

"Chicago" PLUNGER SLUDGE PUMPS

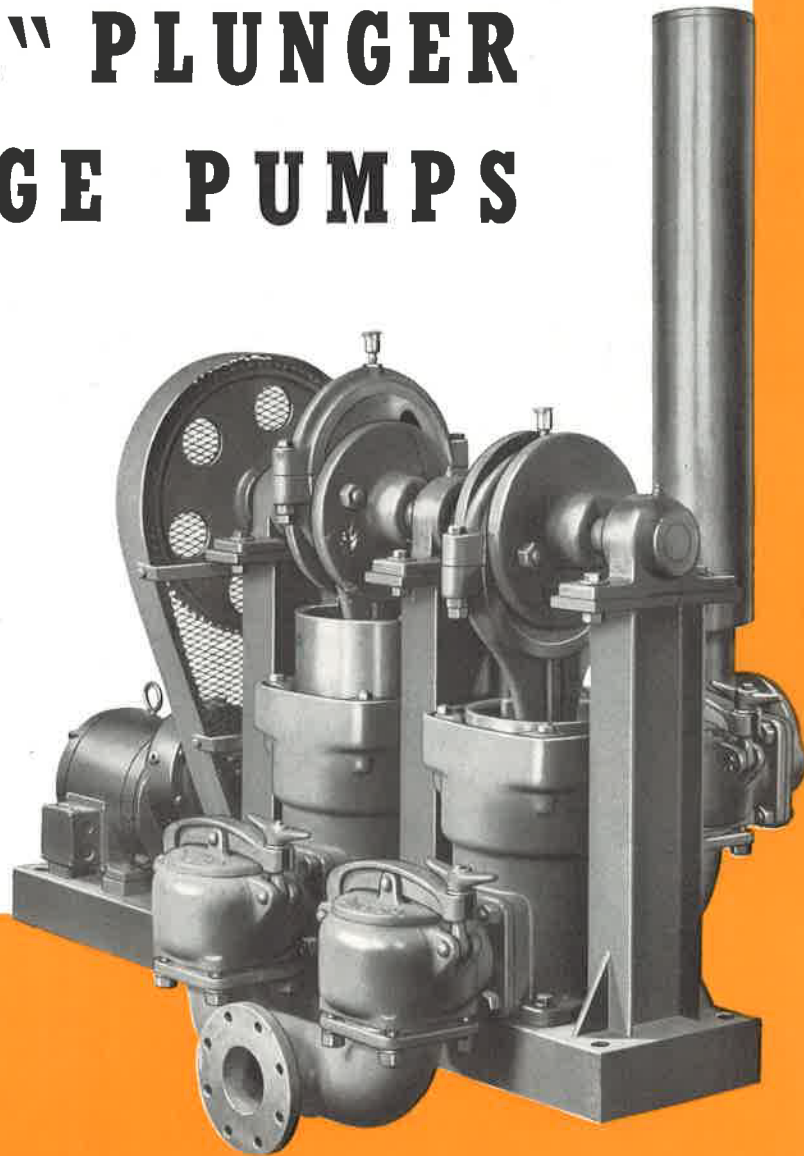
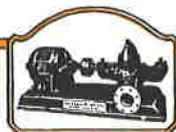


Fig. 2835—"Chicago" Duplex Plunger Sludge
Pump with silent chain drive.

CHICAGO PUMP CO. SEWAGE EQUIPMENT DIVISION



"CHICAGO" PLUNGER SLUDGE PUMPS

CAPACITY: 75 G.P.M. Single; 150 G.P.M. Duplex

TOTAL DYNAMIC HEAD: 50 Ft.

MOTOR: 3 H.P. Single; 5 H.P. Duplex



Fig. 2841—"Chicago" Single Plunger Sludge Pump with V-belt drive. Air chamber furnished similar to that in Fig. 2843, but without manifold.



Fig. 2845—"Chicago" Single Plunger Sludge Pump with varidrive motor and silent chain drive.

PLUNGER AND PUMP BODY Heavy grey iron castings of ample cross section to withstand the maximum working pressures. Pump body is machine finished and has a long packing gland with five rings of $\frac{3}{4}$ " packing. The plunger is surface-ground. Bronze plungers can be furnished at additional cost.

VALVE CHAMBERS Cast-iron, large diameters, equipped with rubber ball valves and quick open covers for inspection. The pump is provided with renewable iron valve seats. Bronze valve seats can be furnished at a slight additional cost.

BEARINGS Ball bearings on main shaft are fully enclosed, grease lubricated and sealed against dust, grit and moisture. Two bearings on single pump and three on duplex unit.

SHEAR PIN A common 8-penny nail held between two hardened steel bushings is used. The nail shears as soon as an obstruction is felt by the plunger. It is easily replaced.

FRAME Pumps are mounted on an extra heavy, electrically welded steel frame constructed of structural steel channel. It is fully braced to withstand shocks and resist weaving and buckling. Standard steel sections for main shaft bearing supports are welded to the base and are an integral part of it.

MOTOR Single plunger units are furnished with 3 HP motors and duplex units with 5 HP motors. When the maximum suction lift is 10 feet and the maximum discharge head is 20 feet, single plunger units are furnished with 2 HP motors and duplex units with 3 HP motors.



Fig. 2836—"Chicago" Triplex Plunger Sludge Pump with silent chain drive.

DRIVE Pump may be equipped with either chain or belt drive, as specified.

CHAIN DRIVE The motor is equipped with integral geared head and drives the main shaft through a silent roller chain and sprocket of ample size to drive pump throughout its entire capacity and head range. The chain drive has a steel guard.

BELT DRIVE The motor drives the pump through a flexible V-belt and a totally enclosed geared speed reducer operating in oil. The reducer is mounted on strongly braced supports welded to the base. The belt drive has a steel guard.

VARIABLE CAPACITY Variable capacity is obtained by adjustable eccentric which changes the stroke of the plunger. Eleven stroke adjustments are provided on the eccentric.

SUCTION LIFT These pumps will operate satisfactorily with suction lifts up to 20 ft.

PIPE CONNECTIONS Single plunger pumps are fitted with standard 4" flanged pipe connections. Duplex plunger pumps are furnished with manifolds having standard 4" flanged pipe connections.

AIR CHAMBER 6" diameter by 52" long, of seamless steel tubing, welded air tight, and fitted with standard 4" connecting flange.

WEIGHT Single plunger pump approximately 1700 pounds. Duplex plunger pump approximately 2700 pounds.



Fig. 2830—"Chicago" Single Plunger Sludge Pump with silent chain drive. Air chamber furnished similar to that in Fig. 2836, but without manifold.

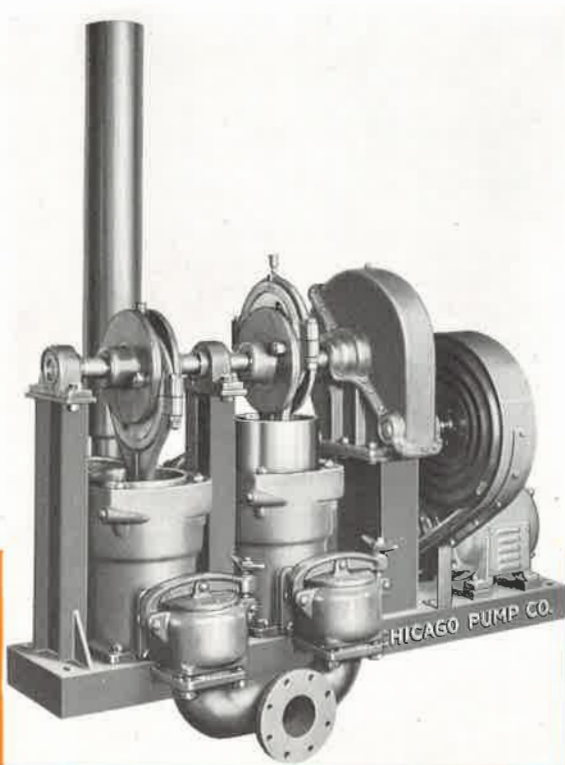


Fig. 2843—"Chicago" Duplex Plunger Sludge Pump with V-belt drive.

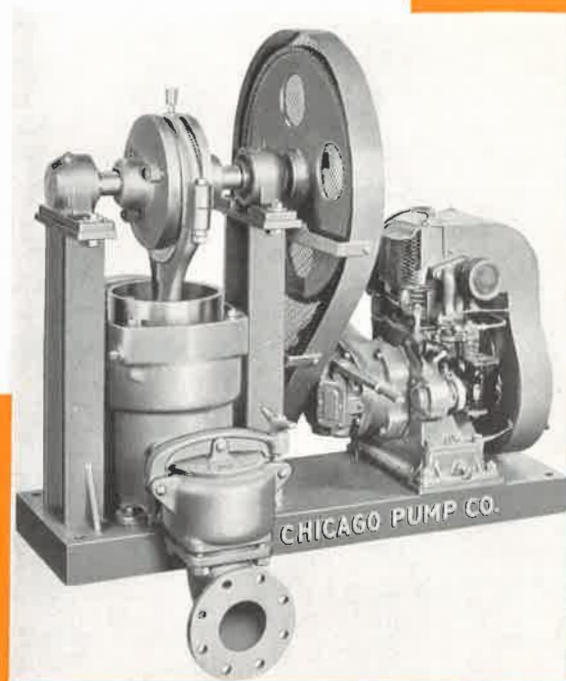


Fig. 2847—"Chicago" Single Plunger Sludge Pump with gasoline engine and silent chain drive.

SPECIFICATION FORM for "Chicago" Plunger Sludge Pumps

Furnish and install as shown on plans....."Chicago" Pump Co. Plunger Sludge Pumps. Each pump shall have a capacity of 75 G.P.M. against a total dynamic head of 50 ft.

PLUNGER AND PUMP BODY The castings shall be heavy grey iron of ample cross section to withstand the working pressures. The plunger and pump body shall be machine finished and shall have a long packing gland with five rings of 3/4" packing.

VALVE CHAMBERS Valve chambers shall be cast iron, having large diameters, with rubber ball valves and quick opening covers. The valve seats shall be iron or bronze.

BEARINGS The main shaft shall be equipped with ball bearings, fully enclosed and sealed against dust, grit and moisture.

SHEAR PIN Shear pins shall be of steel and located where they will fully protect the pump against damage.

FRAME Pumps shall be mounted on a guaranteed welded steel frame fully braced and furnished with standard steel sections for main shaft bearing supports.

MOTOR Single plunger units shall be furnished with 3 HP motors and duplex units with 5 HP motors.

CHAIN DRIVE The motors shall be equipped with integral geared heads and drive the main shaft through silent roller-chain-and-sprocket drives of ample size to drive the pumps throughout their entire capacity and head ranges. The chain drive shall be furnished with a steel guard.

BELT DRIVE The motors shall drive the pumps through flexible V-belts and totally enclosed geared speed reducers operating in oil. The reducer shall be mounted on strongly braced supports welded to the base. The belt drive shall have a steel guard.

VARIABLE CAPACITY Variable capacity shall be obtained by adjustable eccentric which changes the stroke of the plunger. Eleven stroke adjustments shall be provided on the eccentric.

SUCTION LIFT These pumps shall operate satisfactorily with suction lifts up to 20 ft.

AIR CHAMBER shall be 6" diameter by 52" long, of seamless steel tubing, welded air tight, and fitted with standard 4" connecting flange.

PIPE CONNECTIONS Single plunger pumps shall be fitted with standard 4-in. flanged pipe connections. Duplex plunger pumps shall be furnished with manifolds having standard 4-in. flanged pipe connections.

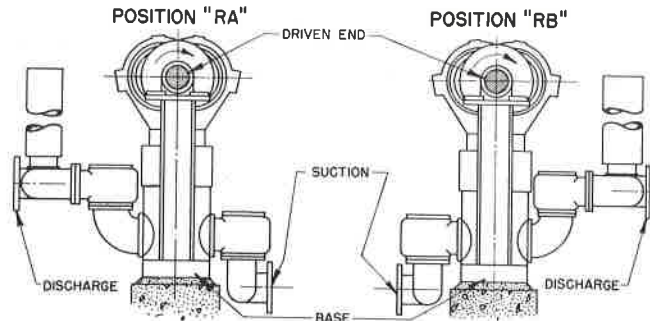
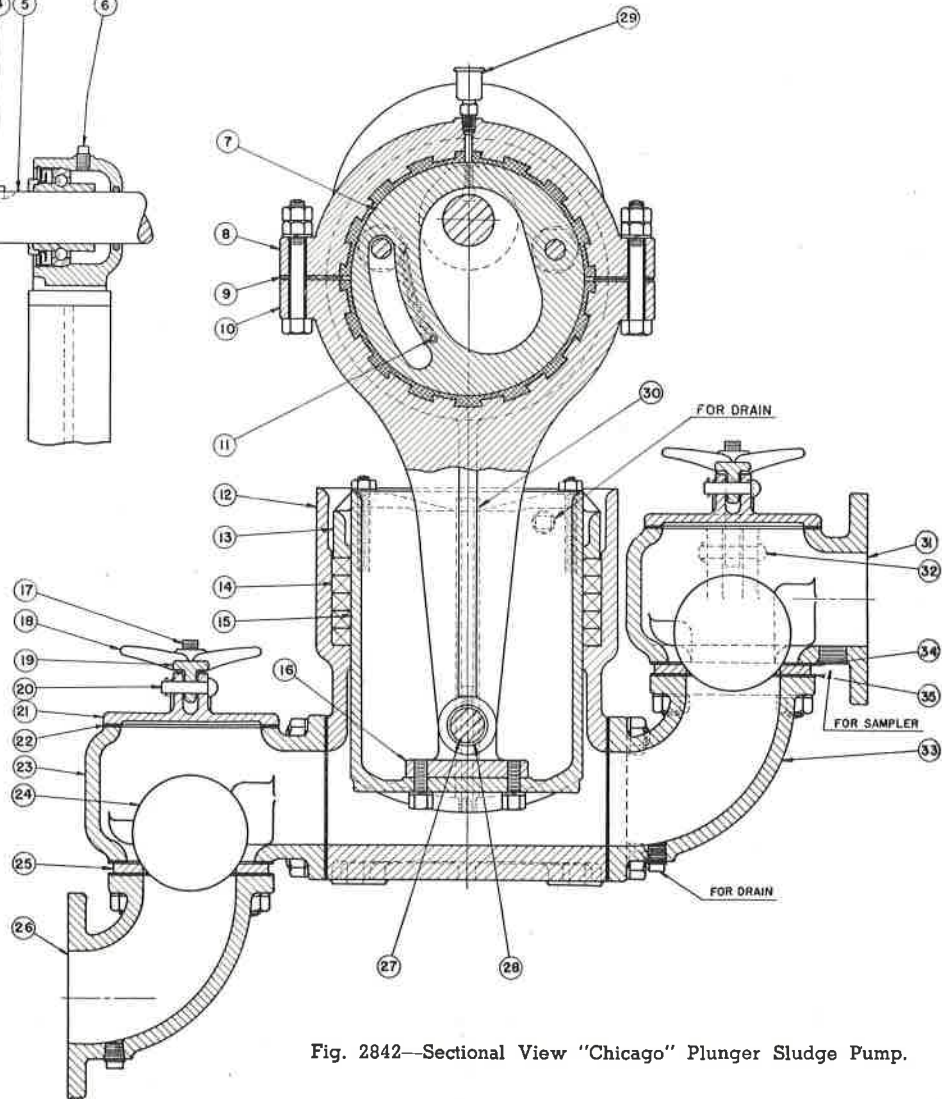
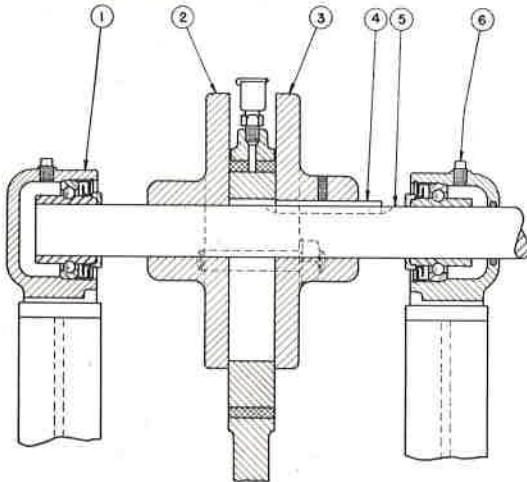


Fig. 2839—Available relative positions of suction and discharge of all Plunger Pumps when looking at driven end.



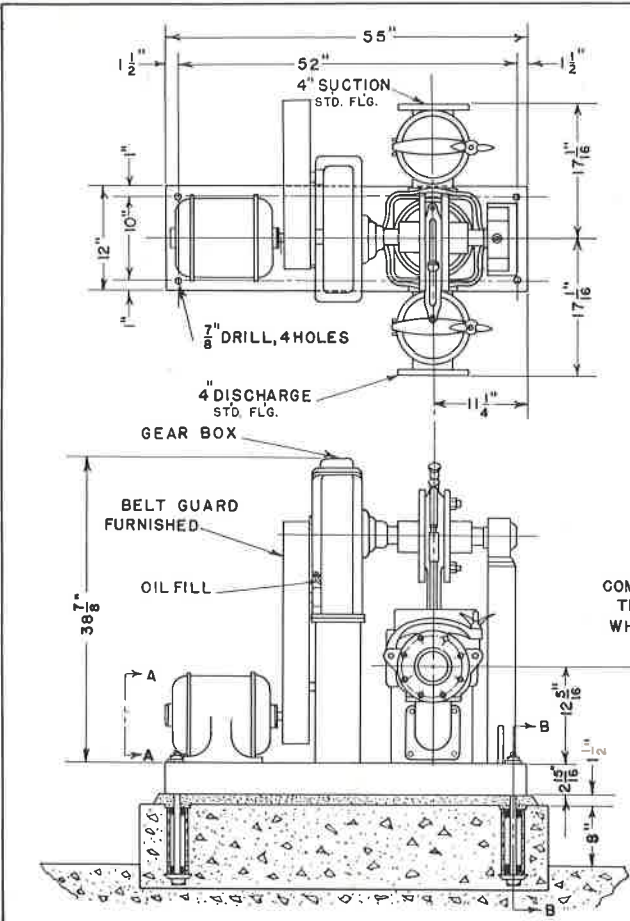
ITEM NO.	PART NO	NAME OF PART	QTY	MATERIALS
1	SA 2 1/2	PILLOW BLOCK	2	
2	12071	HUB	1	SEMI-STEEL
3	12013	HUB	1	SEMI-STEEL
4		KEY 1/2 x 1/2 x 3 1/2	1	STEEL
5	12032	SHAFT	1	STEEL
6		PLUG	2	
7	12039	ECCENTRIC	1	SEMI-STEEL
8	12000	BEARING CAP	1	SEMI-STEEL
9	12027	SHIM	4	STEEL
10	2437	CONNECTING ROD	1	SEMI-STEEL
11		SHEAR PIN	1	8-PENNY NAIL
12	348	CYLINDER	1	SEMI-STEEL
13	12025	PACKING GLAND	1	SEMI-STEEL
14		PACKING	4	SEMI-STEEL
15	2436	PISTON	1	SEMI-STEEL
16	12010	CLEVIS	1	SEMI-STEEL
17	12030	BOLT	2	BRASS
18	12017	CLAMP NUT	2	SEMI-STEEL
19	12016	CLAMP	2	SEMI-STEEL
20	12057	PIN	2	STEEL
21	12015	VALVE COVER	2	SEMI-STEEL
22	12016	GASKET	2	RUBBER
23	12014	VALVE HOUSING	1	SEMI-STEEL
24	12056	VALVE BALL	2	SEMI-STEEL
25	12041	VALVE SEAT	2	SEMI-STEEL
26	12073	ELBOW	1	SEMI-STEEL
27	12043	WRIST PIN	1	STEEL
28	12042	BUSHING	1	BRONZE
29		OIL GUP	1	
30	12044	PLUG	1	STEEL
31	12074	VALVE HOUSING	1	SEMI-STEEL
32	12093	PIN	2	STEEL
33	12022	ELBOW	1	SEMI-STEEL
34	12107	GASKET	2	RUBBER
35	12108	GASKET	2	RUBBER

Fig. 2842—Sectional View "Chicago" Plunger Sludge Pump.

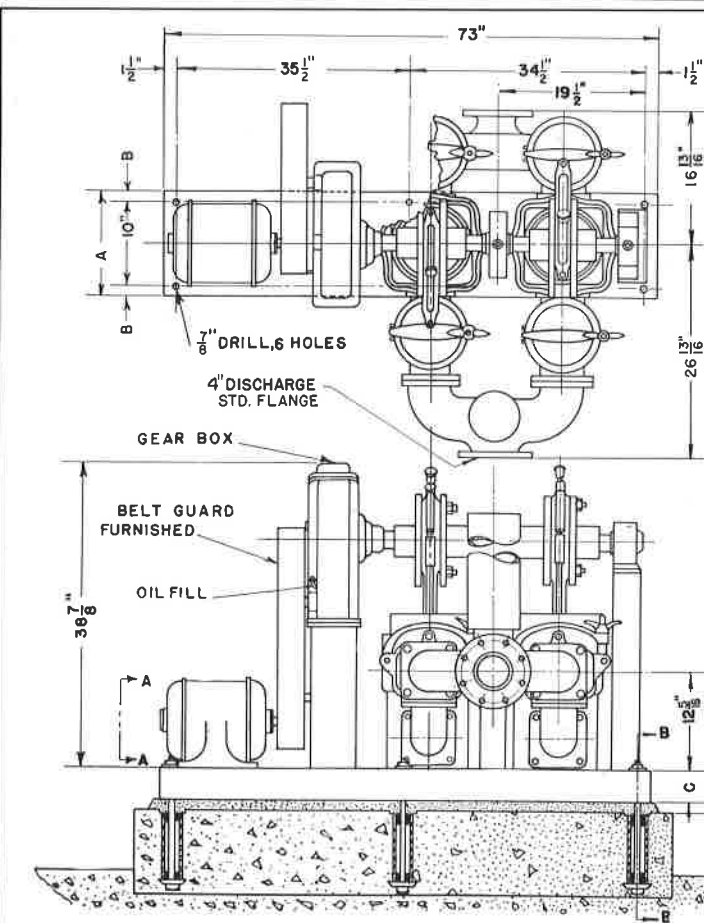
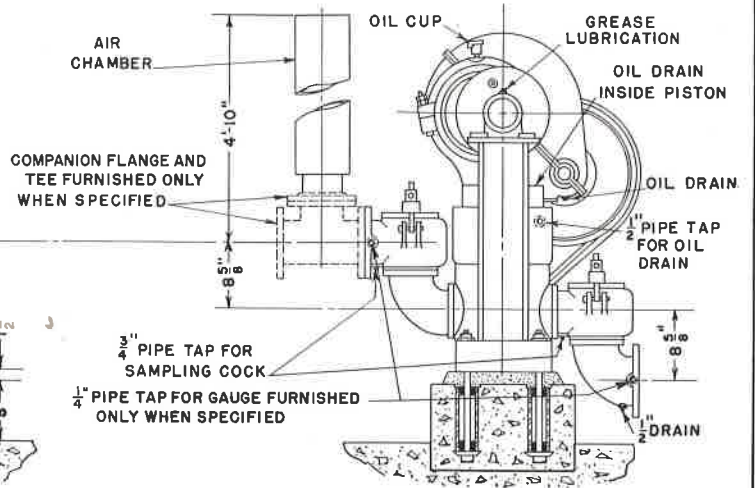
SES 33

SINGLE PLUNGER
SLUDGE PUMP
GEAR BOX DRIVE

DRAWN [C] [C] [CHECKED] [C]
TRACED [C] [C] [APP'D] [C]
CHICAGO PUMP CO.
DRAWING DATE 10-13-38



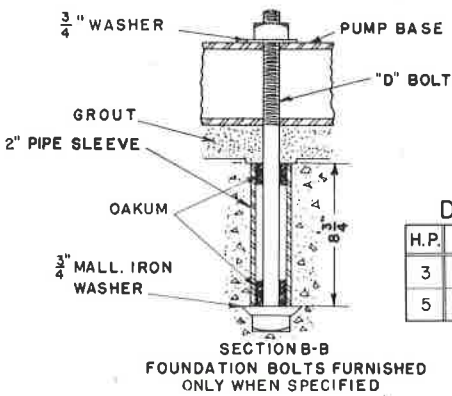
**BELT-DRIVEN
PLUNGER PUMPS**
DO NOT USE FOR CONSTRUCTION



SES 35

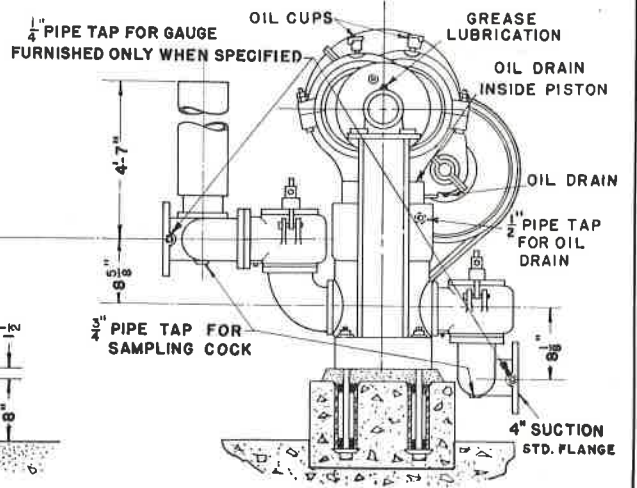
DUPLEX PLUNGER
SLUDGE PUMP
GEAR BOX DRIVE

DRAWN [C] [C] [CHECKED] [C]
TRACED [C] [C] [APP'D] [C]
CHICAGO PUMP CO.
DRAWING DATE 11-3-39



DIMENSIONS

H.P.	A	B	C	D
3	12"	1"	2 15/16"	3 3/4" x 15"
5	13"	1 1/2"	4"	3 3/4" x 16"

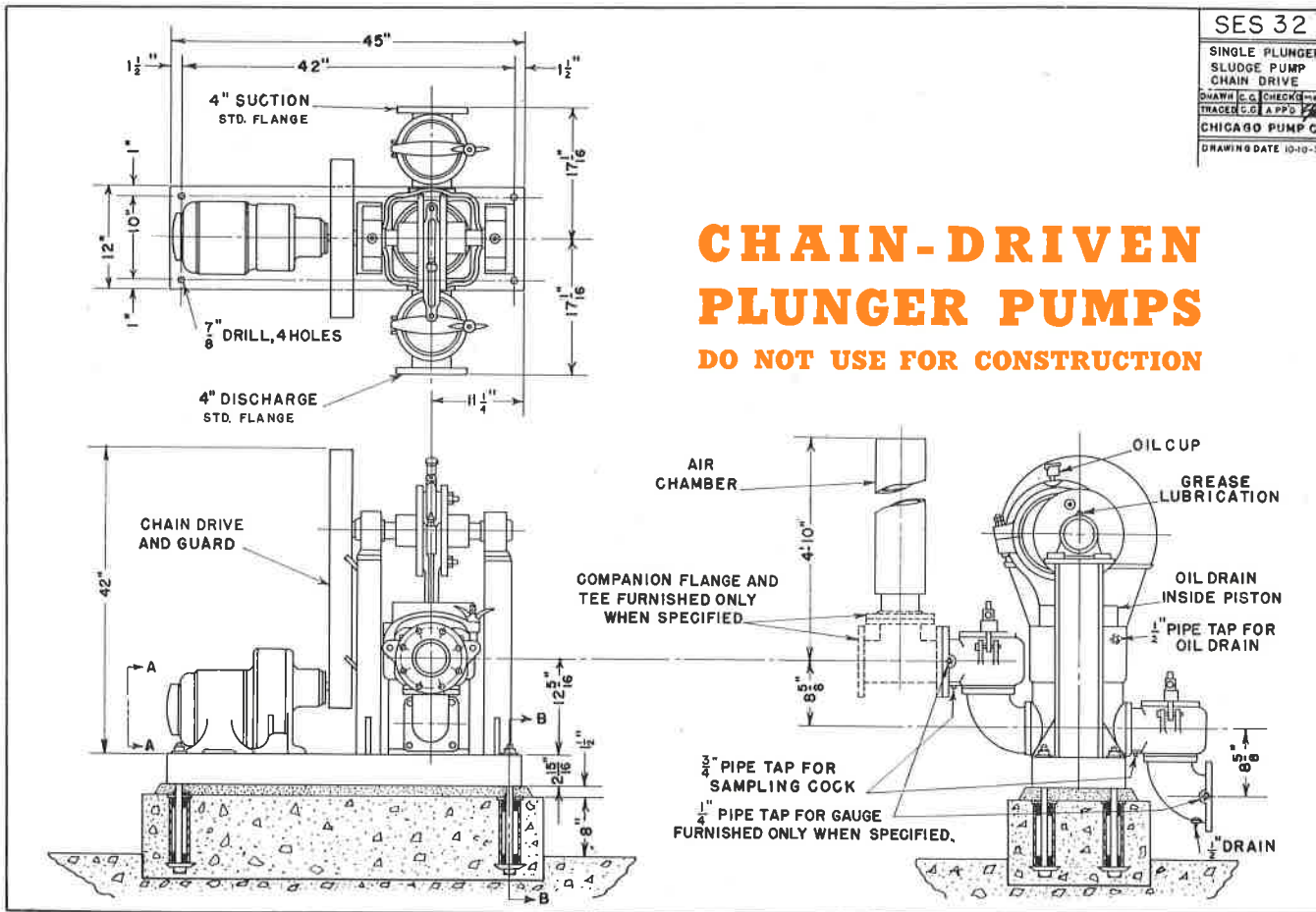


SES 32

SINGLE PLUNGER
SLUDGE PUMP
CHAIN DRIVE
QUAWW C.C. CHECKED
TRACER C.C. APP'D
CHICAGO PUMP CO.
DRAWING DATE 10-10-30

CHAIN-DRIVEN PLUNGER PUMPS

DO NOT USE FOR CONSTRUCTION

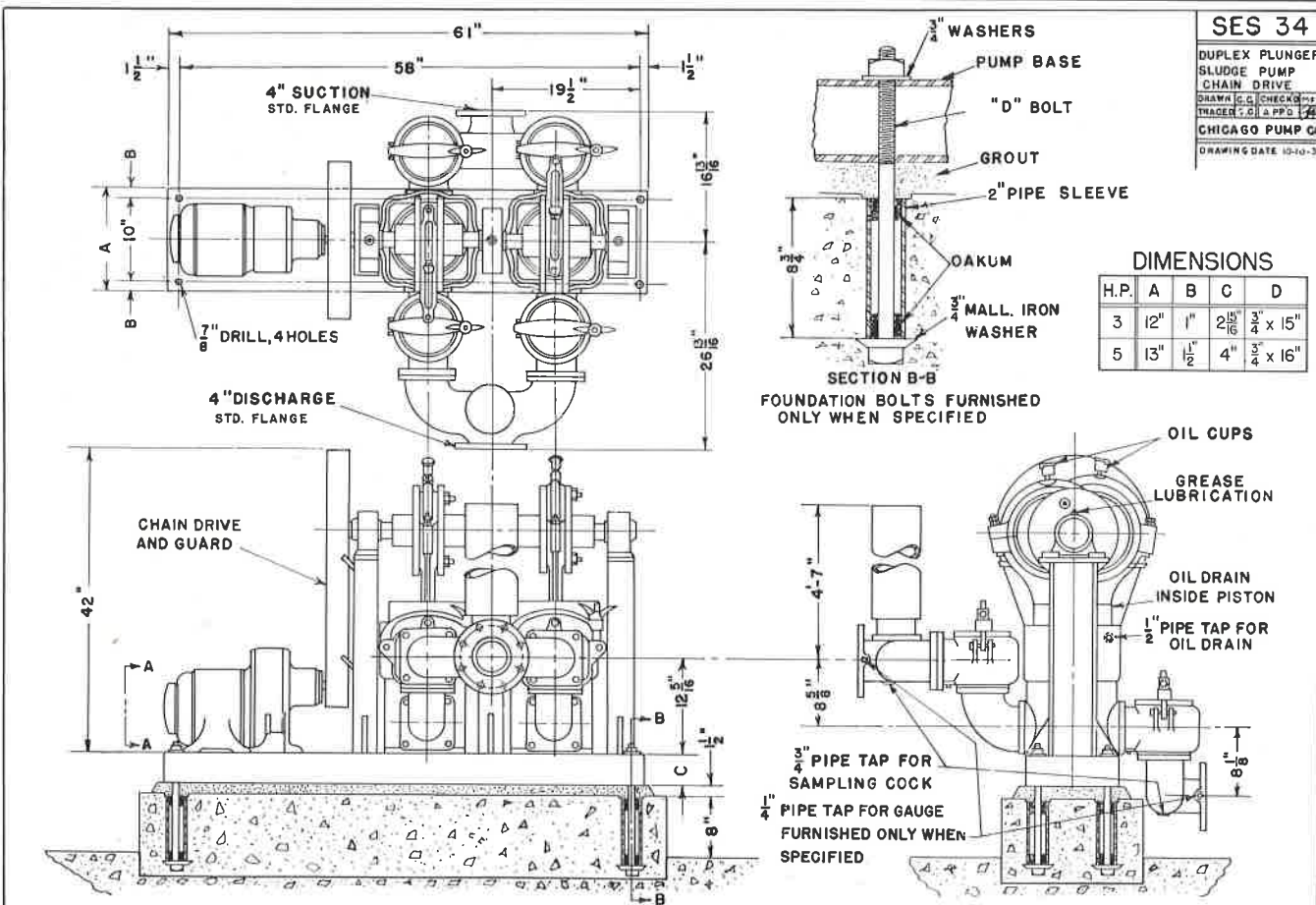


SES 34

DUPLEX PLUNGER
SLUDGE PUMP
CHAIN DRIVE
QUAWW C.C. CHECKED
TRACER C.C. APP'D
CHICAGO PUMP CO.
DRAWING DATE 10-10-30

DIMENSIONS

H.P.	A	B	C	D
3	12"	1"	2 15/16"	3" x 15"
5	13"	1 1/2"	4"	3" x 16"



"CHICAGO" PLUNGER SLUDGE PUMP INSTALLATIONS

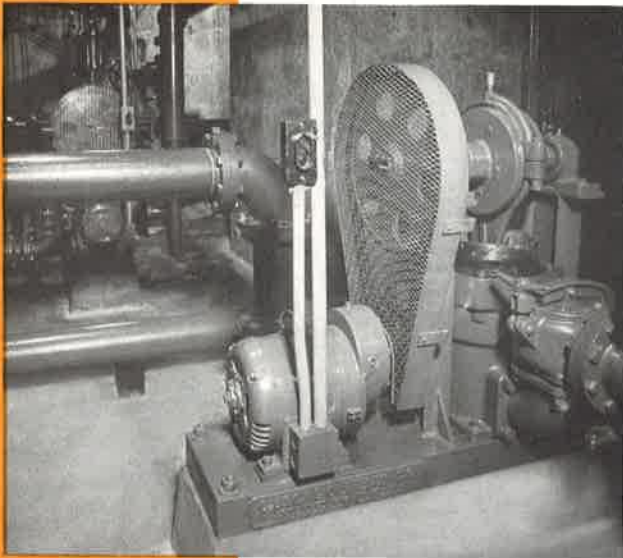


Fig. 2854 — Two single chain-driven "Chicago" Plunger Sludge Pumps in the Henderson street pumping station at Seattle, Wash.

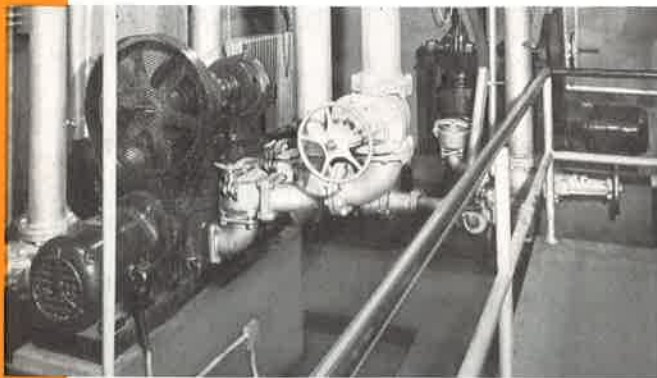


Fig. 2853—Two of the four "Chicago" Plunger Sludge Pumps at Wyandotte, Mich. The pumps in this picture are duplex chain-driven units.

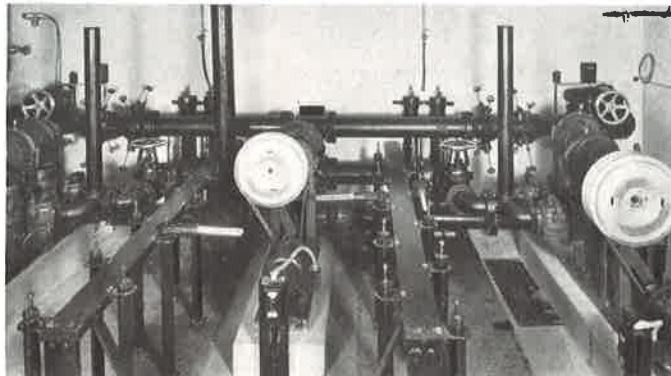


Fig. 2852 — Two duplex and one single belt-driven "Chicago" Plunger Sludge Pumps at Boyertown, Pa.

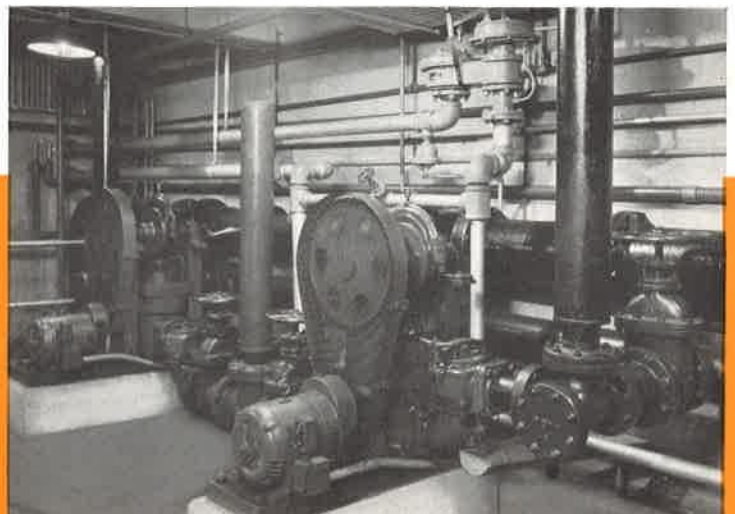


Fig. 2851 — Two single chain-driven "Chicago" Plunger Sludge Pumps at Baraboo, Wis.