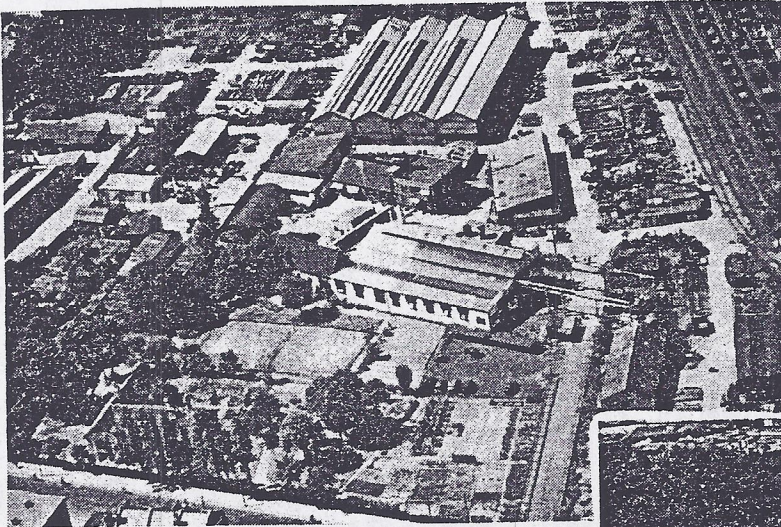


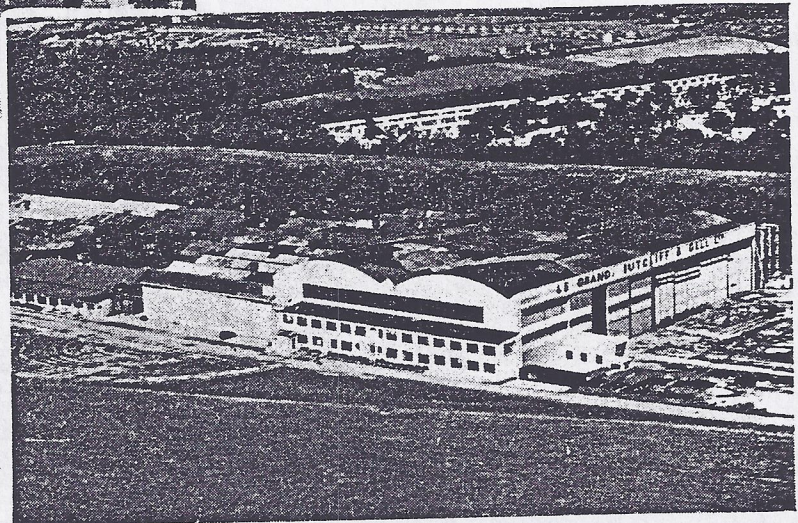


LE GRAND
OILFIELD EQUIPMENT MANUFACTURERS
Established 1877

LE GRAND



Southall Factory, Middlesex, England



Rochester Factory, Kent, England

OILFIELD EQUIPMENT

LE GRAND SUTCLIFF & GELL

LTD.

HEAD OFFICE:

SOUTHALL • MIDDLESEX • ENGLAND

TELEPHONE: SOUTHALL 2211 (7 LINES) TELEGRAMS: LEGRAND SOUTHALL
CABLEGRAMS: LEGRAND SOUTHALL. CODE: ABC 6th EDITION, BCM/LEGRAND

WORKS:

THE GREEN • SOUTHALL • MIDDLESEX • ENGLAND • TEL.: SOUTHALL 2211
HORSTED AIRPORT • ROCHESTER • KENT • ENGLAND • TEL.: CHATHAM 4626/7/8

ESTABLISHED 1872

LE GRAND SUTCLIFF & GELL LTD

GENERAL SPECIFICATION OF LE GRAND PUMPING UNITS

GENERAL CONSTRUCTION—Le Grand Pumping Units are of double crank fully equalized construction. The structure is arranged to knock down for shipment and to facilitate handling.

WALKING BEAMS—In accordance with A.P.I. Specification.

MULEHEADS—Welded plate construction of the Horsehead type. A special arrangement is provided to enable the Mulehead to be swung back, or removed, so giving full clearance for the Travelling Block.

EQUALIZING BEAMS—Pitmans and cranks are fully equalized by means of Equalizing Beams, the trunnions of which are constructed to pivot in spherical seatings, providing automatic adjustment giving correct alignment.

BEARINGS—The Saddle and Equalizer Beam bearings, according to unit type, consist of either needle bearings or hollow trunnions running in bronze bushes designed to a generous safety factor.

LUBRICATION—Saddle, Equalizer and Crank Pin bearings are lubricated individually. Hollow trunnions in use with the bronze bearings in Saddle and Equalizer bearings act as reservoirs for lubricating oil. The same oil specification i.e. S.A.E. 90 is used for all working components of the Unit, including the Gear Box.

CRANK OR WRIST PINS—The Crank Pins are of the Le Grand Patented quick release construction incorporating split tapered sleeves, making removal exceptionally easy and eliminating any difficulty in the Field when occasion arises to alter the Polished Rod stroke. The Crank Pins run in self-aligning anti-friction bearings.

CRANKS—Crankes are constructed with split crank shaft bosses to facilitate easy assembly.

BALANCE WEIGHTS—Balance weights are designed for easy handling and adjustment.

GEAR BOXES—These are Double Helical Double Reduction designed to A.P.I. specification. The Crank Shafts are arranged with three keyways so that the spur wheels can be brought into different positions when required in order to

spread any wear. This arrangement has the effect of trebling the life of the Gear Boxes. Electric motors can operate from under the Samson Post, or, like the internal combustion engine, run from the rear position. All bearings are of the ball or roller type and oil lubricated. Dipstick oil level indicators are provided and are accommodated in the breather aperture.

Pentagonal recessed drain plugs are fitted in order to make the removal of the oil from the Gear Box by unauthorized persons extremely difficult. Special tools are supplied for removing the Plugs.

BRAKES—Brakes are of the quick action lever type, and are arranged for remote control operating from the rear of Samson Post.

MOTORS—Units are normally arranged for motors of 960 r.p.m., but alternative speeds can be accommodated by variation of pulley size.

MOTOR SLIDE RAILS—These are fully adjustable and cover a large range of motor foundations.

PULLEYS—Pulleys fitted to the input shafts of the Gear Boxes are arranged for A.P.I. Standard Vee Belts.

BELTS—Belts can be supplied other than standard to suit special requirements.

BELT GUARDS—Welded sheet steel construction to suit prime mover requirements.

LADDERS—Supplied with the larger Units to give access to overhead moving parts. Can be fixed to either side of Samson Post with Safety Rings incorporated.

PACKING FOR SHIPMENT—All units are designed for breaking down into compact components, in order to economize in shipping space. Parts are adequately protected by paint and anti-rust compound, and are packed in strong cases or crates so as to eliminate damage during ocean shipment. Packing is so arranged to provide for easy handling in the fields.

ADDITIONAL FEATURES

CARRIER BARS—The Le Grand Patented Carrier Bars are of cast steel construction with a clamping arrangement for Mulehead wire line slings. The Carrier Bars are easily placed on the Polished Rod or removed as required by means of the angular slot provided for this purpose.

MULEHEAD SLINGS—Non-spinning type cable is used to eliminate any tendency of the Carrier Bar to rotate thereby preventing the unscrewing of sucker rods.

LE GRAND SUTCLIFF & GELL LTD

TECHNICAL SPECIFICATIONS OF

	4/24	6/24	7/30	10/42	10/42
	B.C.	B.C.	B.C. Mk. 1	C.C. Mk. IV	C.C. Mk. V
Maximum Polished Rod Load ... (lbs.)	4,000	6,000	7,000	10,000	10,000
Range of Polished Rod Strokes ... (ins.)	12, 14, 16, 18, 20, 22 and 24	12, 14, 16, 18, 20, 22 and 24	15, 20, 25 and 30	21, 28, 35 and 42	21, 28, 35 and 42
Walking Beam—Size Rating A.P.I. ... (ins.)	8 x 6 6,850	8 x 6 6,850	9 x 7 10,000	12 x 8 12,900	12 x 8 12,900
Base—Width at Cross Front Member ... (ft. ins.)	1-6½	1-6½	1-9¼	3-1¼	3-1¼
Width at Reducer ... (ft. ins.)	1-6½	1-6½	1-9¼	1-9¼	1-9¼
Length ... (ft. ins.)	7-2	7-2	13-6	10-1½	15-9¼
Working Centres—Well End ... (ft. ins.)	3-6	3-6	4-4	5-3	5-3
Pitman End ... (ft. ins.)	3-6	3-6	4-4	5-3	5-3
Height to Saddle Bearing ... (ft. ins.)	5-3	5-3	6-11¼	8-6	8-6
Wire Line Sling Diameter ... (ins.)	5/8	3/4	1	1	1
Pitman (Double Fully Equalizing) ...					
Wrist Pin—Self-aligning ... Type	Ball	Ball	UMS.16 Ball	SKF.22312 Roller	SKF.22312 Roller
Saddle—Bearing ... Type	Leaded Bronze	Leaded Bronze	Leaded Bronze	Leaded Bronze	Leaded Bronze
Equalizer ² —Bearing ... Type	Leaded Bronze	Leaded Bronze	Leaded Bronze	Leaded Bronze	Leaded Bronze
Crank ...	Trout	Trout	Trout	Trout	Trout
Type of Counter Balance ...	Beam	Beam	Beam	Crank	Crank
Master Crank Weights ... (No.)	—	—	—	4	4
(lbs. each)	—	—	—	640	640
Auxiliary Crank Weights (Set) ... (No.)	—	—	—	4	4
(lbs. each)	—	—	—	290	290
Slab Weights (8 sets of 4 each) ... (No.)	—	—	—	—	—
(lbs. each)	—	—	—	—	—
Weight of Beam Weights (Set) ... (No.)	9	13	15	—	—
(lbs. each)	220	220	220	—	—
Maximum Counterbalance Effect at Maximum Stroke ... (lbs.)	3,195	4,691	5,195	7,408	7,408
Provision for Bell Crank ...	No	No	Yes	Yes	Yes
A.P.I. Horse Power Rating at 20 S.P.M. ...	2.5	4.1	7.0	11.1	11.1
Foundation Bolts (Patented Indented Type) ... (Size—ins.)	¾	¾	¾	¾	¾
Total Weight of Unit ... (lbs.)	4,567	5,798	7,500	8,700	9,100
Reducer—Rating at 20 S.P.M. ... (lbs./ins.)	12,000	20,000	35,000	55,000	55,000
Gears (Double Helical) Double Reduction ... (Ratio)	30-1	30-1	25-1	30-1	30-1
Crank Shaft Diameter ... (ins.)	2¼	2¼	3¾	4¾	4¾
Input Pulley P.C.D.—Number and Size of Belts	(ins.) 19	(ins.) 19	(ins.) 21	(ins.) 21	(ins.) 21
(No.)	2—"B"	3—"B"	3—"B"	5—"B"	5—"B"
Weight, including Brake and Pulley ... (lbs.)	783	870	1,239	1,471	1,471

Works: SOUTHALL, MIDDLESEX & ROCHESTER, KENT, ENGLAND

LE GRAND SUTCLIFF & GELL LTD

EXPLANATION OF UNIT DESIGNATION

Le Grand units are designated by a combination of letters and numerals which are explained as follows: 4/24. The numeral '4' represents maximum polished rod load in thousands of pounds and '24' represents the maximum polished rod stroke in inches—BC Indicates Beam Counterbalance—CC Indicates Crank or rotary Counterbalance—BCC Indicates Beam & Crank or rotary counterbalance—Any modification to a standard unit is indicated by a mark number.

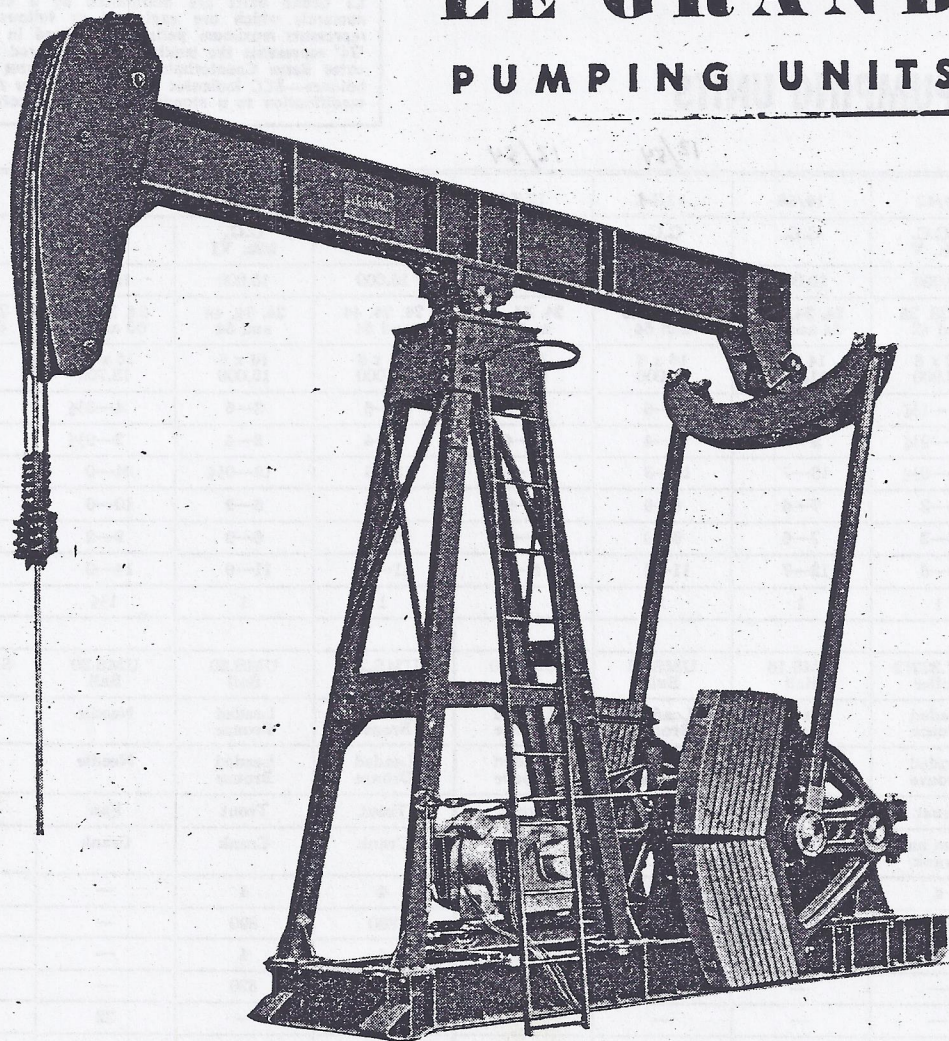
LE GRAND PUMPING UNITS

12/54 12/54

10/42	10/42	10/60	12/54	12/54	15/54	15/54	15/72	20/72	25/72
B.C.C. Mk. IV	B.C.C. Mk. V	C.C.	C.C.	C.C. Mk. I	C.C. Mk. V	C.C. Mk. VI	G.C.	C.C.	C.C.
10,000	10,000	10,000	12,000	12,000	15,000	15,000	15,000	20,000	25,000
21, 28, 35 and 42	21, 28, 35 and 42	24, 34, 44, 54 and 60	24, 34, 44 and 54	24, 34, 44 and 54	24, 34, 44 and 54	24, 34, 44 and 54	24, 36, 48, 60 and 72	24, 36, 48, 60 and 72	24, 36, 48, 60 and 72
12 x 8 12,900	12 x 8 12,900	14 x 8 11,175	16 x 8 15,000	16 x 8 15,000	16 x 8 15,000	16 x 8 15,000	16 x 12 15,700	20 x 12 25,000	20 x 12 25,000
3-1 1/4	3-1 1/4	3-5	3-6	3-6	3-6	3-6	4-3 1/2	4-5	4-5
1-9 1/4	1-9 1/4	2-4	2-4	2-4	2-4	2-4	2-9 1/2	2-9 1/2	2-9 1/2
10-1 1/2	15-9 1/2	13-7	13-3	19-0 5/8	13-3	19-0 5/8	24-0	25-11	25-11
5-3	5-3	7-6	6-9	6-9	6-9	6-9	10-0	10-0	10-0
5-3	5-3	7-6	6-9	6-9	6-9	6-9	9-2	10-0	10-0
8-6	8-6	12-7	11-6	11-6	11-6	11-6	14-0	15-7	15-7
1	1	1	1	1	1	1	1 1/8	1 1/4	1 1/4
SKF.22312 Roller	SKF.22312 Roller	UMS.16 Ball	UMS.20 Ball	UMS.20 Ball	UMS.20 Ball	UMS.20 Ball	UMS.20 Ball	SKF.22320 Roller	SKF.22320 Roller
Leaded Bronze	Leaded Bronze	Leaded Bronze	Leaded Bronze	Leaded Bronze	Leaded Bronze	Leaded Bronze	Needle	Needle	Needle
Leaded Bronze	Leaded Bronze	Leaded Bronze	Leaded Bronze	Leaded Bronze	Leaded Bronze	Leaded Bronze	Needle	Needle	Needle
Trout	Trout	Trout	Trout	Trout	Trout	Trout	Fan	Fan	Fan
Beam and Crank	Beam and Crank	Crank	Crank	Crank	Crank	Crank	Crank	Crank	Crank
4	4	4	4	4	4	4	—	—	—
640	640	1,099	760	760	890	890	—	—	—
—	—	—	4	4	4	4	—	—	—
—	—	—	460	460	520	520	—	—	—
—	—	—	—	—	—	—	32	32	36
—	—	—	—	—	—	—	660	217	217
15	15	—	—	—	—	—	—	—	—
112	112	—	—	—	—	—	—	—	—
7,977	7,977	7,092	8,655	8,655	9,845	9,845	10,391	14,710	16,250
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11-1	11-1	28-3	19-8	19-8	28-3	28-3	37-1	40-4	66-0
7/8	7/8	7/8	7/8	7/8	7/8	7/8	1	1 1/4	1 1/2
9,500	9,850	10,970	15,080	15,580	16,000	16,600	28,500	33,240	37,350
55,000	55,000	140,000	98,000	98,000	140,000	140,000	200,000	200,000	330,000
30-1	30-1	30-1	30-1	30-1	30-1	30-1	30-1	30-1	30-1
4 3/4	4 3/4	6	5 1/2	5 1/2	6	6	6 1/2	6 1/2	7 1/2
21	21	24 1/4	24 1/4	24 1/4	24 1/4	24 1/4	30	40	40
5-"B"	5-"B"	5-"C"	4-"C"	4-"C"	5-"C"	5-"C"	5-"C"	5-"C"	5-"C"
1,471	1,471	3,856	2,986	2,986	3,856	3,856	5,927	5,927	8,623

LE GRAND SUTCLIFF & GELL LTD

LE GRAND PUMPING UNITS



25/72 CC MODEL

330,000 Lbs. Ins. Peak Torque
25,000 Lbs. Polished Rod Load
24", 36", 48", 60", 72" Polished Rod Strokes

Illustrating the latest models of typical standard "LEGRAND" Pumping Units, built after extensive study, research, and manufacturing experience.

The Units are designed and constructed to give long, reliable, and uninterrupted service. The simplified design incorporates features con-

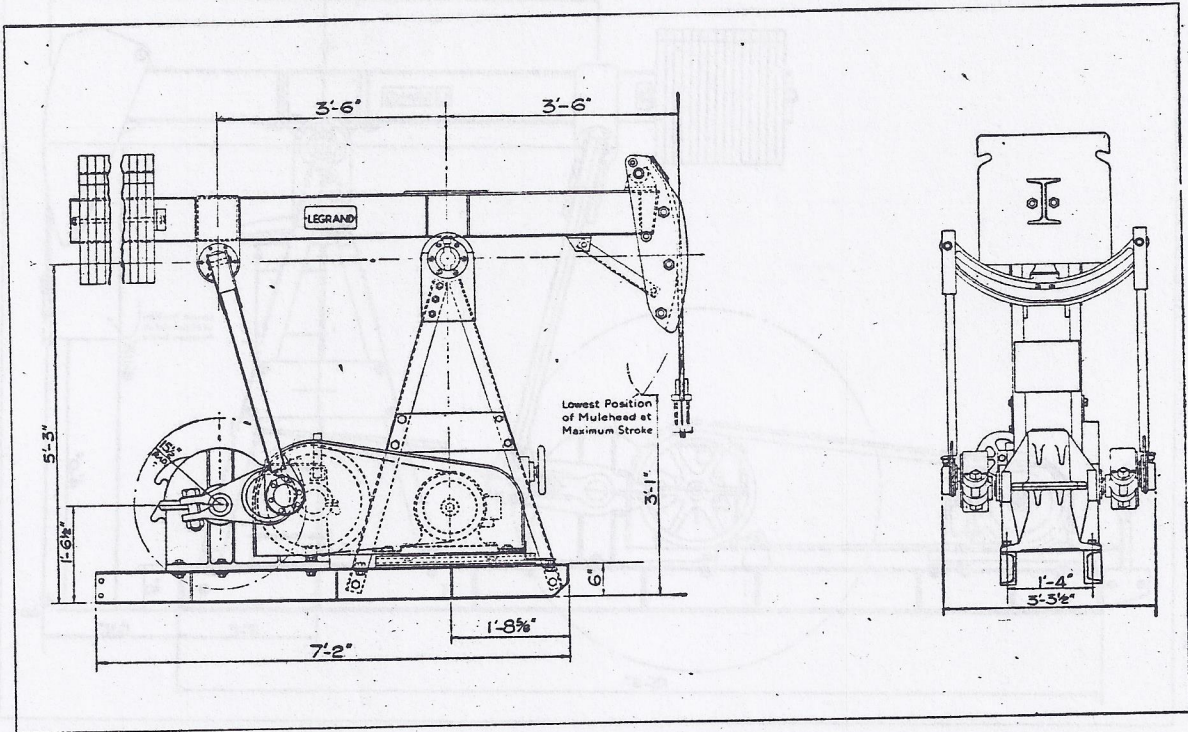
sistent with Field Engineer requirements under the variable working conditions found in Oil Fields all over the world.

Our Field Representatives are in the closest touch with Field Engineers and no time is lost in incorporating from the experience so gained, the latest and most modern features required to meet continually changing Field conditions.

Works: SOUTHALL, MIDDLESEX & ROCHESTER, KENT, ENGLAND

LE GRAND SUTCLIFF & GELL LTD

6/24 BC PUMPING UNIT SPECIFICATION



TECHNICAL SPECIFICATION

Maximum Polished Rod Load	...	...	...	...	...	lbs.	6,000
Walking Beam A.P.I. Rating	...	...	...	...	...	lbs.	6,850
Polished Rod Strokes	...	...	...	...	...	ins.	12, 14, 16, 18, 20, 22, 24
Reduction Gear:							
A.P.I. Peak Torque Rating at 20 S.P.M.	...	...	...	...	...	lbs. ins.	20,000
Gears	...	...	...	...	...		Double Helical
Ratio (Double Reduction)	...	...	...	...	...		30-1
Reduction Gear Weights with Brake and Pulley	...	...	...	...	...	lbs.	870
Crankshaft Diameter	...	...	...	...	...	ins.	2 3/4
Input Pulley P.C.D.	...	...	...	...	...	ins.	19
Number and Size of Belts	...	...	...	...	...		3-'B'

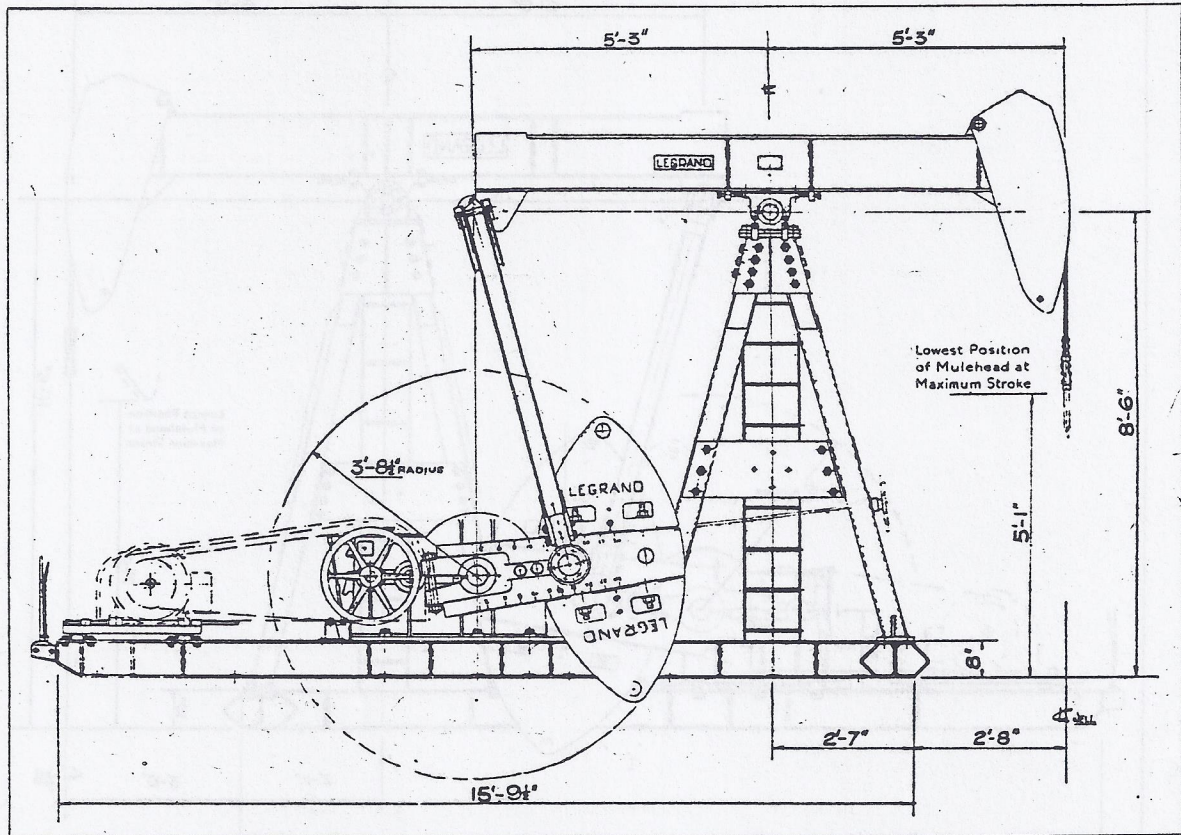
COUNTERBALANCE

No. of Weights	Total Counter Balance Effect, Lbs.	No. of Weights	Total Counter Balance Effect, Lbs.
0	377	7	2,862
1	750	8	3,187
2	1,122	9	3,504
3	1,486	10	3,813
4	1,842	11	4,114
5	2,190	12	4,407
6	2,530	13	4,691

Balance Weights: Weight each, 220 lbs.
 Total Weight per Set (13 Weights), 2,860 lbs.

LE GRAND SUTCLIFF & GELL LTD

10/42 CC MK V PUMPING UNIT SPECIFICATION



TECHNICAL SPECIFICATION

Maximum Polished Rod Load	...	...	...	...	...	lbs.	10,000
Walking Beam A.P.I. Rating	...	...	...	...	...	lbs.	12,900
Polished Rod Strokes	...	...	...	...	...	ins.	21, 28, 35, 42
Reduction Gear A.P.I. Peak Torque Rating at 20 S.P.M.	...	...	...	...	...	lbs. ins.	55,000
Gears	...	...	...	...	...		Double Helical
Ratio (Double Reduction)	...	...	...	...	...		30-1
Reduction Gear Weight (with Brake and Pulley)	...	...	...	...	...	lbs.	1,471
Crankshaft Diameter	...	...	...	...	...	ins.	4 3/4
Input Pulley P.C.D.	...	...	...	...	...	ins.	21
Number and Size of Belts	...	...	...	...	...		5-'B'

COUNTERBALANCE

						Main Weights Only	Main Weights and Auxiliary Weights
Max. Effect at 21" Stroke	...	...	...	...	...	lbs. 11,252	14,566
Max. Effect at 28" Stroke	...	...	...	...	...	lbs. 8,501	10,987
Max. Effect at 35" Stroke	...	...	...	...	...	lbs. 6,851	8,839
Max. Effect at 42" Stroke	...	...	...	...	...	lbs. 5,751	7,408

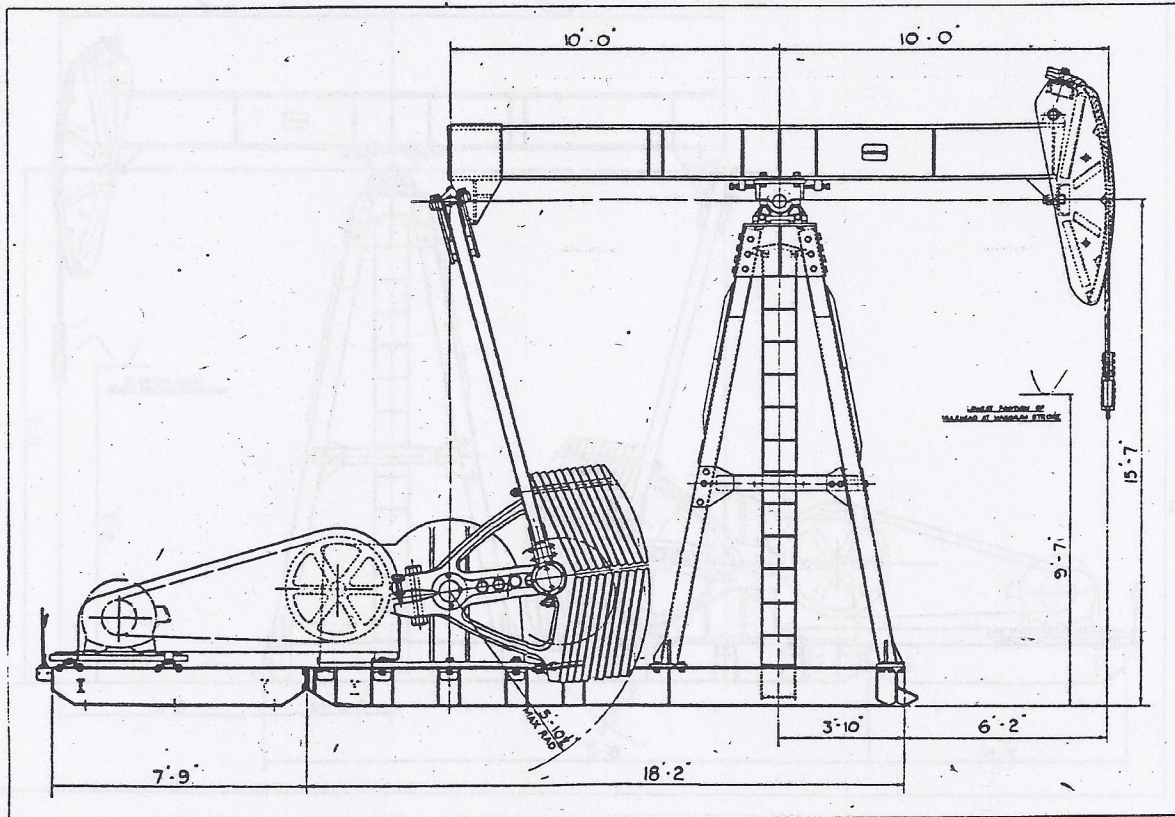
Cranks: Weight each 1,210 lbs.

Balance Weights: Main Weights each 640 lbs.

Auxiliary Weights each 290 lbs.

LE GRAND SUTCLIFF & GELL LTD

20/72 CC PUMPING UNIT SPECIFICATION



TECHNICAL SPECIFICATION

Maximum Polished Rod Load	...	...	...	...	...	lbs.	20,000
Walking Beam A.P.I. Rating	...	...	...	...	...	lbs.	25,000
Polished Rod Strokes	...	...	...	...	...	ins.	24, 36, 48, 60, 72
Reduction Gear A.P.I. Peak Torque Rating at 20 S.P.M.	...	...	...	...	...	lbs. ins.	200,000
Gears	...	...	...	...	...	...	Double Helical
Ratio (Double Reduction)	...	...	...	...	...	...	30—1
Reduction Gear Weight (with Brake and Pulley)	...	...	...	...	...	lbs.	5,927
Crankshaft Diameter	...	...	...	...	...	ins.	6½
Input Pulley P.C.D.	...	...	...	...	...	ins.	40
Number and Size of Belts	...	...	...	...	...	...	5—'C'

COUNTERBALANCE

Max. Effect at 24" Stroke	...	...	...	...	...	lbs.	40,733
Max. Effect at 36" Stroke	...	...	...	...	...	lbs.	28,210
Max. Effect at 48" Stroke	...	...	...	...	...	lbs.	21,430
Max. Effect at 60" Stroke	...	...	...	...	...	lbs.	17,410
Max. Effect at 72" Stroke	...	...	...	...	...	lbs.	14,710

Cranks: Weight each 2,600 lbs.

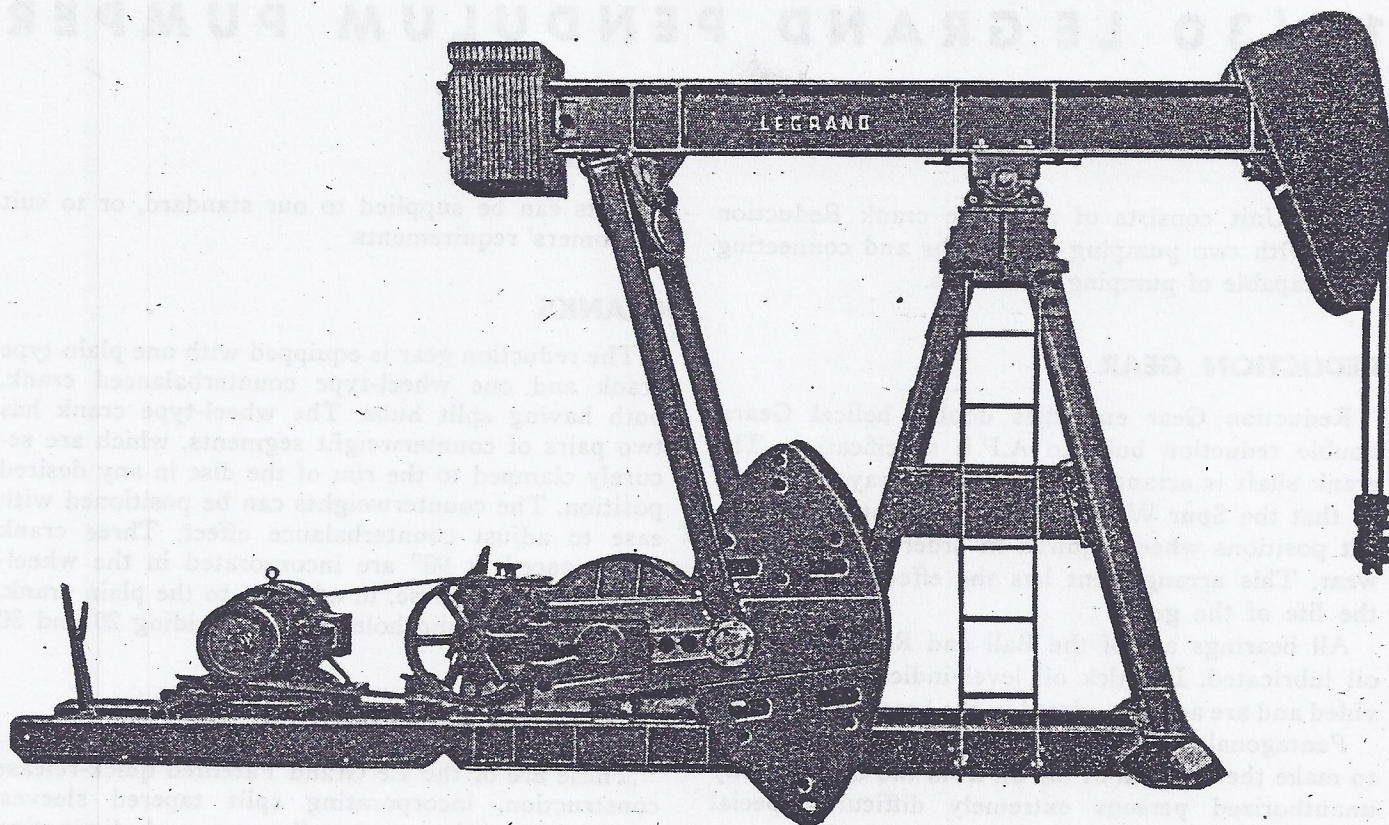
Balance Weights: Weight each 217 lbs.

End Pieces: 300 lbs. each

Total Weight—8 Sets: 6,944 lbs.

Works: SOUTHALL, MIDDLESEX & ROCHESTER, KENT, ENGLAND

LE GRAND SUTCLIFF & GELL LTD



10/42 BCC MK V MODEL

55,000 Lbs. Ins. Peak Torque

10,000 Lbs. Polished Rod Load

21", 28", 35" and 42" Polished Rod Strokes

Illustrating the latest models of typical standard "LEGRAND" Pumping Units, built after extensive study, research, and manufacturing experience.

The Units are designed and constructed to give long, reliable, and uninterrupted service. The simplified design incorporates features con-

sistent with Field Engineer requirements under the variable working conditions found in Oil Fields all over the world.

Our Field Representatives are in the closest touch with Field Engineers and no time is lost in incorporating from the experience so gained, the latest and most modern features required to meet continually changing Field conditions.

Works: SOUTHALL, MIDDLESEX & ROCHESTER, KENT, ENGLAND

LE GRAND SUTCLIFF & GELL LTD

15 / 30 LE GRAND PENDULUM PUMPER

UNIT

The Unit consists of a double crank Reduction Gear with two pumping pendulums and connecting rods capable of pumping four wells.

REDUCTION GEAR

Reduction Gear embodies double, helical Gears, double reduction built to A.P.I. specification. The crank shaft is arranged with two keyways each end so that the Spur Wheels can be brought into different positions when required in order to spread any wear. This arrangement has the effect of doubling the life of the gears.

All bearings are of the Ball and Roller type and oil lubricated. Dipstick oil level indicators are provided and are accommodated in the breather aperture.

Pentagonal recessed drain plugs are fitted in order to make the removal of the oil from the Gear Box by unauthorized persons extremely difficult. Special spanners are supplied for removing the plugs.

MOTORS

Units are normally arranged for motors of 960 r.p.m., but alternative speeds can be accommodated by variation of the pulley size.

MOTOR SEATING

Motor seating is fully adjustable to cover a large range of motor bases. It consists of universal slide rails.

PULLEYS

A Vee belt pulley is fitted to the input shaft of the gear box, and is arranged to carry the desired number and size of belts. Motor pulley is supplied only by request, and is arranged to give the required output speed.

VEE BELTS

Belts can be supplied to our standard, or to suit Customers' requirements.

CRANKS

The reduction gear is equipped with one plain type crank and one wheel-type counterbalanced crank, both having split hubs. The wheel-type crank has two pairs of counterweight segments, which are securely clamped to the rim of the disc in any desired position. The counterweights can be positioned with ease to adjust counterbalance effect. Three crank arms spaced at 90° are incorporated in the wheel-type crank and these, in addition to the plain crank, have two wrist pin holes each, providing 20 and 30 inch strokes.

WRIST PIN

These are of the Le Grand Patented quick-release construction, incorporating split tapered sleeves, making removal exceptionally easy, and eliminating any difficulty in the field when occasion arises to alter the pull line travel.

They run in self-aligning double row ball bearings housed in the connecting rod ends.

PENDULUM FRAME

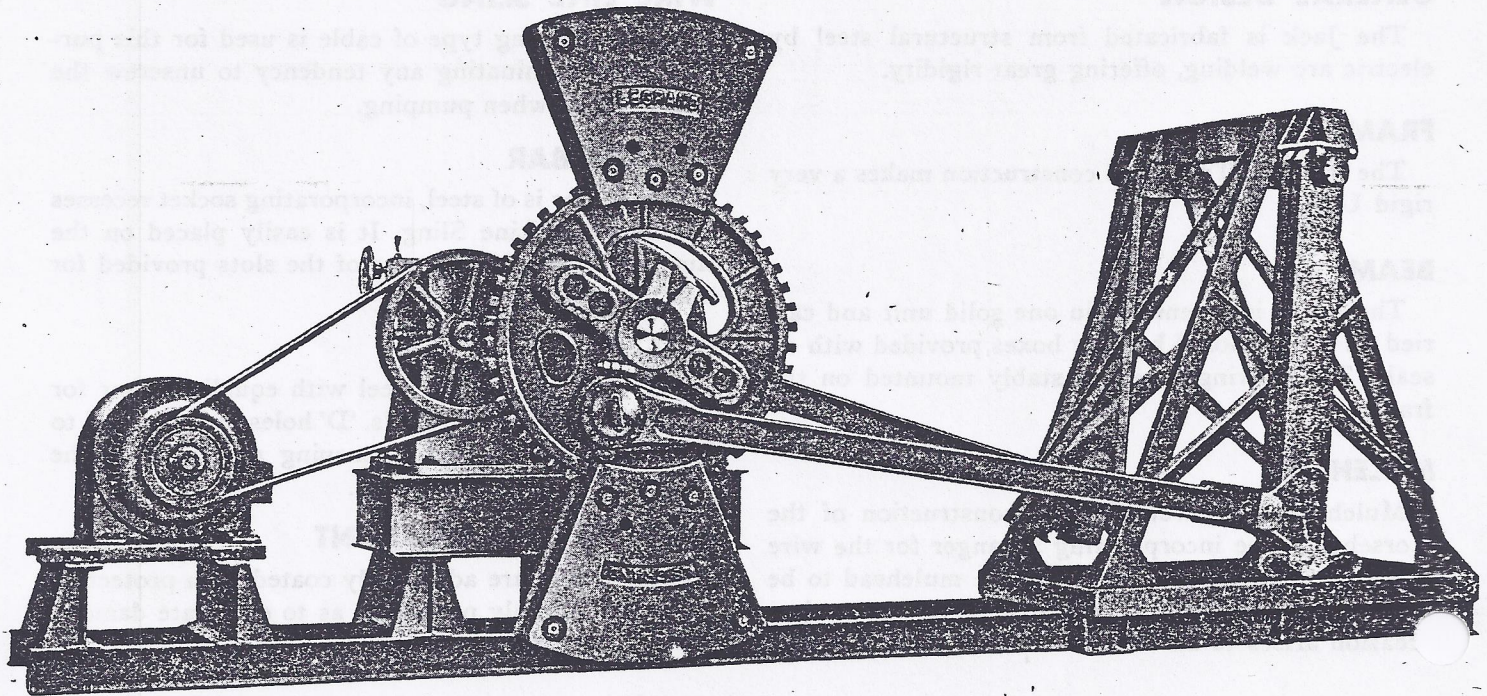
The frame is a sturdy all-welded steel construction of double 'A' design, assuring a stable and rigid support for the moving parts. The pendulum arms are suspended from needle oil lubricated bearings in sealed weatherproof housings bolted to the supporting frame. The pendulum arms and connecting rods are joined together by needle type bearings. These bearings are incorporated in sealed weatherproof housings and are oil lubricated.

PULL-ROD CONNECTION

This is a chrome molybdenum steel casting fitted with needle bearings and provided with two hooks to link pendulums to the pull lines.

LE GRAND SUTCLIFF & GELL LTD

15/30 PENDULUM PUMPER



GENERAL SPECIFICATION

Type 15/30 Pendulum Pumping Unit	Underpull
Maximum Out of Balance Load each Pendulum.....	4,900 lbs. at 20" Stroke 3,266 lbs. at 30" Stroke
Crank Strokes.....	18" and 27"
Pull Line Strokes.....	20" and 30"
Reduction Gear Peak Torque.....	98,000 lbs. in.
Reduction Gear Ratio.....	30 : 1
A.P.I. Horse Power.....	13.6 at 14 S.P.M.
A.P.I. Horse Power.....	19.8 at 20 S.P.M.
Input Pulley P.C.D.....	24½"
Motor Pulley P.C.D.....	10.53" to give 14 S.P.M.
Motor Pulley P.C.D.....	15.74" to give 20 S.P.M.
Vee Ropes required at 14 S.P.M.....	5 "C" 158" long
Vee Ropes required at 20 S.P.M.....	5 "C" 168" long
Pulley Centres.....	48"
Counterbalance.....	1 Crank
Maximum Balance Effect of Counterweights.....	10,100 lbs. at 20" Stroke 6,733 lbs. at 30" Stroke

Works: SOUTHALL, MIDDLESEX & ROCHESTER, KENT, ENGLAND

LE GRAND SUTCLIFF & GELL LTD

LE GRAND UNDERPULL PUMPING JACKS

GENERAL DESIGN

The Jack is fabricated from structural steel by electric arc welding, offering great rigidity.

FRAME

The frame of Tri-hedral construction makes a very rigid Unit.

BEAM

The Beam is assembled in one solid unit and carried on two enclosed bearing boxes provided with oil seals. The bearings are adjustably mounted on the frame.

MULEHEAD

Mulehead is of welded plate construction of the Horsehead type incorporating a hanger for the wire line sling. Provision is made for the mulehead to be quickly detached by the removal of one pin when occasion arises to service well.

WIRE LINE SLING

A non-spinning type of cable is used for this purpose, thus eliminating any tendency to unscrew the Sucker Rods when pumping.

CARRIER BAR

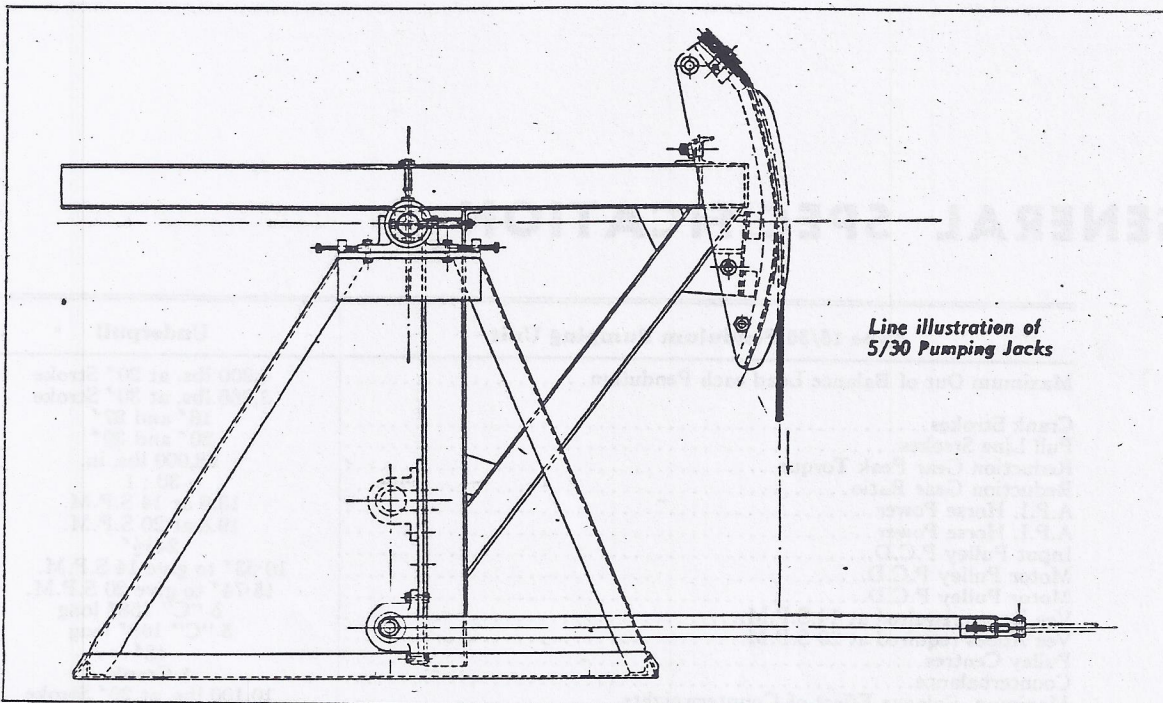
Carrier Bar is of steel, incorporating socket recesses for the Wire Line Sling. It is easily placed on the sling or removed by means of the slots provided for this purpose.

PULL BARS

Pull Bars are of flat steel with equalising bar for connecting to the Pull Rods. 'D' holes are provided to fit the Pull Bar Trunnion, ensuring movement of the Trunnion in its bearing only.

PACKING FOR SHIPMENT

Components are adequately coated with protective paint and suitably packed so as to eliminate damage during ocean shipment.



Line illustration of
5/30 Pumping Jacks

Works : SOUTHALL, MIDDLESEX & ROCHESTER, KENT, ENGLAND

LE GRAND SUTCLIFF & GELL LTD

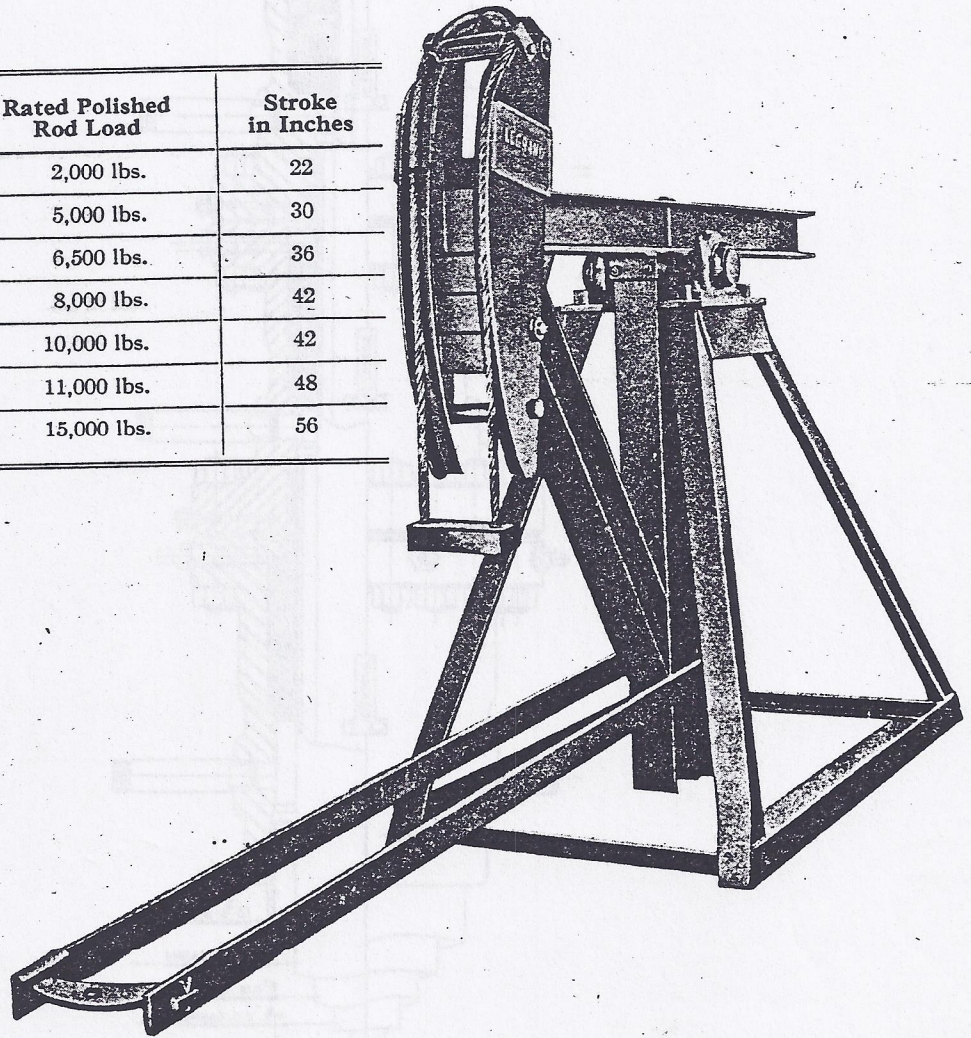
PUMPING JACKS

Pumping Jacks are available in a range of capacities from 2000 lbs. to 15,000 lbs. Rated Polished Rod Load.

The unit illustrated is the 5/30 type.

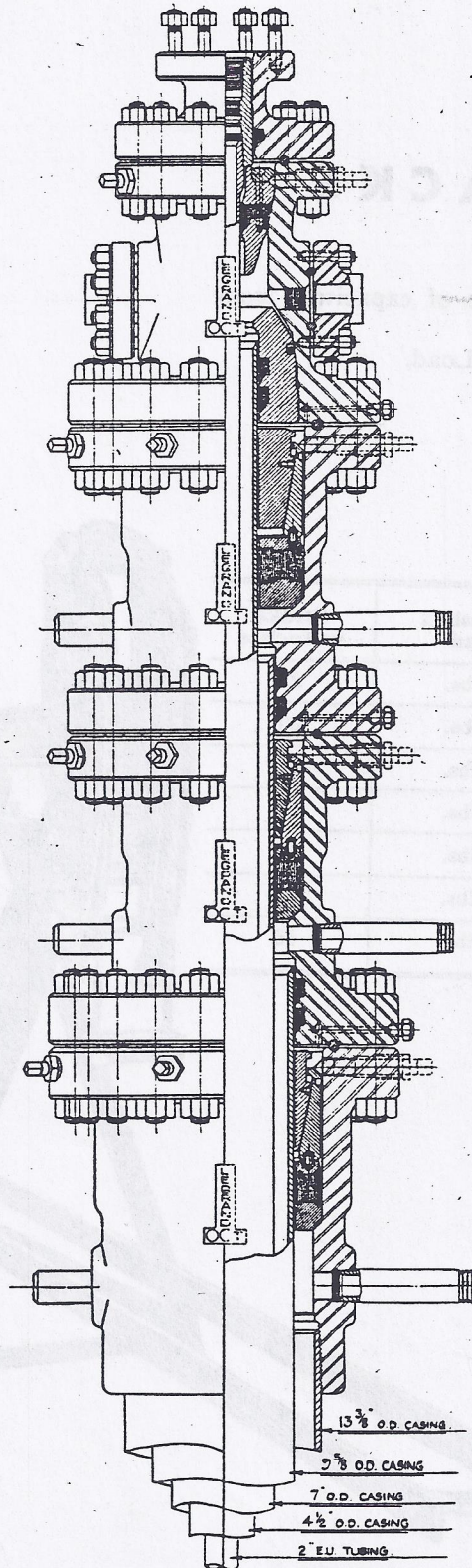
The full range includes:

	Rated Polished Rod Load	Stroke in Inches
2/22 Over or Under Pull.....	2,000 lbs.	22
5/30 Under Pull.....	5,000 lbs.	30
65/36 Under Pull.....	6,500 lbs.	36
8/42 Under Pull.....	8,000 lbs.	42
10/42 Under Pull.....	10,000 lbs.	42
11/48 Under Pull.....	11,000 lbs.	48
15/56 Under-Pull.....	15,000 lbs.	56



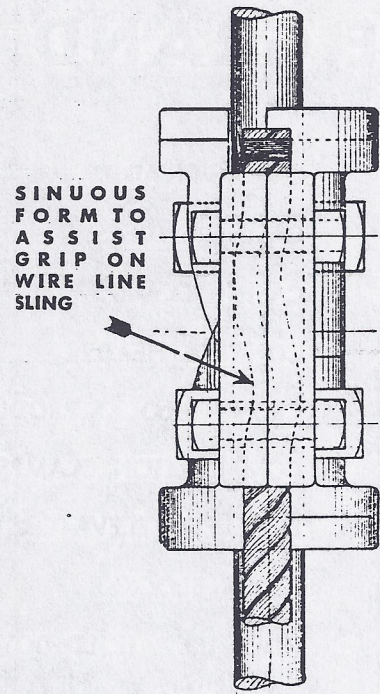
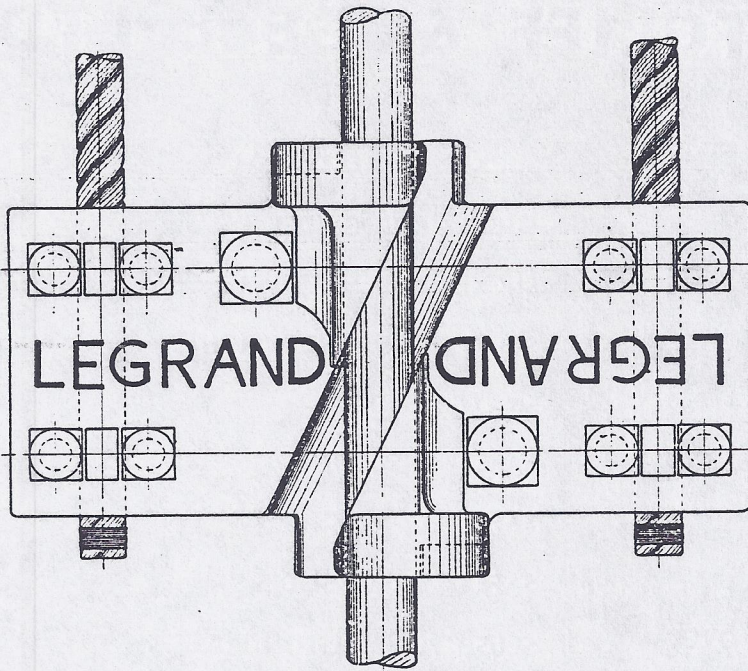
Works: SOUTHALL, MIDDLESEX & ROCHESTER, KENT, ENGLAND

LE GRAND SUTCLIFF & GELL LTD



Sectional view of Le Grand O.C.T. Series 900 Casing and Tubing Control Head consisting of C. 19. Casing Heads and T. 16 Tubing Head. Manufactured by Le Grand under license to Oil Center Tool Co., Houston. U. S. A.

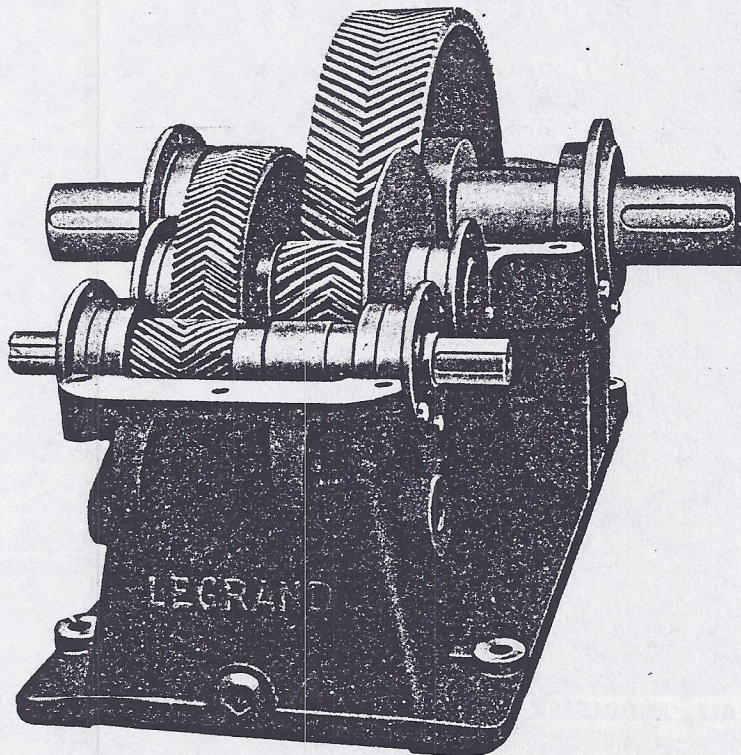
LE GRAND SUTCLIFF & GELL LTD



THE LE GRAND PATENTED CARRIER BARS

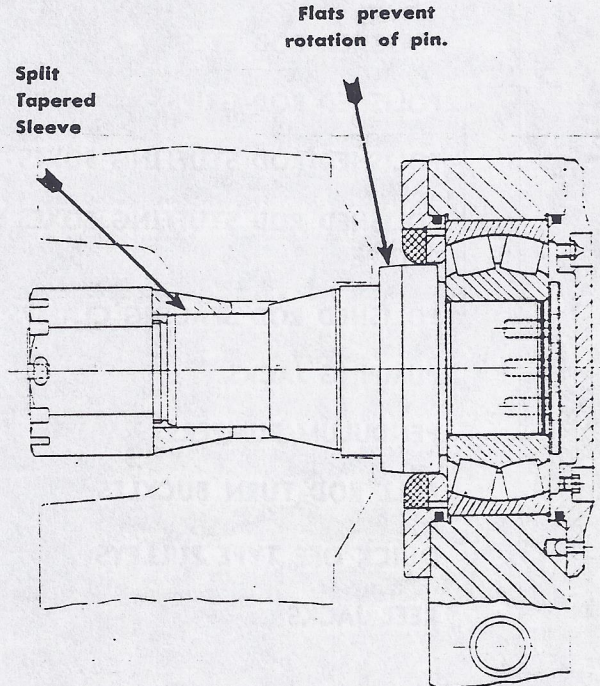
Of cast steel construction with the clamping arrangement for mulehead wire line slings. The carrier bars are easily placed on the polished rod

or removed as required by means of the angular slot provided for this purpose.



TYPICAL LE GRAND PUMPING UNIT REDUCTION GEAR

Double helical double reduction ball and roller bearings, splash lubrication.



CRANK OR WRIST PINS

The Crank Pins are of the Le Grand Patented quick release construction incorporating split tapered sleeves, making removal exceptionally easy and eliminating any difficulty in the Field when occasion arises to alter the Polished Rod stroke. The Crank Pins run in self-aligning anti-friction bearings.

OILFIELD EQUIPMENT

Manufactured by

LE GRAND SUTCLIFF & GELL LTD

CASING HEADS

CASING SPIDERS

CASING CLAMPS

CONTROL HEADS

CROWN BLOCKS PRODUCTION

COMBINATION CLAMPS REVERSIBLE

DRILL PIPE ELEVATORS

FLOOR BLOCKS

HOLD UP & HOLD DOWN HOLD OVER SWINGS

POLISHED ROD CARRIER BARS

POLISHED ROD CLAMPS

POLISHED ROD EYES

POLISHED ROD GRIPS

POLISHED ROD STUFFING BOXES

POLISHED ROD STUFFING BOXES FLOATING TYPE

POLISHED ROD SPACING CLAMPS

PUMPING JACKS

PENDULUM PUMPER

PULL ROD TURN BUCKLES

QUICK OFF TYPE PULLEYS

REEL JACKS

SUCKER ROD ELEVATORS

SUCKER ROD GUIDES

SUCKER ROD SNAP WRENCHES

SUCKER ROD LINE WEIGHTS

SNATCH BLOCKS

SAFETY DISCONNECTING BLOCKS

SAFETY C LINKS

SAFETY CABLE SLIDES

SLUSH PUMP PISTON PULLER

SLUSH PUMP LINER PULLER

SLUSH PUMP PULLEYS

TUBING ELEVATORS

TUBING BLOCKS

TUBING SPIDERS

TUBING HEADS

TUBING TRAVELLING BLOCKS

TONG LINE PULLEYS

UNIVERSAL SLIDE RAILS

UNIVERSAL BIT HOLDERS

YEE ROPE PULLEYS

WIRE LINE CLAMPS

WIRE LINE WIPERS/OIL SAVERS

LE GRAND SUTCLIFF & GELL LTD. SOUTHALL, MIDDLESEX & ROCHESTER, KENT, ENGLAND

Compiled by the Technical Publications Section of
Le Grand Sutcliff & Gell Ltd.