

**LINK-BELT SPEEDER CORP., CEDAR RAPIDS, IOWA****STANDARD EQUIPMENT SHEET****JULY 15, 1947****MODEL
"LS-50"****1/2-YARD**

BE SURE TO CHECK YOUR ORDER CAREFULLY AGAINST THESE SPECIFICATIONS TO INSURE YOUR CUSTOMER GETTING WHAT HE EXPECTS. ANY DEVIATION FROM THESE SPECIFICATIONS MUST BE NOTED ON THE ORDER, AND PROVIDED FOR AS SET FORTH IN THE PRICE LIST, OR THRU SPECIAL ARRANGEMENT WITH THE FACTORY.

Below is listed the equipment for a STANDARD MODEL LS-50 LINK-BELT SPEEDER machine. Sections 1, 2, 4, 5, and 11 apply to all machines. See other sections applying to the type of boom equipment specified. Sections on boom equipment apply whether sold installed on a machine or as a separate attachment.

- 1. ENGINE** — Buda Model HP-326 gasoline engine. 6 cylinders $3\frac{13}{16}$ " x $4\frac{3}{4}$ " — 326 cu. inch displacement, 49 H.P. at 1350 r.p.m. full load speed. Water pump, oil pump, oil filter, air filter, distributor ignition system, electric starting and lighting system. Lighting system consists of two automotive type headlights mounted on top of cab and a dash light mounted over the oil pressure gauge and ammeter, (on diesel powered machines, lights are furnished at extra cost). 6 volt battery. Gasoline tank holds approximately 38 gallons, fuel pump feed.
- 2. UPPER WORKS** — Proper drum lagging is furnished for the type of attachment ordered. Operator's seat is spring mounted and padded, adjustable as to height and fitted with back support. All steel sliding cab doors. Safety glass sash is standard equipment. Provision for locking cab with padlocks. A large tool box with a padlock is provided inside cab. Standard machines have one operating and two traveling speeds. Boom hoist is independent rapid type.
- 3. CRAWLERS** — LINK-BELT SPEEDER lug-driven 16" shoes; 20" lug-driven crawlers optional at increased price.
- 4. PAINT** — The cab will be painted red. Lower frame and front end equipment black, roof aluminum.
- 5. LETTERING OF CAB** — The rear of cab will be lettered free of charge with customer's name, telephone number, street address, city and state, provided lettering instructions are furnished in ample time before shipment. No allowance will be made for lettering done other than at the factory.
- 6. SHOVEL** — 16' boom, 12' dipper sticks, Plate Bucket $\frac{1}{2}$ cu. yd. struck measure, fitted with 4 teeth with reversible, renewable points. Necessary cables, power dipper trip, positive chain crowd. Manganese front for the dipper instead of standard plate front is available at increased price.
- 7. DRAGLINE** — The boom is 30' long, 2-piece box-type. Sheave-type fairleader. Necessary cables and lagging are furnished for dragline operation. No bucket is included in price. Extender cables are standard equipment.
- 8. CRANE** — Boom 30' long, 2-piece box-type. Necessary cables and lagging are provided. No bucket or hook block is included. Add for tagline winder if not in combination with shovel utilizing power trip. (See items 14, 15 and 16 of price list.) Extender cables are standard equipment.
- 9. TRENCH HOE** — 14' boom and dipper arm. Bucket is solid bottom type, equipped with teeth, heavy flared one-piece type cast side cutters, to cut 36" wide trench. Necessary cables and lagging are included.
- 10. DRAGLINE BUCKET** — $\frac{1}{2}$ yard struck measure, plate bucket. Equipped with 4 teeth with reversible points. Drag chains, hoist chains, bridle cable and sheave. Wedge-type cable connections to inhaul cable and hoist cable.
- 11. TOOLS** — A complete set of tools, including a set of heavy-duty socket wrenches, high-pressure grease gun, oil can, gun grease to start the machine.

**THE LINK-BELT SPEEDER CORPORATION RESERVES THE RIGHT TO CHANGE
THESE SPECIFICATIONS WITHOUT NOTICE.**

**LINK-BELT SPEEDER CORP., CEDAR RAPIDS, IOWA****DETAIL SPECIFICATIONS****DECEMBER 10, 1947****MODEL
"LS-50"
1/2-YARD****CRAWLER BASE WITH LUG-DRIVEN CRAWLERS****TWO LINK-BELT SPEEDER** Lug-driven crawler track belts each 28 shoes, 9" pitch, of manganese alloy steel, self-cleaning.**TRACK PINS** — 1 1/8" diameter.**TRACK SHOES:**

Standard 16" flat, total ground contact 3150 sq. in. or 21.9 sq. ft.

Optional 20" flat, total ground contact 3940 sq. in. or 27.4 sq. ft.

TRACK ROLLERS — 7 per belt, double flanged, 8" tread diameter. Hub babbitted, 2 1/2" diameter, 5 3/4" long cast steel.**TRACK CARRIER ROLLERS** — 2 each side, double flanged, cast steel. 8" diameter, hub babbitted, 2 1/2" diameter, 5 3/4" long.**CRAWLER REAR DRIVE SPROCKET** — 23" outside diameter, 9 teeth, 3" diameter shaft. Shaft mounted in 2 bronze bushings 3" I.D. x 3 1/2" O.D. x 3 1/2" long.**CRAWLER FRONT IDLER ROLLER** — 23 3/8" tread diameter, 2 1/2" diameter shaft, 2 bronze bushings 3" diameter, 3" long.**CRAWLER TRACK FRAME MEMBERS** — 9", 13.4 lb. channels.

2 main cross members — 12", 35 lb. I-beams.

Longitudinal frame members—8", 17 wide flange I-beams.

DRIVE CHAINS — 2" pitch, 1 1/2" x 1/4" side bars, 9/16" diameter pins, 1 1/8" diameter rollers. Link-Belt XS512.**CHAIN SPROCKETS** — Rear 17 7/8" pitch diameter, 28 teeth; front 11 teeth, 7.1" pitch diameter.**TRACTION SHAFT** — 3-piece, 2 1/2" diameter, S.A.E. 4140 chrome-moly steel. Traction bevel gears, 10.3" pitch diameter, 18 teeth, 3" face, alloy steel, cast teeth, fully enclosed in steel case, running in oil bath. Traction bevel pinion 10.3" pitch diameter, 18 teeth, 3" face. Shaft has 4 babbitted bearings 4" diameter, 5" long.**CENTER PIN BEARING** — Bronze-bushed, bushing 6" diameter, 4 1/2" long.**TURNTABLE** — Cast steel with machined roller path, 55" diameter. Internal gear 42" pitch diameter, 84 teeth, 3" face, taper roller type.**CRAWLER BASE DATA:**

Overall length of crawlers — 9' - 9"

Length of ground contact — 7' - 3"

Overall width with 16" tracks — 7' - 10"

Overall width with 20" tracks — 8' - 2"

Crawler travel speed, low-gear normal .95 m.p.h.

Crawler travel speed, high-gear normal 2.38 m.p.h.

Minimum clearance under traction gear case — 12"

Clearance under frame cross members — 18"

Maximum grade climbable — 35%

UPPER REVOLVING FRAME**TURNTABLE ROLLERS** — Four conical rollers 6 27/32" diameter, 3 1/2" face, 2 1/2" inside diameter bronze bushing 3 3/4" long. Rollers machined from drop forged alloy steel blanks heat-treated. Rollers are mounted individually 2 in front and 2 in rear.



CENTER PIN — 6" diameter, alloy steel with $2\frac{1}{2}$ " x 4" bronze bearing for vertical travel shaft. Center pin bolted to upper frame.

FRAME — 12", 35 lb. I-beams with cross ties and plates electric welded. Distance from center of rotation to boom foot hinge 22".

GASOLINE ENGINE — Buda HP326, 6-cylinder, 3 $\frac{13}{16}$ " bore, $4\frac{3}{4}$ " stroke. Governed speed (high idle) 1500 R.P.M., piston speed 1183 F.P.M. @ 1500 R.P.M., 49 H.P. @ full load speed of 1350 R.P.M., peak torque 194 ft. lbs. at 1000 R.P.M.

194 ft. lbs. @ 1000 R.P.M.

Displacement — 325.4 cubic inches.

Lubrication — Force feed pressure, oil pump drives directly from rear end of cam shaft. Sump capacity 6 quarts. Breather and oil filler equipped with element to filter air.

Ignition — Battery, spark plugs standard metric.

Carburetor — Zenith.

Air Filter — Vortex.

Oil Filter — Deluxe.

Starter — Auto-Lite.

Generator — Auto-Lite.

Governor — Pierce.

Battery — 17 plate, 6 volt.

Fuel tank — 38 gallon.

Clutch — "TWIN-DISC" Model C-110-P2, 10" diameter, single plate, $2\frac{1}{4}$ " diameter shaft.

Cooling system — Perfex radiator — cooling system capacity 5.0 gals.

DIESEL ENGINE — Caterpillar D311, 4-cylinder, 4" bore, 5" stroke.

Displacement — 252 cubic inches.

Governed speed (high idle) 1750 R.P.M., piston speed 1458 F.P.M., 47 H.P. @ full load speed of 1600 R.P.M., peak torque 161 ft. lbs. @ 1100 R.P.M.

Lubrication — full pressure. Gear type pump. Oil cooler. Capacity of crankcase 3.5 gals.

Air Cleaner — Donaldson.

Cooling system — Built in water circulating pump and belt driven fan.

Capacity of cooling system — 7.4 gals.

Fuel system — individual injection pumps, and single orifice type injection valves. Fuel transfer pump.

Fuel tank — 38 gal. capacity.

Fuel Filter — Absorbent type (replaceable).

Starter — 2-cylinder gasoline engine, 15 H.P. @ 3000 R.P.M.

Magneto — American Bosch, on starting engine.

Clutch — "TWIN-DISC", Model C-110-HP2, 10" diameter, single plate, $2\frac{1}{4}$ " diameter shaft.

DIESEL ENGINE — General Motors, Series 2-71, Model 2030C, Type "A" injectors, 2 cycle, 2-cylinder, $4\frac{1}{4}$ " bore x 5" stroke.

Displacement — 141.9 cubic inches.

Governed speed (high idle) 1600 R.P.M., piston speed at 1600 R.P.M. 1333 F.P.M., 49 H.P. at full load speed of 1600 R.P.M., peak torque 173 ft. lbs. @ 1100 R.P.M.

Lubrication — full pressure, with oil cooler and filter. Lubricating oil capacity $2\frac{1}{2}$ gal.

Air cleaner — heavy duty, oil bath type.

Cooling system — jacket water circulating pumps. Capacity of cooling system 3 gals.

Fuel tank — 32 gal. capacity.

Starting system — electric starting motor with solenoid battery, charging generator, and voltage regulator, 12 volt.

Governor — hydraulic type.

Clutch and Power Take-Off — Rockford. Shaft diameter $2\frac{1}{4}$ ".

DIESEL ENGINE — International UD-9, 4-cylinder, 4.4" bore, 5.5" stroke.

Displacement — 334.5 cubic inches.

Governed speed (high idle) 1500 R.P.M., piston speed @ 1500 R.P.M. 1375 F.P.M., 50 H.P. @ full load speed of 1350 R.P.M., peak torque 207 ft. lbs. @ 800 R.P.M.

Lubrication — full pressure, crankcase pan capacity $2\frac{3}{4}$ gal.

Air cleaner — heavy duty 8" oil bath type.

Cooling system — centrifugal pump, cooling system capacity 17 gal.

Fuel injection system: Type — solid injection with precombustion chambers.

Injection pump — Bosch single plunger flange mounted type.

Fuel filter — Purolator, replaceable element.

Fuel tank — 38 gal. capacity.

Starting system: Type — built in gasoline conversion.

**DIESEL ENGINE (Continued)**

Starting magneto — I.H.C.

Electric starting — 6 volt.

Governor — Bosch, flyball type.

Clutch and Power Take-Off — regular clutch, Rockford, single plate, over center, clutch diameter 12 inches, shaft $2\frac{1}{4}$ " diameter.

Starting carburetor — I.H.C.

TRANSMISSION — Quadruple width $\frac{5}{8}$ " pitch, Link-Belt roller chain, enclosed. 18-tooth 3.599" pitch diameter hardened engine sprocket. 141-tooth 28.053" pitch diameter semi-steel driven sprocket on Buda HP326 and I.H.C. UD-9 engines, 164-tooth 32.62" pitch diameter on Caterpillar D311 or General Motors GM2030-C engines.

MAIN POWER SHAFT — $2\frac{7}{16}$ " diameter SAE4140 chrome-moly steel. Heat treated 270-300 Brinell.

Full load governed speed — 172 R.P.M.

Bearings — Link-Belt self-aligning roller type.

Drive pinion — 24 cut teeth, 4 diametral pitch — 6" pitch diameter, $2\frac{1}{2}$ " face hardened S.A.E. 2315 forged alloy steel.

REVERSE SHAFT — $2\frac{1}{2}$ " diameter SAE4140 chrome-moly steel. Heat treated 270-300 Brinell.

Full load governed speed 58 R.P.M.

Bearings — $2\frac{1}{2}$ " inside diameter x $4\frac{3}{8}$ " long bronze, with ball thrust bearings.Spur Gear — 18" pitch diameter, 4 diametral pitch — 72 cut teeth, $2\frac{3}{4}$ " face. Heat treated 240-280 Brinell.Bevel Gears — 8" pitch diameter, 1.75/2 diametral pitch 14 teeth, $2\frac{1}{2}$ " face, cast steel. Heat treated 270-300 Brinell.Swing and traction clutches — 14 $11/16$ " diameter, $3\frac{1}{2}$ " face, double-band, external contracting type, manually operated.Chain Sprocket — 28 teeth, 11.16 pitch diameter, $1\frac{1}{4}$ " pitch, Link-Belt RC100 roller chain.

DRUMS — 10" between flanges with 14 $11/16$ " diameter clutch and brake flanges. Removable steel grooved laggings — 11" root diameter on both drums for clam and pile driver; 8" root diameter on rear drum for crane; $9\frac{1}{2}$ " root diameter lagging on front and 11" root diameter on rear for drag; 8" root diameter on front and 11" root diameter on rear for trench hoe; 11" root diameter on rear for skimmer and shovel.

Shafts — $2\frac{1}{2}$ " diameter SAE4140 chrome-moly steel. Heat treated 270-300 Brinell.Gears — 18" pitch diameter, 4 diametral pitch — 72 cut teeth, $2\frac{3}{4}$ " face, $2\frac{1}{2}$ " x 3" bronze bushings.Clutches — 14 $11/16$ " diameter, $3\frac{1}{2}$ " face, double band, external contracting type, manually operated.

Full load governed speed — 58 R.P.M.

Hoist drum — Floating, bronze bushed, 3" I.D. x $4\frac{1}{2}$ " long.Crowd drum keyed to shaft, bronze shaft bearings $2\frac{1}{2}$ " I.D. x $4\frac{3}{8}$ " long.

Crowd drum reversed by roller chain drive and 11" diameter x 3" wide external band clutch for retracting dipper sticks.

VERTICAL SHAFT AND GEARS — All shafts are SAE4140 chrome-moly heat treated 250-300 Brinell and splined for sliding jaw clutches. All shafts are $2\frac{1}{2}$ " diameter. Shaft bearings are bronze.

On Vertical Drive Shaft — Bevel gear is 8.75 pitch diameter, 1.75/2 diametral pitch, 15 cast teeth, $2\frac{1}{2}$ " face. High gear $16\frac{1}{2}$ " pitch diameter, 4 diametral pitch, $2\frac{3}{4}$ " face, 66 cut teeth. Low gear $10\frac{1}{4}$ " pitch diameter, 4 diametral pitch, $2\frac{3}{4}$ " face, 41 cut teeth.On Vertical Swing Shaft — High gear $11\frac{1}{4}$ " pitch diameter, 4 diametral pitch, $2\frac{3}{4}$ " face, 45 cut teeth. Low gear $17\frac{1}{2}$ " pitch diameter, 4 diametral pitch, $2\frac{3}{4}$ " face, 70 cut teeth.On Center Pin Shaft — Gear $17\frac{1}{2}$ " pitch diameter, 4 diametral pitch, $2\frac{3}{4}$ " face, 70 cut teeth. Bevel pinion 10.285 pitch diameter, $1\frac{3}{4}$ diametral pitch, 3" face, 18 cast teeth.

SWING MECHANISM — Cast 14 tooth 2 diametral pitch, 7" pitch diameter spur pinion on vertical shaft engages with turntable gear 84 cast teeth 2 diametral pitch, 42" pitch shaft, 3" face. The pinion is cast alloy steel heat treated to 270-300 Brinell. The swing lock is mounted on the revolving upper and engages teeth in the turntable gear controlled from operator's position independent of all other controls.

INDEPENDENT RAPID BOOM HOIST — Mounted on hoist drum shaft, with independent outside band clutch 11" diameter x 3" wide, locking ratchet, with lowering speed controlled by engine speed. Drum has independent band brake $15\frac{1}{2}$ " diameter x 2" wide. Drum 7" root diameter, $13\frac{1}{2}$ " outside diameter, $3\frac{1}{2}$ " between flanges.

GANTRY — Tubular front members and double bar rear tension members, pin connected.

CAB — No. 16 gauge steel sides, 16 gauge top. Sliding doors on ball bearing rollers. Inside height 6' - 2", width 7' - $9\frac{1}{2}$ ". Safety glass panels in operator's compartment.

**COUNTERWEIGHTS:**

	Shovel Skimmer	Crane, Clam, Drag Trench Hoe, Pile Driver
HP326	2550 Lbs.	3715 Lbs.
D311	1800	2965
2030C	2550	3715
UD9	1800	2965

DIMENSIONS:

Rear radius of cab — 7' - 5".
 Rear radius of counterweight — 7' - 8".
 Overall height — 9' - 10".
 Radius of boom hinge pin — 1' - 10".
 Height of boom hinge pin — 4' - 2".

SPEED AND LINE PULL:

Swing speed — 5.26 R.P.M.
 Hoist speed — 11" root diameter lagging 176 F.P.M., *7750# line pull.
 Hoist speed — 8" root diameter lagging 129 F.P.M., *10,000# line pull.
 Shovel crowd speed — 108 F.P.M.
 Shovel retract speed — 151 F.P.M.
 Dragline inhaul speed — 9½" root diameter lagging 154 F.P.M., *8900# line pull.
 Boom hoist drum — 7" root diameter — 144 F.P.M.

*Based on Buda HP326 engine.

For GM2030C multiply x 97.5%.

For I.H.C. UD9 multiply x 101%.

For Caterpillar D311 multiply x 94%.

SHOVEL ATTACHMENT — (CHAIN CROWD)

BOOM — 16' - 0" center to center of pins made of steel plates welded into a rigid box section. Shipper shaft 2½" diameter, SAE4140 chrome-moly steel heat treated 270-300 Brinell. Alloy steel crowd pinions 17 cast teeth, 2½" diametral pitch, 6.8" pitch diameter, 2" face, heat treated 240-280 Brinell. Shipper shaft sprocket 19 cast teeth, 2" pitch, 12.15" pitch diameter. Main sheave steel 16½" pitch diameter, 3½" long hub with one bronze bushing 2½" I.D. x 3½" long. Boom hoist sheaves 10" pitch diameter bronze bushed.

DIPPER STICKS — Box section all welded steel 12' long x 4" wide x 6" deep with steel racks welded.

BUCKET (STANDARD) — ½ cubic yard Link-Belt Speeder 29½" wide at front, 30½" wide at rear, cast steel head, ¼" body plate, ⅝" lip plate with bevelled cutting edge hardened with stoddite, four removable cast alloy steel teeth 3½" wide x 12" long. Door made from ⅜" plate with heavy hinges cut from 1" thick plate.

BUCKET (ALTERNATE) — ½ cubic yard Link-Belt Speeder, 29½" wide at front, 30½" wide at rear, cast steel head, ¼" body plate, manganese cast steel front with cutting edge cast integral, four manganese steel removable teeth 3" wide x 8" long. Door made from ⅜" plate with heavy hinges cut from 1" thick plate.

PADLOCK BLOCK — Sheave 16½" pitch diameter 3½" long hub with bronze bushing 2½" I.D. x 3½" long.

CROWDING ACTION — The front drum has a split 20 cast tooth 2" pitch, 12.79" pitch diameter sprocket, and is reversed by a chain drive from the reverse shaft. Crowd and retract chains are 2" pitch heavy duty type with alloy steel side bars and pins. The front drum sprocket drives to a countershaft at the base of the boom and up to the shipper shaft. Both drives have takeup idlers. The shipper shaft has two manganese steel pinions engaging with the crowd racks on the dipper sticks. Crowd and reverse are handled with one lever. A power-operated dipper trip is standard.

CABLES — Boom hoist ½" diameter 6 x 19 — 4 parts of line 100 feet; Hoist ⅝" diameter 6 x 19 — 65 feet 2 parts of line; Trip 5/16" diameter 8 x 19 — 28 feet. Cable is of Hemp Center, Improved Plow Steel, Regular Lay Preformed.

CRANE, CLAMSHELL AND DRAGLINE ATTACHMENTS

BOOM — Box latticed type boom 30 feet long is of the all-welded type, two piece made of 2" x 2" x ¼" corner angles latticed with 1" x 1" x 3/16" angles. Boom is 23" wide and 18½" deep at the center. End sheaves are 12½" pitch diameter with hub 3" long bronze-bushed for 2½" inside diameter shaft. For crane, clamshell and dragline service extender cables and bridle frame for a 6-part boom hoist line are standard equipment.
 Weight of 30' - 0" boom approximately 1100 lbs.



HOOK BLOCKS — 6 ton maximum capacity, single sheave. Cable anchor on hook block permits 2 or 3 parts reeving. Sheave 11" O.D. x 8" root diameter mounted on a bantam roller bearing $3\frac{1}{4}$ " O.D. x 2" I.D. x $1\frac{3}{4}$ " long. Pin is SAE4140, chrome-moly steel, heat treated 228 to 265 Brinell. Cast iron cheek weights on each side weighing 94 lbs. each. Total weight of hook block assembly — 292 lbs.

8 ton maximum capacity, double sheave. Cable reeving 4 part. Sheave 11" O.D. x 8" root diameter mounted on roller bearings $3\frac{1}{4}$ " O.D. x 2" I.D. x $1\frac{5}{8}$ " long. Pin SAE4140 2" diameter x $7\frac{1}{16}$ " long, chrome-moly steel turned, ground, and polished and heat treated 250-300 Brinell. Cast iron cheek weights on each side — 94# each.

DRAGLINE BUCKET $\frac{1}{2}$ yard capacity, body made of $\frac{1}{4}$ " plate, lip 1" x 6" plate steel with four removable and reversible manganese steel teeth. Inhaul chains $\frac{5}{8}$ " x 60", hoist chains $\frac{1}{2}$ " x $88\frac{1}{2}$ ". Bridle sheave $7\frac{1}{2}$ " pitch diameter. Bucket $32\frac{1}{4}$ " wide inside. Dumping clearance 9'-7". Weight complete with chains, 1400 lbs.

FAIRLEAD — Sheave type, welded steel frame with two vertical swing sheaves, $11\frac{1}{2}$ " pitch diameter with $1\frac{1}{2}$ " diameter shaft, roller bearing. The two horizontal guide rollers are 5" diameter, $1\frac{1}{2}$ " pin, bronze bushed. Weight of fairlead 300 lbs.

	Boom Length		
	30 Ft.	35 Ft.	40 Ft.
CRANE CABLES			
Boom hoist $\frac{1}{2}$ " diameter, 6 x 19† (6 part).....	135	135	135 Ft.
Hoist $\frac{1}{2}$ " diameter, 6 x 19† (3 part).....	140	157.5	175 Ft.
CLAMSHELL CABLES			
Boom hoist $\frac{1}{2}$ " diameter, 6 x 19† (6 part).....	135	135	135 Ft.
Holding $\frac{1}{2}$ " diameter, 6 x 19†.....	76	86	96 Ft.
Closing $\frac{1}{2}$ " diameter, 6 x 19†.....	106	116	126 Ft.
Tagline . 5/16" diameter, 8 x 19*.....	45	50	55 Ft.
DRAGLINE CABLES			
Boom hoist $\frac{1}{2}$ " diameter, 6 x 19† (6 part).....	135	135	135 Ft.
Hoist $\frac{1}{2}$ " diameter, 6 x 19†.....	80	87.5	95 Ft.
Inhaul $\frac{5}{8}$ " diameter, 6 x 19*.....	38	43	48 Ft.
Bridle $\frac{1}{2}$ " diameter, 6 x 19†.....	15	15	15 Ft.

Note — *Independent wire rope center, improved plow steel, lang lay preformed.

†Hemp center, improved plow steel, regular lay preformed.

TRENCH HOE ATTACHMENT

BOOM — 14'-0" center to center of pins, box section welded steel. Main members 8" x 11.5 lb. standard channels.

BOOM FOOT IDLER ROLLER AND PIN — Boom foot pin $2\frac{1}{2}$ " diameter x 36" long. SAE4140 chrome-moly steel heat treated 228-265 Brinell. Boom foot pin set screwed in fixed position to boom feet and oscillates in bronze bushings in brackets mounted on front of revolving frame. Idler roller $10\frac{3}{4}$ " O.D. x 14" long mounted on two bronze bushings $2\frac{1}{2}$ " I.D. x 3" O.D. x 2" long, greased thru hub at each end of roller.

INHAUL CABLE SHEAVE AT CENTER OF BOOM — Sheave pin $2\frac{1}{2}$ " diameter x $17\frac{1}{4}$ " long. SAE4140 chrome-moly steel. Cast steel sheave 16" O.D. x 12" root diameter. Mounted on bronze bushing $2\frac{1}{2}$ " I.D. x 3" O.D. x 3" long, greased thru hub.

BOOM PEAK SHAFT FOR ARM — 2" diameter x 24" long. SAE4140 chrome-moly steel. Pin is drilled thru both ends and secured from turning by bolting thru angle lugs welded on the boom. Arm is mounted on 2 bronze bushings $2\frac{1}{2}$ " O.D. x 2" I.D. x 3" long, greased thru center from one end of peak shaft.

ARM — 6'-10 $\frac{1}{2}$ " long overall pin centers, box section, welded steel. Main members 6" x 13 lb. standard channels.

ARM MACHINERY — Cast steel sheave 16" O.D. x 12" root diameter mounted on bronze bushing 3" O.D. x $2\frac{1}{2}$ " I.D. x $3\frac{1}{2}$ " long, greased thru hub. $2\frac{1}{2}$ " diameter x 8" long SAE4140 chrome-moly steel shaft drilled thru both ends and secured from turning by bolting thru angle lugs welded on the arm.

BUCKET AND CONNECTIONS — Solid bottom .51 cu. yd. capacity, 36" cutting width, 30" wide inside arch type with double lugs and 2 — $1\frac{1}{2}$ " diameter x 4" long cold finished steel pins to engage single lugs on arm. Pitch brace double bar reinforced welded construction. 17" pin centers. Braces secured to arm and bucket with $1\frac{1}{2}$ " diameter x 4" cold finished steel pins.

Drop Bottom Bucket, .51 cu. yd. capacity, 36" cutting width, 30" wide inside. Same connections to arm as above.



POWER TRIP (FOR DROP BOTTOM BUCKET ONLY) — Morin disc clutch and drum type mounted on top of left hand I-beam of frame in front of side housing. Same as for shovel. Power trip is driven from the front drum gear with a plate gear 22 teeth, 5.5" pitch diameter, 4 diametral pitch, 1 1/4" face. 190 R.P.M. cable leads from drum to double sheaves at base of boom, then to double sheaves at boom peak and then to bucket latch arm.

BUCKET BAIL — Two arms in line with sides of bucket and cross member with bolted connection for bail hitch and bridle sheave. Bail arms have double lugs and bucket a single lug connection. Bucket lugs have SAE1020 steel bushings 1 1/2" I.D. x 2" O.D. x 1" long case hardened.

BUCKET BAIL BRIDLE — Cast steel bridle sheave frame with double lug to engage single lug on bail hitch with 1 1/2" diameter x 5" long cold finished steel pin. Lug on bail hitch has hardened steel bushing 2" O.D. x 1 1/2" I.D. x 1 1/2" long. Bridle frame has cleaning tooth engaging groove of sheave to keep it free from packing with material. Cast steel sheave 13 3/4" O.D. x 11 3/4" root diameter mounted on bronze bushings 3" O.D. x 2 1/2" I.D. x 2" long. Sheave pin 2 1/2" diameter x 4" long SAE4140 chrome-moly steel turned, ground and polished. Heat treated 270-300 Brinell.

GANTRY — 7' - 7 1/2" long peak shaft to foot pin. Gantry feet engage boom foot lugs same as a shovel or crane boom. Main members of gantry are 6" x 8.2 lb. standard channels.

GANTRY PEAK SHAFT AND CENTER SHEAVE FOR 2 PART HOIST — Peak shaft 2 1/2" diameter x 17 1/2" long. SAE4140 chrome-moly steel. Cast steel sheave 16" O.D. x 12" root diameter mounted on bronze bushing 3" O.D. x 2 1/2" I.D. x 3" long. Oiled thru hub.

GANTRY SHEAVES FOR 4 PART LINE TO BOOM HOIST DRUM — Two cast iron sheaves 8" O.D. x 6 1/2" root diameter mounted on 1 1/2" diameter turned down ends of peak shaft. Sheaves oiled thru ends of shaft.

CABLES:

- Gantry (4 part)
1/2" x 66 ft. 6 x 19 improved plow steel, hemp center, reg. lay.
- Hoist (2 part)
5/8" x 60 ft. 6 x 19 improved plow steel hemp center, reg. lay.
- Inhaul (2 part)
5/8" x 40 ft. 6 x 19 improved plow steel, independent wire rope center, lang lay.
- Trip (For use with Drop Bottom Bucket only)
5/16" x 27 ft. 6 x 19 improved plow steel, hemp center, reg. lay.

PILE DRIVER ATTACHMENT

PILE DRIVER LEADS — 30' long. Main members (hammer guides) two box sections 1 7/8" x 4" — 183 1/4" inside width. Box section made of two 4" x 7.25 lb. standard channels. Framing for guides, two angles 1 1/2" x 1 1/2" x 3/16" x 30'-0" long with cross members of 1 1/2" x 1 1/2" x 3/16" x 2'-1" and 1 1/4" x 1 1/4" x 3/16" x 2'-1" long angles alternately spaced at 21" centers to form a ladder. The ladder is latticed with 7 angles 1" x 1" x 3/16" x 3'-11 1/2" long. Side framing for guides supported by 18 angles 1 1/2" x 1 1/2" x 3/16" x 12 1/2" long spaced at 3'-6" centers. Sides latticed with 28 angles 1 1/2" x 1 1/2" x 3/16" x 21" long.

TELESCOPIC STRUTS FOR STANDARD 30' LEAD — Adjustable in length from 8'-1" to 13'-9" in steps of 3". Outer member 2 1/2" standard pipe with single lug at one end for 3/4" pin. 7'-5" long from pin to end of pipe. Inner member 2" standard pipe with single lug at one end for 3/4" pin. 6'-11" long from pin to end of pipe. Connects to double lugs each side at base of boom and leads.

HAMMER — 1800 lb. cast iron hammer 34 1/2" high x 21 3/8" wide x 15" deep. Hammer has hooks for slings to hold hammer, follower cap and plug at top of leads while pile is put in place.

FOLLOWER CAP — 325 lb. cast iron 9" high x 21 3/8" wide x 12" deep. Bottom of follower cap has 8" diameter x 3 1/2" deep tapered socket to engage top of pile. Top of follower cap has 8" diameter x 3 1/2" deep tapered socket for hard wood plug which takes the hammer blow direct.

FOLLOWER CAP PLUG — Hard wood 12" diameter x 9 1/2" high. 3/4" x 2" steel bar 12" O.D. pressed on outside of plug.

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