

# LUFKIN OIL FIELD EQUIPMENT



CATALOG 40

*Featuring the*

# LUFKIN *Universal* PUMPING UNIT

LUFKIN FOUNDRY & MACHINE COMPANY » LUFKIN, TEXAS



# LUFKIN FOUNDRY & MACHINE CO.

FACTORY AND GENERAL OFFICES

LUFKIN, TEXAS

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Catalogue No. 40

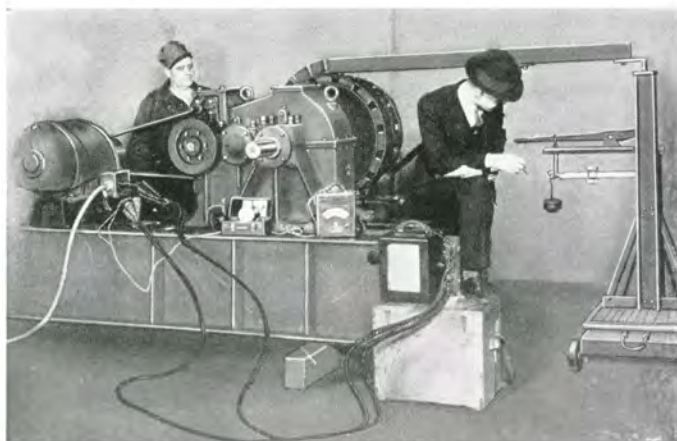
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**INTRODUCTION**

Seventeen years ago LUFKIN manufactured and installed the first geared pumping unit ever to pump a deep well. Today thousands of LUFKIN units are operating successfully in oil fields all over the world. LUFKIN has pioneered a large majority of the steady improvements in pumping equipment during this time. LUFKIN introduced the first rotary counterbalanced crank and furnished the first unit with a brake, also was the first to develop an oil bath, dust-proof pitman bearing, head and tail bearing, and center iron bearing. LUFKIN introduced the first one hundred per cent center line bearing walking beam and equalizer, and, because of patents, are the only concern able to furnish them today.

Being located close to many producing areas has enabled our engineers to keep in close touch with the performance of our equipment. It has been possible to continually watch details, which many times result in success or failure in practical operation.

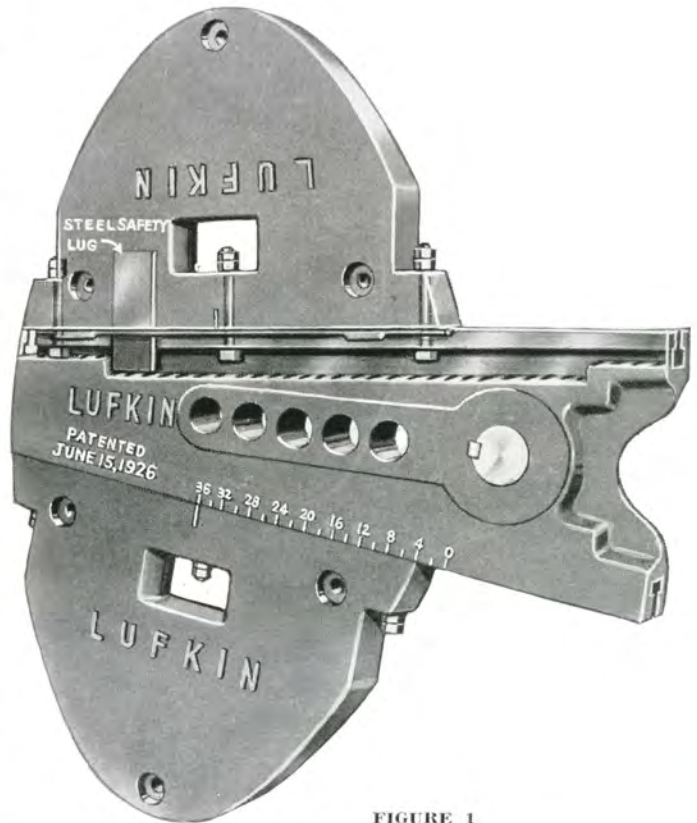
Our plant is completely equipped with the finest machine tools obtainable anywhere. We invite you to visit our plant and see for yourself why LUFKIN is still leading after all these years.



*Testing Lufkin Units.*

**EVERY LUFKIN GEAR IS RUN UNDER PRONY BRAKE LOAD**

**THE TROUT CRANK**



**FIGURE 1**

The Trout crank is widely recognized as the finest counterbalance for pumping oil wells. The outstanding features are as follows:

1. It is simple and easy to adjust to any point between zero and maximum counterbalance.
2. Lead or lag is readily obtainable.
3. Safety. It is impossible for weights to slide off on account of steel lug cast in the weights.
4. The short radius of gyration reduces bearing pressure at the crank shaft.
5. It is not necessary to send a truck to the tool house or supply store for additional counterweights every time a well load increases.
6. One man can balance the well with a LUFKIN unit and a Trout crank.

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**SINGLE REDUCTION GEAR UNITS**

Single reduction gear units are preferred where slow speed engines (up to 750 R.P.M.) are used. They are built in five sizes.

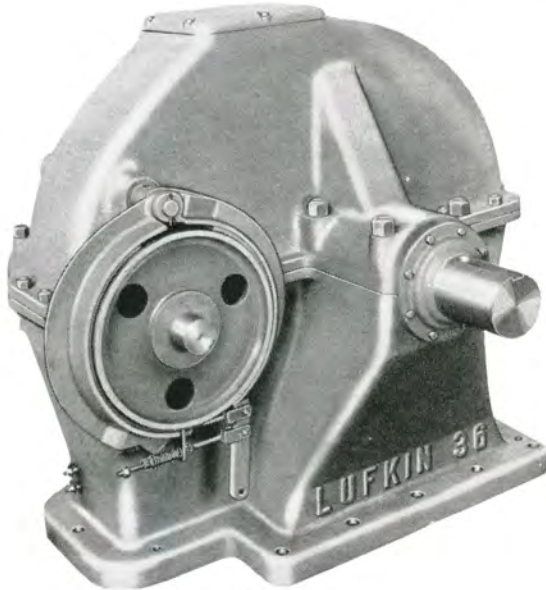


FIGURE 2

**DOUBLE REDUCTION GEAR UNITS**

Double reduction gear units are used with electric motors and multi-cylinder gas engines. They are made in eight sizes.

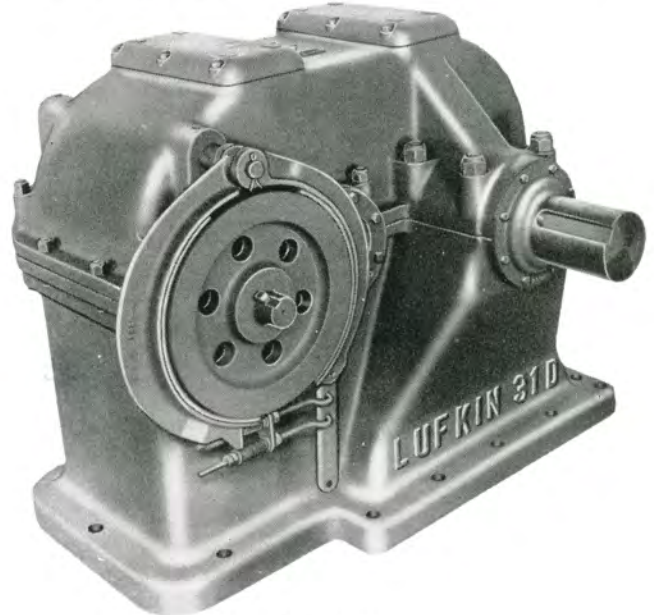


FIGURE 4

LUFKIN ENGINEERS HAVE A RICH BACKGROUND of practical experience in unit operation, and behind their designs is a plant using modern production methods and up-to-date tools where absolute duplicate precision work is maintained.

Our entire product is made in jigs or by template, even to posts and walking beams, to secure correct alignment and absolute duplication of parts.



FIGURE 3

*Single Reduction Gear Unit, cover removed*

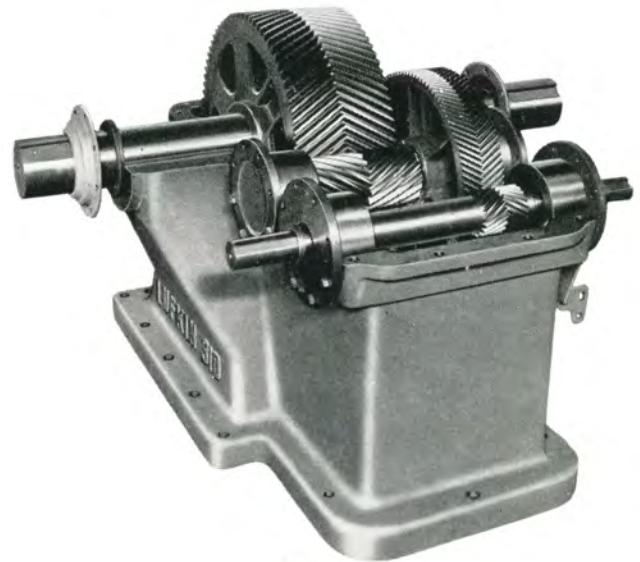
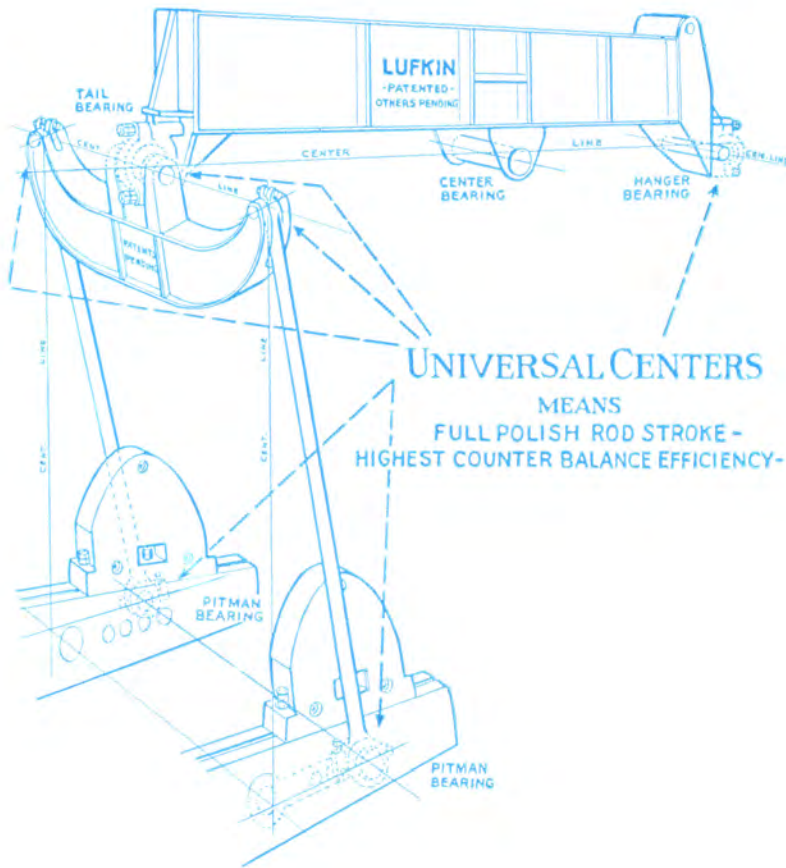


FIGURE 5

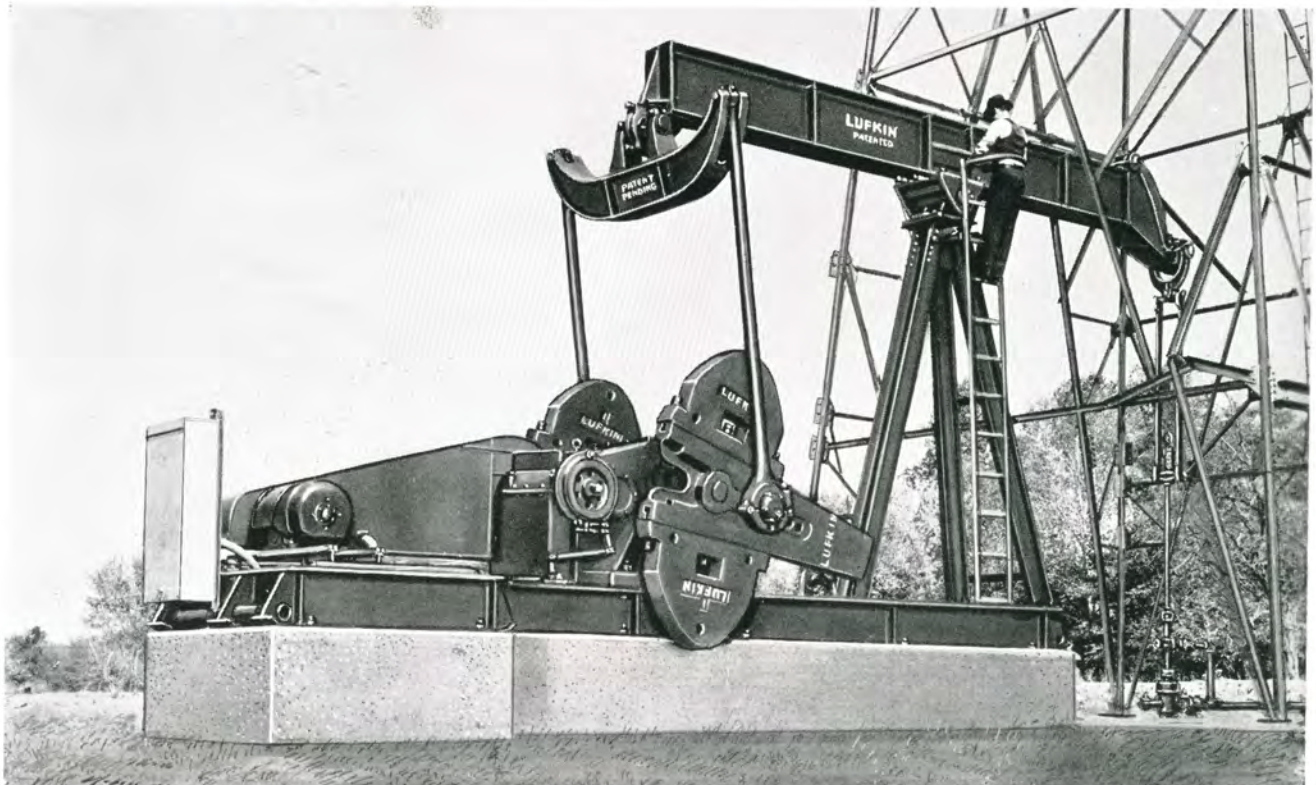
*Double Reduction Gear Unit, cover removed*

1. Housings especially built for oil well service, of rugged construction with large factors of safety.
2. Lufkin-Sykes Herringbone Gears, precision cut on our machines, are used exclusively in Lufkin units.
3. Gears Cases are jig bored to same accuracy as gears.
4. All Shafts forged from alloy steel, heat treated and precision ground.
5. Oversize Bronzoid Bearings on crankshafts. Easily renewable.
6. Crank Shaft held rigid by Bronzoid hub plates. All pinions float on Hy-Load Hyatt Roller Bearings.
7. No Oil Leaks. Pinion shaft bearings equipped with patented oil seals; main crankshaft with collar oil slinger and aluminum drain cover.
8. No Oil Pumps. Lufkin gears operate in oil bath with gear wipers to flood bearings.
9. Clam Shell Brake. No grabbing. Improved ratchet lever and stand, locomotive type.



**WORKING "POINTS" THAT  
INSURE FULL STROKE ON  
POLISH RODS AND HIGHEST  
COUNTERBALANCE EFFICIENCY**

**FIGURE 6**  
*Lufkin "Universal" Units have all working  
points on the center line*



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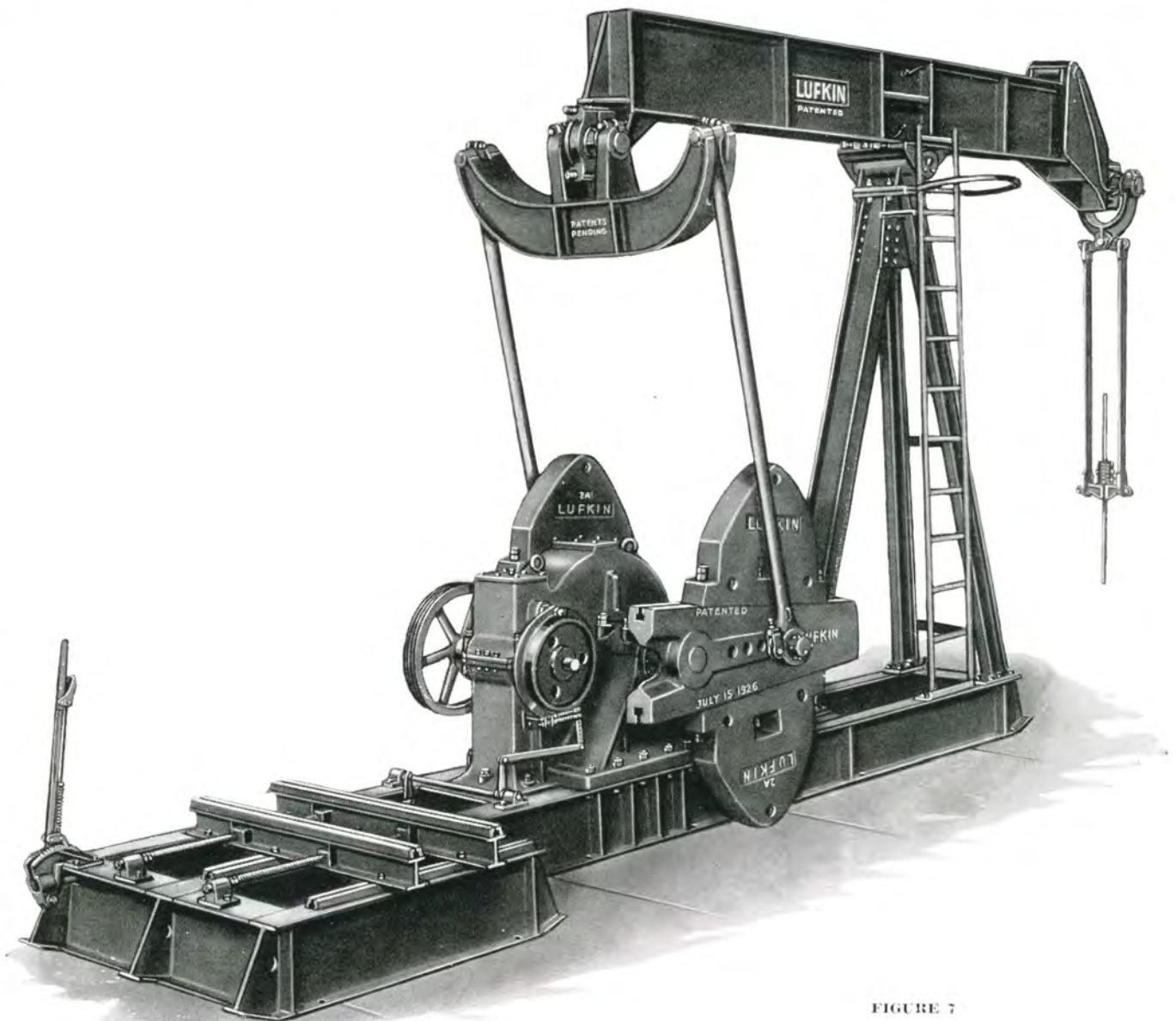


FIGURE 7

### THE LUFKIN UNIVERSAL CENTER LINE UNITS DESCRIPTION

The universal center line design, patented by LUFKIN, has many advantages over the other types of construction and no disadvantages that we know of.

Field tests have been made on pumping wells, comparing this design with that of the tail bearing mounted on top of the beam both with the gear box set directly under the tail bearing, and also with it set in back of it. The results show considerably more production due to better pump plunger action, and less power consumed per barrel of fluid pumped. Peak loads were less per barrel of fluid pumped with the LUFKIN design than the others tested.

Placing the tail bearing under the beam eliminates vibration in the walking beam which is caused by the

leverage which is necessarily imposed by the bearing when placed on top of the beam. No beam is made perfectly and beams break more easily due to twisting action when the load is applied to the top of the beam. Actual experience shows that in some cases LUFKIN walking beams are successfully carrying over double the A.P.I. rating and have been doing so for years.

The universal spherical bearing on the front and back of the walking beam is considerably more expensive to manufacture, as is the arch type equalizer. We are convinced, however, that this additional quality is justified in that it accounts for trouble free, long life operation.

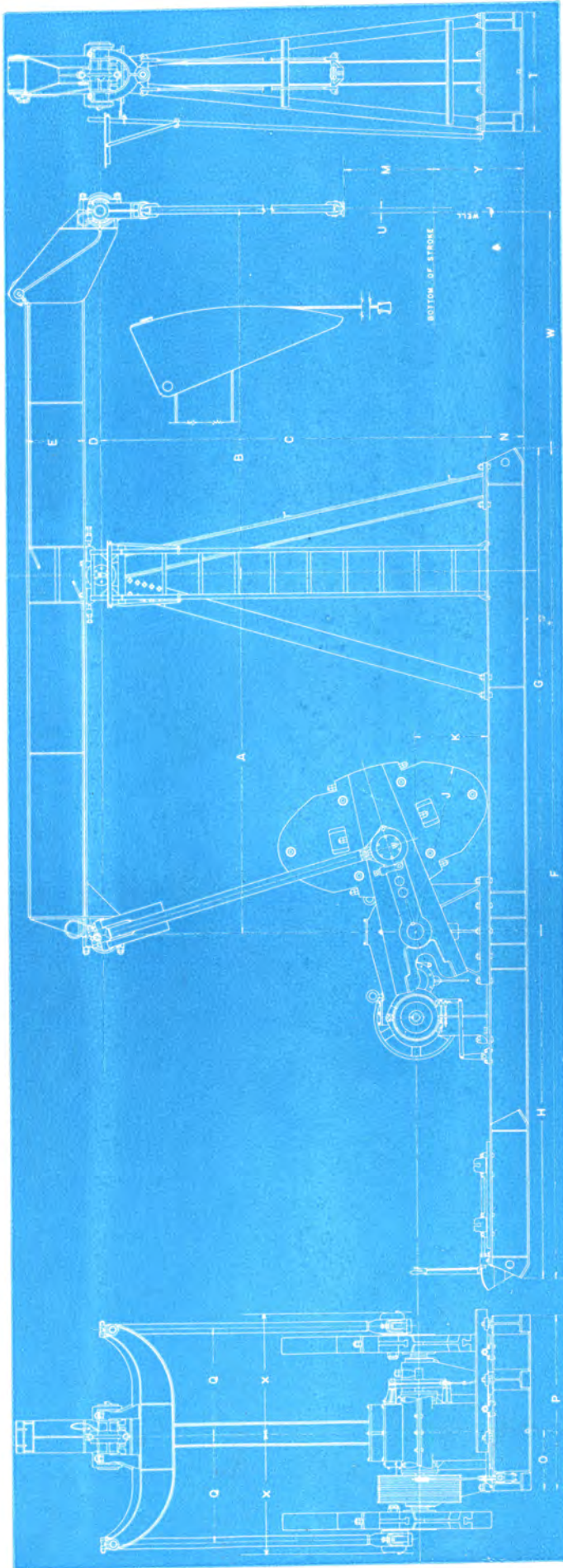


FIGURE 8

DIMENSION SHEET—LUFKIN UNITS TC-0A, 1A, 2A AND 3A

UNIT	A	B	C	D	E	F	G	H	J	K	M	N	O	P	Q	T	U	W	X	Y
TC-0A-1328-C.....	14'-0"	14'-2"	13'-3"	7"	24 1/4"	31'-6"	18'-4"	13'-2"	5'-11 1/2"	2'-6"	3'-1"	16"	2'-1"	6'-2"	*	4'-2"	2"	9'-8"	†	2'-9"
TC-0A-1325-C.....	12'-6"	12'-8 1/4"	13'-3"	7"	24 1/4"	30'-0"	16'-10"	13'-2"	5'-11 1/2"	2'-6"	3'-1"	16"	2'-1"	6'-2"	*	4'-2"	2 1/4"	8'-4 1/4"	†	2'-9"
TC-1A-1328-C.....	14'-0"	14'-2"	13'-3"	7"	24 1/4"	29'-6"	18'-3 1/2"	11'-2 1/2"	5'-5 1/2"	2'-4"	3'-1"	16"	21 1/2"	5'-11"	3'-3 3/8"	3'-7"	2"	9'-8 1/2"	3'-9 3/4"	2'-9"
TC-1A-1325-C.....	12'-6"	12'-8 1/4"	13'-3"	7"	24 1/4"	28'-0"	16'-9 1/2"	11'-2 1/2"	5'-5 1/2"	2'-4"	3'-1"	16"	21 1/2"	5'-11"	3'-3 3/8"	3'-7"	2 1/4"	8'-4 3/4"	3'-9 3/4"	2'-9"
TC-2A-1020-C.....	10'-0"	10'-2 1/4"	12'-1"	6"	24"	27'-3"	13'-9"	13'-6"	4'-11 1/2"	2'-3"	2'-8"	16"	18 1/2"	5'-5"	2'-11 1/8"	3'-1"	2 1/4"	6'-5 1/4"	3'-5 1/4"	2'-0"
TC-3A-8216-C.....	8'-0"	8'-2 1/4"	12'-0"	6"	20 3/8"	19'-4 3/4"	11'-2"	8'-2 3/4"	3'-9 1/2"	2'-3"	2'-3"	9 7/8"	16"	4'-8 1/2"	2 - 7 1/8"	2'-8"	2 1/4"	4'-10"	3-1 1/8"	1'-10"

Dimensions not guaranteed for settings—request certified prints.

\* For dimension "Q"—TC-0A-51B—3'-8 1/8", TC-0A-60—3'-4 1/8";  
 † For dimension "X"—TC-0A-51B—4'-3 1/8", TC-0A-60—3'-11 1/4".



# LUFKIN FOUNDRY & MACHINE CO.

# LUFKIN, TEXAS

## LUFKIN UNIVERSAL TC-0A UNIT ASSEMBLIES—30,000 Lb. Polish Rod Load

<b>WALKING BEAM:</b> 24" x 14" x 130 lbs., 12'-6" and 12'-6" working centers, or 14'-0" and 14'-0" working centers. <b>HANGER:</b> Centerline type, Universal, bronze bushed. <b>PITMAN:</b> Universal Equalizer with bearings "in line", 4" Heavy pipe connections, Universal lower bearings. <b>CENTER BEARING:</b> No. 1AS bronze bushed, 7" x 20" oil bath, dust proof. <b>SAMSON POST:</b> No. 13 Tripod, 13'-3" high. <b>BASE:</b> 16" deep, 49 $\frac{1}{4}$ " wide at gear box. <b>CRANKS:</b> No. 7472, 71 $\frac{1}{2}$ " radius. <b>CRANK PINS:</b> 5 $\frac{1}{2}$ " x 5 $\frac{1}{2}$ ", bronze bushed, oil bath. <b>TAIL AND HANGER BEARINGS:</b> 4 $\frac{1}{2}$ " x 12" Bronze Bushed.		<b>TC-0A-51B</b>	<b>TC-0A-60</b>	
	<b>GEARS</b> .....	Double Reduction Main Gear, 36" x 12"	Single Reduction Main Gear, 50" x 12"	
	<b>RATING</b> .....	78.8 H.P. at 20 S.P.M. 390,060 lb. ins. Peak Torque	85.5 H.P. at 20 S.P.M. 423,230 lb. ins. Peak Torque	
	<b>RATIO</b> .....	28.79	9.54	
	<b>CRANKSHAFT</b> .....	6 $\frac{1}{8}$ "	6 $\frac{1}{8}$ "	
	<b>SHEAVE</b> .....	34 $\frac{1}{4}$ "-11C Std. 51 $\frac{1}{4}$ " Maximum 3 $\frac{1}{8}$ " Bore	37"-7D Std. 37" Maximum 3 $\frac{1}{8}$ " Bore	
	<b>WEIGHT</b> .....	40,900 lbs.	39,735 lbs.	
	<b>STATIC COUNTERBALANCE—LBS.:</b>			
	<b>Stroke</b>	<b>No. 1 Weights</b>	<b>C.I. Auxillary Weights</b>	
	34".....	32,000	39,900	
44".....	24,750	30,850		
54".....	20,150	25,100		
64".....	17,000	21,200		
74".....	15,100	18,850		

## LUFKIN UNIVERSAL TC-1A UNIT ASSEMBLIES—25,000 Lb. Polish Rod Load

<b>WALKING BEAM:</b> 24" x 14" x 130 lbs., 12'-6" and 12'-6" working centers, or 14'-0" and 14'-0" working centers. <b>HANGER:</b> Centerline type, Universal, bronze bushed. <b>PITMAN:</b> Universal Equalizer with bearings "in line", 4" Heavy pipe connections, Universal lower bearings. <b>CENTER BEARING:</b> No. 1AS bronze bushed, 7" x 20", oil bath, dust proof. <b>SAMSON POST:</b> No. 13 Tripod, 13'-3" high. <b>BASE:</b> 16" deep, 43" wide at gear box. <b>CRANKS:</b> No. 7466, 65 $\frac{1}{2}$ " radius. <b>CRANK PINS:</b> 5 $\frac{1}{2}$ " x 5 $\frac{1}{2}$ ", bronze bushed, oil bath. <b>TAIL AND HANGER BEARINGS:</b> 4 $\frac{1}{2}$ " x 12" Bronze Bushed.		<b>TC-1A-41B</b>	<b>TC-1A-54B</b>	
	<b>GEARS</b> .....	Double Reduction Main Gear, 34" x 10"	Single Reduction Main Gear, 47" x 10"	
	<b>RATING</b> .....	57.7 H.P. at 20 S.P.M. 285,620 lb. ins. Peak Torque	67.8 H.P. at 20 S.P.M. 335,610 lb. ins. Peak Torque	
	<b>RATIO</b> .....	30.12	9.4	
	<b>CRANKSHAFT</b> .....	6 $\frac{1}{8}$ "	6 $\frac{1}{8}$ "	
	<b>SHEAVE</b> .....	24 $\frac{1}{4}$ "-8C Std. 47 $\frac{1}{4}$ " Maximum 2 $\frac{1}{8}$ " Bore	34 $\frac{1}{4}$ "-12C Std. 34 $\frac{1}{4}$ " Maximum 3 $\frac{1}{8}$ " Bore	
	<b>WEIGHT</b> .....	33,700 lbs.	33,600 lbs.	
	<b>STATIC COUNTERBALANCE—LBS.:</b>			
	<b>Stroke</b>	<b>No. 2 Weights</b>	<b>C.I. Auxillary Weights</b>	
	34".....	24,200	30,100	
44".....	18,700	23,250		
54".....	15,250	18,950		
64".....	12,850	16,000		
74".....	11,150	13,850		

## LUFKIN UNIVERSAL TC-2A UNIT ASSEMBLIES—20,000 Lb. Polish Rod Load

<b>WALKING BEAM:</b> 24" x 12" x 100 lbs., 10'-0" and 10'-0" working centers. <b>HANGER:</b> Centerline type, Universal bronze bushed. <b>PITMAN:</b> Universal Equalizer with bearings "in line", 3" Heavy pipe connections, Universal lower bearings. <b>CENTER BEARING:</b> No. 2AS, bronze bushed, 6" x 17", oil bath, dust proof. <b>SAMSON POST:</b> No. 12 Tripod, 12'-1", high. <b>BASE:</b> 16" Deep, 37" wide at gear box. <b>CRANKS:</b> No. 6460, 59 $\frac{1}{4}$ " radius. <b>CRANK PINS:</b> 4 $\frac{1}{2}$ " x 4 $\frac{1}{2}$ ", bronze bushed, oil bath. <b>TAIL AND HANGER BEARINGS:</b> 4 $\frac{1}{2}$ " x 9 $\frac{1}{2}$ " Bronze Bushed.		<b>TC-2A-35</b>	<b>TC-2A-36</b>	
	<b>GEARS</b> .....	Double Reduction Main Gear: 30.3" P.D. 9" Face	Single Reduction Main Gear: 45.4" P.D. 8" Face	
	<b>RATING</b> .....	43.2 H.P. at 20 S.P.M. 214,000 lb. ins. Peak Torque	50.4 H.P. at 20 S.P.M. 249,480 lb. ins. Peak Torque	
	<b>RATIO</b> .....	28.45	9.94	
	<b>CRANKSHAFT</b> .....	6"	6"	
	<b>SHEAVE</b> .....	24 $\frac{1}{4}$ "-6"C Std. 41 $\frac{1}{4}$ " Maximum 2 $\frac{1}{8}$ " Bore	34 $\frac{1}{4}$ " P.D.—9"C Std 34 $\frac{1}{4}$ " P.D. Maximum 3 $\frac{1}{8}$ " Bore	
	<b>WEIGHT</b> .....	26,000 lbs.	25,900 lbs.	
	<b>STATIC COUNTERBALANCE—LBS.:</b>			
	<b>Stroke</b>	<b>No. 2A Wts.</b>	<b>Aux. Wts.</b>	<b>No. 2 Wts.</b>
	24".....	25,950	31,950	28,800
34".....	18,300	22,550	20,350	
44".....	14,150	17,400	15,700	
54".....	11,550	14,200	12,800	
64".....	9,750	12,000	10,800	

## LUFKIN UNIVERSAL TC-3A UNIT ASSEMBLIES—17,000 Lb. Polish Rod Load

<b>WALKING BEAM:</b> 21" x 9" x 82 lbs., 8'-0" and 8'-0" working centers <b>HANGER:</b> Universal center line type, bronze bushed. <b>PITMAN:</b> Universal Equalizer with bearings "in line", 3" Heavy pipe connections, Universal lower bearings. <b>CENTER BEARING:</b> No. 3AS bronze bushed, 6" x 14", oil bath, dust proof. <b>SAMSON POST:</b> Tripod, 12'-0" high. <b>BASE:</b> 10" deep, 32" wide at gear box. <b>CRANKS:</b> No. 5446, 45 $\frac{1}{2}$ " Radius. <b>CRANK PINS:</b> 4 $\frac{1}{2}$ " x 4 $\frac{1}{2}$ ", bronze bushed, oil bath. <b>TAIL AND HANGER BEARINGS:</b> 4 $\frac{1}{2}$ " x 9 $\frac{1}{2}$ " bronze bushed.		<b>TC-3A-22E</b>	<b>TC-3A-18B</b>	
	<b>GEARS</b> .....	Double Reduction Main Gear 25" x 7 $\frac{1}{2}$ "	Single Reduction Main Gear 42" x 6"	
	<b>RATING</b> .....	29.2 H.P. at 20 S.P.M. 144,540 lb. ins. Peak Torque	33.0 H.P. at 20 S.P.M. 163,350 lb. ins. Peak Torque	
	<b>RATIO</b> .....	28.67	10.5	
	<b>CRANKSHAFT</b> .....	5 $\frac{1}{8}$ "	5 $\frac{1}{8}$ "	
	<b>SHEAVE</b> .....	24 $\frac{1}{4}$ "-5C Std. 38" Maximum 2 $\frac{1}{8}$ " Bore	32 $\frac{1}{4}$ "-6C Std. 32 $\frac{1}{4}$ " Maximum 2 $\frac{1}{8}$ " Bore	
	<b>WEIGHT</b> .....	20,700 lbs.	20,700 lbs.	
	<b>STATIC COUNTERBALANCE—LBS.:</b>			
	<b>Stroke</b>	<b>No. 3 Regular Weights</b>		<b>Aux. Weights</b>
	24".....	14,500		20,900
34".....	10,250		14,750	
44".....	7,925		10,400	
54".....	6,450		9,300	

ALTERNATIVE SETTINGS—LUFKIN UNIT ASSEMBLIES TC-0A, 1A, 2A AND 3A

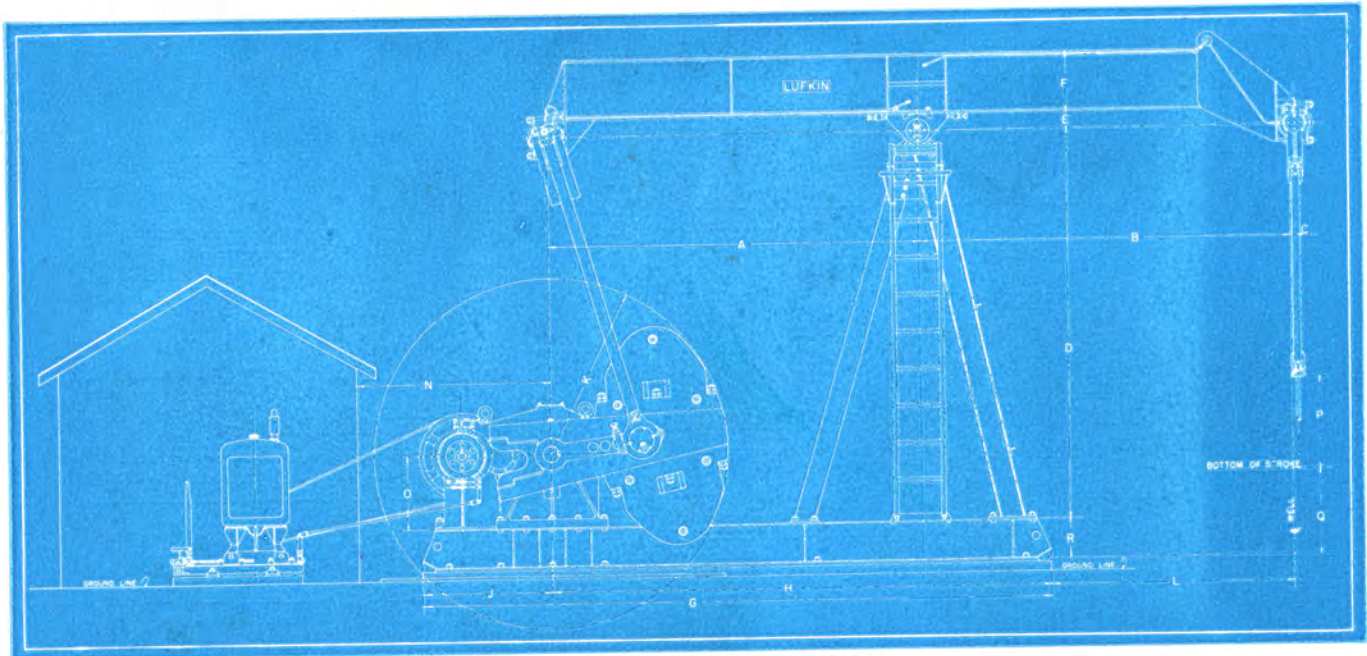


FIGURE 9

0A, 1A, 2A and 3A with Stub Base and House for Multi-Cylinder Gas Engine

LUFKIN UNIT ALTERNATIVES TC-0A, 1A, 2A AND 3A  
GENERAL DIMENSIONS

Unit	A	B	C	D	E	F	G	H	J	K	L	N	O	P	Q	R
TC-0A-1328C . . . .	14'-0"	14'-0"	2"	13'-3"	7"	24"	22'-9"	18'-4"	4'-5"	5'-11½"	9'-8"	6'-6"	2'-6"	3'-1"	2'-9"	16"
TC-0A-1325C . . . .	12'-6"	12'-6"	2¼"	13'-3"	7"	24"	21'-3"	16'-10"	4'-5"	5'-11½"	8'-4¼"	6'-6"	2'-6"	3'-1"	2'-9"	16"
TC-1A-1328C . . . .	14'-0"	14'-0"	2"	13'-3"	7"	24"	23'-7"	18'-3½"	5'-3½"	5'-5½"	9'-8½"	6'-3"	2'-4"	3'-1"	2'-9"	16"
TC-1A-1325C . . . .	12'-6"	12'-6"	2¼"	13'-3"	7"	24"	22'-1"	16'-9½"	5'-3½"	5'-5½"	8'-4¼"	6'-3"	2'-4"	3'-1"	2'-9"	16"
TC-2A-1020C . . . .	10'-0"	10'-0"	2¼"	12'-1"	6"	24"	18'-0"	13'-9"	4'-3"	4'-11½"	6'-5¼"	5'-6"	2'-3"	2'-8"	2'-0"	16"
TC-3A-8216C . . . .	8'-0"	8'-0"	2¼"	12'-0"	6"	20¾"	14'-7½"	11'-2"	3'-5½"	3'-9½"	4'-10"	4'-4"	2'-3"	2'-3"	1'-10"	9¾"

Ask for Certified Print before making foundations.

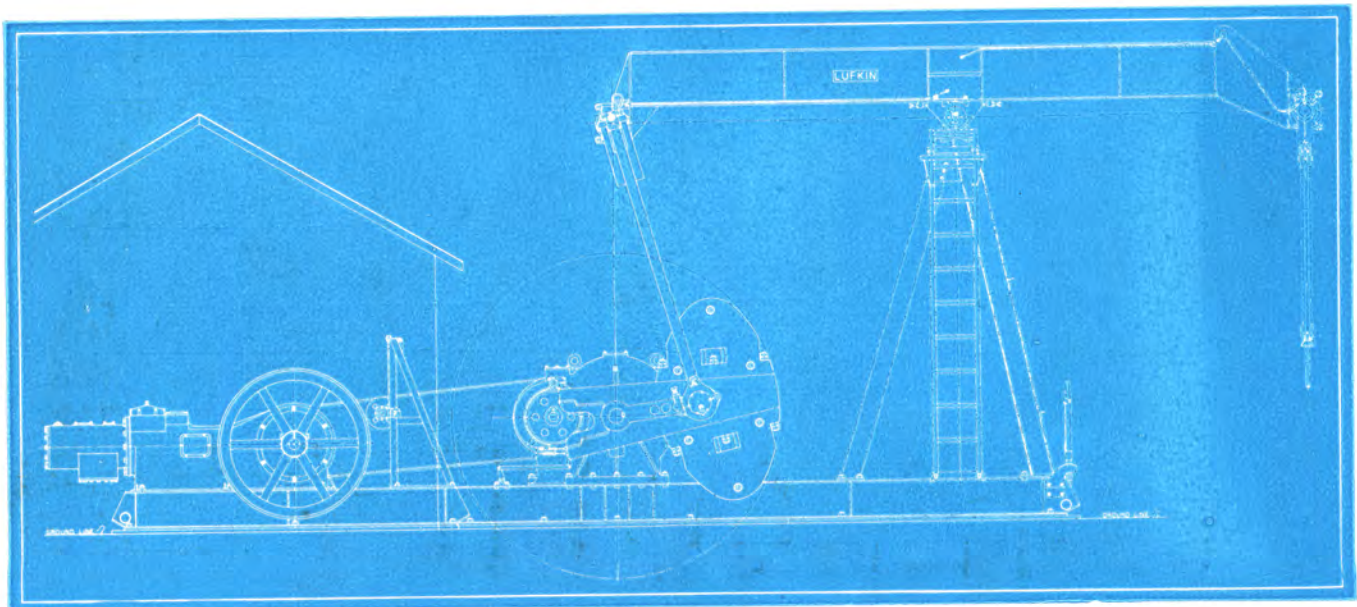


FIGURE 10

0A Unit with Long Bed Plate in Two Sections to Take Single Cylinder Engines

**LUFKIN FOUNDRY & MACHINE CO.**

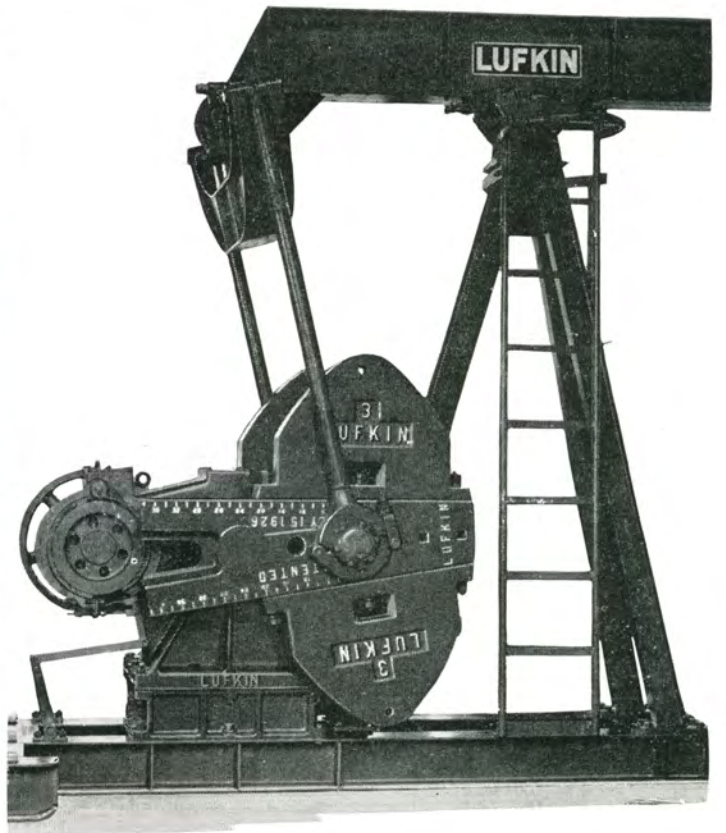
**LUFKIN, TEXAS**



*Bell Crank Take Off for Pumping Extra Wells may be applied to all Lufkin Units Except Two Smallest Sizes.*



*Safety Oiling Platform may be furnished at additional charge.*



*Special Sub Base under Gear Unit where necessary for Cranks to clear derrick floor.*

**LUFKIN FOUNDRY & MACHINE CO.**

**LUFKIN, TEXAS**

**GENERAL SPECIFICATIONS—LUFKIN UNIT ASSEMBLIES TC-2, 3, 44, AND 55**

**LUFKIN UNIVERSAL TC-2 UNIT ASSEMBLIES—20,000 Lbs. Polish Rod Load**

WALKING BEAM: 21" x 9" x 82 lbs., 8'-0" and 8'-0" working centers. HANGER: Hinged Horsehead with 1" wire rope on equalizing sheave. PITMAN: Universal Equalizer with bearings "in line", 3" heavy pipe connections, Universal lower bearings. CENTER BEARING: No. 2AS, bronze bushed 6" x 17", oil bath, dust proof. SAMSON POST: No. 12 Tripod, 12'-1" high. BASE: 16" deep, 37" wide at gear box, 22'-1" long. CRANKS: No. 6456, 55½" radius. CRANK PINS: 4¾" x 4½" bronze bushed, oil bath. TAIL BEARING: 4 11/16" x 9¼", bronze bushed.		<b>TC-2-35</b>	<b>TC-2-36</b>			
	GEARS.....	Double Reduction Main Gear: 30.3" P.D. 9" Face	Single Reduction Main Gear: 45.4" P.D. 8" Face			
	RATING.....	43.2 H.P. at 20 S.P.M. 214,000lb. ins. Peak Torque	50.4 H.P. at 20 S.P.M. 249,480lb. ins. Peak Torque			
	RATIO.....	28.45	9.94			
	CRANKSHAFT.....	6"	6"			
	SHEAVE.....	24¼" 6"C" Std. 41¼" Maximum 2 1/8" Bore	34¼" P.D. 9"C" Std. 34¼" Maximum 3 3/8" Bore			
	WEIGHT.....	26,000 lbs.	25,900 lbs.			
	<b>STATIC COUNTERBALANCE—LBS.:</b>					
		<b>Stroke</b>	<b>No. 2A Wts.</b>	<b>Aux. Wts.</b>	<b>No. 2 Wts.</b>	<b>Aux. Wts.</b>
		24".....	22,950	28,350	25,420	31,840
	34".....	16,200	20,000	17,950	22,470	
	44".....	12,500	15,460	13,870	17,360	
	54".....	10,200	12,600	11,300	14,150	
	64".....	8,600	10,630	9,530	11,940	

**LUFKIN UNIVERSAL TC-3 UNIT ASSEMBLIES—17,000 Lbs. Polish Rod Load**

WALKING BEAM: 18" x 8¾" x 64 lbs., 7'-0" and 5'-3¼" working centers. HANGER: Hinged Horsehead with 1" wire line on equalizing sheave. PITMAN: Universal Equalizer with bearings "in line", 3" heavy pipe connections, Universal lower bearings. CENTER BEARING: No. 3AS bronze bushed, 6" x 14", oil bath, dust proof. SAMSON POST: Tripod, 10'-4" high. BASE: 10" deep, 32" wide at gear box, 17'-1½" long. CRANKS: No. 4146, 45½" radius. CRANK PINS: 4¾" x 4½", bronze bushed, oil bath. TAIL BEARING: 4 11/16" x 9¼", bronze bushed.		<b>TC-3-22E</b>	<b>TC-3-18B</b>	
	GEARS.....	Double Reduction Main Gear 25" x 7½"	Single Reduction Main Gear 42" x 6"	
	RATING.....	29.2 H.P. at 20 S.P.M. 144,540 lb. ins. Peak Torque	33.0 H.P. at 20 S.P.M. 163,350 lb. ins. Peak Torque	
	RATIO.....	28.67	10.5	
	CRANKSHAFT.....	5 1/8"	5 1/8"	
	SHEAVE.....	24¼" 5C Std. 38" Maximum 2 1/8" Bore	32¼" 6C Std. 32¼" Maximum 2 1/8" Bore	
	WEIGHT.....	19,300 lbs.	19,300 lbs.	
	<b>STATIC COUNTERBALANCE—LBS.:</b>			
		<b>Stroke</b>	<b>No. 3 Reg. Wts.</b>	<b>C.I. Kidney Aux. Wts.</b>
		27.9".....	12,550	18,050
	41.2".....	8,500	12,250	
	54".....	6,450	9,300	

**LUFKIN UNIVERSAL TC-44 UNIT ASSEMBLIES—13,500 Lbs. Polish Rod Load**

WALKING BEAM: 16" x 8½" x 58 lbs., 6'-0" and 6'-0" working centers. HANGER: Hinged Horsehead with 7/8" wire line on equalizing sheave. PITMAN: Universal Equalizer with bearings "in line", 2½" heavy pipe connections, Universal lower bearings. CENTER BEARING: No. 4AS, bronze bushed, 5" x 10½", oil bath, dust proof. SAMSON POST: Tripod, 8'-9½" high. BASE: 8" deep, 25" wide at gear box, 16'-5" long. CRANKS: No. 4846, 46" radius. CRANK PINS: 3¾" x 3½", bronze bushed, oil bath. TAIL BEARING: 3 11/16" x 7¼", bronze bushed.		<b>TC-44-15</b>	<b>TC-44-24</b>	
	GEARS.....	Double Reduction Main Gear: 24" P.D. 6¼" Face	Single Reduction Main Gear: 36¼" P.D. 5½" Face	
	RATING.....	19.8 H.P. at 20 S.P.M. 98,000 lb. ins. Peak Torque	24.6 H.P. at 20 S.P.M. 121,750 lb. ins. Peak Torque	
	RATIO.....	29.4	9.67	
	CRANKSHAFT.....	4 1/8" Diameter	4 7/8" Diameter	
	SHEAVE.....	19¼" 4C Std. 33¼" Maximum 1 1/8" Bore	28" 6C Std. 28" Maximum 2 1/8" Bore	
	WEIGHT.....	13,940 lbs.	13,940 lbs.	
	<b>STATIC COUNTERBALANCE—LBS.:</b>			
		<b>Stroke</b>	<b>No. 5A Reg. Wts.</b>	<b>Aux. Wts.</b>
		24".....	12,465	16,060
	32".....	9,350	12,050	
	40".....	7,480	9,640	
	48".....	6,230	8,030	

**LUFKIN UNIVERSAL TC-55 UNIT ASSEMBLIES—10,000 Lbs. Polish Rod Load**

WALKING BEAM: 12" x 8" x 45 lbs., 5'-0" and 5'-0" working centers. HANGER: Hinge Horsehead with 7/8" wire line. PITMAN: Universal Equalizer with bearings "in line", 2½" heavy pipe connections, Universal lower bearings. CENTER BEARING: No. 4AS bronze bushed, 5" x 10½", oil bath, dust proof. SAMSON POST: Tripod, 8'-1" high. BASE: 8" deep, 25" wide at gear box, 15'-0" long. CRANKS: No. 4242, 42" radius. CRANK PINS: 3¾" x 3½", bronze bushed, oil bath. TAIL BEARING: 3 11/16" x 7¼", bronze bushed.		<b>TC-55-7B</b>	<b>TC-55-16</b>	
	GEARS.....	Double Reduction Main Gear 19½" x 5"	Single Reduction Main Gear 32½" x 4"	
	RATING.....	11.1 H.P. at 20 S.P.M. 54,945 lb. ins. Peak Torque	14.7 H.P. at 20 S.P.M. 72,685 lb. ins. Peak Torque	
	RATIO.....	29.32	10	
	CRANKSHAFT.....	4"	4"	
	SHEAVE.....	19¼" 3-C Std. 27¼" Maximum 1 1/8" Bore	24" 5-C Std. 24" Maximum 2 1/8" Bore	
	WEIGHT.....	11,930	11,600	
	<b>STATIC COUNTERBALANCE—LBS.:</b>			
		<b>Stroke</b>	<b>No. 5 Wts.</b>	<b>With Aux. Wts.</b>
		22".....	11,030	14,660
	32".....	7,600	9,950	
	42".....	5,790	7,580	

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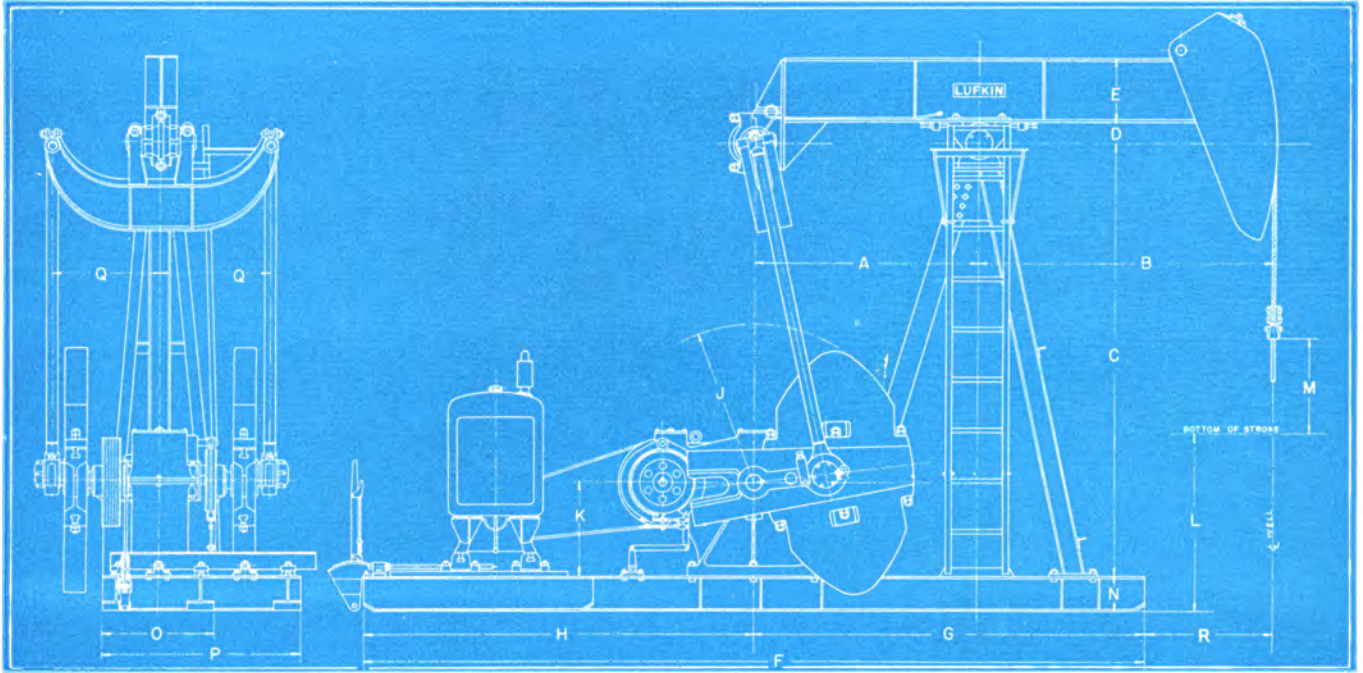


FIGURE 11

LUFKIN UNIT ASSEMBLIES TC-2, 3, 44, AND 55

GENERAL DIMENSIONS

UNIT	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R
TC-2 .....	8'-0"	8'-0"	12'-1"	6"	21"	22'-1"	11'-9"	10'-4"	4'-7½"	2'-3"	5'-0½"	2'-8"	16"	3'-1"	5'-5"	2'-11⅞"	4'-3"
TC-3 .....	5'-3¼"	7'-0"	10'-4"	6"	18"	17'-1½"	8'-10¾"	8'-2¾"	3'-9½"	2'-3"	5'-2½"	2'-3"	10"	2'-8"	4'-8½"	2'-7⅞"	3'-4½"
TC-44 .....	6'-0"	6'-0"	8'-1"	6"	15½"	16'-5"	8'-1"	8'-4"	3'-10"	18"	3'-6½"	22"	8"	2'-1"	4'-1"	2'-4⅜"	3'-11"
TC-55 .....	5'-0"	5'-0"	8'-1"	6"	12"	15'-0"	7'-1"	7'-11"	3'-6"	18"	4'-1"	21"	8"	2'-1"	4'-1"	2'-1⅞"	2'-11"

Ask for certified print before making foundation. Note: TC-44 and TC-55 now have Trout Simplified Cranks

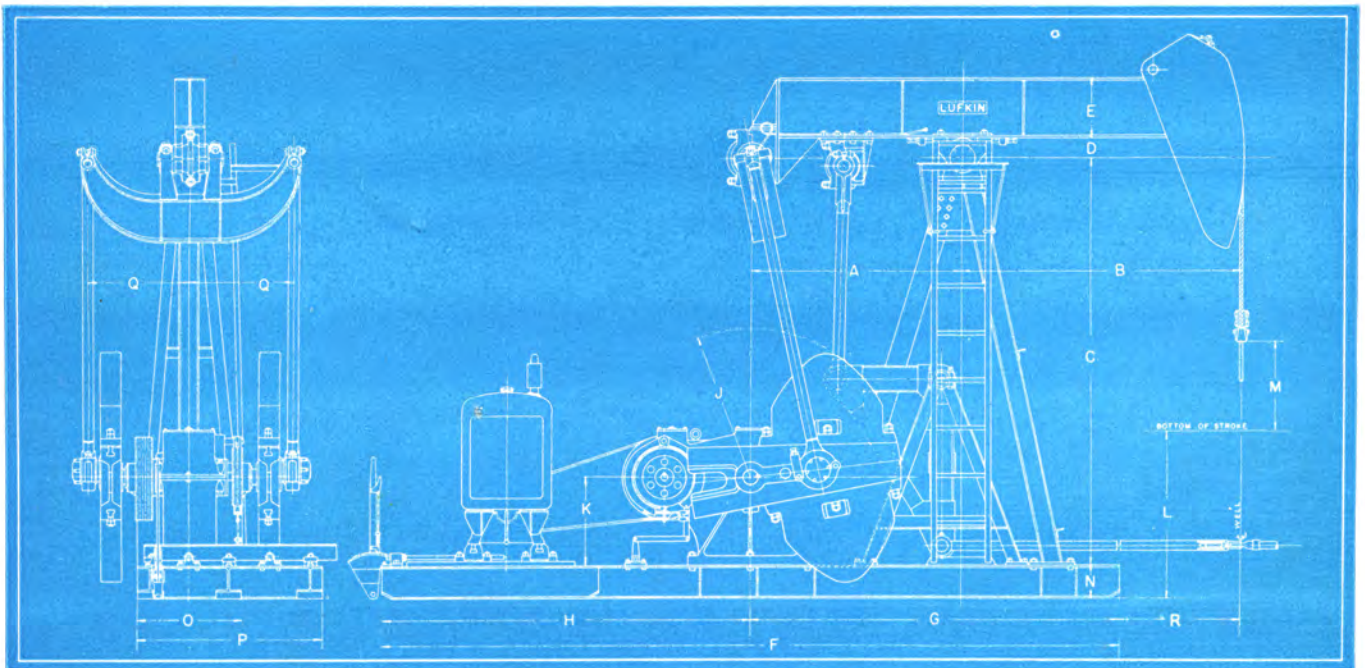


FIGURE 12

Illustrating bell-crank connection for one additional well, applicable to the TC-2, 3, 44 and 55 assemblies.

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ALTERNATIVE FEATURES

Lufkin TC-2, 3, 44 and 55 assemblies with Stub Base and Gas Engine Drive.

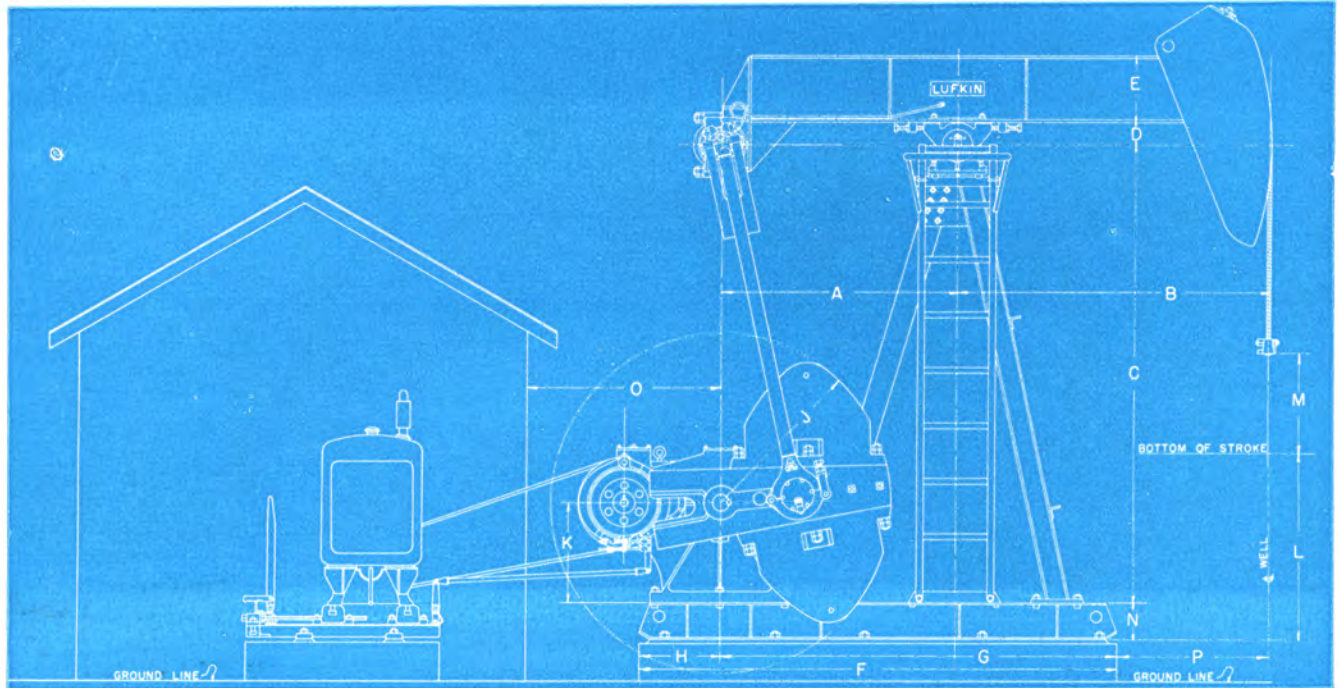


FIGURE 13

UNIT	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P
TC-2.....	8'-0"	8'-0"	12'-1"	6"	21"	14'-0"	11'-9"	2'-3"	4'- 7 $\frac{1}{2}$ "	2'-3"	5'-0 $\frac{1}{4}$ "	2'-8"	16"	5'-6"	4'- 3"
TC-3.....	5'-3 $\frac{1}{4}$ "	7'-0"	10'-4"	6"	18"	11'-10 $\frac{3}{4}$ "	8'-5 $\frac{1}{4}$ "	3'-5 $\frac{1}{2}$ "	3'- 9 $\frac{1}{2}$ "	2'-3"	5'-2 $\frac{1}{2}$ "	2'-3"	10"	4'-4"	3'-10"
TC-44.....	6'-0"	6'-0"	8'-1"	6"	15 $\frac{5}{8}$ "	10'- 7 $\frac{1}{4}$ "	8'-1"	2'-6 $\frac{1}{4}$ "	3'-10"	18"	3'-6 $\frac{1}{2}$ "	22"	8"	4'-4 $\frac{1}{2}$ "	3'-11"
TC-55.....	5'-0"	5'-0"	8'-1"	6"	12"	9'- 7 $\frac{1}{4}$ "	7'-1"	2'-6 $\frac{1}{4}$ "	3'- 6"	18"	4'-1"	21"	8"	4'-0"	2'-11"

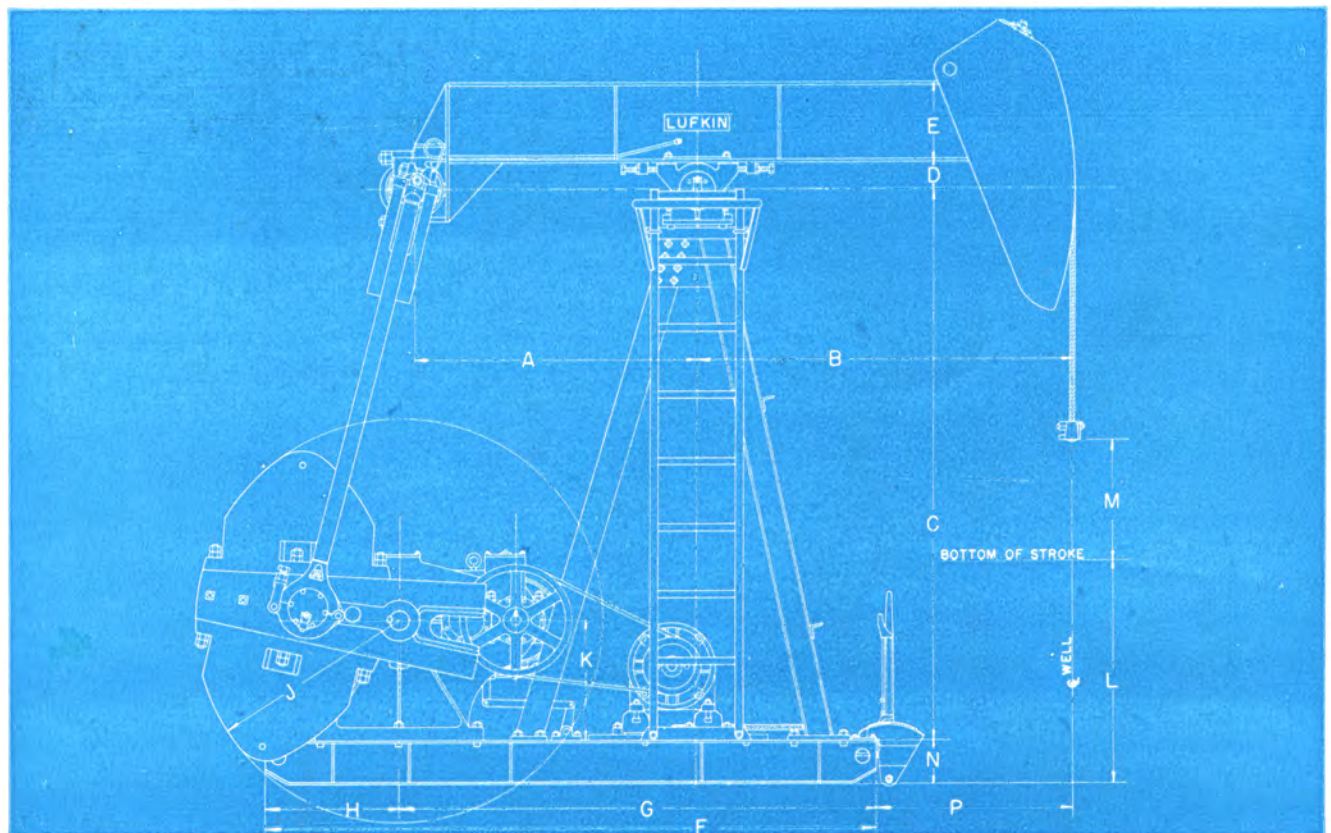


FIGURE 14

Lufkin TC-2, 44 and 55 assemblies with Stub Base and Motor Mounted under Samson Post.  
(Not made with TC 3 Assembly)

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GENERAL DATA CONCERNING THE LUFKIN  
TC-66-5-A AND TC-77-3 UNIT ASSEMBLIES

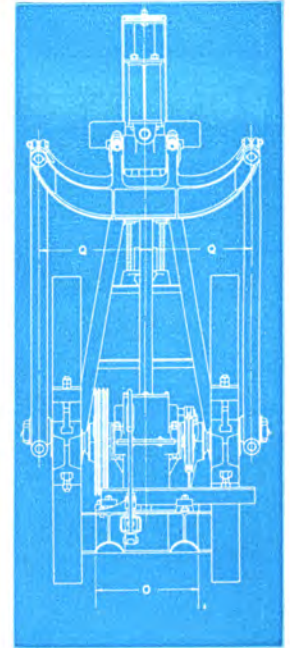
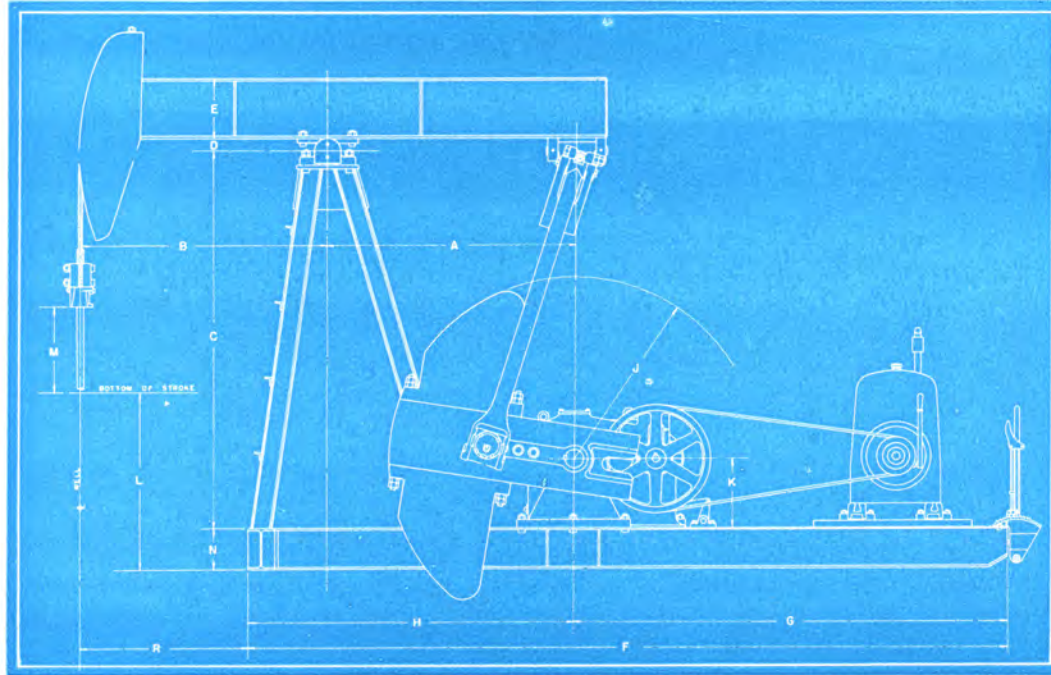
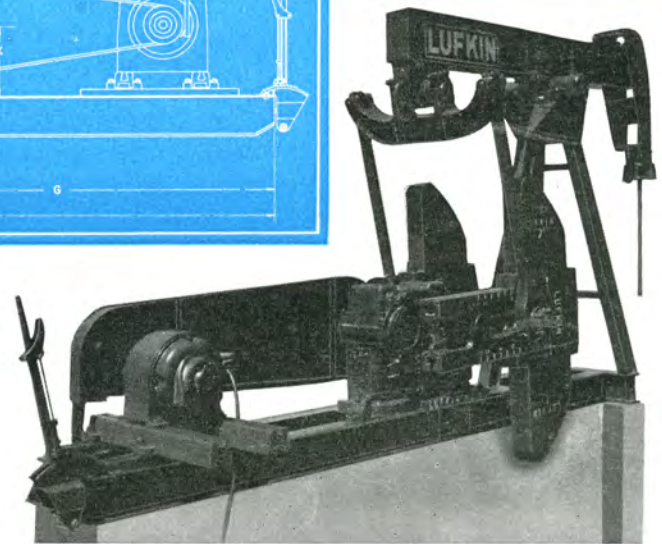


FIGURE 15

Detail Drawing Lufkin TC-66-5A and 77-3



SCHEDULE OF TABULATED DIMENSIONS

Unit	A	B	C	D	E	F	G	H	J	K	L	M	N	O	Q	R
TC-77-3 Unit.....	3'-6"	3'-6"	5'-3"	2 1/4"	9 7/8"	11'-0"	6'-4"	4'-8"	32"	14"	3'-0 1/4"	12"	6 1/4"	17"	17 1/2"	2'-4"
TC-66-5A Unit.....	4'-0"	4'-0"	6'-2 3/4"	2 1/4"	12"	12'-3"	7'-0"	5'-3"	36"	14"	2'-9 3/4"	17"	8"	20"	20 3/4"	2'-9"

SPECIFICATIONS—Lufkin Universal TC-66-5A and TC-77-3 Unit Assemblies

STATIC COUNTERBALANCE—LBS.				TC-66-5A		TC-77-3		TC-66-5A		TC-77-3	
Stroke	With No. 6 Weights	With Aux. Weights	Stroke	With No. 7 Weights	Stroke	With No. 7 Weights	GEARS.....	Double Reduction Main Gear 15" x 4"	Double Reduction Main Gear 13" x 3 1/2"	RATING.....	5.9 Nominal H.P. at 20 S.P.M.
16.....	8,480	10,700	12	6,200	29,200 lb. ins. Peak Torque	18,315 lb. ins. Peak Torque	RATIO.....	24.97	29.46	RATIO.....	24.97
22.....	6,160	7,780	18	4,125	3436-36" Radius	2432-32" Radius	CRANKSHAFT.....	3 1/16"	3"	CRANKSHAFT.....	3 1/16"
28.....	4,850	6,115	24	3,100	8,000 lbs.	6,000 lbs.	CRANKS.....	3436-36" Radius	2432-32" Radius	POLISH ROD CAP.....	8,000 lbs.
34.....	3,985	5,040			21" P.D.—3-B Grooves	17 1/2" P.D.—3A Grooves	POLISH ROD CAP.....	8,000 lbs.	6,000 lbs.	SHEAVE.....	21" P.D.—3-B Grooves
					12" x 6 1/2" x 28 lbs.; 4'-0" and 4'-0" Working Centers	9 7/8" x 5 3/4" x 21 lbs. 42" x 42" Working Centers	SHEAVE.....	21" P.D.—3-B Grooves	17 1/2" P.D.—3A Grooves	BELTS.....	136 B
					Tripod: 6'-2 3/4" High	Tripod: 5'-3" High	WALKING BEAM.....	12" x 6 1/2" x 28 lbs.; 4'-0" and 4'-0" Working Centers	9 7/8" x 5 3/4" x 21 lbs. 42" x 42" Working Centers	WALKING BEAM.....	12" x 6 1/2" x 28 lbs.; 4'-0" and 4'-0" Working Centers
					8" Deep, 20" Wide at Gear Box, 12'-3" long	6" Deep, 17" Wide at Gear Box, 11'-0" long	SAMSON POST.....	Tripod: 6'-2 3/4" High	Tripod: 5'-3" High	SAMSON POST.....	Tripod: 6'-2 3/4" High
							BASE.....	8" Deep, 20" Wide at Gear Box, 12'-3" long	6" Deep, 17" Wide at Gear Box, 11'-0" long	BASE.....	8" Deep, 20" Wide at Gear Box, 12'-3" long
							FOUNDATION BOLTS.....	14—7/8"	12—3/4"	FOUNDATION BOLTS.....	14—7/8"
							WEIGHT.....	6,875 lbs.	4,600 lbs.	WEIGHT.....	6,875 lbs.

**SPECIAL SLOW SPEED  
COMBINATION WEIGHTED BEAM AND CRANK COUNTERBALANCE UNITS**



This type unit is not standard but can be furnished on special order in any of our three smaller sizes TC 77-3, 66-5A or 55-7B.

## LUFKIN SIMPLIFIED LONG STROKE UNIT

*(Illustrated on the opposite page)*

The Lufkin long stroke unit permits lifting larger volumes of fluid economically. This unit is of conventional proven Lufkin design. It has heavier structural steel members, larger bearings and greater gear capacity. Because of this design, it is not limited to slow speeds but may be operated up to approximately twenty-two strokes per minute. The beam, although not equal ended, is well within the ratio proven satisfactory on more than two thousand TC-3-22 units now in operation.

Sucker rod experience has been very satisfactory operating at fairly fast strokes even on depths ranging down to 7000'.

The maximum stroke is 9'-0" with the 51B unit and 10'-0" with the 71 unit.

These units are adaptable to any oil field type engine or electric motor.

Simplicity and moderate initial investment are important features in this equipment. Any experienced pumper can operate this unit without additional instruction.

A number of these units are operating in the various fields of California, the Gulf Coast, and Mid-Continent areas.



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LUFKIN SIMPLIFIED LONG STROKE UNIT

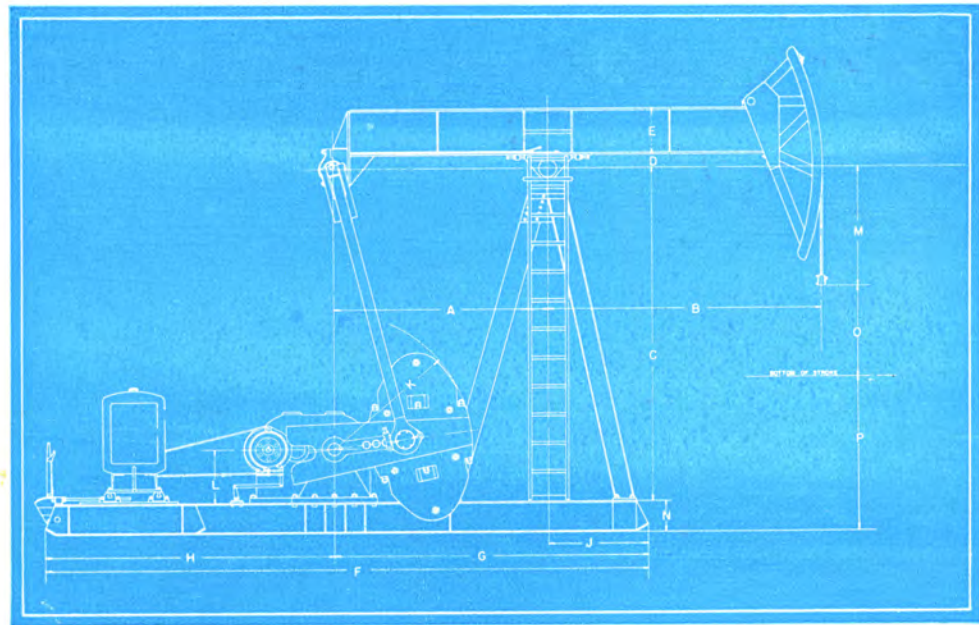
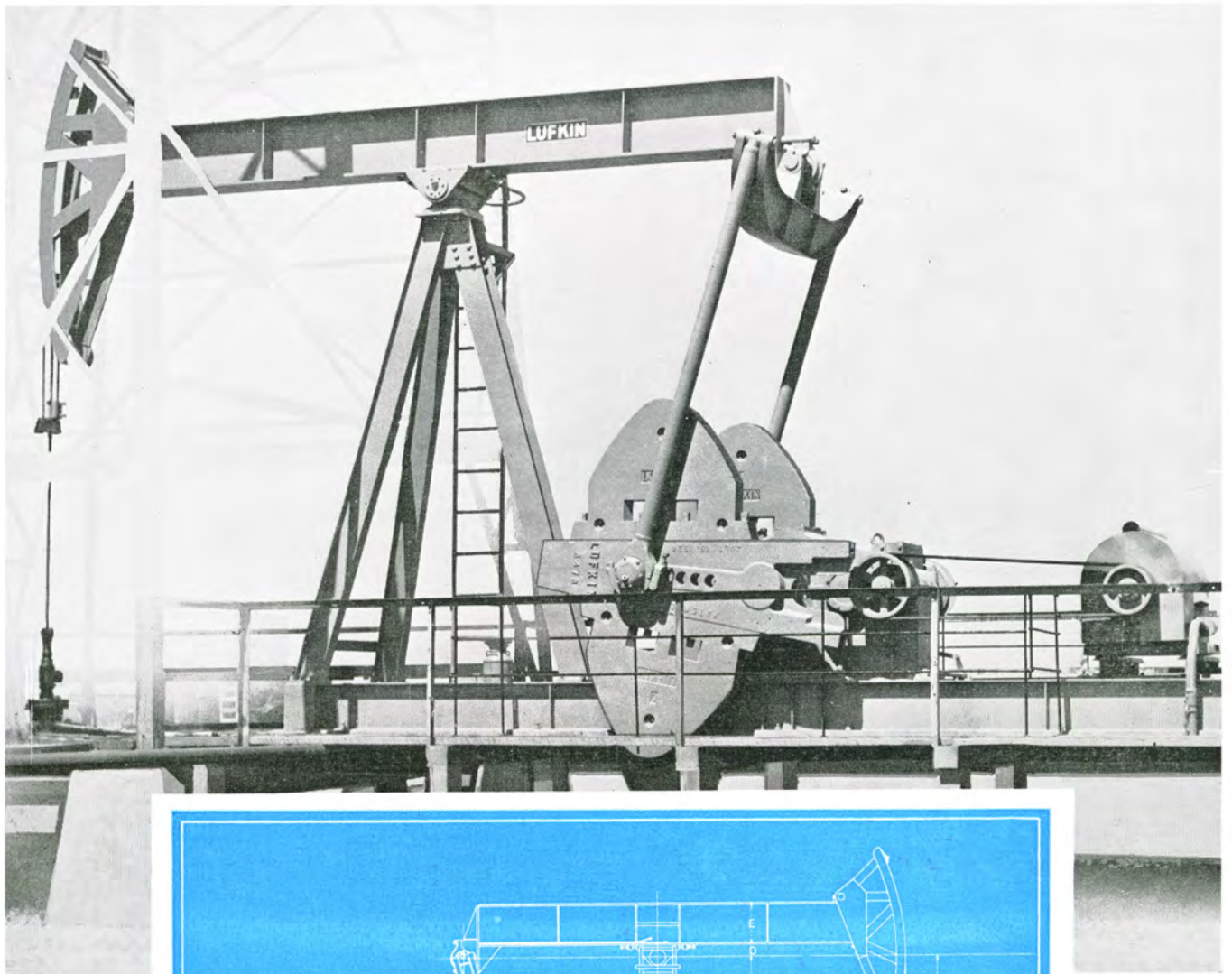


FIGURE 16

GENERAL DIMENSIONS LUFKIN LONG STROKE UNITS

UNIT	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P
TC-OL-51-B.....	10'-11 $\frac{1}{4}$ "	14'-0 $\frac{3}{4}$ "	14'-6"	7"	24 $\frac{3}{4}$ "	28'-5"	15'-1"	13'-4"	4'-1 $\frac{3}{4}$ "	78"	2'-6"	5'-7"	16"	54"	5'-9"
TC-OOL-71.....	11'-9"	15'	16'	9"	33"	30'-9"	16'-5"	14'-4"	4'-8"	82"	3'	7'-1"	21"	60"	5'-8"

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LUFKIN FOUNDRY & MACHINE COMPANY, LUFKIN

# LUFKIN FOUNDRY & MACHINE CO.

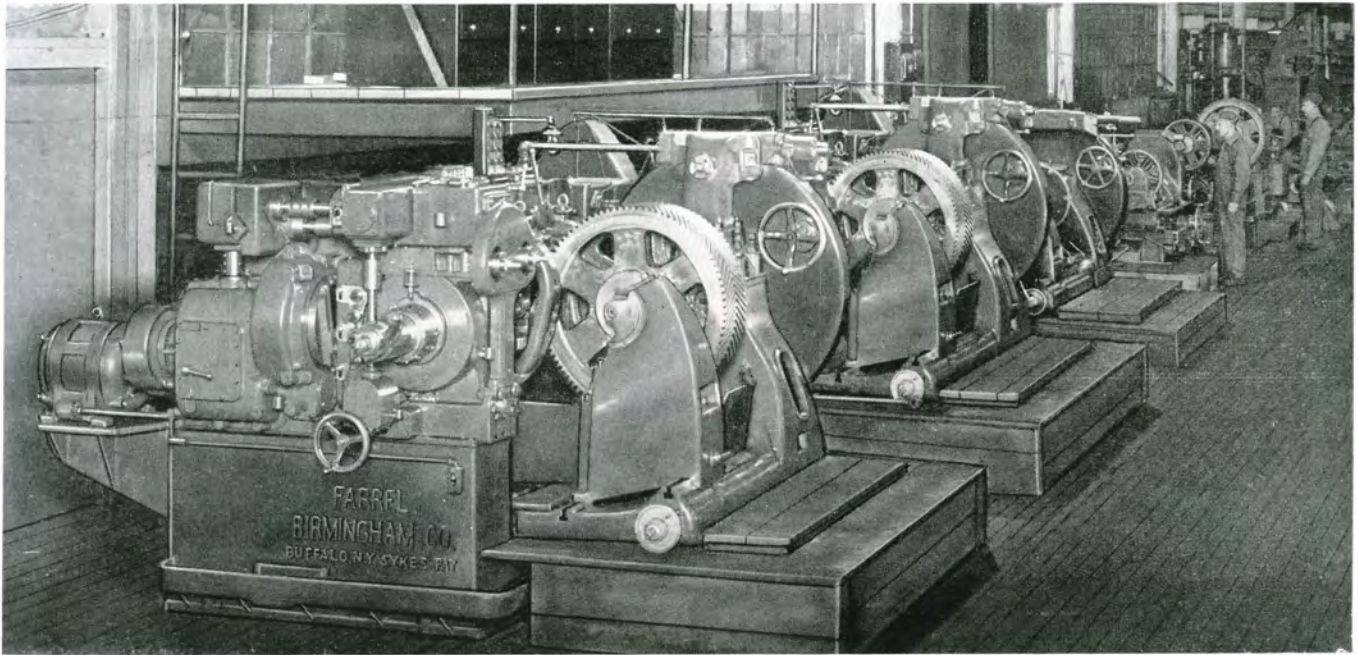
# LUFKIN, TEXAS



LUFKIN, TEXAS—"Quality Machinery Since 1900"

LUFKIN FOUNDRY & MACHINE CO.

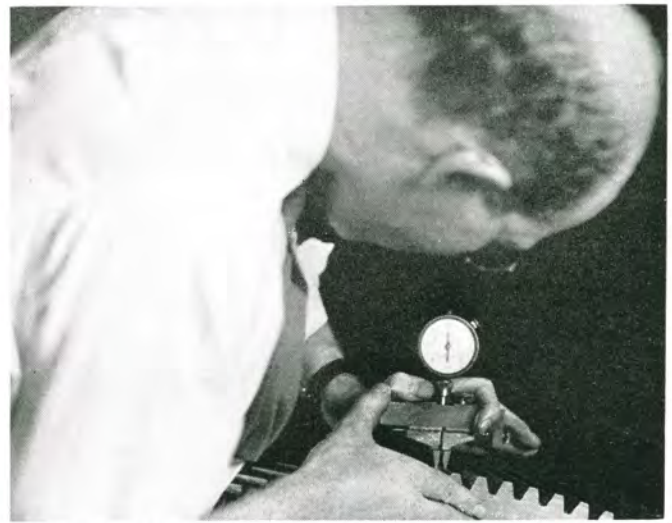
LUFKIN, TEXAS



*Gear Cutting Department of our Lufkin Plant.*



*Testing pinion shaft blank for eccentricity before cutting herringbone teeth. Accuracy here is of extreme importance.*



*Teeth of herringbone gears must pass rigid inspection for accuracy of formation.*

Every major part going into a Lufkin unit, except anti-friction bearings, are manufactured and assembled in our Lufkin plant. Our inspection department has complete control over every operation. We are in a position to accept complete responsibility for the manufacture of each Lufkin unit.

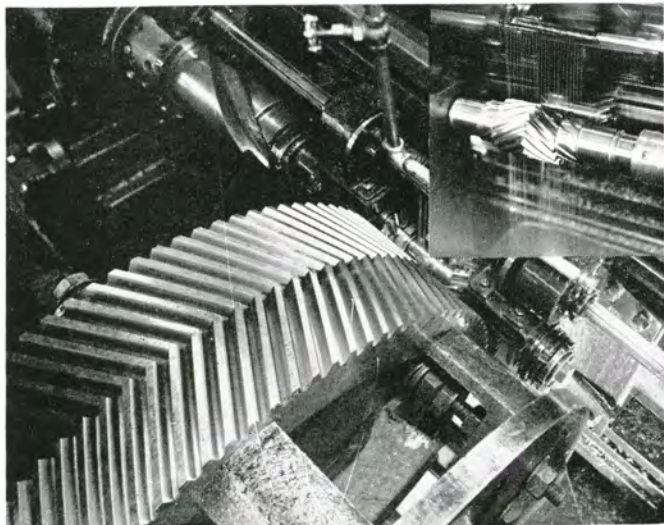


*Testing gear teeth for hardness.*

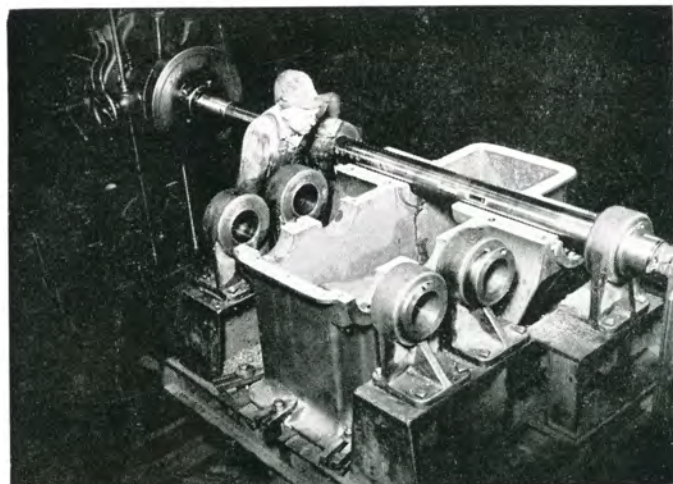
# LUFKIN FOUNDRY & MACHINE CO.

# LUFKIN, TEXAS

## MODERN TOOLS MEAN PRECISION EQUIPMENT



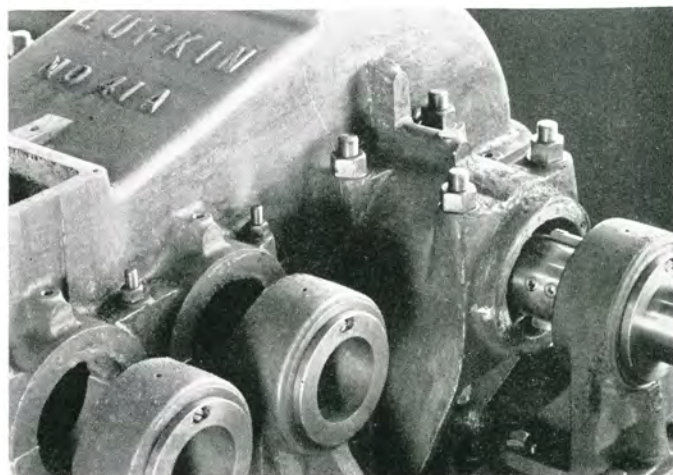
*All herringbone gears are generated on Sykes Patented gear generators in our own plant and under the most rigid inspection system. Photos show cutters in action generating gear and pinion.*



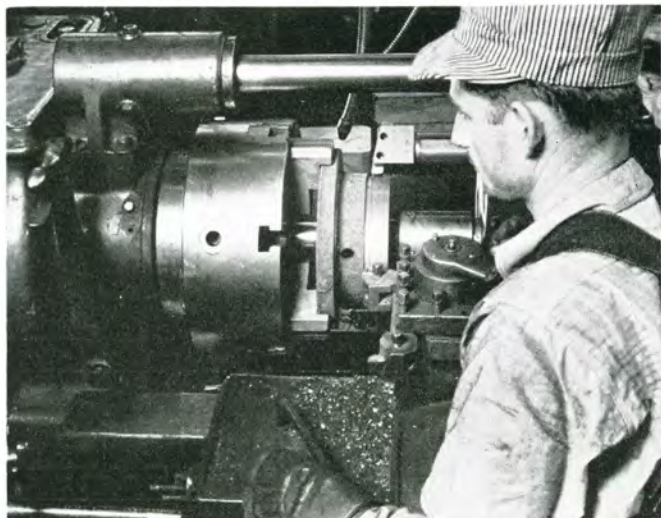
*Without doubt the most expensive and the most accurate bar yet built for precision boring of parallel bearings. This photo shows cover removed, revealing entire operation of bar.*



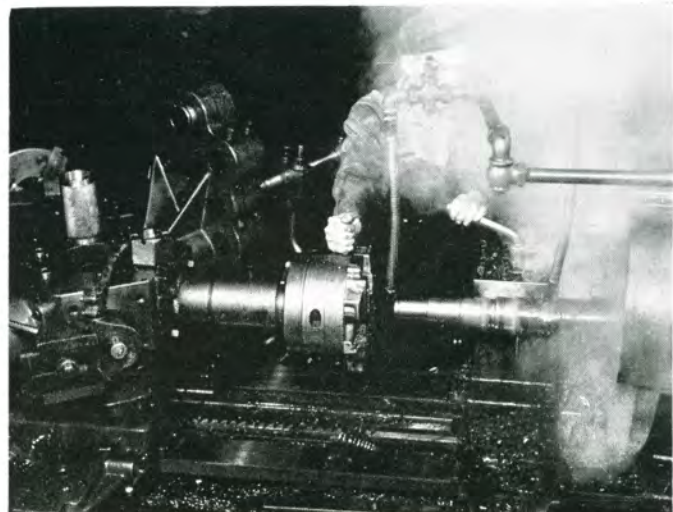
*Grinding for accuracy. All shafts, pinions, crank pins, etc., are ground to absolute micrometer size.*



*This photo shows start of boring operation with cover intact. Every Lufkin Unit is bored to absolute accuracy on equipment such as is described above.*



*The most modern type of turret lathe—one of a battery performing similar operations. Note that boring, facing and turning rough and finish cuts are completed in one operation.*



*Turning and threading Lufkin Crank Pins from heat-treated alloy steel on one of the most modern types of turret lathes.*

LUFKIN SINGLE CRANK UNITS

All Lufkin units, both single and double reduction types are built as illustrated with the sheave on the left side and brake on the right. The main counter-balance, of course, is on the right. The back-side crank is on the left. The sheave and brake can be reversed, if necessary, to suit special requirements. The cut to the right illustrates a complete and standard unit with the exception of the back-crank, which is extra and considered special.

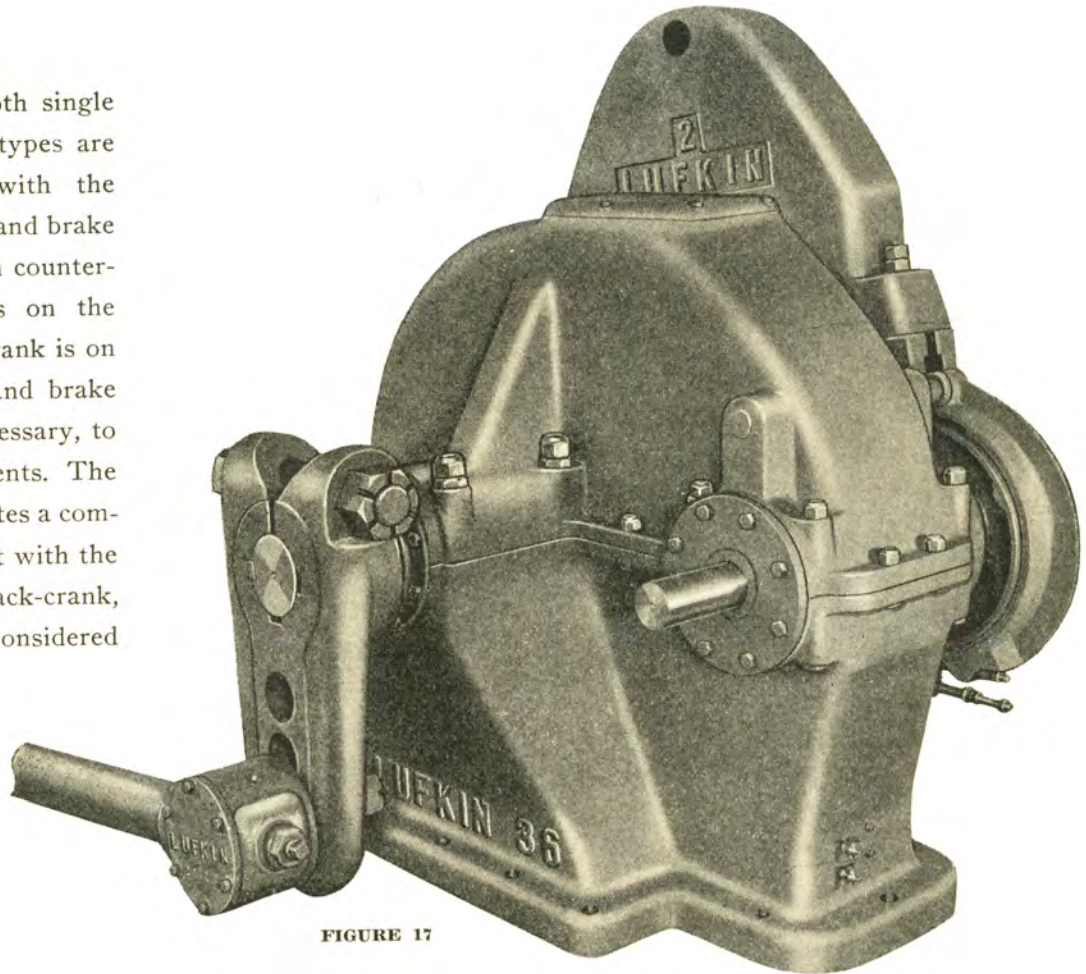


FIGURE 17

GENERAL SPECIFICATIONS SINGLE CRANK UNITS

UNIT No.	Type of Gears	Nom. H.P. at 20 s.p.m.	Peak Torque in Lb. Inches	Ratio	Diam. Face Main Gear	Crank Shaft Dia.	Bore Drive Sheave	Sheave P.D. and No. Grooves	Center of Crank to Base of Unit	Crank and Wts.	Stroke	Static Center-Balance, Lbs.	
												Reg. Wts.	Aux. Wts.
60.....	SR	85.5	423,230	9.54	50"x12"	6 1/8"	3 1/8"	37"-7D Std. 37"-Max.	30"		34"	16,000	19,950
54-B.....	SR	67.8	335,610	9.4	47"x10"	6 1/8"	3 1/8"	34 1/4"-12C Std. 34 1/4"-Max.	28"	7472 and No. 1	44"	12,350	15,400
51-B.....	DR	78.8	390,060	28.79	36"x12"	6 1/8"	3 1/8"	34 1/4"-11C Std. 51 1/4"-Max.	30"		64"	10,100	12,550
41-B.....	DR	57.7	285,620	30.12	34"x10"	6 1/8"	2 1/8"	24 1/4"-8C Std. 47 1/4"-Max.	28"		74"	8,500	10,600
35.....	DR	43.2	214,000	28.45	30"x 9"	6"	2 1/8"	24 1/4"-6C Std. 41 1/4"-Max.	27"	6466 and No. 2	34"	12,100	15,050
36.....	SR	50.4	249,480	9.94	45"x 8"	6"	3 1/8"	34 1/4"-9 Std. 34 1/4"-Max.	27"		54"	9,350	11,650
22-E.....	DR	29.2	144,540	28.67	25"x7 3/8"	5 1/8"	2 1/8"	24 1/4"-5C Std. 38"-Max.	27"		24"	7,650	9,500
18-B.....	SR	33.0	163,350	10.5	42"x6"	5 1/8"	2 1/8"	32 1/4"-6C Std. 32 1/4"-Max.	27"	5460 and No. 2	64"	14,400	17,950
24.....	SR	24.6	121,750	9.67	36 1/4"x5 1/2"	4 1/8"	2 1/8"	28"-6C Std. 28"-Max.	21"		34"	10,150	12,700
16.....	SR	14.7	72,685	10	32 1/2"x4"	4"	2 1/8"	24"-5C Std. 24"-Max.	18"		44"	7,850	9,800
15.....	DR	19.8	98,000	29.4	24"x6 1/4"	4 1/8"	1 1/8"	19 1/4"-4C Std. 33 1/4"-Max.	18"	4456 and No. 2A	54"	6,400	8,000
											24"	11,500	14,150
											34"	8,100	10,000
											44"	6,300	7,750

LUFKIN FOUNDRY & MACHINE CO.

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Single Crank Unit on Steel Base

Bottom: Similar installation of heavier type with Universal Hanger and double channel single arm take-off pumping two additional wells.



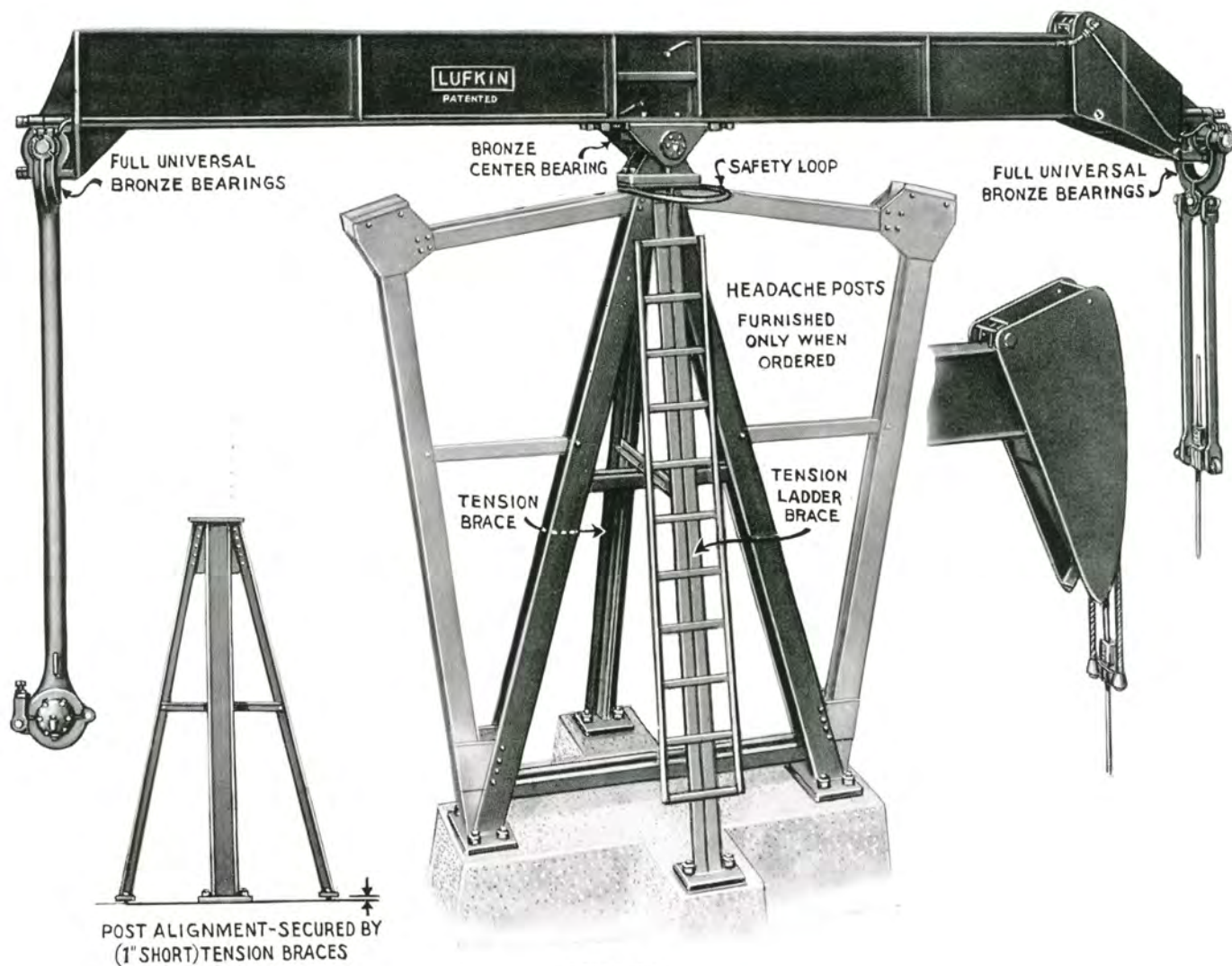


FIGURE 18

LUFKIN UNIVERSAL SAMSON POST ASSEMBLIES

GENERAL SPECIFICATIONS

Assembly	Units Generally Used	BEAM SPECIFICATIONS						Post Specifications			Center Bearing No. & Size	PITMAN		Crank Pin Size	Tail & Hanger Bearing Size
		No.	Depth	Width Flange	Weight Per Ft.	Centers	A.P.I. Rating	Height	Type	Cap.		Pipe Size	Centers		
100	51-B, 60, 41-B, 54-B	1325CU	24"	14"	130	28'	16,800	17'-6"	AT	40,750	1-AS 7"x20"	5"		5½"x5½"	5"x12"
200	41-B, 54-B	1325CU	24"	14"	130	25'	19,750	15'-7"	AT	47,800	1-AS 7"x20"	5"	See Table	5½"x5½"	5"x12"
300	41-B, 54-B, 35, 36	1025CU	24"	12"	100	25'	13,900	15'-5"	AT	47,800	2-AS 6"x17"	4"	On	5½"x5½"	5"x 9"
400	35, 36, 22-D, 18-B, 16, 15	8216CUH	21"	9"	82	16'	15,800	13'-6"	AT	46,090	2-AS 6"x17"	4"	Next Page	5½"x5½"	5"x 9"

Note: Headache Posts and Foundation Bolts furnished at Extra Price when specified.



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LUFKIN, TEXAS

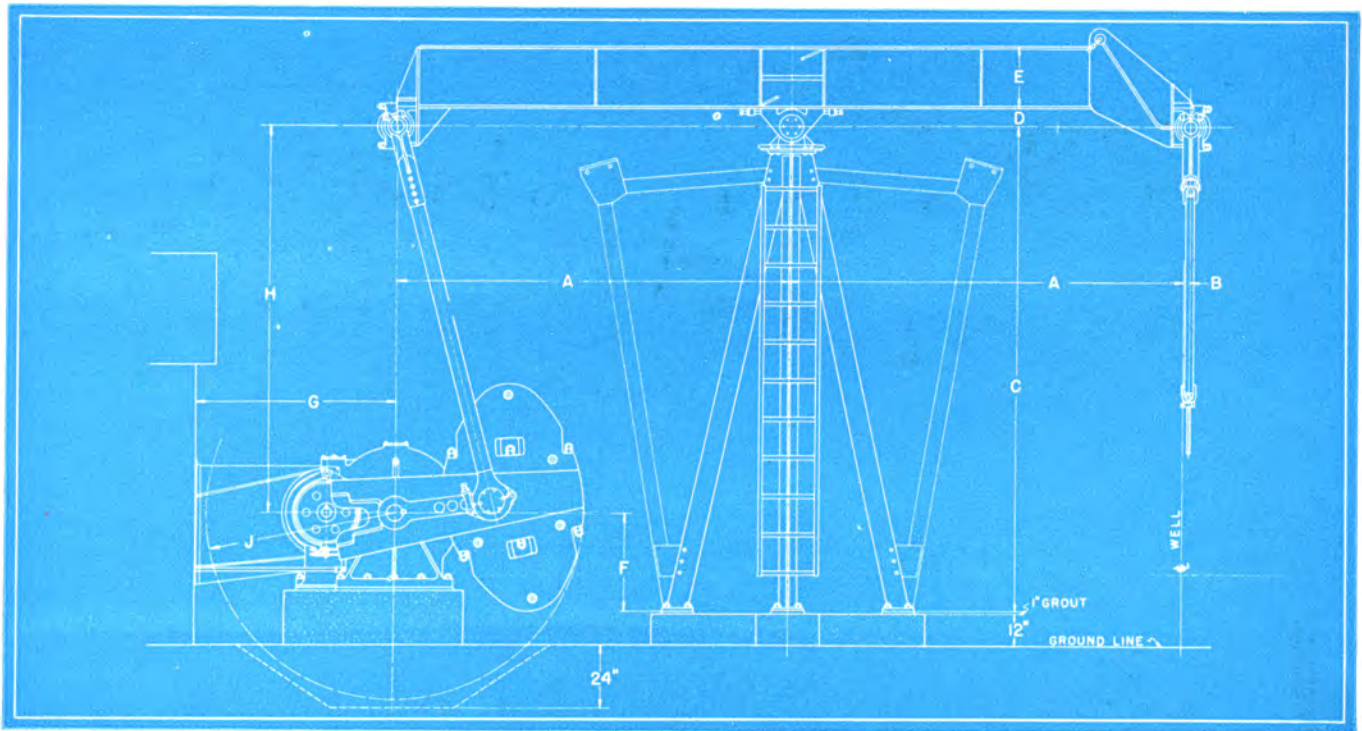


FIGURE 19

Lufkin Single Crank Unit Assembly—Crank in Sump  
GENERAL DIMENSIONS

Assembly	A	B	C	D	E	F	G	H	J
100.....	14'-0"	2"	17'-6"	7"	24"	3'-1"	6'-6"	14'-5"	5'-11 1/2"
200.....	12'-6"	2 3/4"	15'-7"	7"	24"	3'-1"	6'-6"	12'-6"	5'-11 1/2"
300.....	12'-6"	2 3/4"	15'-5"	6"	24"	2'-7"	6'-3"	12'-10"	5'-5 1/2"
400*	8'-0"	*	13'-6"	6"	21"	2'-1"	5'-6"	11'-5"	4'-11 1/2"††

\* No. 400 furnished with Horsehead Beam Only. † No. 15 and 16 Unit furnished with 4'-7 1/2" Radius Crank.  
If crank sump not desired subtract 2'-0" from "H".

POLISH ROD CAPACITIES OF LUFKIN WALKING BEAMS  
FOR SINGLE AND TWIN CRANKS

Walking Beam Number	Section	Working Centers	RATING, POUNDS		Where Used
			A.P.I.	A.I.S.C.	
1625-CU.....	24" x 14" 160 lb	25'	22,051	44,900	OL 51-B and 60
1328-CU.....	24" x 14" 130 lb	28'	16,800	30,565	TC-0A SC-100 and 200
1325-CU.....	24" x 14" 130 lb	25'	19,750	35,860	TC-0A and 1A SC-100 and 200
1025-CU.....	24" x 12" 100 lb	25'	13,900	25,285	SC-300
1020-CU.....	24" x 12" 100 lb	20'	19,000	34,570	TC-2A
1020-CUH.....	24" x 12" 100 lb	20'	19,000	34,570	TC-2A
8216-CUH.....	21" x 9" 82 lb	16'	15,800	28,500	TC-2 and TC-3A SC-400
6412-CUH.....	18" x 8 3/4" 64 lb	12'-3 1/4"	13,450	24,400	TC-3
5812-CUH.....	16" x 8 1/2" 58 lb	12'	12,700	22,850	TC-44
4510-CUH.....	12" x 8" 45 lb	10'	9,695	17,440	TC-55
2808-CUH.....	12" x 6 1/2" 28 lb	8'	7,420	13,350	TC-66
2107-CUH.....	10" x 5 3/4" 21 lb	7'	5,120	8,640	TC-77

## LUFKIN COMBINED VERTICAL SWING TAKE-OFF AND KNOCK-OUT



FIGURE 20—Patents allowed and others pending

The Lufkin combined vertical swing takeoff and knockout attachment is a great improvement over the earlier designs. Most important is the method of rolling the weight to any desired point simply by loosening two bolts on the weight saddle and turning the crank. Both operations can be accomplished by one man on the ground in a few minutes.

Hooking on and off wells is accomplished by one lever with no chance of injury to the operator.

The whole structure is thoroughly and substantially built of heavy structural steel with a view to rigidity and steady operation. As will be noted on Page 1514, Fig. 28, crank pin and bearing are of the improved type, adjustable for wear, and dust proof. The same bearing is in the swing takeoff, the connection being made of 4" pipe. Saddle bearings are bronze bushed and oil tight. Knockoff arrangement is of all steel forgings and made to give efficient lasting service.

## LUFKIN VERTICAL SWING TAKE-OFF

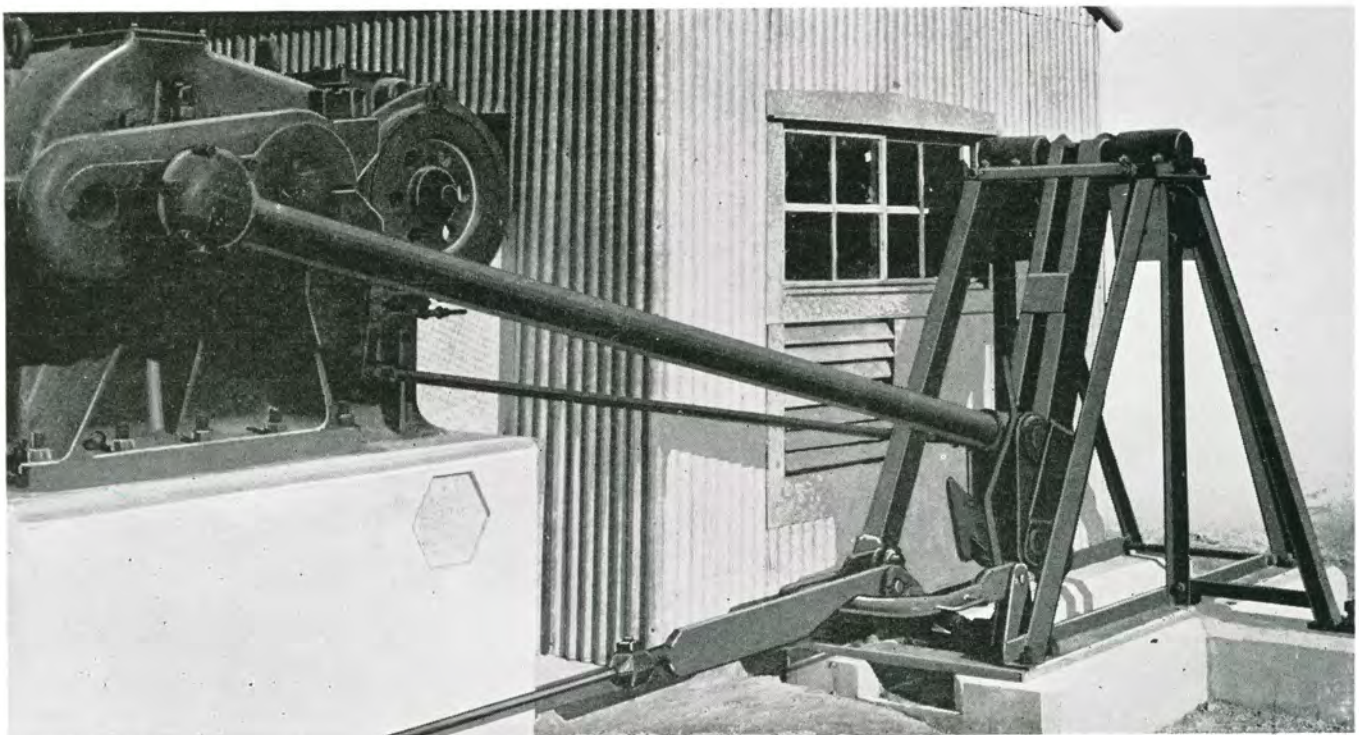


FIGURE 21

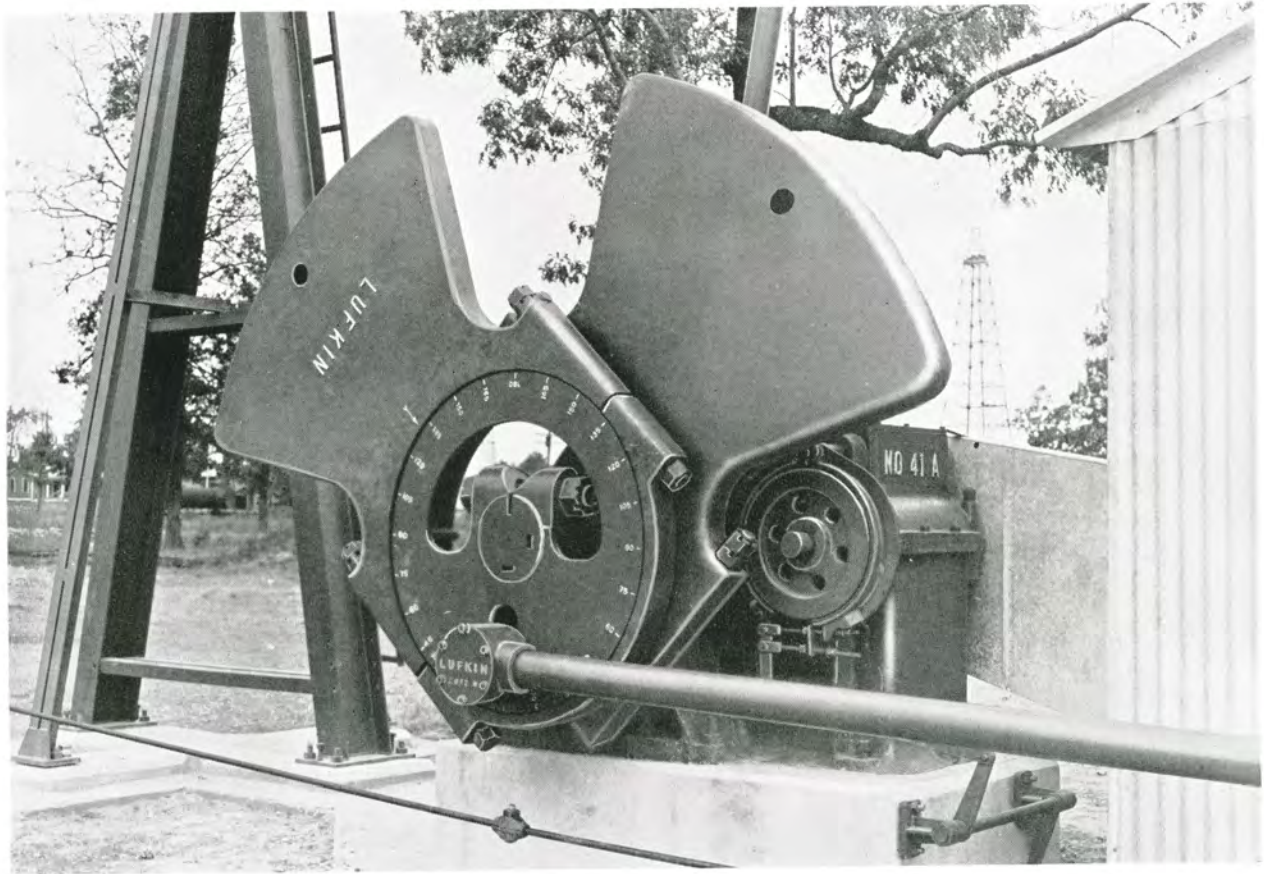


FIGURE 22

### LUFKIN COUNTERBALANCED BACK SIDE CRANK

The LUFKIN counterbalanced back side crank is equipped with two weights, either of which may be rotated 360° independently of each other. Any effective counterbalance from zero to maximum, or any degree of lead or lag is readily obtainable.

The counterweights and cranks are made of high-

test gray iron while the straps for the counterweights are of malleable iron.

The strokes obtainable are 20" and 30". The total weight of the crank with two counterweights is 4900 pounds.

The crank will give a maximum counterbalance of 7680 pounds at the 20" stroke and 5120 pounds at the 30" stroke.

LUFKIN FOUNDRY & MACHINE CO.

LUFKIN, TEXAS

OIL TIGHT—BRONZE BUSHED CENTER BEARING

Patents Pending

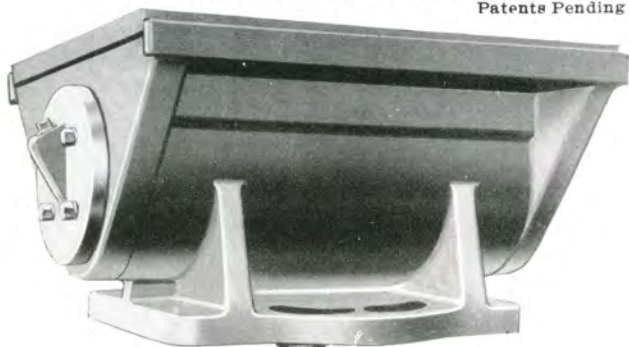


FIGURE 25

Series "A" Center Bearings are full Bronzoid bushed, with patent oil seals and are designed to allow beam to headache to about 40° either front or back and as usual with Lufkin center bearings, beams can be swung sideways about 25° from center line. We believe this is a superior bearing in every respect, being dust proof, oil tight with renewable bronzoid bushing. They have ample bearing surface.

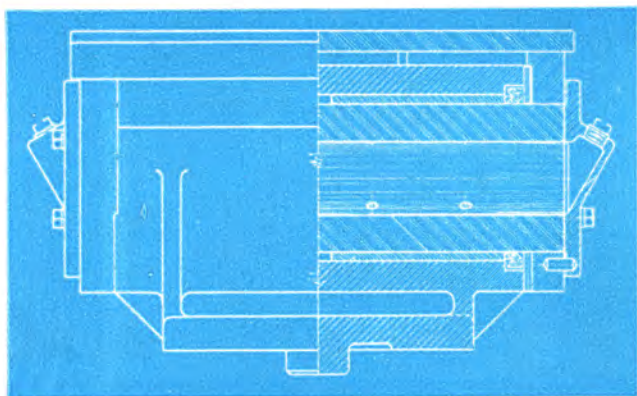


FIGURE 26

Center Bearing No.	Size Bearing	Where Used
1-AS .....	7" x 20"	TC No. 0-A and No. 1-A SC No. 100 & 200 Long Stroke
2 AS.....	6" x 17"	TC No. 2 and No. 2-A SC No. 300 & 400
3-AS.....	6" x 14"	TC No. 3 and No. 3-A
4-AS.....	5" x 10 1/2"	TC No. 44 TC No. 55

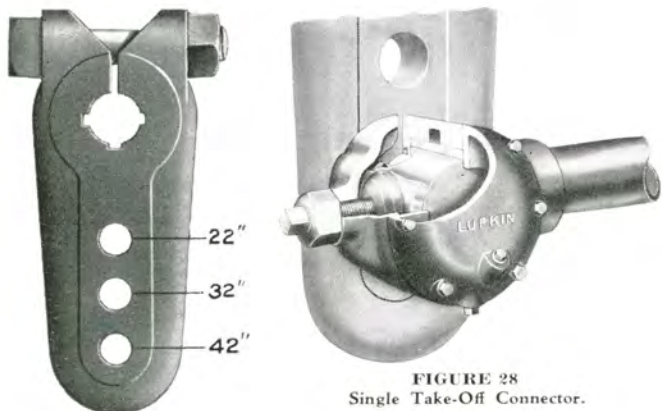


FIGURE 27

FIGURE 28  
Single Take-Off Connector.

LUFKIN BACK-SIDE CRANKS

- 3 Hole 42" stroke—Max. Bore 6-7/16"—No. 1910-W
- 3 Hole 36" stroke—Max. Bore 5-7/16"—No. 2059-W
- 3 Hole 30" stroke—Max. Bore 4-7/16"—No. 2060-W

BABBITED OIL BATH CENTER BEARINGS, SERIES B & C

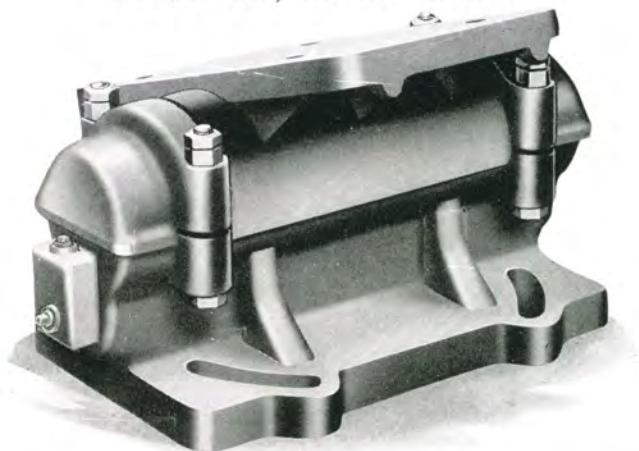


FIGURE 29

Series "B and C" Bearings listed below show our babbitted center bearings which are oil bath, but only reasonably dust proof, as blue print shows. This bearing is lined with a special high grade tin base metal to withstand the severe service of heavy loads and has ample oil capacity.

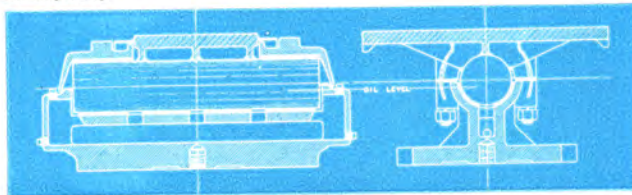


FIGURE 30

Center Bearing No.	Size Bearing	Where Used
1-B.....	5" x 24"	TC No. 1-A SC No. 300
2-B.....	5" x 18"	TC No. 2 and No. 2-A SC No. 400
2-C.....	5" x 24"	TC No. 2 and No. 2-A SC No. 400
3-B.....	4" x 18"	TC No. 3 TC No. 44 TC No. 55
3-C.....	5" x 18"	TC No. 3

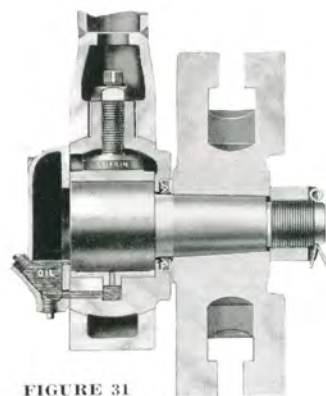


FIGURE 31

General characteristics of the new "Universal" pitman are:

1. One-third more bearing surface.
2. Bronzoid Bearings top and bottom, with adjustable top bearing.
3. Patented oil seal—no leaks. No head of oil against seal.
4. Both the interior of the strap and the exterior of the pitman box are machined, and thus insure alignment without possibility of binding.
5. The pitman bearing is adjustable when strap or shackle is removed, and may be tested by hand before shackle is re-applied.
6. Lufkin Universal pitmans are designed to pull or push—no lost motion.
7. Journal box is semi-steel; straps and shackles are of cast steel welded to extra heavy tubing.
8. Crank pins are forged alloy steel turned and ground.

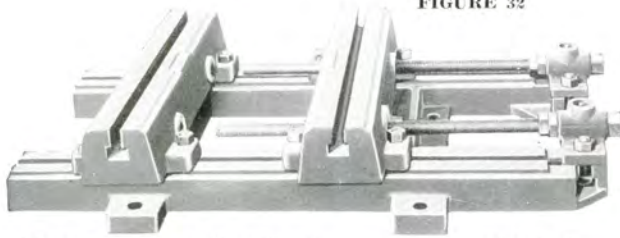
ROLLER BEARING PITMANS ARE FURNISHED WHEN DESIRED AT SLIGHT EXTRA COST.

LUFKIN FOUNDRY & MACHINE CO.

LUFKIN, TEXAS

UNIVERSAL RAILS—FOR MOTORS OR GAS ENGINES

FIGURE 32



Dimensions of 32" rails shown on blue print below

FIGURE 35

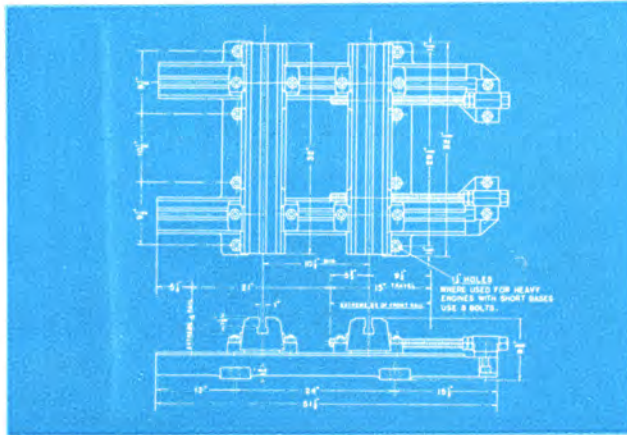
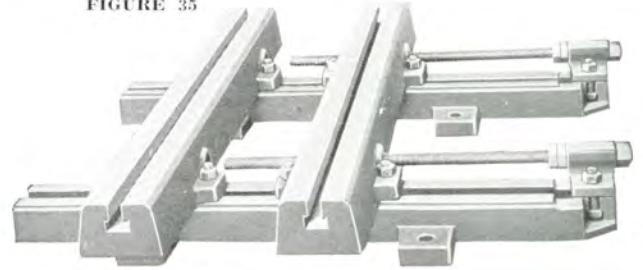


FIGURE 33

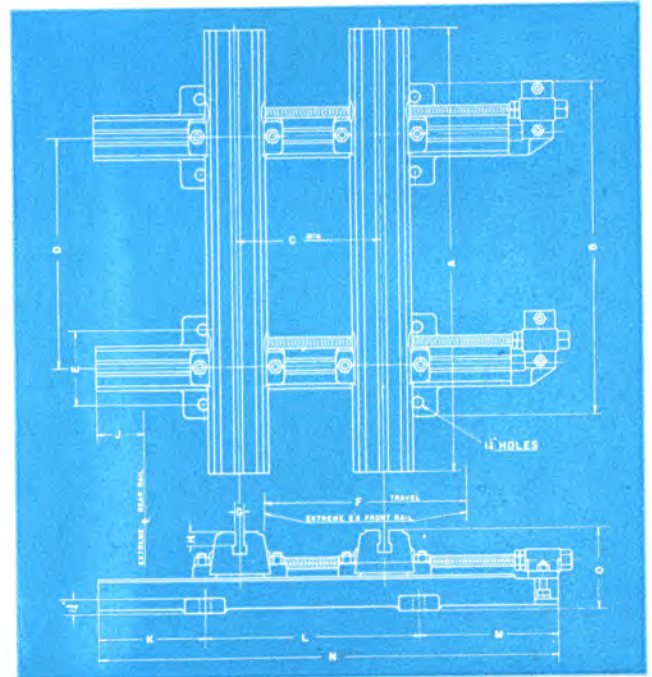


FIGURE 36

Universal rails are of heavy cast iron with machined tongue and groove fits, which with double adjusting screws assure perfect alignment. The substantial design of these rails assist in the elimination of vibration of all types of prime movers.

UNIVERSAL GAS ENGINE RAILS														
DESCRIPTION	A	B	C	D	E	F	G	H	J	K	L	M	N	O
50" ENG. RAILS	50"	37½"	10½"	26"	8½"	23½"	1"	1½"	5¼"	12"	24"	15½"	51½"	9½"
69" ENG. RAILS	69"	47½"	10½"	36"	8½"	38½"	1"	1½"	5¼"	12"	36"	15½"	63½"	9½"

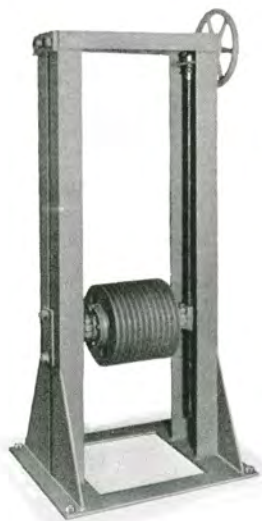


FIGURE 34

Lufkin Universal Belt Tightener is of all welded rigid construction. The sheave is raised or lowered by a hand wheel through machined miter gears to screws which turn in floating bronze nuts. The idler sheave is equipped with Timken Anti-friction bearings. One man can adjust this tightener easily and quickly by simply turning the hand wheel.

LUFKIN ARC-WELDED IMPROVED PUMP JACKS

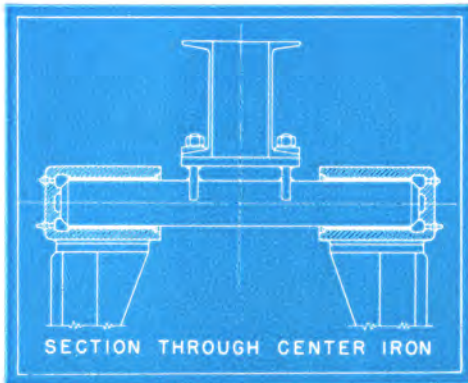


FIGURE 37

*Cross Section Showing Shaft and Bronzoid Bearings Oil Seals.*

THREE SIZES

No. 20 .....	20,000 Lb. Capacity
No. 17B .....	17,000 Lb. Capacity
No. 10B .....	10,000 Lb. Capacity

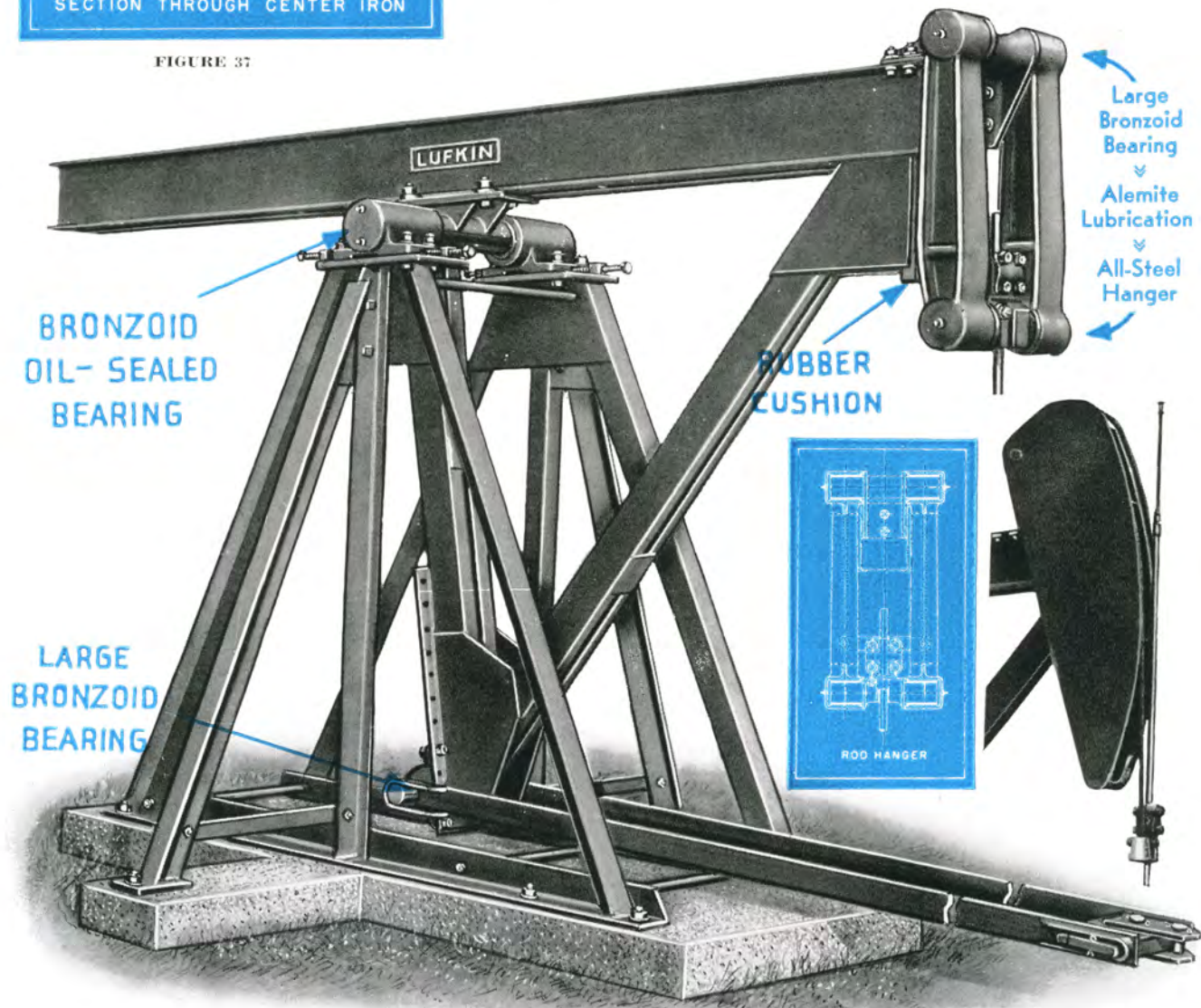


FIGURE 38

LUFKIN IMPROVED ARC-WELDED PUMP JACK

After years of experience and research Lufkin offers an improved design in jack construction that we believe will appeal to particular buyers of this class of equipment.

1. The whole structure has increased strength and rigidity.
2. Side frames and walking beams are unusually heavy and welded in jigs, with special care to secure ample welding area in all members.
3. Side frames have unusual spread and are well tied together top and bottom.
4. Pivot shafts are extra large and thoroughly welded to saddle.

5. Main bearings are oversize and Bronzoid bushed, with patented seals.
6. All-Steel hanger, that can be thrown over on top of jack; Bronzoid bushed bearings, Alemite lubricated and easily renewable.
7. Straight line action on polished rod is maintained. See diagram at right.
8. Lower adjustable beam bearings to pull rods are oversize and Bronzoid bushed with oil seals and are Alemite lubricated.
9. Foundation bolts and polished rod clamp are extra.
10. Lufkin jacks will convince and satisfy the most exacting individual looking for practical, substantial equipment with lowest maintenance cost.

LUFKIN FOUNDRY & MACHINE CO.

LUFKIN, TEXAS

LUFKIN ARC WELDED IMPROVED PUMP JACKS

ALL THREE SIZES OF LUFKIN JACKS CAN BE FURNISHED WITH HORSEHEADS THAT ARE BOLTED ON AND CAN BE READILY REMOVED WHEN CLEANING OUT WELL

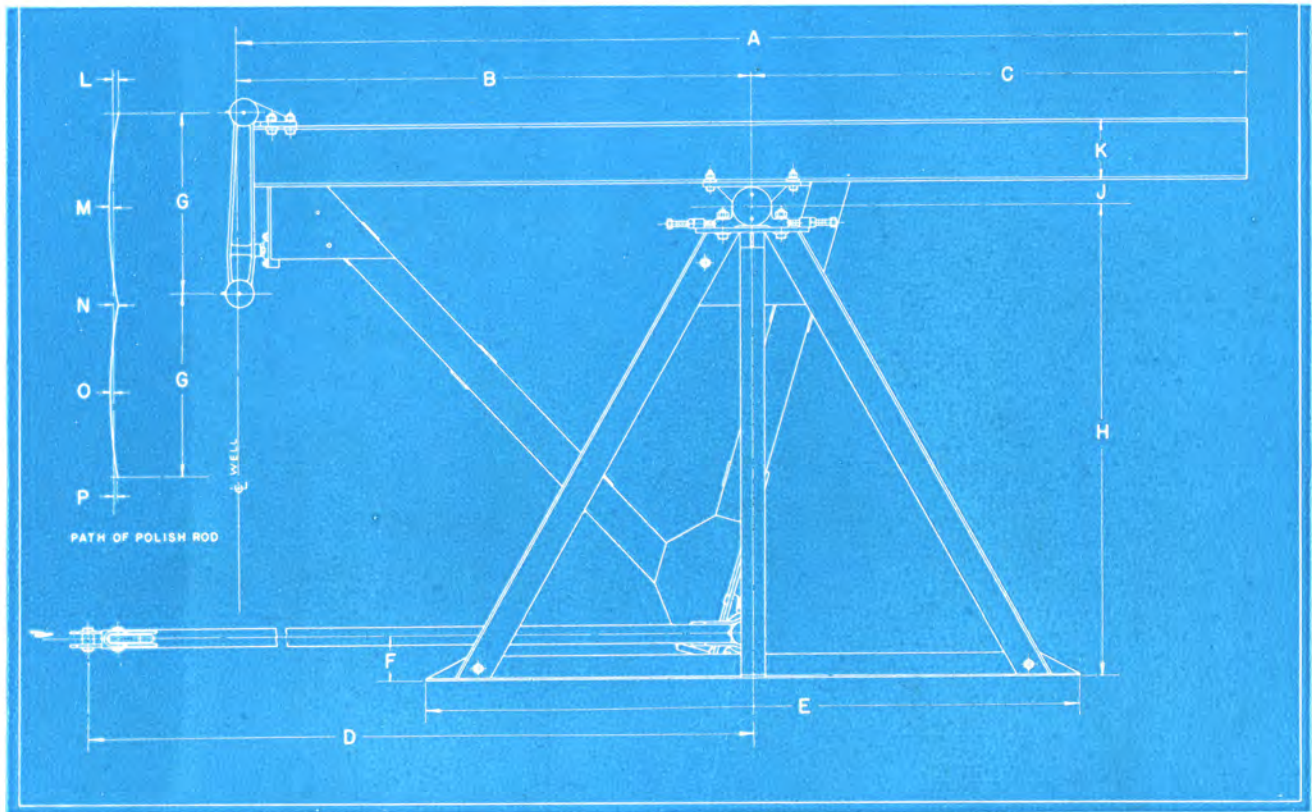


FIGURE 39

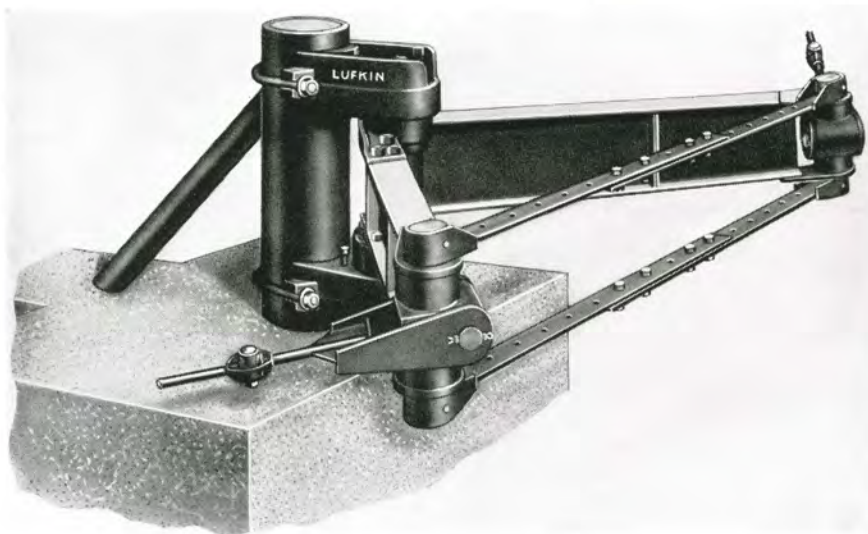
DIMENSION SHEET—LUFKIN PUMP JACKS

Jack No.	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P
10-B	12'-10"	6'-0"	6'-10"	10'-2½"	7'-11"	8"	2'-0"	5'-6"	3"	8"	½"	¾"	¾"	¾"	¼"
17-B	13'-9½"	7'-0"	6'-9½"	12'-3¾"	8'-11"	7¾"	2'-6"	6'-6"	4"	10"	½"	¾"	¾"	¾"	¼"
20	18'-0"	9'-0"	9'-0"	16'-0"	13'-0"	8"	3'-0"	7'-8"	5"	12"	1 1/8"	½"	¾"	½"	½"

GENERAL SPECIFICATIONS

	No. 10-B	No. 17-B	No. 20
Rated Polish Rod Load	10,000 Lbs.	17,000 Lbs.	20,000 Lbs.
Stroke	48"	60"	72"
Maximum Ratio Polish Rod to Pull Rod Stroke	1.71 to 1	1.70 to 1	1.66 to 1
Minimum Ratio Polish Rod to Pull Rod Stroke	1.24 to 1	1.19 to 1	1.29 to 1
Depth Walking Beam	8"	10"	12"
Diameter and Length Saddle Bearing	2 15/16" x 10 1/2"	3 15/16" x 15"	5 7/16" x 18"
Bearing Surface Saddle Bearing (Bronze)	31 Sq. In.	60 Sq. In.	97.9"
Bearing Surface on Hanger (Bronze)	16 Sq. In.	25 Sq. In.	41.25 Sq. In.
Base to Bottom of Hanger at Mid-Stroke	4'-5"	5'-2 1/2"	6'-1 1/16"
Stirrup Bearing Size	2 15/16" x 8"	3 15/16" x 10"	4 15/16" x 13 1/4"
Number and Size Foundation Bolts	8-1 1/4" x 24"	10-1 1/4" x 24"	14-1 1/4" x 24"

LUFKIN SURFACE EQUIPMENT



LUFKIN IMPROVED POST SWING

The bearings in the pivot shaft, which are 6½" diameter by 3" long, are bronze bushed and dust-proof with the vertical thrust running in an oil bath.

Rod line bearings are universal and are also bronze bushed and dust and oil tight. The swing is available for small or large angles.

FIGURE 40

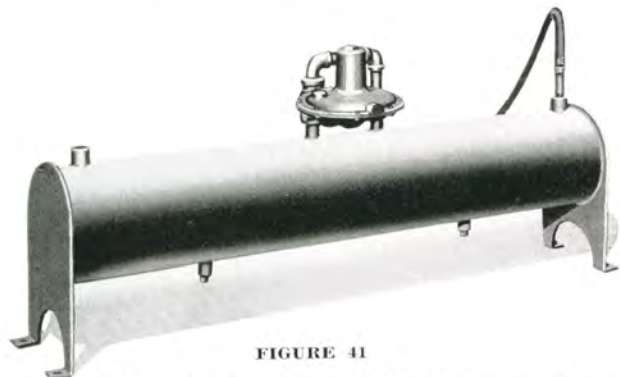


FIGURE 41

VOLUME TANK AND REGULATOR FOR GAS ENGINES

Double chamber volume tanks are usually furnished with multicylinder engines. They are carried in stock, fitted with Fisher regulators and flexible hose connection to engine as shown. The tank is 8" in diameter and 48" long with partition in center. They are well made and have ¾" pipe coupling connections. Center of tank to base is 10". The tank may also be used as a scrubber.



LUFKIN STROKE OR MULTIPLIER POST

This type post is commonly used when change in stroke is desired near unit. Take-off bearings on this post are bronze bushed, universal type. The lower bearings are interchangeable with Lufkin hold-up and hold-down.

FIGURE 42

LUFKIN KNOCK OUT POST

Lufkin knockoff posts are especially handy. Lifting weight lever knocks the well off; lifting double connection under hook (which is the extension from a twin crank unit in this case) automatically puts the well in operation. The same knock-off is used on central power and back-crank jobs. The knockout bar notches are on the upper edge allowing a smooth lower surface to ride on a renewable end grain wood block inserted in cast iron shoe and spreader plate.



FIGURE 43



LUFKIN FOUNDRY & MACHINE CO.

LUFKIN, TEXAS

LUFKIN POWERS

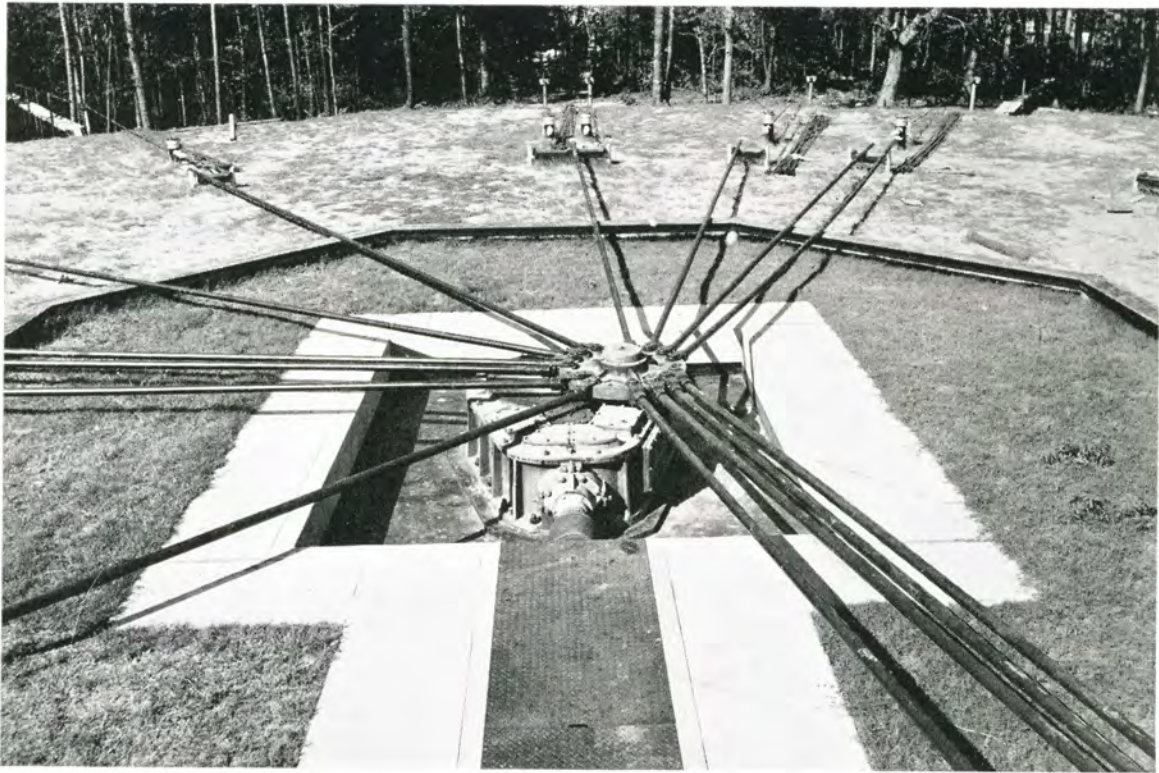


FIGURE 44

*Typical Lufkin Central Power Installation.*

The first modern geared central power ever installed was manufactured by Lufkin. A line of powers are available in horsepowers ranging from 40 to 150 in either helical or worm gear types.

For details, write for our special central power bulletin.

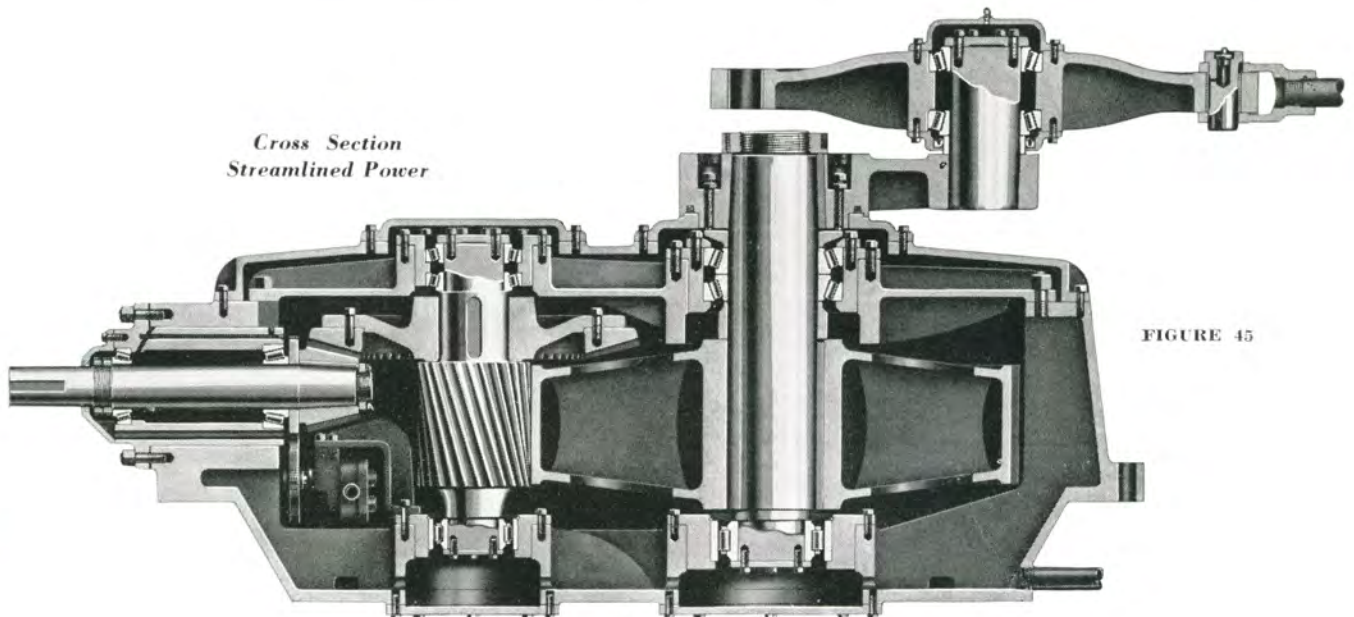
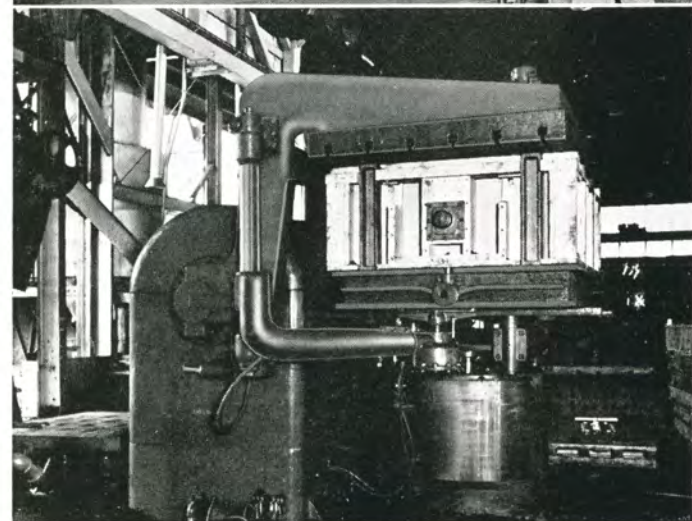
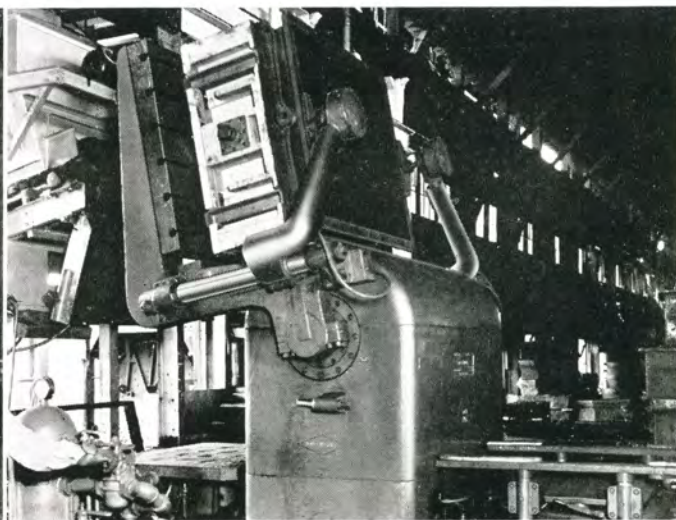
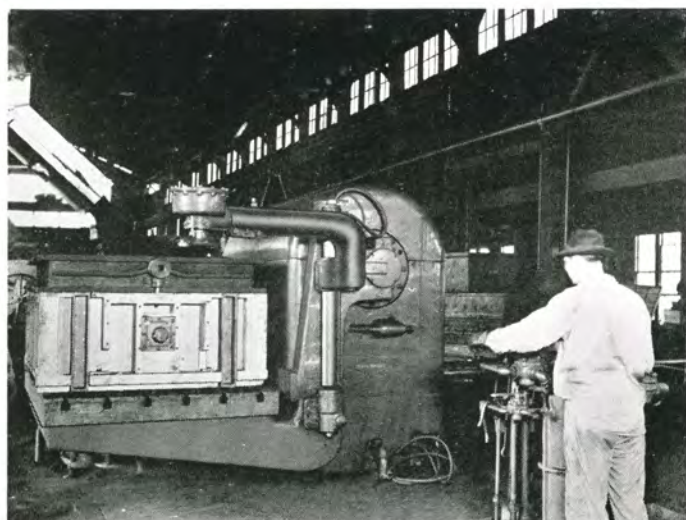


FIGURE 45



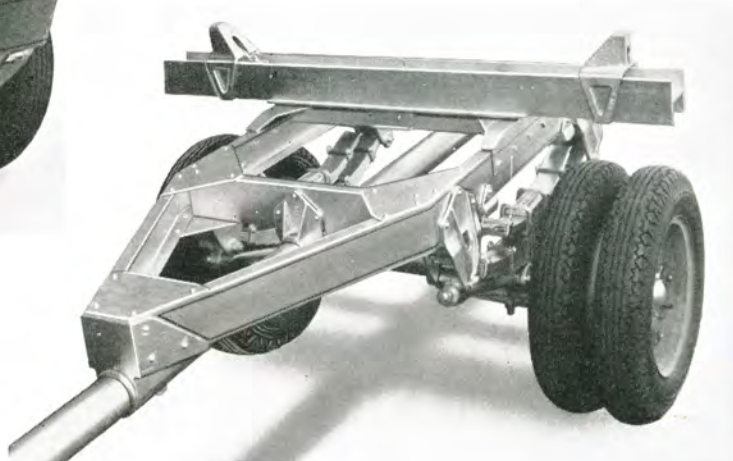
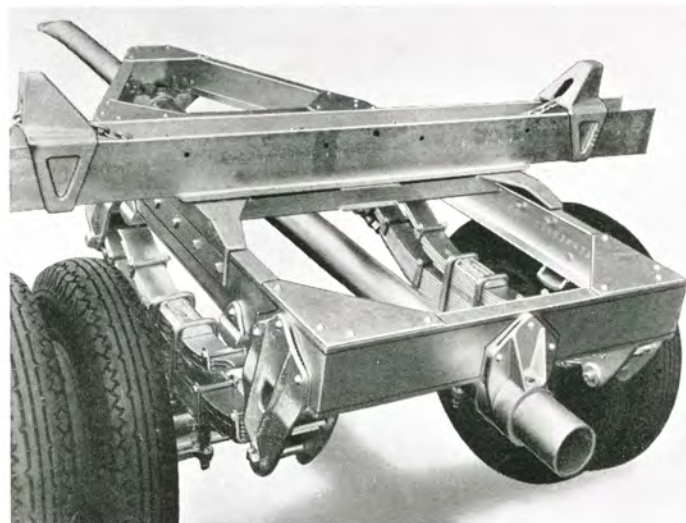
### MOULDING MACHINES

The above cut shows one of our moulding machines in operation. Our foundry is thoroughly modern with the newest machinery to insure the best quality of castings possible. All Lufkin iron castings are "Lufkaloy" alloy iron, exhibiting uniform density and solidity of grain structure throughout all metal sections regardless of their thickness. It possesses definite physical properties fully double those of unalloyed irons.

### LUFKIN PIPE AND POLE TRAILERS

Lufkin Pipe and Pole Trailers are designed especially for hauling pipe, steel beams, lumber, logs, piling, and other self-supporting materials.

This trailer is of all steel, electric welded and riveted construction, featuring slip-spring suspension and radius rod.



Equipment includes draw bar and fifth wheel with king pin of suitable size, adjustable chain block or stake socket optional at no increase in price. Electric or vacuum brakes can be furnished if desired.



# LUFKIN

EQUIPMENT OF ADVANCED DESIGN

