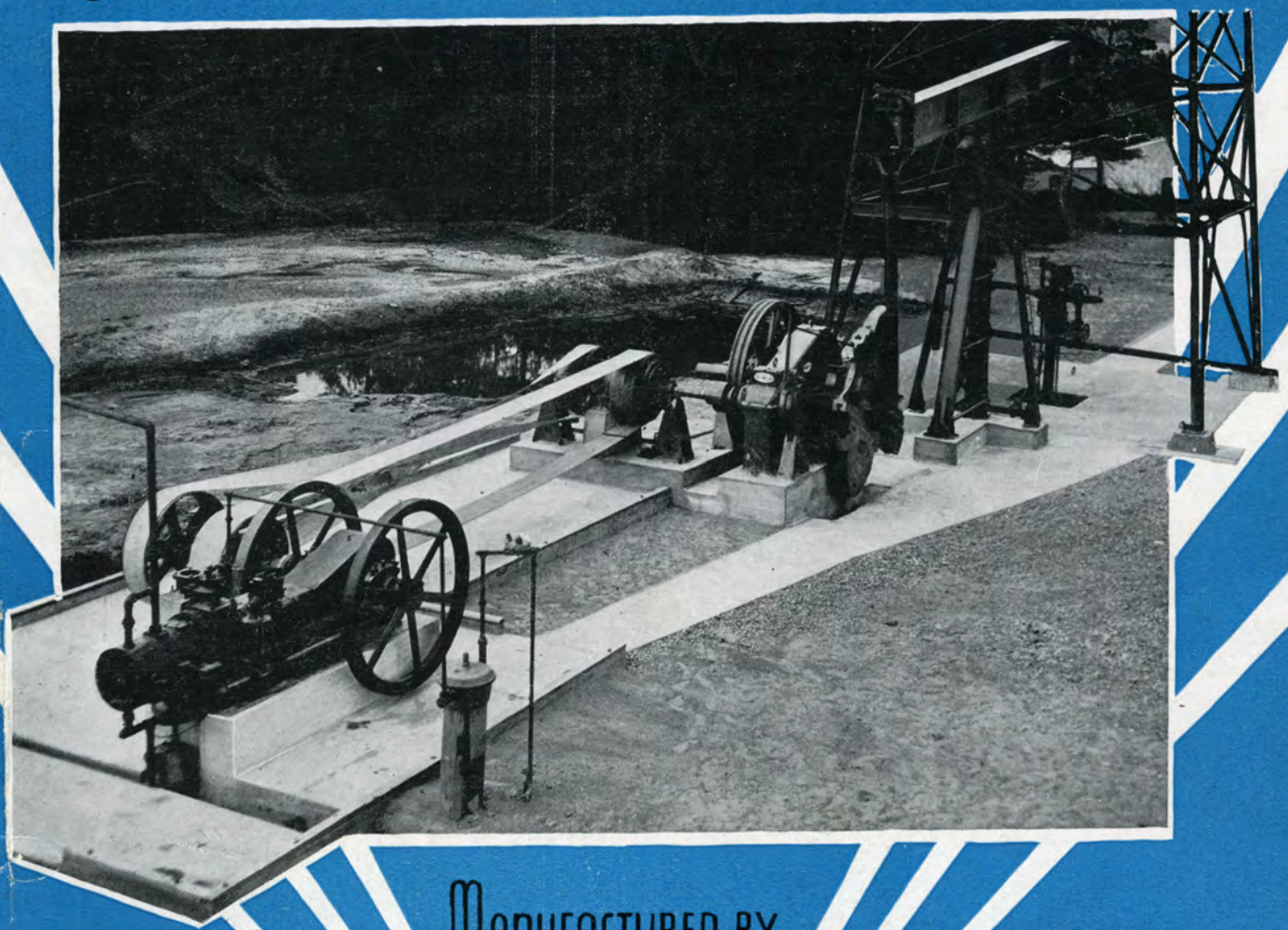
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Lufkin

Bulletin 81

UNIVERSAL
Herringbone Geared
RIG FRONT

FOR CABLE TOOL DRILLING AND PUMPING



MANUFACTURED BY

LUFKIN FOUNDRY & MACHINE CO.

LUFKIN, TEXAS

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LUFKIN UNIVERSAL GEARED RIG FRONT

for Cable Tool Drilling and Pumping

Adaptable to Any Type Prime-Mover

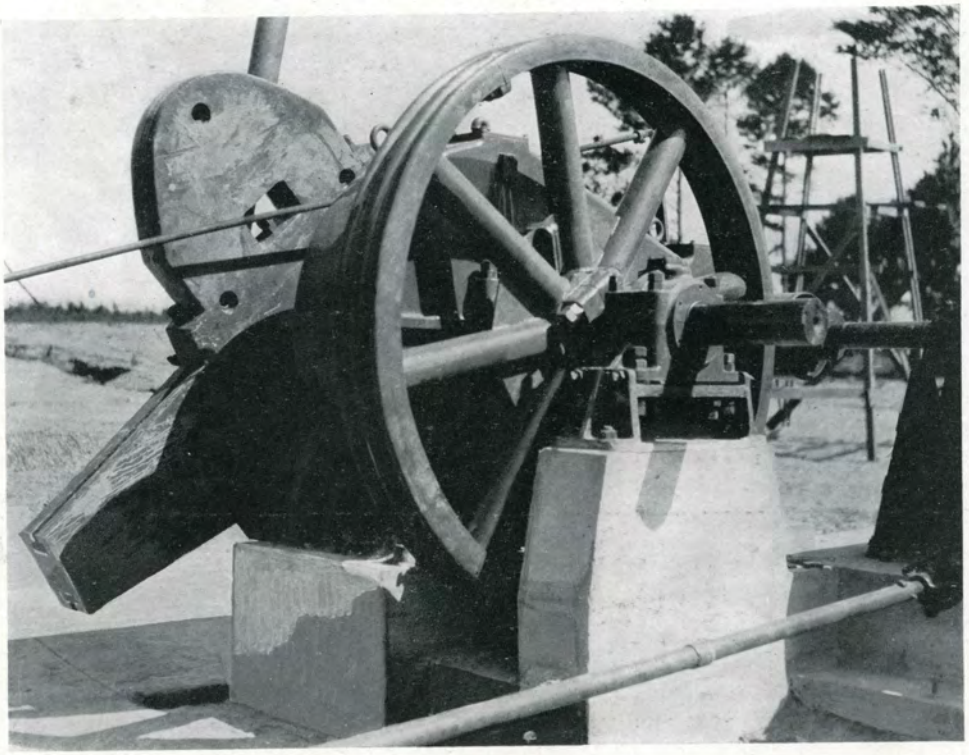
■ To meet the demand for a Geared Standard Rig for cable tool production, especially adaptable for single cylinder engine operation, the Lufkin "Universal" Geared Rig Front has been designed. This neat, attractive, self-contained and housed **Geared** Unit replaces the band wheel shaft and crank with the large expensive belts of the old Standard Rig and assures an efficient—balanced Unit that is generally universal in its use.

■ Sykes-Herringbone (continuous tooth) gears of rugged heavy construction are used in the Lufkin Rig Front. These gears are made of a special Alloy Steel and are designed to give long, lasting service under heaviest loads, of large diameters, for slow speed operation insuring long life, quiet operation and are highly efficient. The friction crank used on the Lufkin Rig Front allows for even wear on the gears which is a distinct advantage not found in competitive cranks.

■ The Trout-Croom Counterbalance Crank, regularly furnished with this equipment, is so designed that by a simple adjustment it may be made to "float" on an anti-friction bearing, thereby eliminating all objectional fly-wheel action in reversing bull wheels when servicing the well.

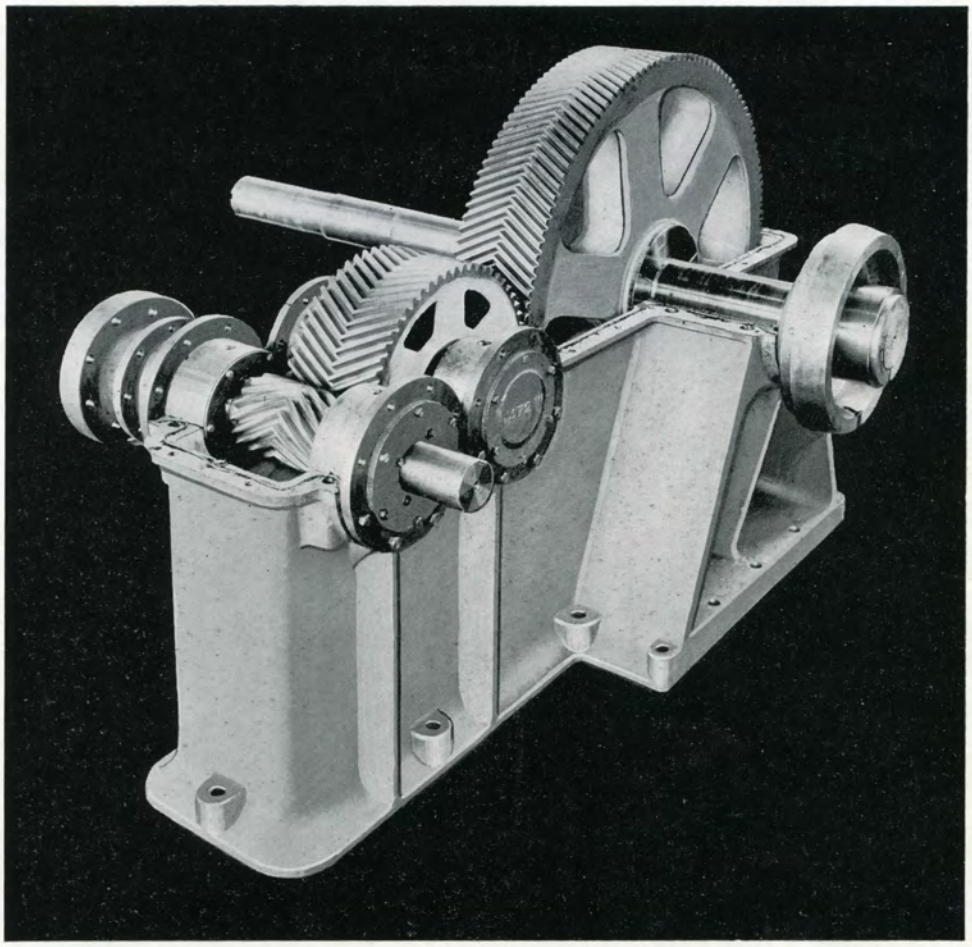
■ A Standard All Steel Split 2-groove Tug Rim 7′ in Diameter is provided with the Unit as is also a Calf-wheel sprocket with regular jaw clutch. These may be omitted and sprocket for production hoist substituted (see page 5) if desired. A suitable locking brake is provided.

■ In the Lufkin Universal Geared Rig Front, Lufkin Engineers feel that they offer equipment unsurpassed in economy of operation and flexibility in "hook-up" arrangements.



Lufkin Universal Geared Rig Front Showing Split Tug Rim and Extension Shaft.

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Gear cover removed from Lufkin Universal Rig Front

SPECIFICATIONS

After years of exeprience in the building of Production Equipment for the Oil Industry; equipment having lasting qualities and designed for performance under the most exacting requirements . . . materials of known qualities have been developed after exhaustive tests. It is this sort of material that enters into the manufacture of Lufkin Units. Combined with engineering experience; with attention entirely focused on the development of Production Equipment, "LUFKIN" is in an enviable position as manufacturer of *improved equipment* for the production of oil.

MAIN SHAFT: 7½″ in main gear and bearings, 6″ A.P.I. Standard end for Calf Wheel Sprocket.

PINION SHAFT: 4-7/16″ Dia.—forged integral with gear. Alloy Steel.

MAIN GEAR: 54″ Diameter, 10″ Face, 7-7/16″ Bore, 136-T Alloy Steel.

PINION GEAR: 6.4″ P. Diameter, 10″ Face, 16-T Alloy Steel.

INTERMEDIATE GEAR: 24″ Diameter, 10″ Face. (The Intermediate Gear has no effect on ratio—merely changes direction of rotation and allows clearance for tug rim diameter between main and pinion drive shaft.)

GEAR RATIO: 8½″ to 1—58.7 H.P. at 24-R.P.M.

BEARINGS: Main Gear Shaft: Removable bronze bearings that have proven successful in our units for many years. Pinion and intermediate Gear: Hyatt Roller Bearing. Outboard bearing: Removable bronze, collar oiling, with large oil reservoir.

LUBRICATION: Splash system in gear box with Gravity feed to bearings.

RUG RIM: 7-Ft. Diameter. 2-grooves—All Steel, Split. enabling installation at any time.

CALF WHEEL SPROCKET: Furnished with jaw clutch A.P.I. size only when specified

Production Hoist Sprocket can be furnished in any size desired.

EXTENSION SHAFT FOR OIL OR GAS ENGINE DRIVE

PINION SHAFT EXTENSION: 4½″ Diameter with Hyatt adjustible roller bearings with plate clutch and coupling.
Standard straight-a-way driven pulley 36″ Dia. x 15″ Face; Standard reverse driven pulley 36″ Dia. x 11″ Face
Where customer has regular extension engine shaft with reverse clutch, we can mount a plain pulley or "V" Belt pulley right over the usual engine belt pulley (see lower print, page 18 of our catalogue).

EXTENSION SHAFT ON GAS ENGINE

SHAFT: 4½″ Dia. with full Hyatt Roller Bearings, straight-a-way pulley 36″ Dia. x 15″ Face. Reverse pulley, 42″ Dia. x 11″ Face.

NOTE: These sizes may be altered to suit engine speeds.

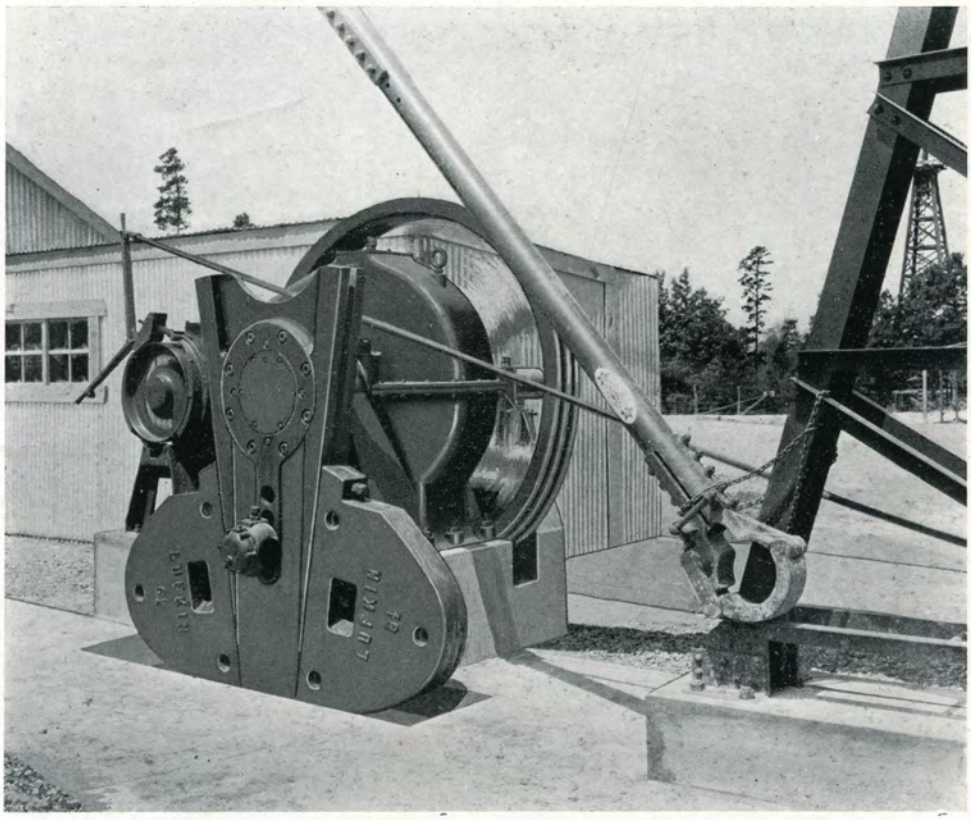
ELECTRIC MOTOR DRIVE

SHAFT: 4½″ Dia., stripped of clutch pulley and with "V" belt drive, same as used on our regular Units, equipped with universal motor slide rails.

STEAM ENGINE DRIVE: Extension Shaft with plain pulley required to suit engine size, speed, etc., all of which information should be furnished with order.

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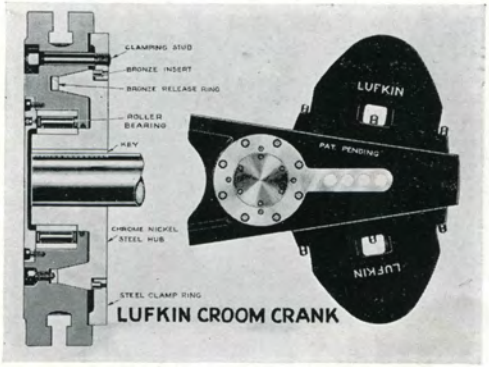
Trout-Croom Counterbalance Crank



Trout-Croom Counterbalance Crank—Illustrating Crank Released While Servicing Well.

■ This counterbalance is the same as we are now using on our present crank except we have the added feature of being able to loosen the crank from the gear shaft, allowing the weighted cranks to hang while servicing the well. This operation takes about five minutes to loosen and later five minutes to tighten by the clock. This is especially desirable as it eliminates all fly-wheel effect when reversing the bull wheels, also eliminates readjusting weights to balance well.

■ Releasing the crank is accomplished by using a wedge friction V-disc keyed securely to the crank shaft. While servicing the well a few bolts are loosened which allows the weight of the crank to ride on a roller bearing which is very large and should last almost indefinitely.



Detail of Trout-Croom Crank

■ Should the rig be sold to drill a new well, we would furnish a regular drilling crank or rent one to be used until the well is completed. Should a re-drilling, or cleaning out job be necessary, all that is required is to center the weights, and use the regular pumping crank. If a long job was encountered, it would probably be better to take off the weights for the duration of the clean-out job.

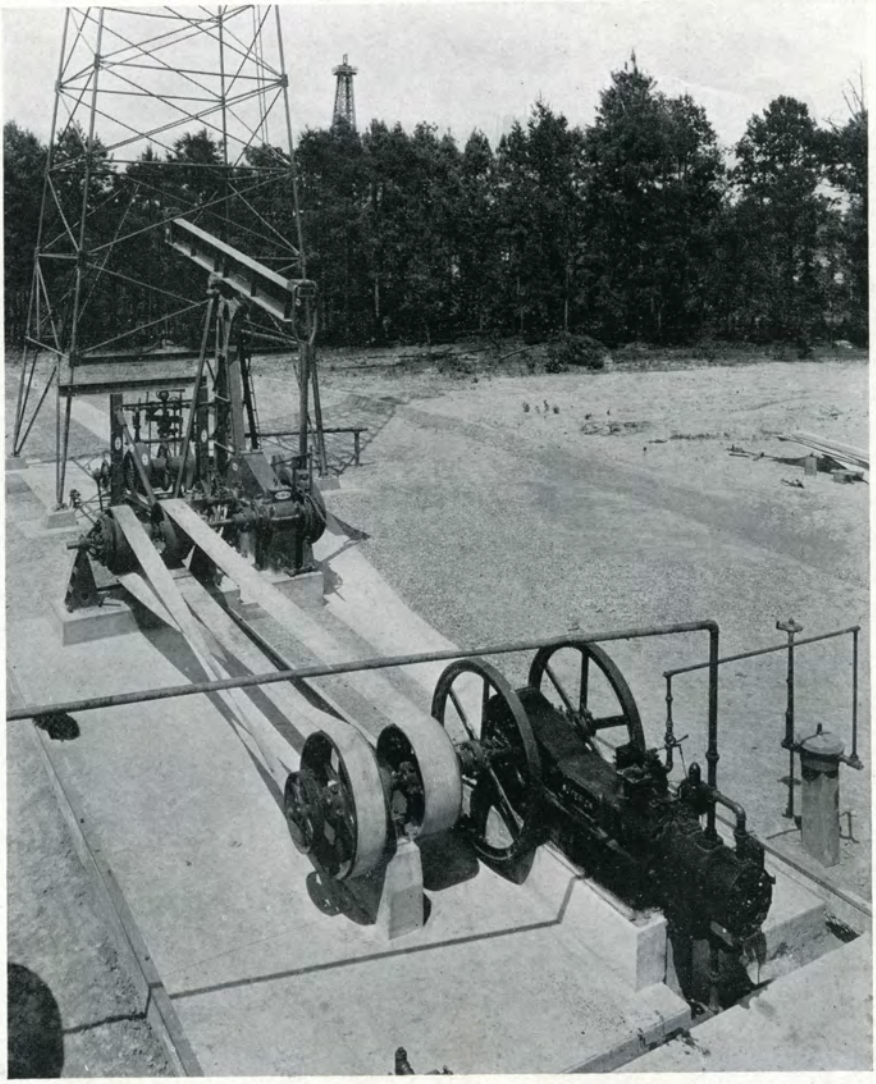
■ The new crank allows even wear on gears largely increasing their efficiency and life.

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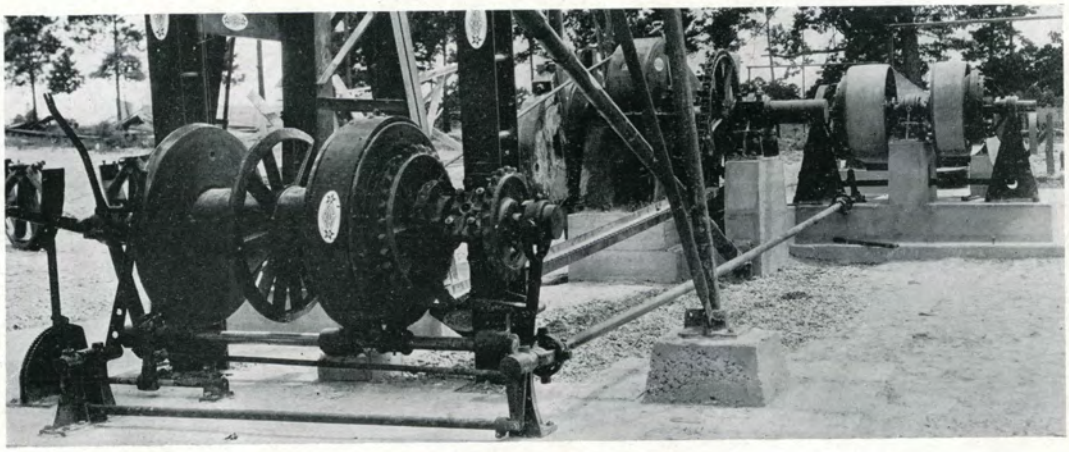
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Lufkin Universal Geared Rig Front

WITH LUFKIN PRODUCTION HOIST APPLICATION

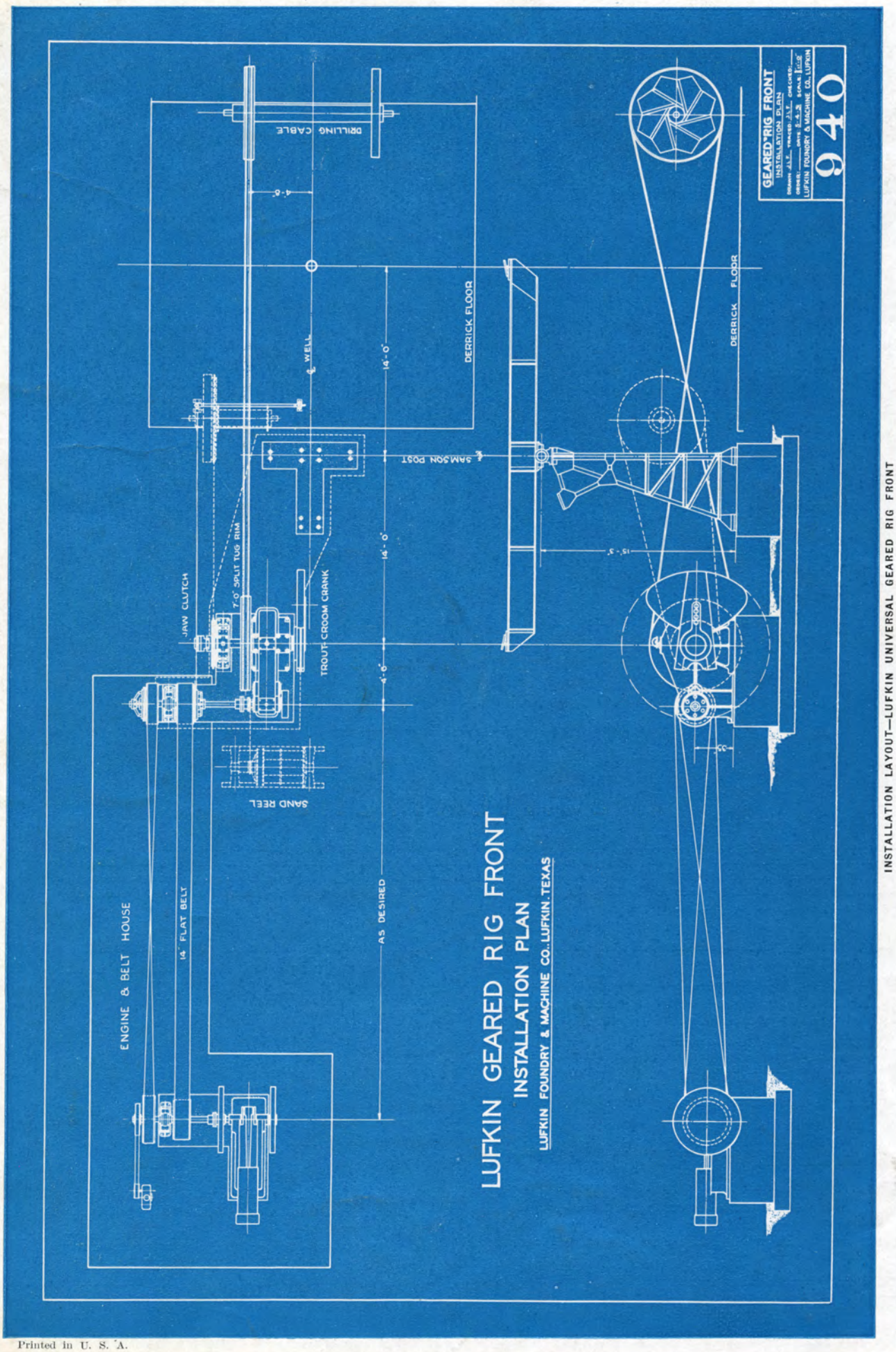


An ideal Geared Rig Front installation showing use in connection with production Hoist



Illustrating control rigging for above application

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INSTALLATION LAYOUT—LUFKIN UNIVERSAL GEARED RIG FRONT

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