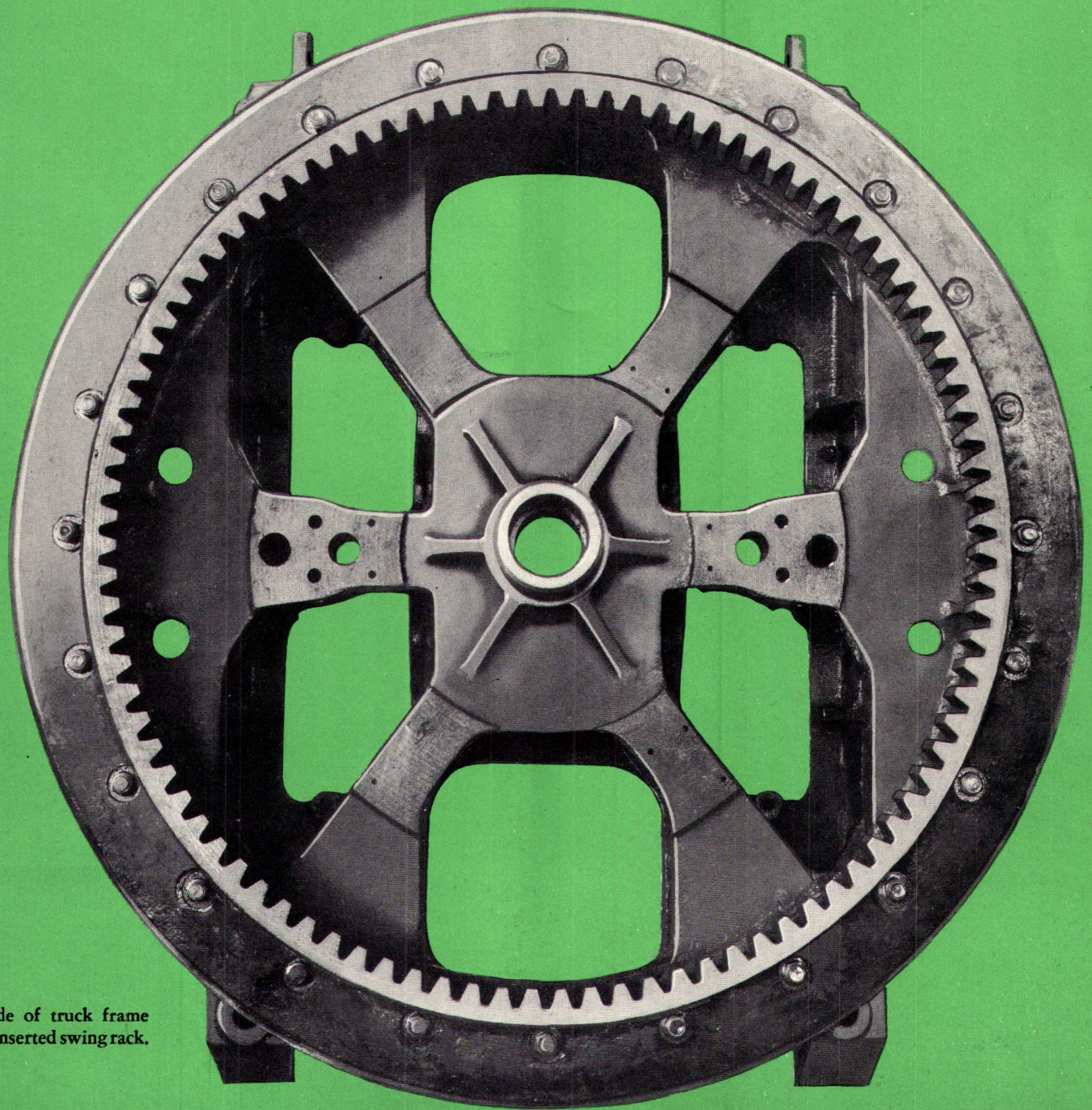
or long gradual curves, with the 54-B, assuring minimum time in getting from one digging position to the next. 4. It is not necessary to block the machine to hold the 54-B against digging reaction or downhill movement. Digging pawls, operated by a 4-position cam, permit (a) free motion either front or back, (b) locking against movement in both directions (an especially valuable feature for operating on grades), (c) locking against movement to the rear while permitting forward motion, and (d) locking against forward motion while permitting motion to the rear. Locking against backward motion with freedom to move ahead permits the operator to make quick move-ups without release or resetting of this traction locking-device. In other words, he moves up at will but the machine is always locked (both treads) against digging reaction. This is a time-saver on shovel or dragline jobs where frequent short move-ups are required. This traction lock is not affected by water, mud or grease, and can always be relied on for safe, positive, and effective action. It is of ample strength to take all the shock of normal operation. Protection against the abnormal loads of accidental engagement while moving is provided by a slipping clutch. These pawls are controlled by a single lever at the operator's stand.



CATS THAT GO PLACES

The 54-B axles are large section castings with ends turned to fit into cat side frames. 5. The frames are rounded at the top to shed dirt easily. Rollers are protected with special dirt-seal rings at each end of the hub. Double upper rollers support the upper span of the tread belt, readily shedding dirt. Tumbler adjustment is maintained by spacers. Two portable jacks are used to slide in cat side-frames for shipment and for adjustment of take-up tumblers. These two light jacks adjust one tumbler at a time, and it's easy to get a positive check on alignment by simply counting the spacers on each side. Jacks are kept in a tool box under the deck where they are clean and ready for use. Adjustment of driving tumblers is similar except that an adjusting bolt is used on the outside and a jack on the inside. Differential heat treatment of the rims of the driving and take-up tumblers, the lugs of the driving tumblers, the tumbler shafts, and lower roller shafts provides extra wear resistance.

6. The ground-gripping treads of heat-treated alloy steel assure positive traction. Hinged joints between treads are close-fitting and free-operating. They have no tendency to pick up pebbles or broken rock to crush between treads. Notice in the picture on page 14 the simplicity and strength of the hinged joints of the treads. Narrow-faced rollers squeeze mud and dirt from the roller path. The roller path is flame hardened. Extra treads and long cat belts are available for dragline work.



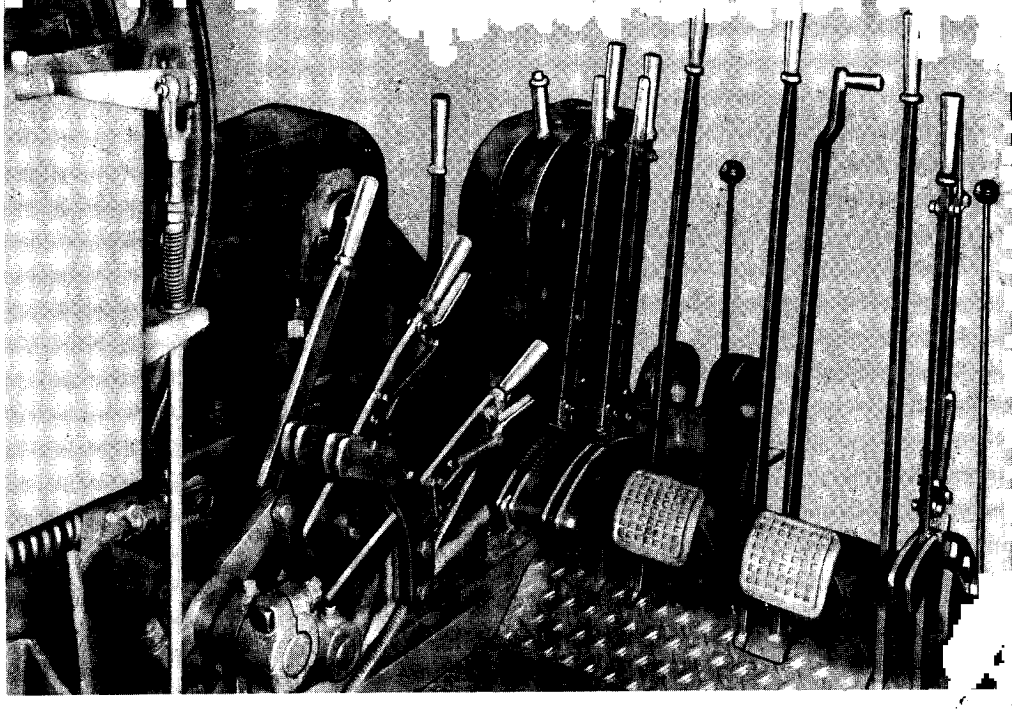
Upper side of truck frame showing inserted swing rack.

OPER

1. Speed t
   contr
2. Easy m
3. Comfort

ATOR!

hrough
lled power
intenance
and safety



It won't take your operators long to learn the "feel" of the 54-B. Full control of the remarkable power and flexibility of the machine is put into the levers to such an extent that the operator is master of it from the start. From the first day he can actually give you the record-breaking performance of which the machine is capable. There is no "magic" involved; no tricky gadgets rob the operator of the chance to use his full skill. One of the major reasons why the 54-B is a great machine is that it will respond immediately and accurately to the slightest demand your operator makes on it. Levers are all within easy reach of the seat: in two convenient groups at the operator's front and left. Lever throws are short for convenience, but long enough to give positive action. They are exceptionally easy to move, but they give consistent direct action without lag or uncertainty. A given pressure on a lever will *always* give the same result — at the beginning of the shift and at the end.

The accurate "feel" of the big slow-speed clutches and brakes, the smoothness with which they respond, gives your operator constant feel of the load that lets him handle it as though it actually were "in his hand". Because there isn't an instant in the cycle when the operator isn't in direct control, he can maintain a smooth pace that adds up to top output. And the direct control of the 54-B means that the reserve of power can be applied quickly as needed.

Your operator can and will give you fine year 'round performance with the 54-B because it's easy to keep in top condition as well as easy to operate. There's lots of room in the cab to work. Single-point adjustment on clutches, as well as other easily-made adjustments, "stay put" for long periods. Lubrication is simple; vital parts are enclosed and run in oil, with convenient drain and fill plugs. Grease lines lead from most bearings to grease fittings grouped at three central, easily accessible locations marked for identification. Swing rack and horizontal gears are lubricated from above deck. Special arrangements have been made for easy replacement of wearing parts like ropes, brake and clutch linings, and dipper teeth.

The operator can "step on it" at the end of the shift as well as the beginning, not only because of the smooth easy control, but because he works in comfort. The big padded seat is fully adjustable. Cab doors in sides and rear, hatches, and front windows may be closed in cold weather, or fully opened when it is warm. The radiator fan expels hot air from the cab in summer. A shutter is provided to close radiator opening in winter, so that the warm air helps heat the cab. An effective inexpensive cab heater for extremely cold weather is available. The big glass windows, made of heat-treated "Herculite" glass for safety, have no cross rails, provide convenient 3-way vision so the operator has full view of his work at all times.

All rotating machinery on the 54-B is amply guarded for safety, without any sacrifice of accessibility. Get your operators to look over the 54-B. Then ask them what a machine like this will give you in performance.

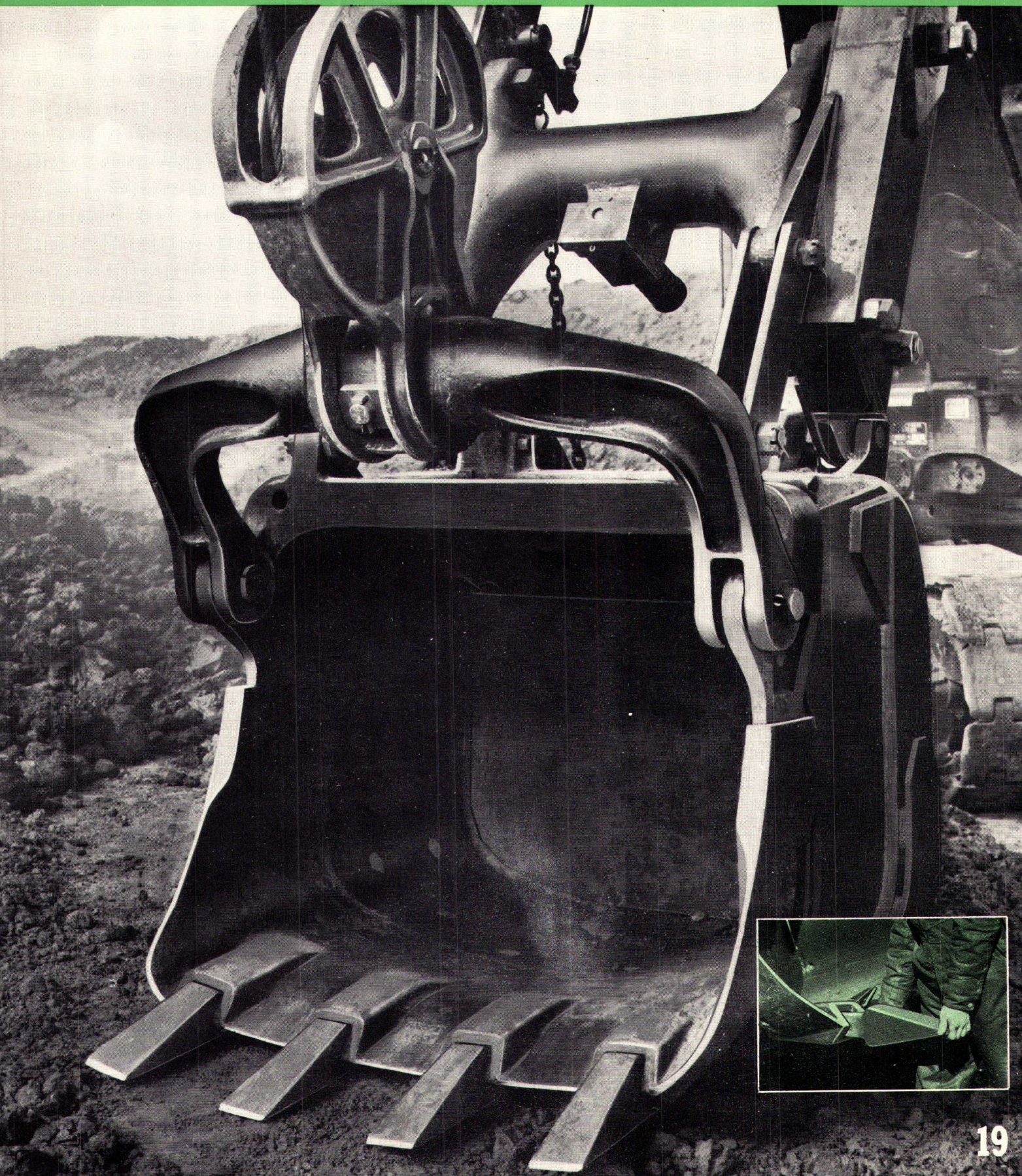
From "stem to stern" the 54-B is a machine that will keep a smile on your operator's face; a smile indicative of smooth performance and extra profits for you.

DIPPER

1. Fast digging
2. Fast dumping

Study the features of the dipper illustrated on these pages and you'll see why it plays an important part in the big yardages delivered by the 54-B. 1. The long, sharp forged teeth and cutting edge of the lip are set at the best angle for easy penetration of the bank, and the teeth are set well out towards the corners to minimize wear. The flared manganese lip cuts a clearance for the entire dipper, reducing friction in the bank to a minimum, and throwing material easily well back and high into the dipper, even in shallow digging. Watch how this dipper fills completely from the bottom up to a big heaping load. Notice how the location and angle of the bail leave the dipper mouth free for quick filling and handling over-size, as well as giving the best rope angle for long reach and high dump. The padlock sheave is fully protected. 2. The smooth inside of the dipper flares outward toward the bottom for quick complete dumping. 3. The famous Bucyrus-Erie curved door swings well back, leaving a large and entirely unobstructed opening. This curved door also gives unusually good clearance for digging close to the cats, and gives the dipper a short back and a long front. 4. The 54-B dipper is a combination of plate and cast alloy steel, interlocked, riveted and welded into an exceptionally strong unit which provides for removal and replacement of individual wearing parts when necessary. Notice how useless weight has been eliminated from this dipper, yet it is strong and tough to take the punishment of many thousands of yards of digging. The top of the dipper is a cast "ring", amply strong to take the loads applied to it, from dipper teeth to bail and handle connection. The protruding lip of cast manganese steel protects the front from wear, and is renewable. Front, sides, back and curved door are of special tough steel plate, with castings at all pin-wear connections. Renewable wear-resisting bushings add to the life of this dipper. Big arched cast hinges extend clear to the front of the curved dipper door and are welded into position to maintain door alignment. 5. Convenient and positive, the power dipper trip is jaw-clutch operated and exceptionally efficient. 6. Inserted Beco Tiger Teeth are made of forged tool steel. They are reversible and can be removed quickly for resharpening by forging or welding.

3. Curved door
4. Long life
5. Power trip
6. Inserted teeth



FRONT END

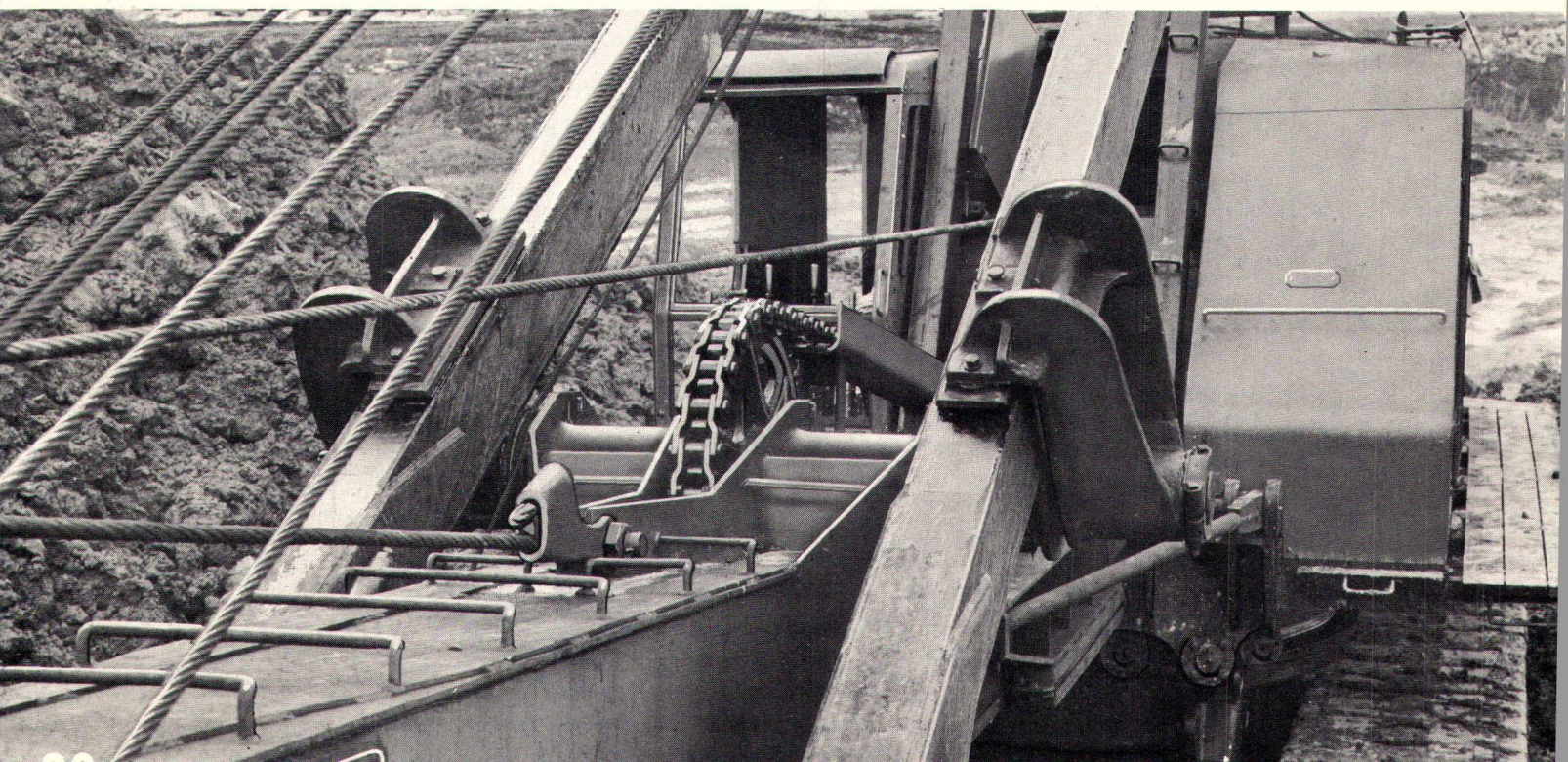
1. Quarry type 2. Fast hoist. 3. Powerful crowd

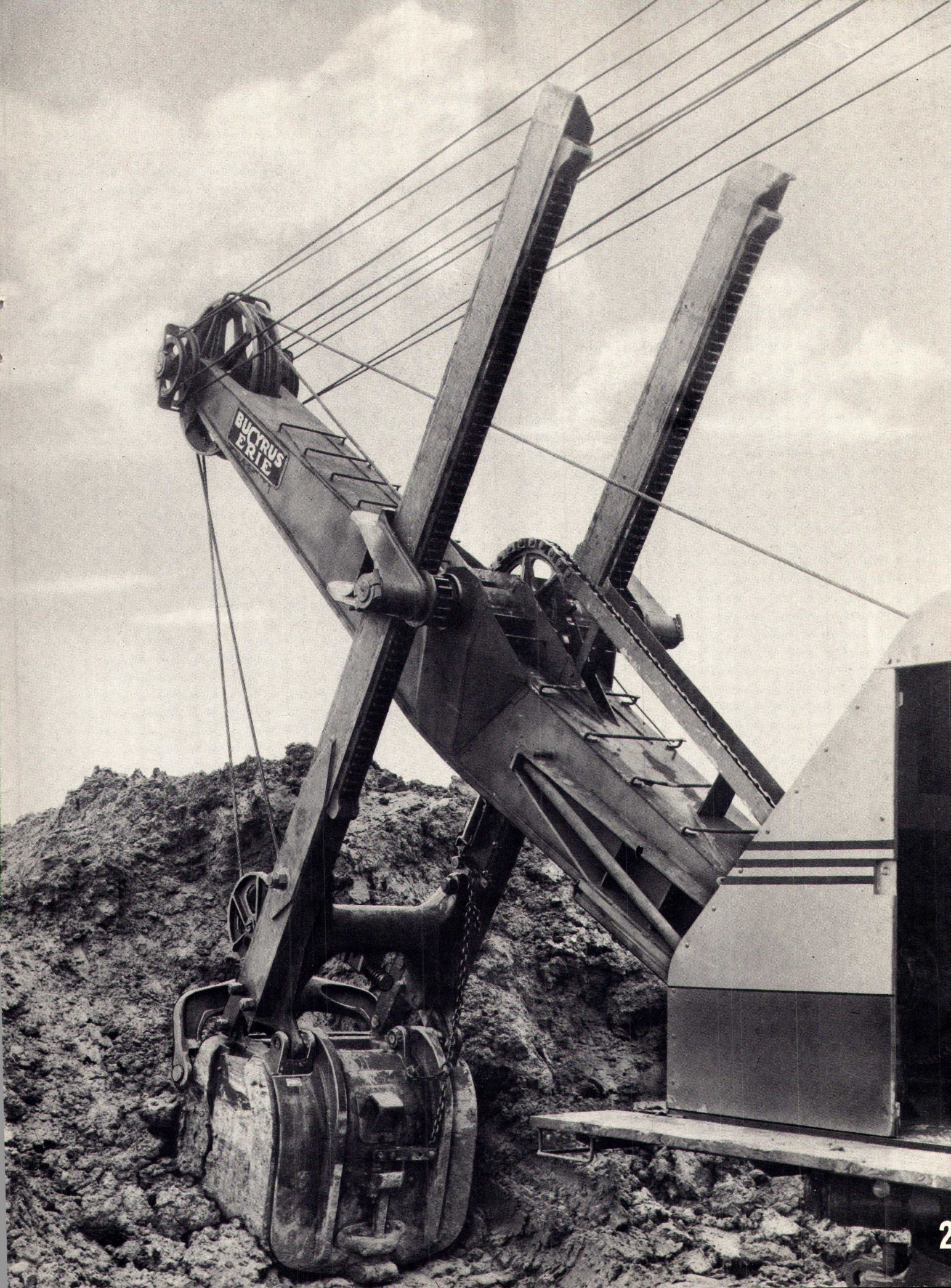
The 54-B shovel carries the same type of front-end that has made Bucyrus-Erie quarry and mining excavators world-famous for delivering steady, big output in the toughest materials. 1. This front-end has tremendous strength, yet it carries not a single pound of excess weight to slow up digging. The unusually wide deep-section box-girder boom is welded of tough steel plates with welded-in internal diaphragms. The handle members are all-welded box girders with long-wearing heat-treated cast alloy steel racks welded securely in place. The efficiency of tubular torsion box design has been long proven in Bucyrus-Erie quarry and mining machines. A coil spring bumper on the torsion box checks excessive swing of the dipper door. Notice on the opposite page how these extra-wide-spread handle members hold the dipper firmly in the digging — there's no wobbling in the bank, and the handles never touch the boom in swinging.

The narrow rolling-type boom-foot, with long wide-spread sway braces, distributes loads evenly throughout the boom. This rolling-type construction relieves the boom and its machinery from shocks and destructive strain. Eight-part boom suspension tackle is used.

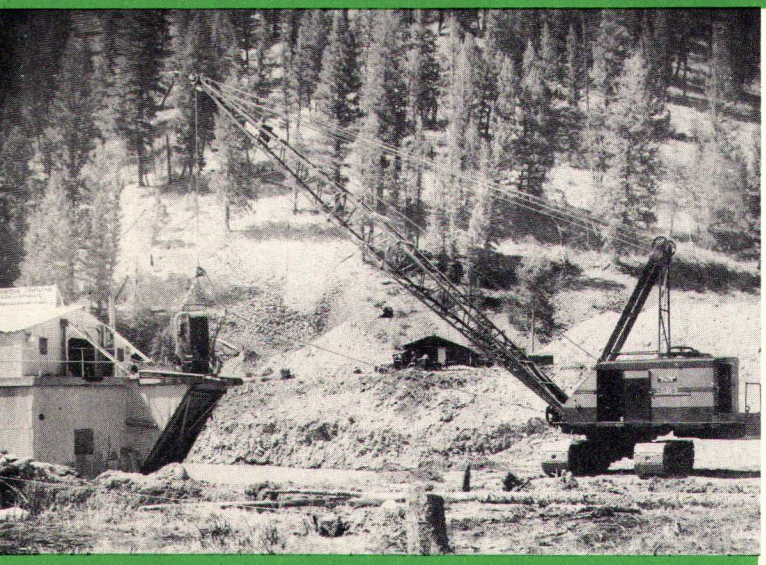
2. Large sheaves (42 inches in diameter) result in wide digging angles, increase effective boom length, and contribute materially to length of rope life. Location of shipper shaft, and long effective upper boom section, help provide maximum digging force with the dipper in any position.

3. The simple dependable 54-B crowd is independent of all other functions, and gives your operator positive accurate control of the dipper at every point in the cycle. Powerful crowd-out and fast retract are accurately controlled by smooth-operating clutches which give the operator the "feel" so necessary to steady big output. Crowd machinery is compact, mounted in a single bracket, and is installed as a unit. One chain continuous from machinery to shipper shaft, and a single adjustment, make for easy maintenance. Boom can be raised or lowered without changing crowd chain adjustment. Only the chain, split gear, boom-foot sprocket shaft bracket assembly, and crowd sprocket need be removed for conversion to dragline equipment.



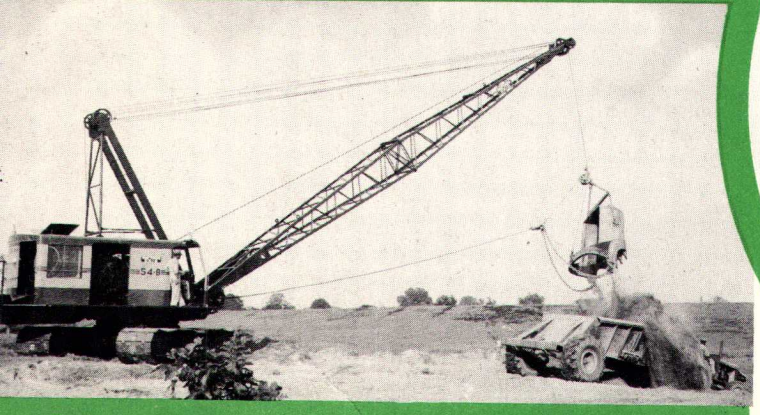

BUCYRUS
ERIE

DRAGLINES



J. L. Shiely's 54-B dragline loads gold-bearing gravel to a hopper in Montana.

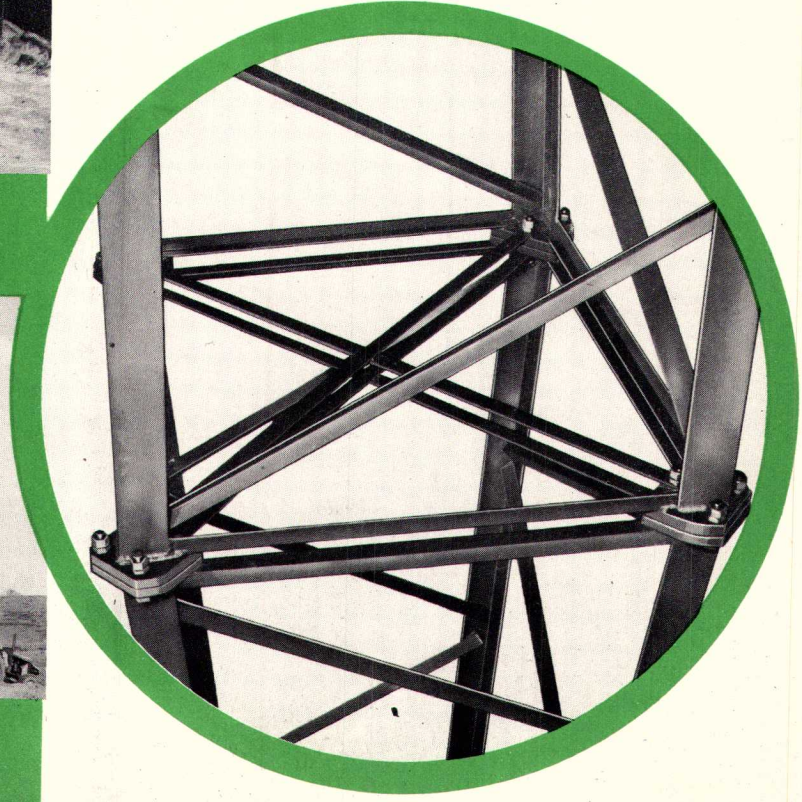
Calumet Paving Company's 54-B replaces muck with dry fill on highway job.

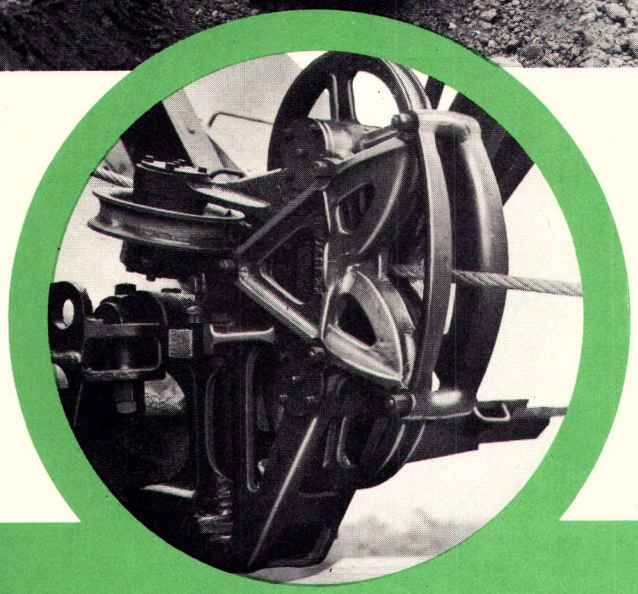


Jones-Gillis, 54-B with 50-foot boom and 3½-yard bucket loads silt on Mississippi levee job.

The 54-B dragline is a smooth-operating long-range big-output excavator. The famous Bucyrus-Erie direct-control clutches give fast smooth swing with perfect control of acceleration and deceleration. Swing and hoist speeds are carefully synchronized to give an exceptionally fast cycle. 1. 54-B all-welded booms are built for fast digging. Their deep box-section construction gives them great strength with minimum weight. The lacing is inside to eliminate secondary stresses, and give protection and ease of handling in shipment. Wide-spread feet are built to take the whip of fast operation without any need for sway braces, and give the fairlead full freedom of action. Butt splices provide for easy assembly and interchangeability of extra sections, and avoid the possibility of catching rope. Big machine-grooved boom-point sheaves are mounted on anti-friction bearings and are well guarded to relieve sheave of off-lead pull. Extra high A-frame and additional counterweight castings are available for a range of long-boom operations.

Butt splices make it easy to insert or exchange extra boom sections to fit boom length to individual job requirements.





2. Bucyrus-Erie Red Arch buckets are built to carry their rated capacity in tough digging. With a high arch, they fill easily to a big heap which they carry evenly and dump quickly. No obstructions tend to hold sticky material in the bucket. Built of tough alloy steel, Red Arch buckets are strong for long life but carry no useless weight to slow down operation. Inserted forged steel Beco Tiger Teeth are easily reversed, resharpened or replaced. Red Arch welded chain gives as high as 50 per cent longer service than ordinary chain. Bucyrus-Erie fairlead is compact, with extremely low inertia, has a wide angle of swing to follow rope freely. It is self-cleaning, with larger diameter horizontal and vertical sheaves and is readily adjustable for use with varying drum diameters. Set well forward, it provides a long lead direct to grooving on drag drum.

3. Drum laggings are two piece construction for easy removal, and are of ample capacity to handle required lengths of rope. They are available in a range of sizes to "tailor" rope speeds and capacities to individual jobs.

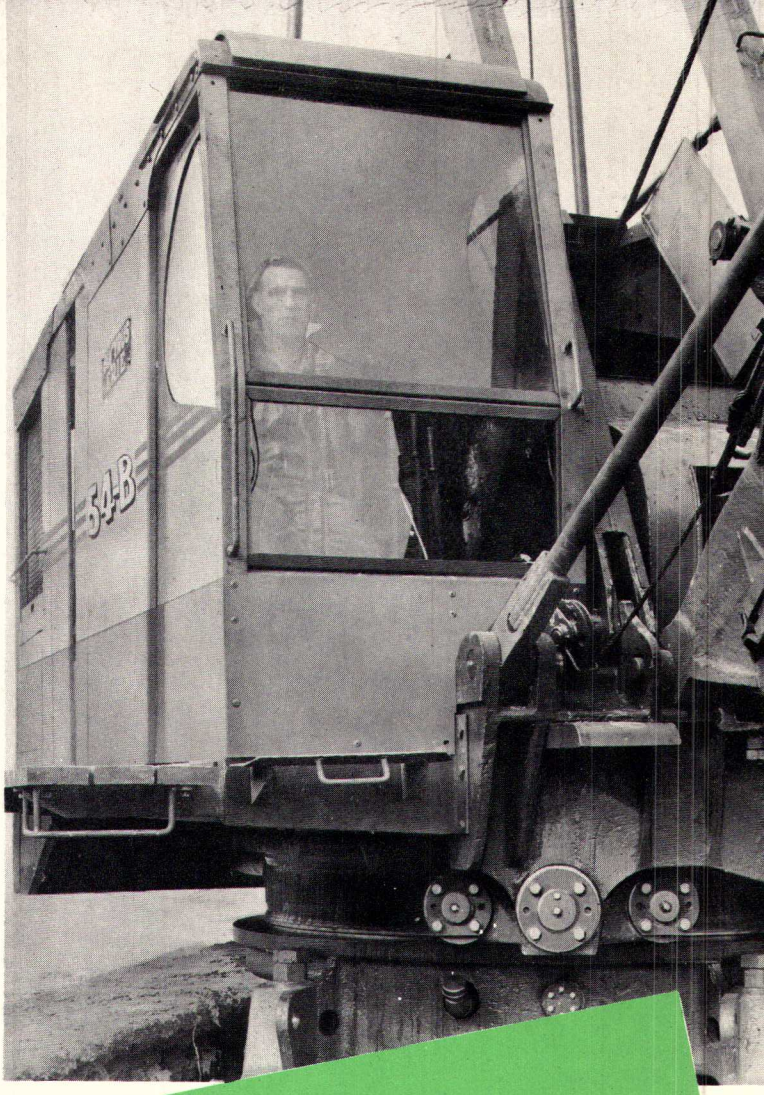
The simplicity you see here is one reason for the field-proved performance of the 54-B dragline.

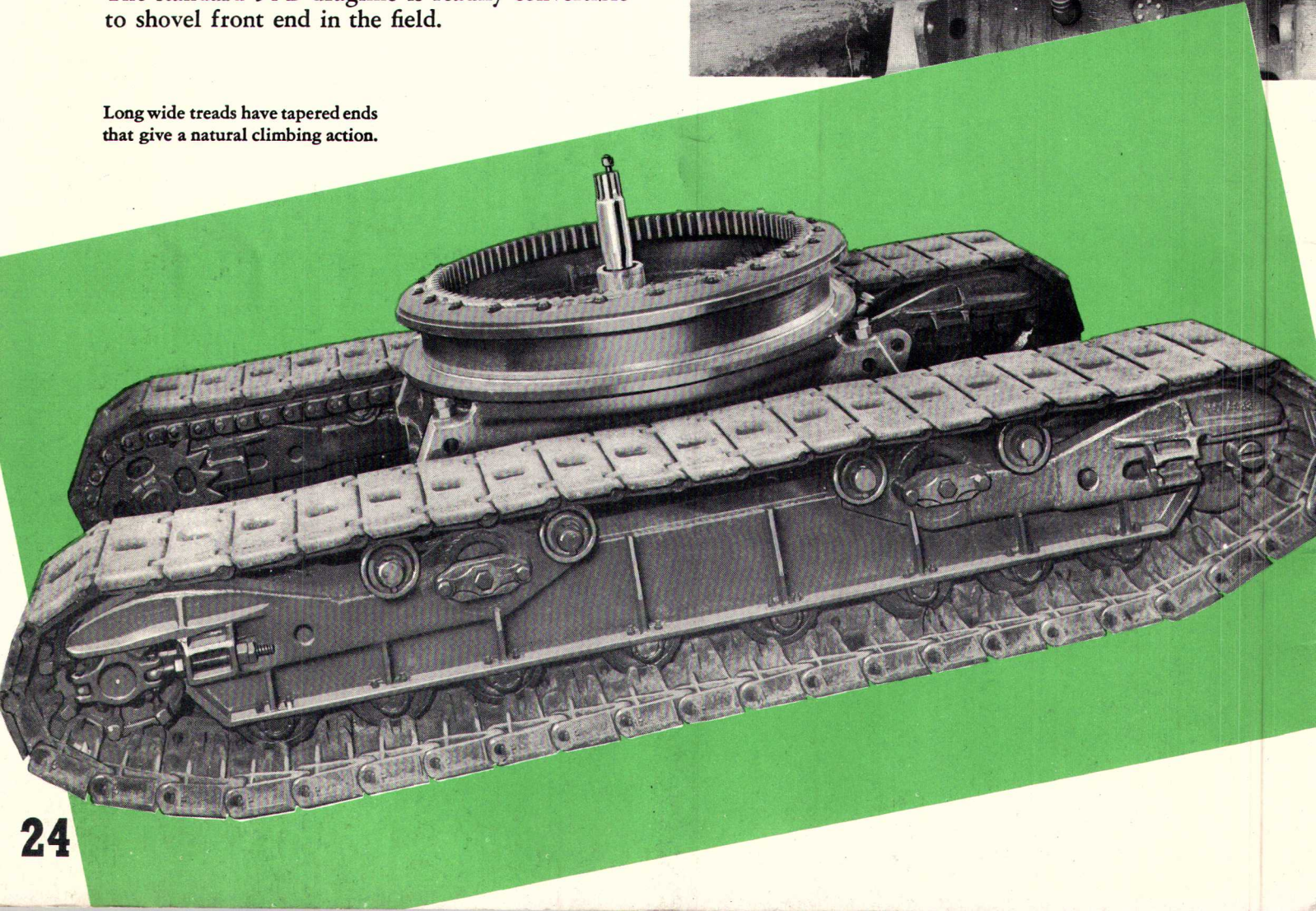
4. Long wide, tapered end mountings provide big bearing area for soft ground operation. Tapered ends give a natural climbing action that keeps the machine mobile in soft going. A set of top rollers on each side of the side frame help reduce tread wear. Being "out in the open", these rollers do not clog up with dirt. Side frames are true box sections, with great strength to resist twisting strains of steering as well as the normal loads of heavy digging.

5. The big 54-B Diesel engine provides more power than is needed for normal operation, thus providing an ample reserve for emergency use. The outstanding control of the 54-B puts all its great power at the instant command of the operator.

Notice in the specifications the conservative ratings of this dragline. They mean the machine you buy will have the ability to handle your day-in, day-out jobs with ease. That means smooth steady operation such as you can only get with a dragline working well within its capacity. It also means the 54-B has the reserve ability to whip the emergency jobs when they come along. The 54-B dragline will always give you outstanding performance because its power is under a perfect control which lets the operator turn it into smooth sustained speed.

The standard 54-B dragline is readily convertible to shovel front end in the field.

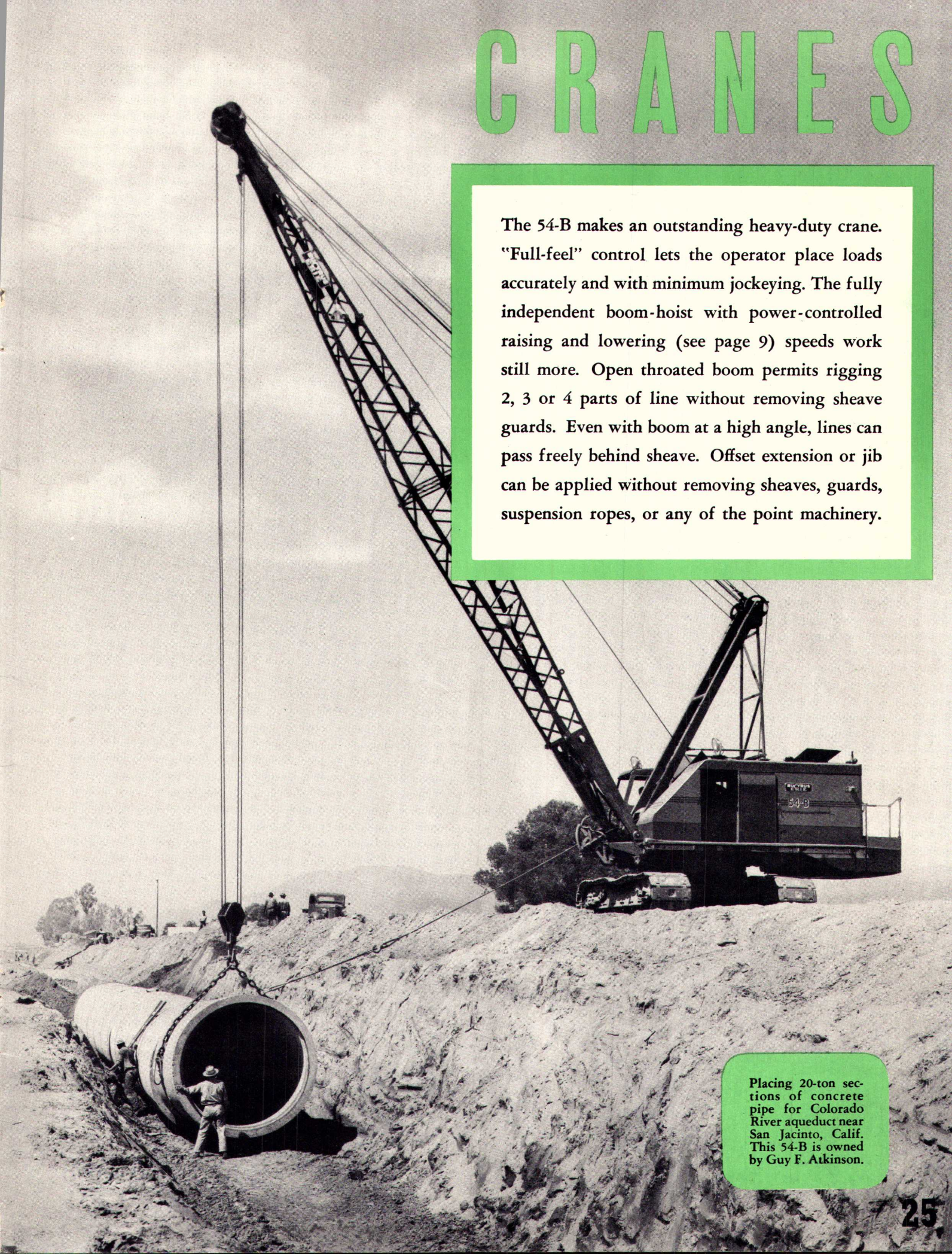




Long wide treads have tapered ends that give a natural climbing action.

CRANES

The 54-B makes an outstanding heavy-duty crane. "Full-feel" control lets the operator place loads accurately and with minimum jockeying. The fully independent boom-hoist with power-controlled raising and lowering (see page 9) speeds work still more. Open throated boom permits rigging 2, 3 or 4 parts of line without removing sheave guards. Even with boom at a high angle, lines can pass freely behind sheave. Offset extension or jib can be applied without removing sheaves, guards, suspension ropes, or any of the point machinery.



Placing 20-ton sections of concrete pipe for Colorado River aqueduct near San Jacinto, Calif. This 54-B is owned by Guy F. Atkinson.

54-B GENERAL SPECIFICATIONS

Shovel:

Hoist drum, grooved (right hand).....25" P. dia.
Hoist rope, two-part.....1⅛" dia.
Boom point sheaves.....42" P. dia.
Padlock sheave.....24" P. dia.

Clamshell:

Hoisting or closing drum, grooved (right hand).....28" P. dia.
Holding drum, grooved (left hand).....28" P. dia.
Hoist rope, one-part.....1" dia.
Holding rope, one-part.....1" dia.
Boom point sheaves (two).....24" P. dia.

Dragline:

Hoist drum, grooved (left hand).....28" P. dia.
Drag drum, grooved (right hand).....25" P. dia.
Hoist rope, one-part.....1" dia.
Drag rope, one-part.....1⅛" dia.
Boom point sheave (one).....24" P. dia.

Lifting Crane:

Hoist drum, grooved (right hand).....25" P. dia.
Auxiliary hoist drum (left hand).....28" P. dia.
Hoist rope.....1" dia.
Boom point sheaves (two).....24" P. dia.
Standard lifting crane rope is of sufficient length to set two-part main hook block on ground with boom at 78°.

Boom Suspension:

Standard boom hoist rope, eight-part.....¾" dia.
Continuous suspension for shovel, dragline, clamshell and crane unless otherwise ordered. Pendant suspension available for booms to be used in crane service, offered as special equipment. Drum laggings listed are standard and will be supplied unless special conditions require modifications.

AVAILABLE DRUM LAGGINGS

	37,800 lb. 33,800 lb. 30,500 lb.	164 f.p.m. 184 f.p.m. 204 f.p.m.	73,700 lb. 66,000 lb. 59,500 lb.	82.0 f.p.m. 92.0 f.p.m. 101.0 f.p.m.	108,000 lb. 96,600 lb. 87,000 lb.	54.7 f.p.m. 61.3 f.p.m. 68.0 f.p.m.

POWER SPECIFICATIONS

For use in elevations from sea level up to 6,500 ft. Engines for use in higher elevations also available.

Diesel Engine:

Make and model: Buda Lanova 6-DC-1879
Cylinders: six
Bore and stroke: 6¾" x 8¾"
Governed speed: 950 r.p.m.

Rating for excavator service:
197 hp. at above speed
182 hp. net at 880 r.p.m., full load speed

Air cleaner
Starter: independent gas engine
Fuel tank: 200 gal. capacity
Cooling system: 31 gal. capacity

CATERPILLAR MOUNTINGS

Travel speed on level ground.....0.75 m.p.h.

30"	9' 3"	11' 9"	10' 6"	11' 7"	15' 1"	3' 5"	64.0	.....
36"	9' 9"	12' 9"	*10' 6"	11' 7"	15' 1"	3' 5"	76.8	2,450
36"	9' 9"	12' 9"	*10' 6"	17' 1"	20' 3"	3' 8"	94.5	12,000
42"	10' 3"	13' 9"	**Width Cab	17' 1"	20' 3"	3' 8"	110.2	14,300

*Treads removed for shipping (and frames moved in).
**Caterpillar frames removed for shipment.
Clearance under axle to ground 20" (with tapered-type mounting 23¼").
Clearance under truck frame to ground 15½" (with tapered-type mounting 18¾").
Long mounting not suitable for shovel service; long mountings raise machine 3¼".
Long, wide-tread, tapered-end mounting recommended for soft-ground dragline operation.

WEIGHTS OF DIESEL MACHINES

Standard counterweight and mounting—60 ft. booms for dragline, clamshell and lifting crane.

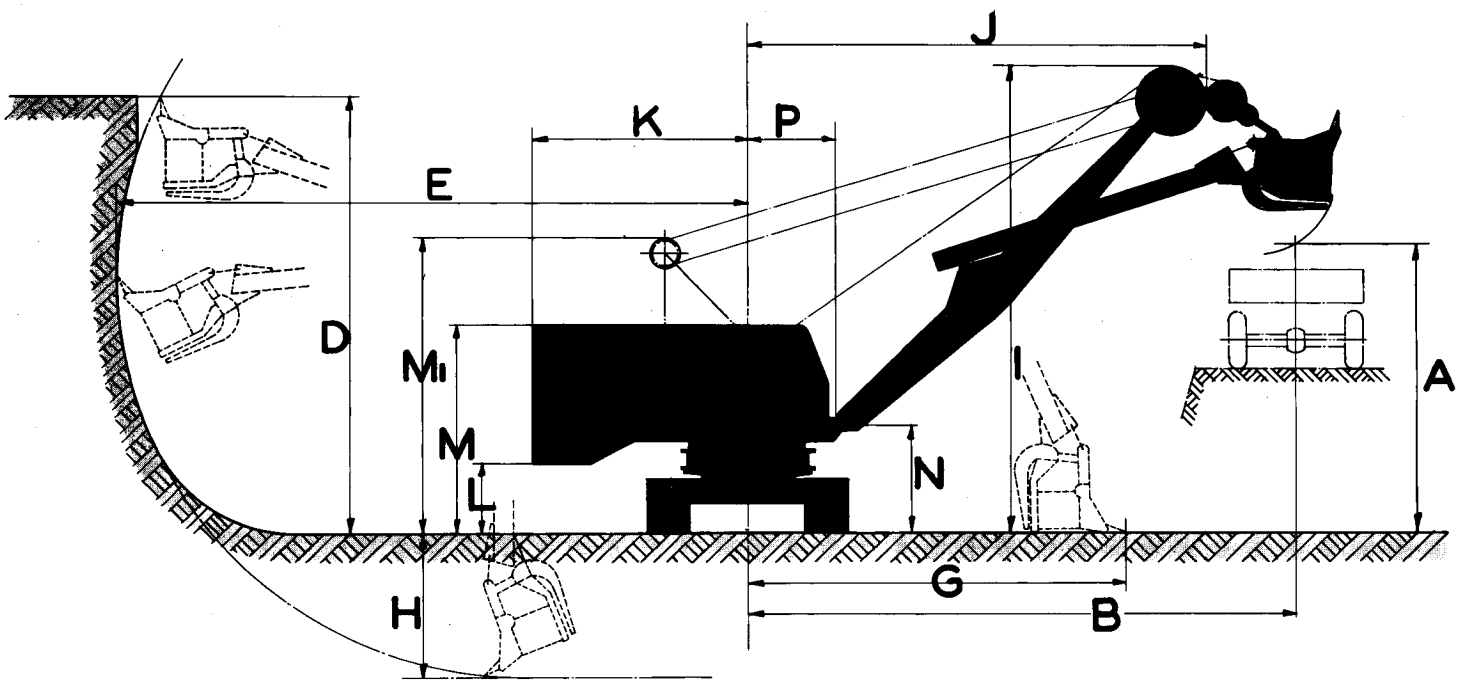
*Net weight domestic—approximate	158,800 lb.	133,600 lb.	133,000 lb.	133,100 lb.
Working weight—approximate	159,600 lb.	139,900 lb.	140,800 lb.	133,900 lb.
Export shipping weight—approximate	171,300 lb.	151,600 lb.	152,500 lb.	145,600 lb.
Ships option tons	112	132	136	126

*Add 2,000 lbs. blocking on car when estimating freight for domestic delivery.

Above weights are approximate only and will vary several hundred pounds for different combinations and power units. Buckets included in export shipping weight and working weight for dragline and clamshell machines.

These specifications are complete and accurate to the best of our knowledge at the time of publication but they do not limit or extend the express warranty contained in the contract of sale.

54-B SHOVEL



SHOVEL WORKING RANGE DIMENSIONS

Angle of boom	40°	45°	50°	55°	60°
A —Dumping height, maximum	17' 3"	19' 3"	21' 3"	23' 0"	24' 9"
B —Dumping radius, at maximum dumping height	33' 0"	31' 6"	30' 0"	28' 6"	26' 6"
B_1—Dumping radius, maximum	33' 9"	33' 0"	32' 3"	31' 6"	30' 6"
D —Cutting height, maximum	26' 9"	29' 0"	31' 6"	33' 6"	35' 6"
E —Cutting radius, maximum	38' 0"	37' 3"	36' 6"	35' 9"	34' 6"
G —Radius of level floor, maximum	23' 6"	23' 0"	22' 6"	22' 0"	21' 3"
H —Digging depth below ground level, maximum	9' 3"	8' 6"	8' 0"	7' 6"	7' 0"
I —Clearance height of boom point	25' 3"	26' 9"	28' 3"	29' 9"	31' 0"
J —Clearance radius of boom point	27' 0"	25' 6"	24' 0"	22' 0"	20' 0"

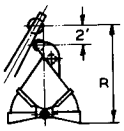
K —Clearance radius of revolving frame, ctwt. "A" (standard)	12' 9"
L —Clearance under frame to ground level	4' 0"
M —Clearance height, boom and A-frame lowered	12' 7"
M_1—Clearance height, standard A-frame	17' 9"
N —Height of boom foot pin above ground level	6' 7"
P —Distance boom foot pin to center of rotation	5' 3"
*Width of cab	10' 6"

*Running boards on sides increase width to 13' 11"

54-B DRAGLINE AND CLAMSHELL

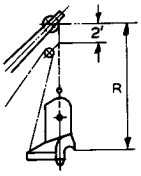
DIMENSIONS CLAM BUCKETS

5	14' 0"
4	13' 0"
3½	13' 0"
3	12' 0"
2½	12' 0"
2	11' 6"
1¾	10' 8"

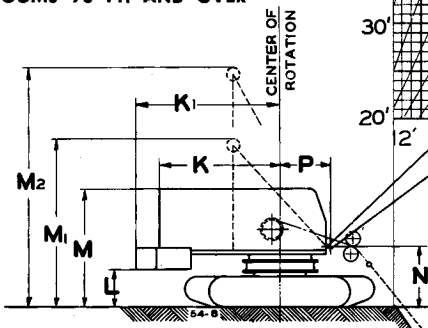


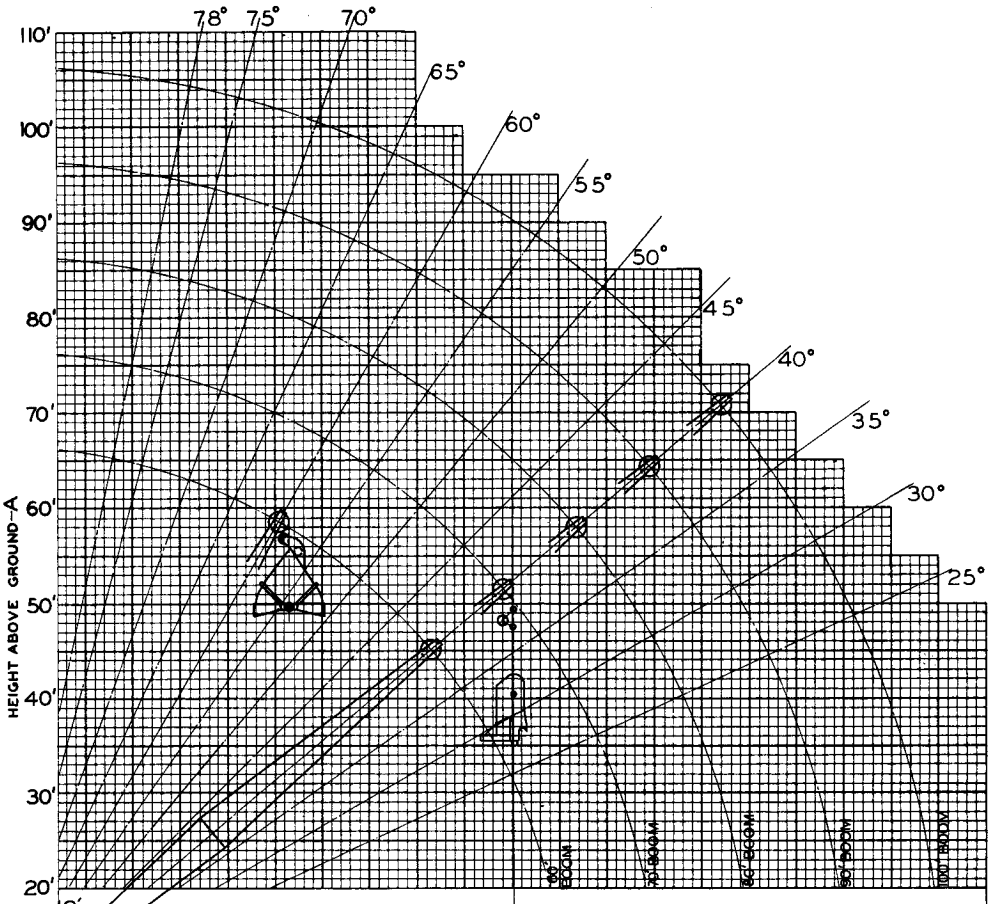
DIMENSIONS DRAG BUCKETS

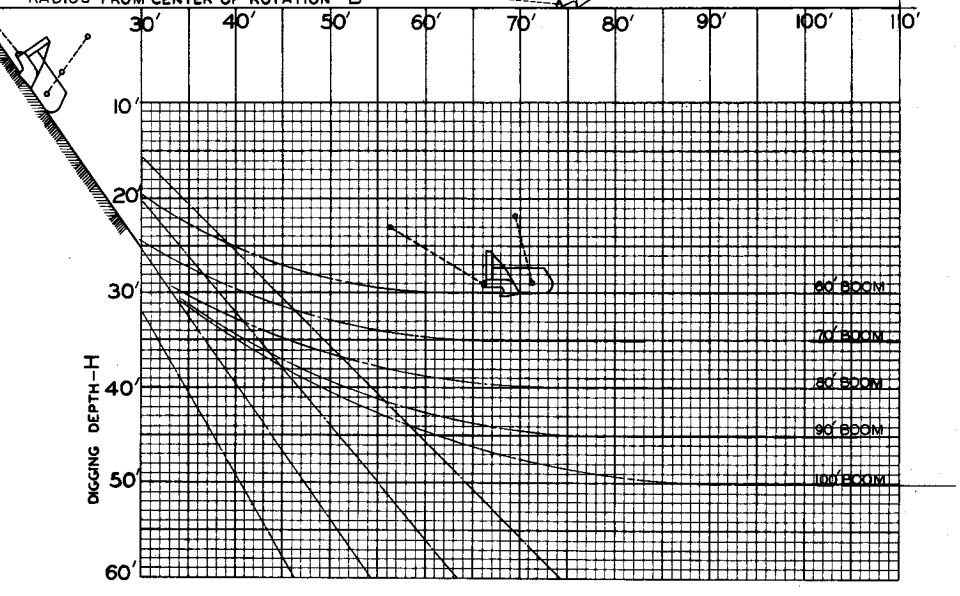
3	15' 0"
2½	14' 6"
2¼	14' 3"
2	14' 0"
1¾	13' 6"
1½	12' 6"



HIGH A-FRAME REQUIRED WITH BOOMS 90 FT. AND OVER







DRAGLINE DIGGING DEPTHS

With ropes of standard length, with one wrap on the drum and with boom in positions shown by full lines, the approximate dragline digging depths are as indicated on the chart at right.

DRAGLINE WORKING RANGES

A —**DUMPING HEIGHT:** height of boom point sheave pin minus R (see tables above).

B —**DUMPING RADIUS:** approximately same as operating radius.

F —**THROW OF BUCKET:** depends on ability of operator, usually ⅓ of boom length.

H —**DIGGING DEPTH:** depends on character of material, size and type of dragbucket, and whether end cut or side cut. Usually depth with end cut exceeds depth with side cut. Because of these variables, digging depths shown cannot be guaranteed.

NOTE: Diagram shows digging depths with standard ropes and for booms at radii indicated by full lines. Depths for other boom angles may be determined by striking equal arcs from any proposed location of boom point sheave pin.

K —Clearance radius of revolving frame — ctwt. "A" ..... 12' 9"

K_1 —Clearance radius of revolving frame — ctwt. "E" ..... 15' 3"

L —Clearance under frame to ground ..... 4' 0"

M —Clearance height — boom and A-frame lowered ..... 12' 7"

M_1—Clearance height — standard A-frame ..... 17' 9"

M_2—Clearance height — high A-frame ..... 25' 4"

N —Height of boom foot pin above ground ..... 6' 7"

P —Distance boom foot pin to center of rotation ..... 5' 3"

Vertical dimensions L, M and N increased 3¼" when long, tapered-end mounting is used.

54-B DRAGLINE AND CLAMSHELL

MAXIMUM ALLOWABLE WORKING LOADS WITH STANDARD DRUMS

(66⅔% of Tipping Loads with Machine on Level Ground and under Average Working Conditions)

Length of Boom ft.	Operating Radius ft.	Equivalent Angle of Boom Approx. Degrees	Height of Boom Point Sheave Pin above Ground	DRAGLINE SERVICE					CLAMSHELL SERVICE				
				Counterweight A Counterweight furnished on all machines (not removable)			Counterweight E 20,000 lbs. added to Counterweight "A"		Counterweight A Counterweight furnished on all machines (not removable)			Counterweight E 20,000 lbs. added to Counterweight "A"	
				Standard Length Caterpillar 30" Treads	Standard Length Caterpillar 36" Treads	Long, Tapered Ends Caterpillar 36" Treads	Standard Length Caterpillar 36" Treads	Long, Tapered Ends Caterpillar 36" Treads	Standard Length Caterpillar 30" Treads	Standard Length Caterpillar 36" Treads	Long, Tapered Ends Caterpillar 36" Treads	Standard Length Caterpillar 36" Treads	Long, Tapered Ends Caterpillar 36" Treads
60	35	61	59' 3"						18,650*	19,600*	20,650*		
	40	56	56' 3"	15,600*	16,400*				15,600	16,400	17,350*		
	45	50	52' 6"	13,350	14,050	14,850*			13,350	14,050	14,850	20,600*	21,400*
	50	43	47' 9"	11,650	12,300	13,000			11,650	12,300	13,000	18,050*	18,750*
	55	36	41' 9"	10,350	10,900	11,550			10,350	10,900	11,550	16,000	16,650
70	35	66	70' 6"						18,400*	19,350*	20,400*		
	40	61	68' 0"	15,350*	16,150*				15,350	16,150	17,100*		
	45	56	65' 0"	13,100	13,800	14,600*			13,100	13,800	14,600	20,350*	21,150*
	50	51	61' 3"	11,400	12,050	12,750			11,400	12,050	12,750	17,800*	18,500*
	55	46	56' 9"	10,100	10,650	11,300			10,100	10,650	11,300	15,750	16,400
	60	41	51' 6"	8,850	9,350	9,950	14,100	14,700*	8,850	9,350	9,950	14,100	14,700
	65	33	45' 0"	7,850	8,300	8,850	12,700	13,250	7,850	8,300	8,850	12,700	13,250
80	40	65	79' 3"	15,100*	15,900*				15,100	15,900	16,850		
	45	61	76' 9"	12,850	13,550	14,350*			12,850	13,550	14,350	20,100*	20,900*
	50	57	73' 9"	11,150	11,800	12,500			11,150	11,800	12,500	17,550*	18,250*
	55	53	70' 0"	9,850	10,400	11,050	15,500*		9,850	10,400	11,050	15,500	16,150
	60	48	66' 0"	8,600	9,100	9,700	13,850	14,450*	8,600	9,100	9,700	13,850	14,450
	65	43	61' 0"	7,600	8,050	8,600	12,450	13,000	7,600	8,050	8,600	12,450	13,000
	70	38	55' 0"	6,800	7,250	7,750	11,250	11,750	6,800	7,250	7,750	11,250	11,750
	75	31	47' 6"	6,150	6,550	7,050	10,250	10,700	6,150	6,550	7,050	10,250	10,700
90 (High A-frame frame required)	45	65	88' 0"	12,750	13,450	14,250*			12,750	13,450	14,250	19,850*	20,650*
	50	60	85' 6"	11,050	11,700	12,400			11,050	11,700	12,400	17,300*	18,000*
	55	57	82' 6"	9,700	10,250	10,900	15,250*		9,700	10,250	10,900	15,250	15,900
	60	53	79' 0"	8,450	8,950	9,550	13,600	14,200*	8,450	8,950	9,550	13,600	14,200
	65	50	75' 0"	7,450	7,900	8,450	12,200	12,750	7,450	7,900	8,450	12,200	12,750
	70	45	70' 3"	6,650	7,100	7,600	11,000	11,500	6,650	7,100	7,600	11,000	11,500
	80	35	58' 3"	5,400	5,800	6,200	9,100	9,500	5,400	5,800	6,200	9,100	9,500
100 (High A-frame frame required)	50	64	96' 9"	10,800	11,450	12,150			10,800	11,450	12,150	17,050*	17,750*
	55	61	94' 0"	9,450	10,000	10,650	15,000*	15,650*	9,450	10,000	10,650	15,000	15,650
	60	57	91' 0"	8,200	8,700	9,300	13,350	13,950	8,200	8,700	9,300	13,350	13,950
	65	54	87' 9"	7,200	7,650	8,200	11,950	12,500	7,200	7,650	8,200	11,950	12,500
	70	50	83' 9"	6,300	6,850	7,350	10,750	11,250	6,300	6,850	7,350	10,750	11,250
	75	47	79' 6"	5,750	6,150	6,650	9,750	10,200	5,750	6,150	6,650	9,750	10,200
	80	42	74' 3"	5,150	5,550	5,950	8,850	9,250	5,150	5,550	5,950	8,850	9,250
	90	33	61' 6"	4,100	4,450	4,800	7,400	7,750	4,100	4,450	4,800	7,400	7,750

*See notes 1 or 2 for loads marked (*) for maximum weights of buckets and contents.

Loads in unshaded area are for machines with high A-frames. Machines with counterweight "E" or with 90 ft. or longer booms require high A-frames.

BOOMS LONGER THAN THOSE SHOWN ABOVE MUST NOT BE USED FOR BUCKET SERVICE.

1. DRAGLINE SERVICE NOTES

Loads shown in table above for dragline service are for normal operation with simultaneous hoisting and swinging and with machine on fairly level ground.

Allowances must be made when operating on a grade or under unfavorable conditions.

With standard 28" diameter hoist drum the weight of loaded bucket must not exceed 14,100 lbs. for operation at normal speed.

Loads slightly greater can be handled if within stability ratings and when angle of swing is relatively small, such as in most wagon loading.

Operation of dragline with boom angle less than 33° to 35° is seldom advisable.

2. CLAMSHELL SERVICE NOTES

Loads shown in table for clamshell service are for normal operation with machine on firm level ground.

Allowances must be made when operating on a grade.

Favorable conditions may permit the handling of loads slightly greater than shown.

Weight of loaded bucket must not exceed 17,000 lbs. with 28" drums and 19,000 lbs. with 25" drums, for operation at normal speed.

For rapid operation, or when excavating sticky materials, loads less than shown are advisable.

Due to possibility of bucket striking the boom, operation with boom angles above 60° is not advisable when maximum lift is necessary.

Rudomatic tagline equipment furnished with clamshell machines.

Digging depth of clamshell bucket is approximately 20 percent of boom length with boom at 60° to horizontal when using standard ropes.

WEIGHTS OF DRAGLINE BUCKETS

(Bucyrus-Erie Red Arch — Type AX)

Capacity of bucket (cu. yd.)	3	2½	2¼	2	1¾	1½
Weight of bucket, empty, (lb.)	6,800	5,500	4,950	4,400	3,850	3,200
Weight of bucket loaded with: (lb.)						
Earth, moist, at 2500 lb./cu. yd.	14,300	11,750	10,575	9,400	8,225	6,950
Sand, dry, at 2700 lb./cu. yd.	14,900	12,250	11,025	9,800	8,575	7,250
Sand, wet, at 3300 lb./cu. yd.	16,700	13,750	12,375	11,000	9,625	8,150
Gravel, at 2900 lb./cu. yd.	15,500	12,750	11,475	10,200	8,925	7,550
Loose stone, at 2700 lb./cu. yd.	14,900	12,250	11,025	9,800	8,575	7,250
Clay, wet, at 3000 lb./cu. yd.	15,800	13,000	11,700	10,400	9,100	7,700

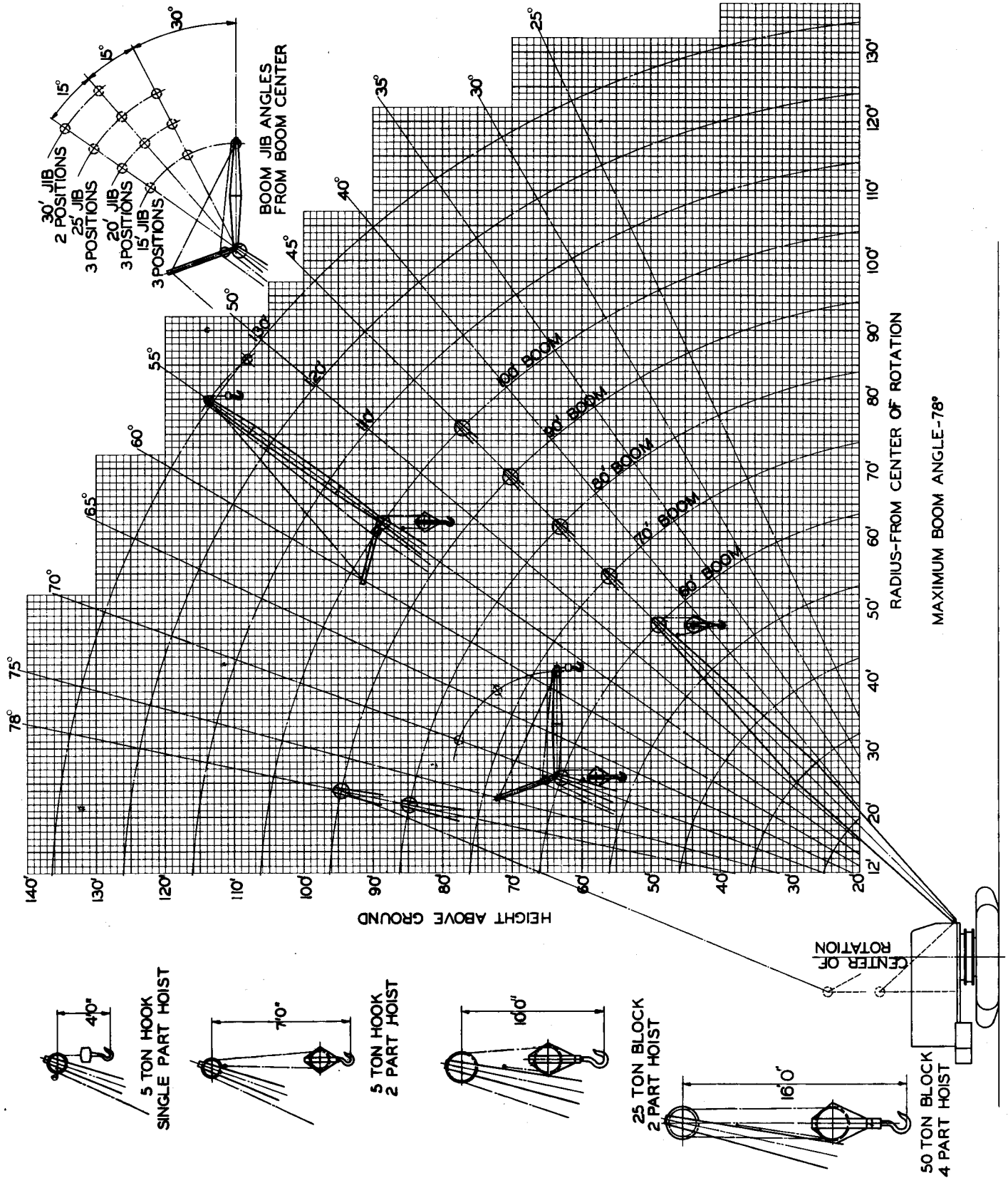
WEIGHTS OF CLAMSHELL BUCKETS

	Average Coal and Coke Bucket		Average Rehandling Bucket					Average Light Excavating Bucket			
Capacity of bucket (cu. yd.)	5	4	3½	3	2½	2	1¾	3	2½	2	1¾
Wt. of empty bucket (lb.)	7,650	6,500	7,000	6,200	5,500	5,000	4,400	7,800	7,000	6,400	5,500
Weights below are based on rated capacity. Allowance must be made for overload. See Note 3.											
Wt. of bucket loaded with: (lb.)											
Earth, moist, at 2500 lb./cu. yd.	.....	.....	15,750	13,700	11,750	10,000	8,775	15,300	13,250	11,400	9,875
Sand, dry, at 2700 lb./cu. yd.	.....	.....	16,450	14,300	12,250	10,400	9,125	15,900	13,750	11,800	10,225
Sand, wet, at 3300 lb./cu. yd.	.....	.....	18,550	16,100	13,750	11,600	10,175	17,700	15,250	13,000	11,275
Gravel, at 2900 lb./cu. yd.	.....	.....	17,150	14,900	12,750	10,800	9,475	16,500	14,250	12,200	10,575
Loose stone, at 2700 lb./cu. yd.	.....	.....	16,450	14,300	12,250	10,400	9,125	16,800	13,750	11,800	10,225
Clay, wet, at 3000 lb./cu. yd.	.....	.....	17,500	15,200	13,000	11,000	9,650	.....	14,500	12,400	10,750
Coal, at 1350 lb./cu. yd.	14,400	11,900	11,725	10,250	8,875	7,700	6,765	.....	.....	.....	.....
Cinders, at 1100 lb./cu. yd.	13,150	10,900	10,850	9,500	8,250	7,200	6,325	.....	.....	.....	.....
Ashes, at 900 lb./cu. yd.	12,150	10,100	10,150	8,900	7,750	6,800	5,975	.....	.....	.....	.....

3. BUCKET NOTES

The weights of clamshell and dragline buckets are approximate only, and should be checked with actual weights. Rated capacity of clamshell buckets does not mean actual capacity: in materials such as sand, small gravel, coal, ashes and cinders the bucket will fill from 10% to 15% over capacity, while in loose stone and large gravel the loads picked up will be about rated capacity; in wet clay and earth excavation the bucket will load to about 10% over capacity, and in dry clay and shale the load will be slightly less than rated capacity.

54-B LIFTING CRANE



See notes on opposite page.

Note how completely the 54-B specifications are given in these pages. These are working dimensions that can be depended upon in everyday performance. We publish all the figures on the 54-B, including complete crane ratings, together with the percentage of tipping load they represent, because we believe in laying all the cards on the table. You get all the facts in black and white as accurately as we can give them so you know what you buy and can be sure you get what you pay for.

ING CRANE

MAXIMUM ALLOWA LOADS WITH STANDAR MS

(75% of Tipping Loads with Machin m, Level Ground)

Length of Boom ft.	Operating Radius ft.	Equivalent Angle of Boom Approx. Degrees	Height of Boom Point Sheave Pin Above Ground	Counterweight A Counterweight furnished on all machines (not removable)			Counterweight E 20,000 lb. added to Counterweight "A"	
				Standard Length Caterpillar 30" Treads	Standard Length Caterpillar 36" Treads	Long, Tapered Ends Caterpillar 36" Treads	Standard Length Caterpillar 36" Treads	Long, Tapered Ends Caterpillar 36" Treads
50	12			SEE NOTE A			SEE NOTE A	
50 (Special Equipment)	15	79	55' 9"	67,500	70,650	74,350	101,500	104,900
	20	73	54' 6"	44,600	46,700	49,150	66,500	68,850
	25	67	52' 6"	33,000	34,600	36,400	49,400	51,150
	30	60	50' 0"	25,900	27,150	28,650	39,000	40,400
	35	53	47' 0"	21,200	22,250	23,450	32,200	33,400
	40	46	42' 9"	17,900	18,800	19,850	27,200	28,200
	45	37	37' 0"	15,400	16,200	17,100	23,450	24,350
60	20	76	64' 9"	44,350	46,450	48,900	66,250	68,600
	25	71	63' 3"	32,750	34,350	36,150	49,150	50,900
	30	66	61' 3"	25,650	26,900	28,400	38,750	40,150
	35	60	58' 9"	**20,950**	22,000	23,200	31,950	33,150
	40	54	56' 0"	17,650	18,550	19,600	26,950	27,950
	45	48	51' 6"	15,150	15,950	16,850	23,200	24,100
	50	42	46' 9"	13,150	13,850	14,650	20,350	21,150
	55	33	40' 0"	**11,650**	12,300	13,000	18,050	18,750
70	20	78	75' 0"	44,100	46,200	48,650	66,000	68,350
	25	73	73' 9"	32,500	34,100	35,900	48,900	50,650
	30	69	72' 0"	25,400	26,650	28,150	38,500	39,900
	35	65	70' 0"	**20,700**	21,750	22,950	31,700	32,900
	40	60	67' 6"	17,400	18,300	19,350	26,700	27,700
	45	56	64' 3"	14,900	15,700	16,600	22,950	23,850
	50	50	60' 6"	12,900	13,600	14,400	20,100	20,900
	55	44	55' 9"	11,400	12,050	12,750	17,800	18,500
	60	38	50' 3"	10,050	10,650	11,300	15,900	16,550
	65	31	43' 0"	8,900	9,450	10,050	14,350	14,950
80	25	76	84' 3"	32,250	33,850	35,650	48,650	50,400
	30	72	82' 6"	25,150	26,400	27,900	38,250	39,650
	35	68	80' 9"	20,450	21,500	22,700	31,450	32,650
	40	64	78' 6"	17,150	18,050	19,100	26,450	27,450
	45	60	75' 6"	14,650	15,450	16,350	22,700	23,600
	50	56	73' 0"	12,650	13,350	14,150	19,850	20,650
	55	52	69' 3"	11,150	11,800	12,500	17,550	18,250
	60	47	65' 0"	9,800	10,400	11,050	15,650	16,300
	65	42	60' 0"	8,650	9,200	9,800	14,100	14,700
	70	36	53' 6"	7,800	8,300	8,850	12,750	13,300
	75	29	45' 9"	7,000	7,450	7,950	11,600	12,100
90 (High A-frame frame required)	25	78	94' 6"	32,250	33,850	35,650	48,400	50,150
	30	74	93' 3"	25,150	26,400	27,900	38,000	39,400
	35	71	91' 6"	20,400	21,450	22,650	31,200	32,400
	40	67	89' 6"	17,100	18,000	19,050	26,200	27,200
	45	64	87' 6"	14,550	15,350	16,250	22,450	23,350
	50	60	84' 6"	12,550	13,250	14,050	19,600	20,400
	55	57	81' 9"	11,000	11,650	12,350	17,300	18,000
	60	53	78' 3"	9,650	10,250	10,900	15,400	16,050
	65	48	74' 0"	8,500	9,050	9,650	13,850	14,450
	70	44	69' 0"	7,650	8,150	8,700	12,500	13,050
	75	39	63' 6"	6,850	7,300	7,800	11,350	11,850
	80	34	56' 9"	6,200	6,600	7,100	10,400	10,900
100 (High A-frame frame required)	30	76	103' 6"	24,900	26,150	27,650	37,750	39,150
	35	73	102' 0"	20,150	21,200	22,400	30,950	32,150
	40	70	100' 6"	16,850	17,750	18,800	25,950	26,950
	45	67	98' 6"	14,300	15,100	16,000	22,200	23,100
	50	63	96' 0"	12,300	13,000	13,800	19,350	20,150
	55	60	93' 3"	10,750	11,400	12,100	17,050	17,750
	60	57	90' 6"	9,400	10,000	10,650	15,150	15,800
	65	53	86' 9"	8,250	8,800	9,400	13,600	14,200
	70	49	82' 9"	7,400	7,900	8,450	12,250	12,800
	75	46	78' 6"	6,600	7,050	7,550	11,100	11,600
	80	42	73' 6"	5,950	6,350	6,850	10,150	10,650
	90	32	59' 6"	4,750	5,150	5,550	8,500	8,900

Loads in unshaded area are for machines with high A-frames. Machines with counterweight "E" or with 90 ft. or longer booms require high A-frames.

NOTE A

Nominal or theoretical crane rating *for comparative purposes only, not for practical use*. Ratings at 12 ft. radius with 50 ft. boom:

Ctwt. A, std. length cat., 30" treads..... 96,300 lbs.
Ctwt. A, std. length cat., 36" treads.....100,800 lbs.
Ctwt. A, long tapered cat., 36" treads..106,000 lbs.
Ctwt. E, std. length cat., 36" treads.....145,000 lbs.
Ctwt. E, long tapered cat., 36" treads....150,000 lbs.

GENERAL CRANE SERVICE NOTES

Loads shown for crane service are for booms without any jib extensions.

Loads up to 19,000 lbs. may be handled with *single*-part line.

Loads over 19,000 lbs. use *two*-part line.

Loads over 38,000 lbs. use *three*-part line.

Loads over 57,000 lbs. use *four*-part line. (Four-part line requires a *two*-sheave swivel hook block — *special* equipment.)

Deduct weight of hook block and slings from tabulated loads.

HOOK BLOCK NOTES

25-ton, *single* sheave, swivel hook block (standard equipment)..... 650 lbs.

50-ton *double* sheave, swivel hook block (special equipment).....1,190 lbs.

5-ton, *single* sheave, swivel hook block (special equipment)..... 200 lbs.

5-ton, counterweighted, hook (standard with jib equipment)..... 220 lbs.

JIB NOTES

Jibs are for load lifting *only;* jib angles from centerline of main boom must not exceed the following:

15 ft. jib.....60° from boom center
20 ft. jib.....45° from boom center
25 ft. jib.....30° from boom center
30 ft. jib.....15° from boom center

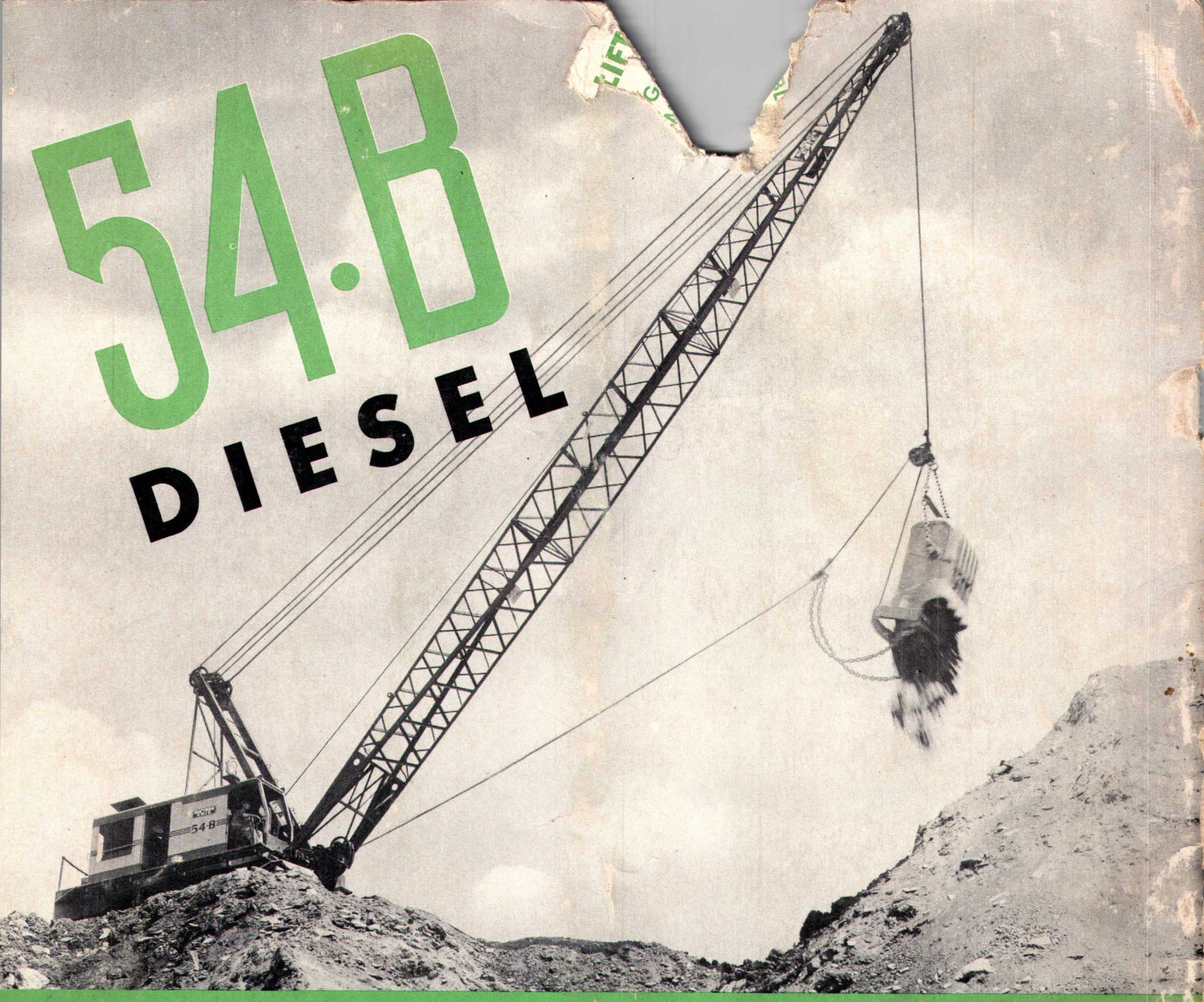
Allowable loads on main boom sheave when jib is attached must be reduced as follows:

15 ft. jib.....2,125 lbs. 25 ft. jib.....2,350 lbs.
20 ft. jib.....2,250 lbs. 30 ft. jib.....2,400 lbs.

The allowable load over the jib sheave at any radius from center line of rotation of machine is the same load that may be lifted over the boom sheave (without jib) with boom lowered to that radius — *but not in excess of 10,000 lbs.*

DO NOT USE JIBS FOR BUCKET WORK.

54-B DIESEL



BUCYRUS-ERIE COMPANY

General Offices: South Milwaukee, Wisconsin, U. S. A.

Plants in South Milwaukee, Wis.; Erie, Pa.; Evansville, Ind.; Chicago, Ill., U. S. A. District Offices in principal cities of U. S. A. Distributors and service throughout the U. S. A., Canada, and in all other principal countries of the world.

In British Isles: RUSTON-BUCYRUS, LTD., Lincoln, England

It is the policy of Bucyrus-Erie Company to improve its product continually. The right is reserved to make changes in specifications or design which in the opinion of this Company are in accord with this policy, or which are necessitated by the unavailability of materials. The description herein is for the purpose of identifying the type of machine, and does not limit or extend the express warranty provisions in any contract of sale.

BULLETIN 54-B-6A 11-0N5T0-DJ LITHO IN U. S. A.