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FEATURING » A. P. I. Division Meeting
LUFKIN, TEXAS
September 24-25, 1931

The LUFKIN LINE



Two types of Primitive Pumps in South India —One a one-man power gravity arrangement and not far removed in principle from present set-up. The other an oxen-power pulley pump.

Published by
Lufkin Foundry & Machine Co.
LUFKIN, TEXAS

Vol. 11. No. 4. October-November, 1931

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Officers Southwestern District, Division of Production American Petroleum Institute



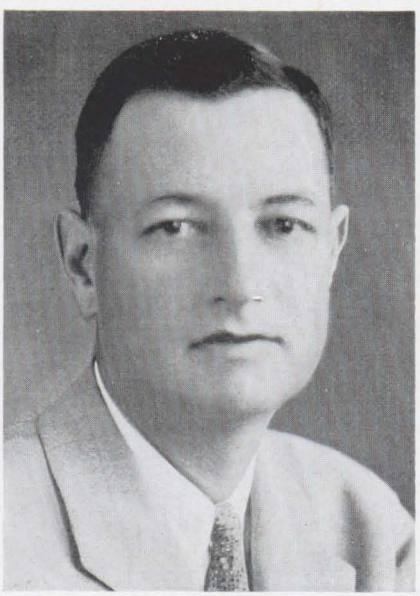
E. S. DURWARD

Chairman, Southwestern District A. P. I., Shell Petroleum Corporation, Dallas, Texas, who delivered a paper "Extinguishment of Bell and Graddy Fire in East Texas."



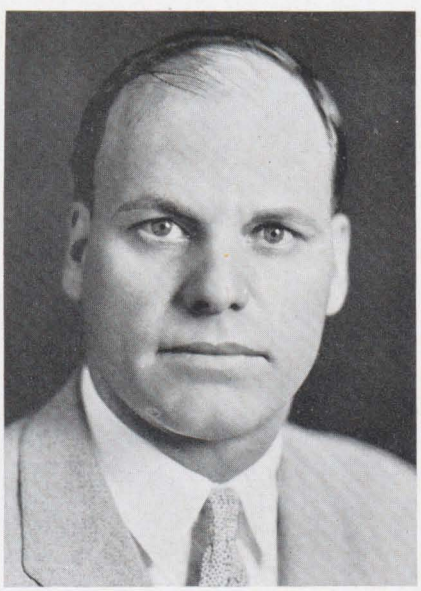
BLAINE B. JOHNSON

Vice President for East Texas A. P. I., Simms Oil Company, Dallas, Texas, who presented a paper "Correct and Incorrect Producing Practices in East Texas."



JOHN RITTER

District Secretary, A. P. I., Sun Oil Company, Dallas, Texas.



W. C. THOMAS

Vice Chairman for Gulf Coast, Vacuum Oil Company, Houston, Texas.



JOHN R. SUMAN

Chairman, Advisory Committee A. P. I., Humble Oil & Refining Company, Houston, Texas.

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All sessions were held in Pines Theatre

A. P. I. Division of Production

« « Southwestern District » »

Holds Successful Fall Meeting in Lufkin

Having previously issued the statement "That the conscientious operator who habitually seeks to improve production methods and conserve equipment is an asset to the field in which he operates and to the industry at large." E. Stanley Durward, Petroleum Engineer, Shell Petroleum Corporation, and Chairman of the Southwest District, Division of Production of the American Petroleum Institute, opened the fall meeting of this organization in the Pines theatre in Lufkin to a group of nearly two hundred (200) executives of the oil industry for an intensive program designed particularly to discuss development and operating problems in the East Texas fields. Correct and incorrect drilling and producing practices, fire prevention and protection, were discussed in detail with valuable papers presented on the subjects all of which were interestingly illustrated with slides and moving pictures.

All business sessions of the Institute were held in the Pines theatre. This air cooled and comfortable meeting place, with acoustics above the average, served as a welcome shelter from the exceptionally warm September weather.

On Thursday noon the Lufkin Foundry & Machine Company was host to the visiting oil men at a "Dutch Lunch" at their plant, after which a plant inspection followed. Various products were on display and a special heat was taken off in its foundry for the interest of the visitors. For the benefit of those who had requested it, a Long Leaf Pumping Derrick having special patented features (a product of the Angelina County Lumber Company) had been erected and various prime mover applications to the Lufkin Herringbone Unit were on display and in operation. The whole presented a "Little Tulsa" exhibition.

As guests of the Lufkin Chamber of Commerce the visitors attended a banquet given in their

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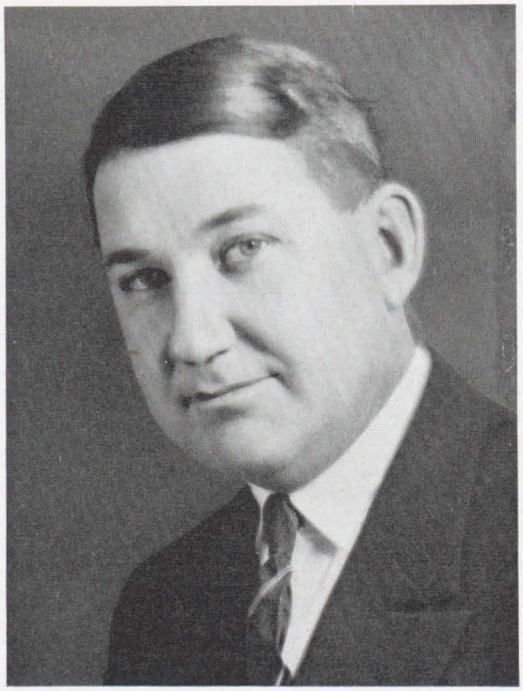

C. A. YOUNG

Secretary of the General Committee, A. P. I. Division of Production, Dallas, Texas.

honor in the ball room of the Hotel Angelina. The banquet was quite informal—in fact "Cabaret" style, with Col. John S. Bonner, in his inimical manner, acting as toastmaster. Group singing led by Bert Childs of the Reed Roller Bit Company, proved an entire success, while singing, reading and dancing, mostly local talent, seemed to meet with the acclaim and approval of all present. Short addresses by: E. Stanley Durward, John R. Suman, Robert H. Penn, Frank S. Carothers and others was followed by the rendition by Col. Johnnie Bonner of his famous negro sermon.

Following the banquet, the U. S. Bureau of Mines in co-operation with the American Petroleum Institute presented, in the Pines Theatre, its seven (7) reel film "The Story of Petroleum." This film no doubt costing a considerable sum to produce, is certainly one that the oil industry can well be proud of and as the title would indicate presents the story of Petroleum in detail and in fact, from the very earliest stages of production to the finished product.

Following the business sessions on Friday, the Institute was the guest of the Angelina County Lumber Company at a "Dutch Lunch" prepared at Lake Myriad Country Club. Following the luncheon a "Badger fight" was held on the club grounds to the merriment of the guests assembled. A plant inspection of the Angelina County Lumber Company, golf, and other amusements followed for the interest and entertainment of the visitors.

Officers and members of the A. P. I. were quite generous in their praise of the Lufkin brand of hospitality as presented through its Chamber of Commerce and for the facilities placed at their disposal for, what has been said by many to be, one of its most successful meetings. The citizens of Lufkin were indeed happy to have had the privilege of entertaining this A. P. I. District Meeting—to this organization and to oil men everywhere —the "latch-string is always out and the welcome mat spread at the door."

Papers at the A. P. I. Meeting

"Development in Arc Welding as Applied to the Oil Industry," (Illustrated with Slides), by J. C. Lincoln, Lincoln Electric Company, Cleveland, Ohio.

This paper described improvements in arc welding and the application to pipe line construction, to the welding of tank roofs and bottoms, and to the repair of existing lines.

"Welding Steel Oil Storage Tanks," (Illustrated with slides), by Edward E. Dillman, Wyatt Metal & Boiler Works, Dallas, Texas.

This paper described the construction, by welding, of large steel storage tanks of 50,000 barrels capacity and over.

"Correct and Incorrect Drilling Practices in East Texas," by C. W. Alcorn, Shell Petroleum Corporation, Dallas, Texas. (Sponsored by the southwestern district drilling practice committee.)

This paper described, in detail, some of the improper drilling practices that have been used in the East Texas fields, and also contained suggestions and recommendations on proper methods.

"Correct and Incorrect Producing Practices in East Texas," (Illustrated with slides), by Blaine Johnston, vice president, Simms Oil Company, Dallas, Texas.

"Fire Prevention and Protection in East Texas," by M. L. Brown, chairman East Texas fire protection committee (district su-



WALTER MIER

Past District Chairman A. P. I., Atlantic Oil & Refining Company, Dallas, Texas.

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perintendent, Sun Oil Company, Longview, Texas.)

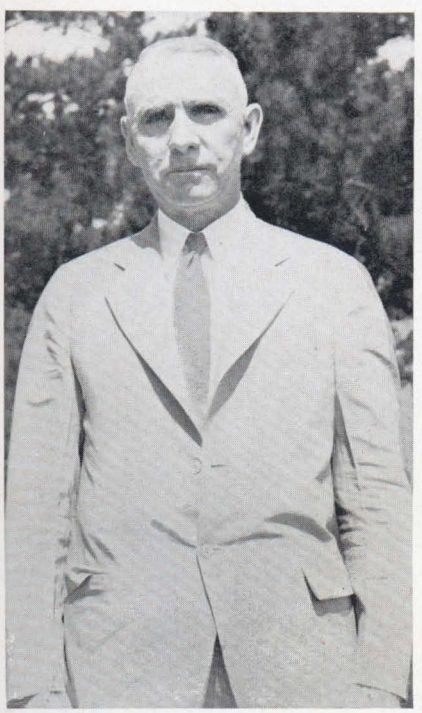
This paper described situations which may cause fires in the East Texas oil fields; how the fires cause economic waste, and how the fires may be prevented. It also described the East Texas fire protection committee, its object, and progress made with plans to prevent or control conflagrations. It contained information which every East Texas operator should have.

"Extinguishment of Bell and Graddy Fire in East Texas," (Illustrated with slides and short moving picture), by E. Stanley Durward, Shell Petroleum Corporation, Dallas, Texas.

This paper described, in detail, the methods and equipment used in quelling one of the most spectacular of East Texas oil well fires. The construction of the tunnel and equipment used in extinguishing this fire is of unusual interest.



Men instrumental in forming the East Texas District Chapter of the American Petroleum Institute and attendants upon the Lufkin meeting: Sam Gladney, Sun Oil Co.; Blaine B. Johnson, Simms Oil Co.; W. E. Meier, Atlantic Oil Producing Co.; H. N. Blakeslee, safety engineer, American Petroleum Institute; L. C. Peters, vice chairman, Kilgore District, East Texas Chapter, American Petroleum Institute; Carl Young, American Petroleum Institute; R. W. Taylor, chairman, East Texas Chapter, American Petroleum Institute; and E. L. Davenport, Shell Petroleum Corp., secretary-treasurer, East Texas District, American Petroleum Institute.



CAPT. J. F. LUCEY

Distinguished leader of the shut-down movement in East Texas and a member of President Hoover's National Employment Committee.

AN ENGINEERING ACCOMPLISHMENT



Handling hot salt water in quantities of as much as 300,000 barrels a day was one of the problems in drilling the world's deepest well. The above photograph shows the salt water pit and flow of hot salt water during drilling operations on the Penn Mex Fuel Company's Jardin 35 well in the "Golden Lane" in Vera Cruz, Mexico. The well reached a depth of 10,585 feet on August 30, 1931, and is now shut down. Drilling operations were under the direction of J. M. Reardon, general manager of Penn Mex, and George Fertner, drilling superintendent. Many new and novel engineering ideas were used in drilling Jardin 35 including the use of reverse circulation for effectively raising the lime cuttings and keeping the hole clean. The derrick floor was raised 36 feet from the bottom of the cellar to provide clearance for handling special equipment. Due to high pressures three "pup" joints had to be snubbed down as drilling progressed before a single joint of drill pipe could be added to the string.

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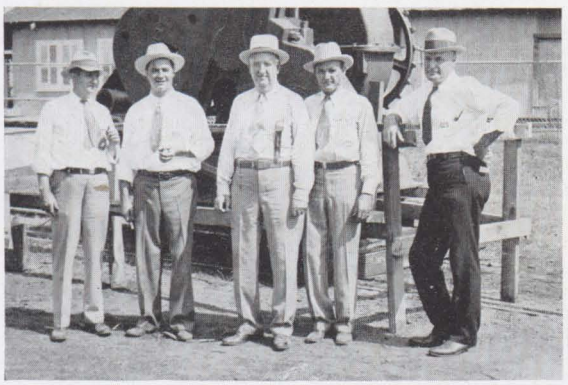
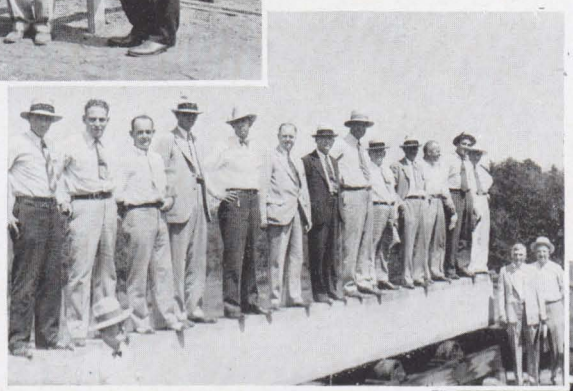
WITH THE STAFF AT THE LUFKIN

Informal snapshots of men you know meeting held in Lufkin, Texas,

We are indebted to The Oil Weekly, the Oil & Gas Journal and the Petroleum Engineer for some of the photographs shown on this and other pages of the Lufkin Line.



The G. E. crowd was on the job. Left to right: George Prout, G. W. Curry, W. C. Trout, I. T. Hockaday, R. T. Shiels, with exception of W. C. Trout, all representing General Electric Company.



Group of oil men pose for photo on a big Long Leaf timber at the plant of the Angelina County Lumber Company.



Sam Gladney, Sun Company and Blaine B. Johnston, Simms Oil Co. Interested participants at the A. P. I. Meeting.



Play-ground base ball—A noon-day employee pastime on the grounds of the Lufkin Foundry & Machine Company.

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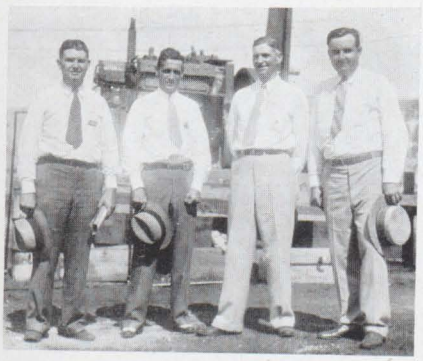
PHOTOGRAPHER A. P. I. MEETING

in attendance upon the A. P. I. District
September 24 - 25th, 1931



The "Badger-fight" at Lake Myriad Country Club proved interesting to the visitors.



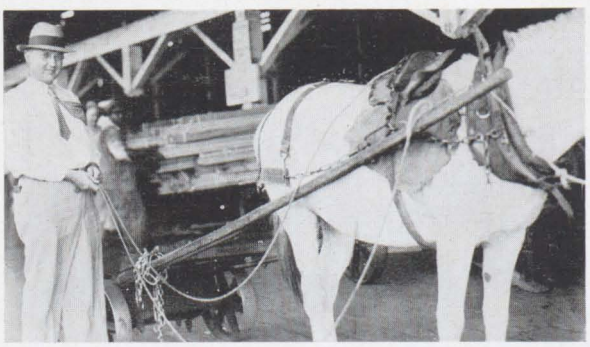
George L. Nye, Tidal Oil Company, Dave Hawthorne, Barnsdall, D. T. Ross, Shell Petroleum Company, W. W. Trout, Lufkin's Tulsa Representative.



Participants and the ferocious "Badger". Red Griffin, L. E. Douglass, E. H. Bounds and the man who refereed the fight, C. Shirley of Tulsa, Okla.



H. E. Zoller, Shell Petroleum Corp., Thos. E. Brown, Gulf Pipe Line Co.



Mr. Raymond, Chief Eng., Black, Sivalls & Bryson, Bartlesville, Oklahoma.



New "Lufkin" office and warehouse in Los Angeles—5959 South Alameda.

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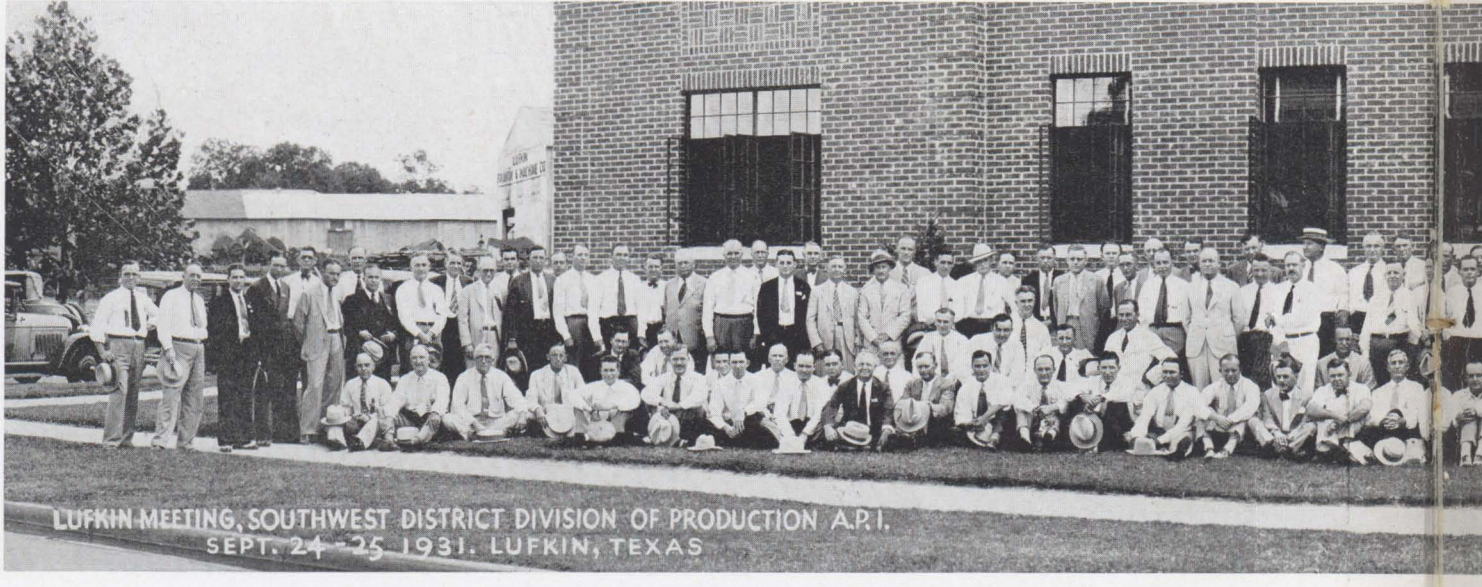
WITH » » » THE A



Members of the Institute were guests of the Chamber of Commerce at a "Night Club" banquet in the Hotel Angelina ball room.



Members of the A. P. I. gather for their photograph on the lawn of the plant office of the Lufkin Foundry & Machine

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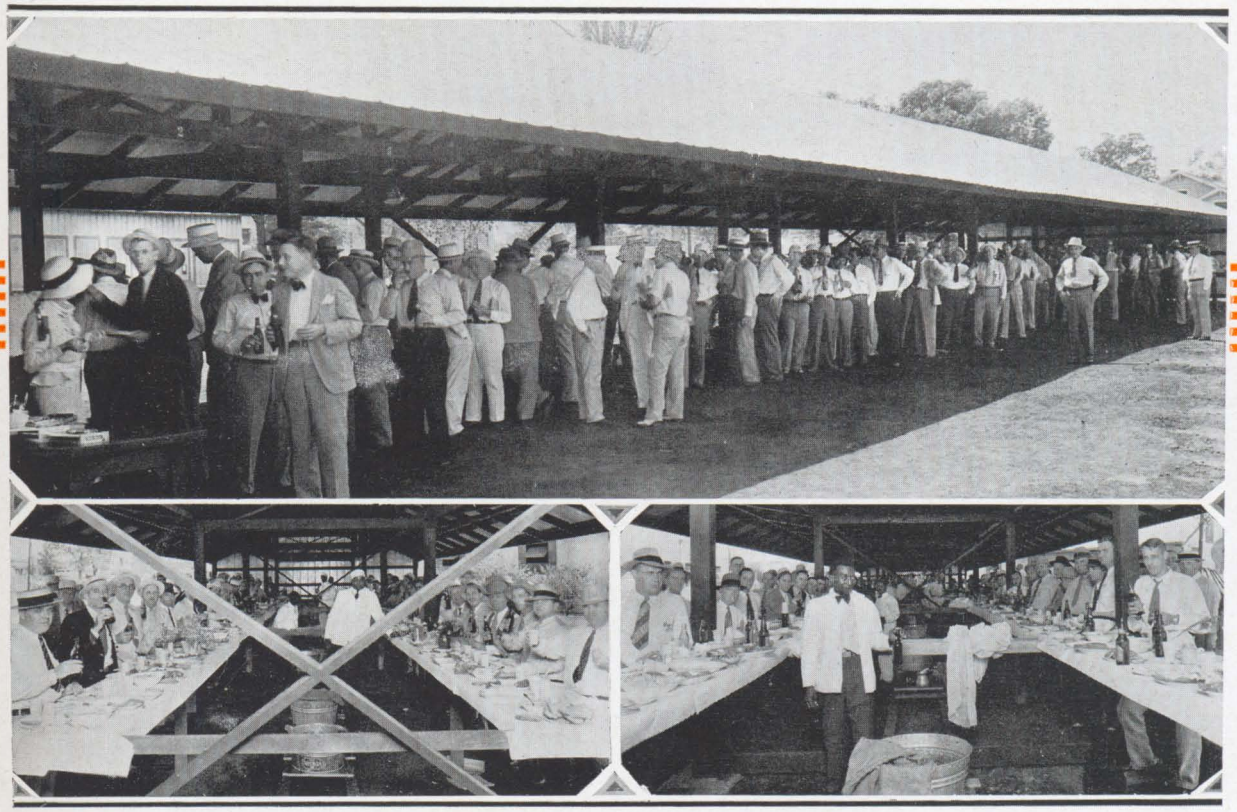
A. P. I. IN LUFKIN



"Dutch Lunch" at the plant of the Lufkin Foundry & Machine Company.



Machine Company. Each member in the picture being presented with a copy of the panorama by the "Oil Weekly."

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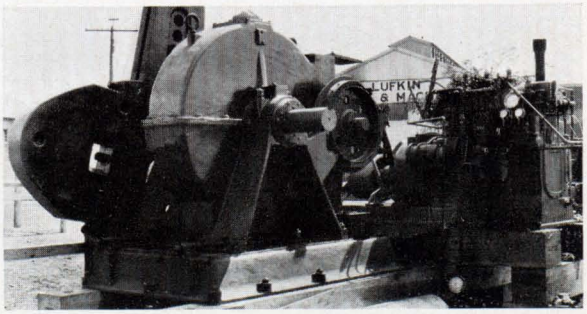


45 H. P. Standard Diesel and Lufkin Heavy Duty Unit.

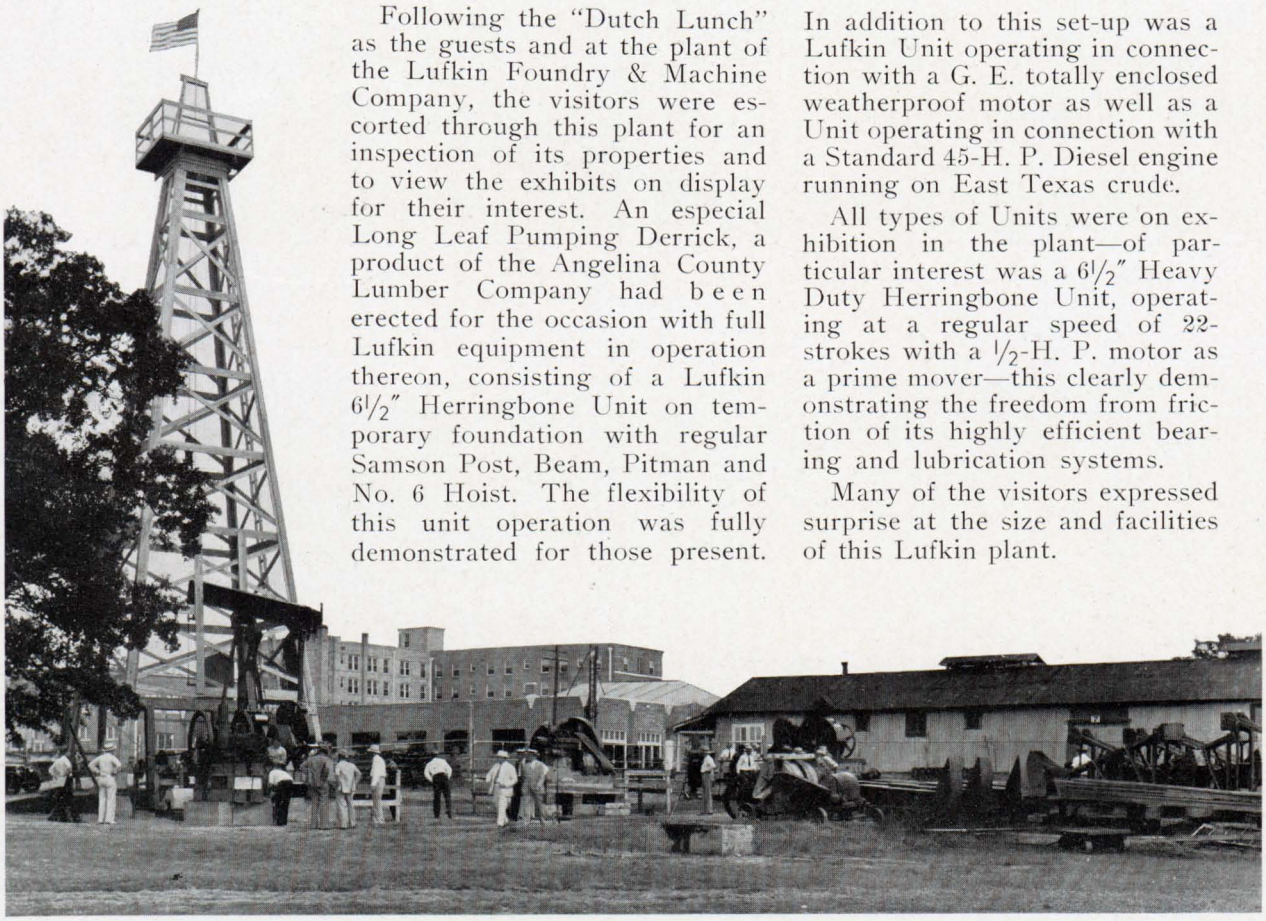
Lufkin Plant Inspection Proves Interesting Diversion for Visiting A. P. I. Members

Following the "Dutch Lunch" as the guests and at the plant of the Lufkin Foundry & Machine Company, the visitors were escorted through this plant for an inspection of its properties and to view the exhibits on display for their interest. An especial Long Leaf Pumping Derrick, a product of the Angelina County Lumber Company had been erected for the occasion with full Lufkin equipment in operation thereon, consisting of a Lufkin 6½" Herringbone Unit on temporary foundation with regular Samson Post, Beam, Pitman and No. 6 Hoist. The flexibility of this unit operation was fully demonstrated for those present.

In addition to this set-up was a Lufkin Unit operating in connection with a G. E. totally enclosed weatherproof motor as well as a Unit operating in connection with a Standard 45-H. P. Diesel engine running on East Texas crude.

All types of Units were on exhibition in the plant—of particular interest was a 6½" Heavy Duty Herringbone Unit, operating at a regular speed of 22-strokes with a ½-H. P. motor as a prime mover—this clearly demonstrating the freedom from friction of its highly efficient bearing and lubrication systems.

Many of the visitors expressed surprise at the size and facilities of this Lufkin plant.



Three "live" interesting exhibits on the plant grounds just before the crowd arrived, all exhibits were on temporary foundations. Derrick is the "Angelina" steel leg derrick—no sills—no rot type—a patented derrick designed by the Angelina County Lumber Company of Lufkin.

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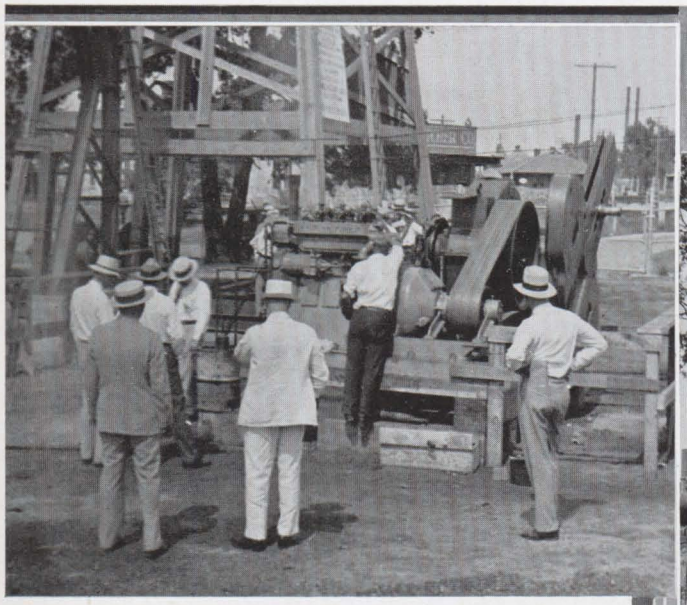
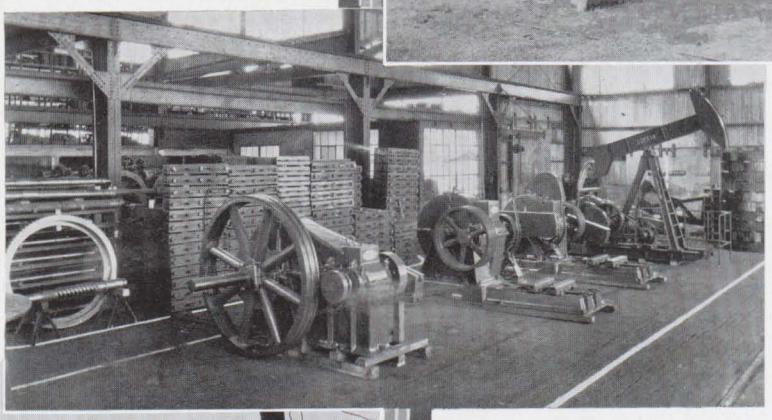
Exhibit Snapshots



"Standard" 45-H. P. Diesel on temporary foundation with Lufkin 6½" Herringbone Unit. Demonstrated for N. H. Dunning, Jr., Fort Worth —Lots of interest.



Single Cylinder engine hook-up with 6½" Herringbone Unit on temporary foundation. Unit and drive idle while servicing the well.

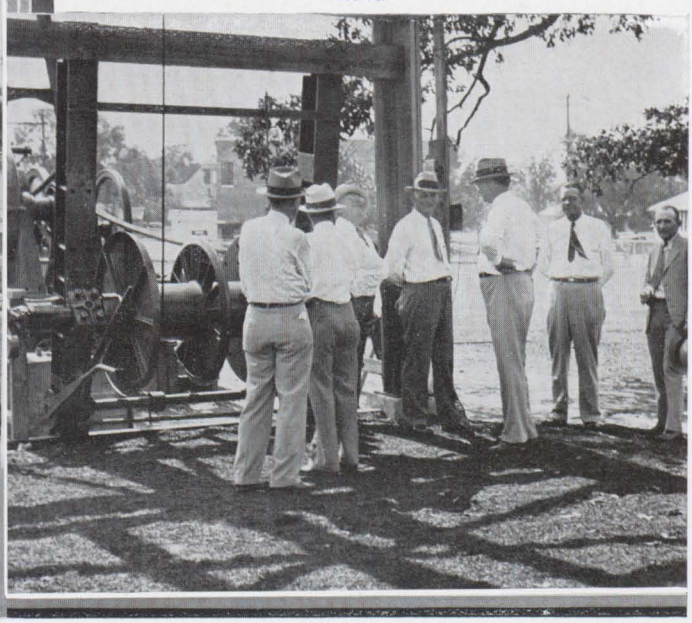


Several types of Lufkin Units on the plant floor for inspection.



Above: G. E. totally enclosed weather proof motor with weather proof controlls in operation. House unnecessary in this hook-up. Galvanized belt house regularly furnished. Interest was keen in this exhibit.

Below: A group interested in the operation of Lufkin No. 6 Hoist.



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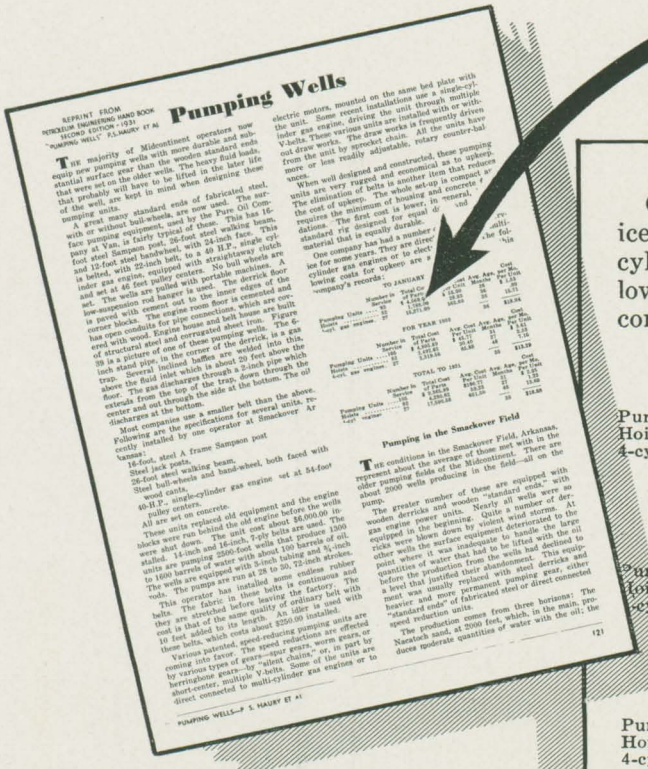
"It was economical to use Lufkin a fair price for oil—it is even more when economy and low production



REPRINT FROM
PETROLEUM ENGINEERING HAND BOOK
SECOND EDITION - 1931
"PUMPING WELLS" P.S. HAURY ET AL

Pumping Wells

THE majority of Midcontinent operators now equip new pumping wells with more durable and substantial surface gear than the wooden standard ends that were set on the older wells. The heavy fluid loads that probably will have to be lifted in the later life of the well are kept in mind when designing these pumping units.

A great many standard ends of fabricated steel, with or without bull-wheels, are now used. The surface pumping equipment used by the Pure Oil Company at Van, is fairly typical of these. This has 16-foot steel Sampson posts, 26-foot steel walking beam, and 12-foot steel bandwheel, with 24-inch face. This is belted, with 22-inch belt, to a 40 H.P., single cylinder gas engine, equipped with 9-inch throw crank and set at 46 feet pulley centers. No bull wheels are used. The wells are pulled with portable machines. A low-suspension rod hanger is used. The derrick floor is paved with cement cut to the inner edges of the corner blocks. The engine room floor is cemented and has open conduits for pipe connections, which are covered with wood. Engine house and belt house are built of structural steel and corrugated sheet iron. Figure 39 is a picture of one of these pumping wells. The 6-inch stand pipe, in the corner of the derrick, is a gas trap. Several inlet holes through a 2-inch pipe which extends from the top of the tray, down through the floor. The gas discharges through a 2-inch pipe which enters and out through the side at the bottom. The oil discharges at the bottom.

Most companies use a smaller belt than the above. Following are the specifications for several units recently installed by one operator at Smackover Arkansas:

16-foot, steel A frame Sampson post
Steel jack posts,
Steel walking beam,
26-foot steel wheels and band-wheel, both faced with wood cants,
40-H.P., single-cylinder gas engine set at 54-foot pulley centers.

All are set on concrete.

These units replaced old equipment and the engine blocks were run behind the old engine before the wells were shut down. The unit cost about $6,000.00 installed. 14-inch and 16-inch, 7-ply belts are used. The units are pumping with short 100 barrels of oil. The wells are equipped with 8-inch tubing and 5¼-inch to 1600 barrels per day, through 2-inch to 72-inch strokes. volts. The pumps are run at 28 to 30 R.P.M.

This operator has installed some endless rubber belts. The fabric in these belts is continuous and they are stretched before leaving the factory. cost is that of the same quality of ordinary belt with 10 feet added to its length. An idler is used with these belts, which costs about $250.00 installed.

Various patented, speed reducing pumping units are coming into favor. The speed reductions are offered by various types of gears—"worm gears, worm gears, or herringbone gears—by "silent chains," or, in part by short-center, multiple V-belts. Some of the units are direct connected to multi-cylinder gas engines or to electric motors, mounted on the same bed plate with the unit. Some recent installations use a single-cylinder gas engine, driving the unit through multiple V-belts. These various units are in trouble-free service. All the units have out drive works. The drive works is frequently driven from the unit by sprocket chain. A few are driven by more or less readily adjustable, rotary counter-balanced cranks.

When well designed and constructed, these pumping units are very rugged and economical as to upkeep. The elimination of belts is another item that reduces the cost of upkeep. The whole set-up is compact and requires the minimum of housing and concrete foundations. The first cost is lower, in general, for equal duty. The standard rig designed for equal duty. The following material that is equally durable.

One company has had a number of this type in service for some years. They are direct connected to multi-cylinder gas engines or to electric motors. The following costs for upkeep are summarized from this company's records:

TO JANUARY 1, 1930

	Number in Service	Total Cost of Parts	Avg. Cost Per Unit	Avg. Age, Months	Cost per Mo. Per Unit
Pumping Units	83	$ 4,560.00	$ 55.00	36	$ 1.53
Hoists	52	1,788.00	28.83	36	.80
4-cyl gas engines	27	15,271.00	565.60	36	15.71
				36	$18.04

FOR YEAR 1930

	Number in Service	Total Cost of Parts	Avg. Cost Per Unit	Avg. Age, Months	Cost per Mo. Per Unit
Pumping Units 105		$ 4,805.89	$ 45.77	31	$ 3.61
Hoists	82	2,492.62	30.40	27	2.53
4-cyl. gas engines.	27	2,319.58	85.88	48	7.15
				35	$13.29

TOTAL TO 1931

	Number in Service	Total Cost of Parts	Avg. Cost Per Unit	Avg. Age, Months	Cost per Mo. Per Unit
Pumping Units 105		$ 9,365.89	$100.77	31	$ 2.05
Hoists	82	4,280.62	59.23	27	1.23
4-cyl engines	27	17,590.58	651.50	48	13.60
				35	$16.88

Reproduction of article "Pumping Wells"—P. S. Haury et al appearing in the 1931 issue of the "Petroleum Engineering Handbook."

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Units in 1928-29 when we received so now on the present low market, costs mean so much"

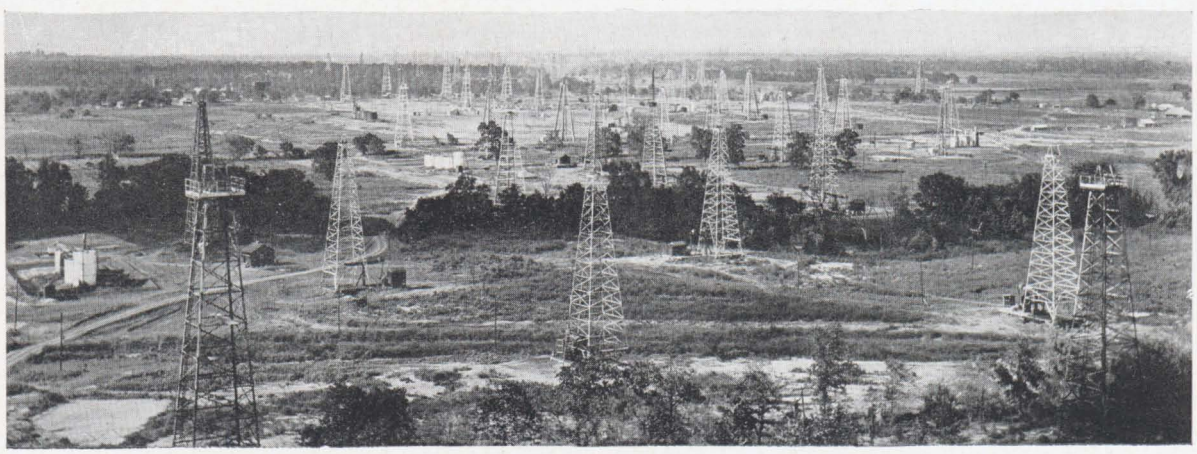
(From a statement by one of the leading oil Executives—name upon request.)

This statement by one of the oil industries' leading executives is an interesting statement of facts. Certainly the oil industry, at no time in its history, needs more economical and efficient machinery. Cheap temporary equipment cannot produce oil **cheaply**—use LUFKIN PERMANENT EQUIPMENT.

The reprint on the preceding page is a reproduction of part of an article "Pumping Wells" appearing in the 1931 issue of the "Petroleum Engineering Handbook." The article, for obvious reasons, does not mention Lufkin Units—but from identical figures, presented to us voluntarily by one of the leading oil producers, we know it as referring to "Lufkin Units."

Lufkin is particularly proud of this operating cost statement.

Our engineers without obligation on your part, will gladly recommend the type Unit for your particular lease.



View of Darst Creek field near Seguin, Texas, which is more than 80% Lufkin equipped

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LUBRICATION OF LUFKIN UNITS

So many requests have reached this office for our recommendation of the proper lubricant for LUFKIN UNITS that we present such a recommendation herewith. For obvious reasons "Brand Names" have been eliminated, however, from the specifications listed one may readily identify his own lubricant.

Lufkin Pumping Units are constructed with two types of gears, viz: worm gears and herringbone gears. The sliding contact of the glass hard worm against the bronze ring gear at high pressure necessitates the use of an extremely tacky or viscuous lubricant which cannot be squeezed or pushed from between the worm and gear, but will leave a protective film there which will lubricate the gears against wear and unnecessary friction losses. This lubricant if it is too heavy will create a power loss and an inefficient operation.

The herringbone gears in Lufkin Units have more of a rolling action and both the gear and pinion are hard and an oil with a lower Saybolt viscosity may be used than with worm gears.

The following specifications and readings are listed for various oils and the service in which they should be used:

	WORM GEARS	HERRINGBONE GEARS	
		Winter	Summer
Pour Point	**40 F**	**0 F**	**10 F**
Saybolt Univ. Viscosity @			
100 F	**2500**	**915**	**1250**
130 F	**875**	**330**	**430**
210 F	**135**	**66/70**	**78-82**

We have not listed readings for worm gears for winter use but it is important that a lower pour lubricant be used in the winter with the same viscosity classifications, especially where the unit is pumping a well that is pumped part time, as there is considerable power loss and inconvenience starting a unit if the oil has become cold and does not pour readily.

Herringbone gear winter oil compares with S. A. E. 40 and Herringbone gears summer oil compares with S. A. E. 50.

Worm gear oil is similar to 600-W. steam cylinder oil.

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The Lufkin Line

Published to promote Friendship and Good Will with its customers and friends and to advance the interest of its products by the Lufkin Foundry and Machine Co.

A. E. CUDLIPP, Editor

Vol. 11 October-November, 1931 No. 4

The Sooner You Quit Believing in Santa Claus, the Sooner You Learn to Solve Your Own Problems

BY ROBERT QUILLEN

Every individual who has wit enough to be interested in the affairs of his country now has an opportunity to learn something that will be worth while in years to come.

It concerns the ancient laws of supply and demand and the ever-popular panacea for economic ills called "price fixing."

Year after year and generation after generation, people work hard to produce something that doesn't sell as they think it should. Failure to get rich makes them resentful and suspicious. And because they don't understand economic laws and have great faith in the laws made by men, they are easily tricked by the visionary who suggests price fixings as a cure for their troubles.

"Let the Government fix the selling price of our product instead of leaving it to chance," they say, "and then we'll always know where we stand. Nobody will be hurt, for the price will be fair, and we can work without anxiety, certain of a fair reward."

It is a beautiful dream, but it never can be more than that.

The only successful price fixing ever known is that in the diamond business, and it is possible only because one concern controls production and is virtually free of competition.

It can't work in any other field for the simple reason that a fixed price, which removes the element of chance and guarantees a profit, encourages the production of more than the world will consume and thus throws on the market a surplus that is offered at any price it will bring.

The financial power of England couldn't fix the price of rubber. The effort served only to raise the price for a time and thus encourage the planting of vast new rubber plantations.

Brazil is fast bankrupting itself in an effort to fix the price of coffee—borrowing millions to hold off the market vast stores that increase yearly and must some day be sold. Lacking a miracle, the day of reckoning will bring ruin.

The United States Government, eager to pacify ruined farmers, has disregarded both economic law and the experience of other nations and made an effort to fix the price of wheat.

It has bought some 100 million bushels, but the great holding still remains a part of the visible supply and so affects the market still.

France, for the first time in her life, has grown enough wheat for herself; Italy has grown more than ever before; the Argentine has doubled her average crop; Russia is exporting millions of bushels. The world is glutted with wheat.

And with other nations willing to sell at any price they can get, which is called the "world price," not all the power of the United States Government can keep the price above its natural level.

You can't get rich raising hogs when nobody wants pork.

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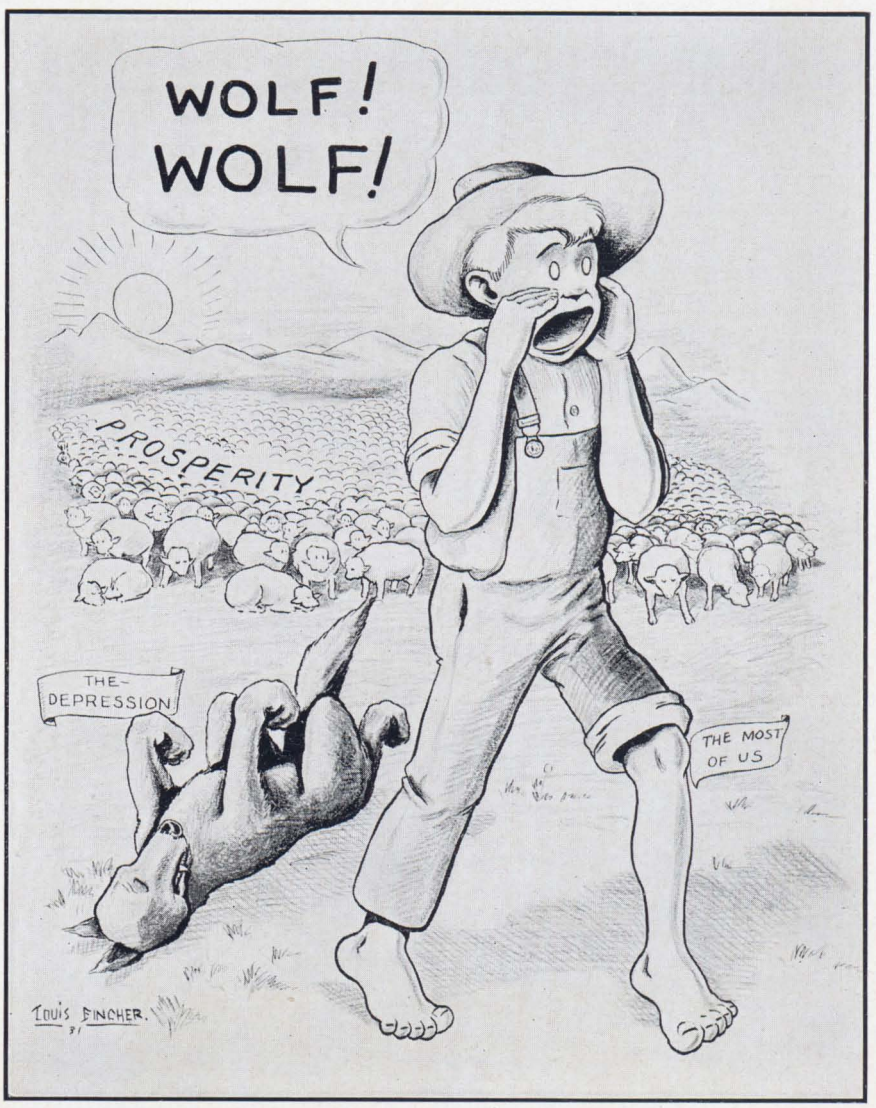
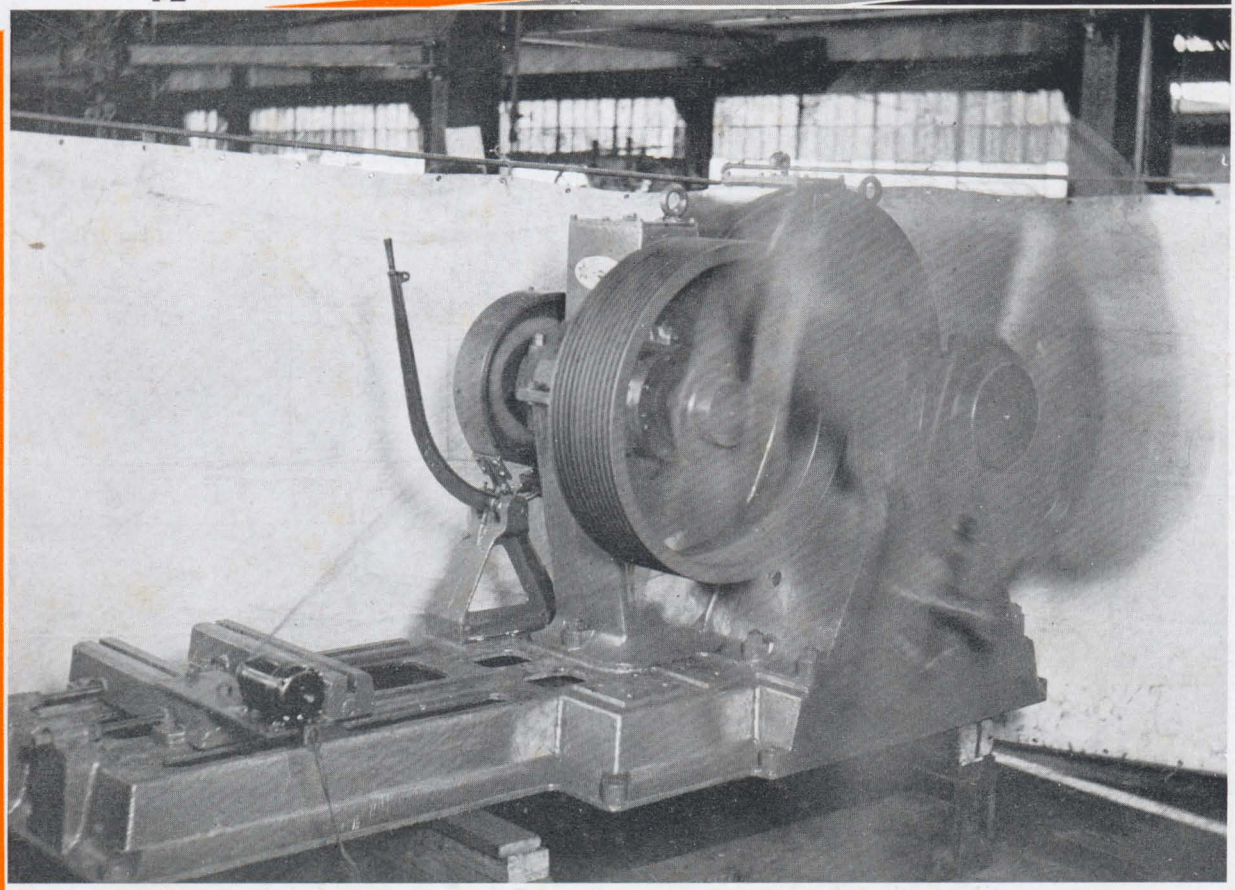


LET'S QUIT HOLLERING WOLF!

Copied from an original at The History Center. www.TheHistoryCenterOnline.com 2013:023

No friction here!



Unretouched photo of Lufkin 6½" Heavy Duty Herringbone Unit running at regular speed of 22-strokes per minute with ½ horse power motor. *A Lufkin exhibit at the recent A. P. I. Meeting.*

½-H. P. Motor Propels, at Regular Speed, This Heavy Duty Lufkin Unit . . .

Lufkin Herringbone Units are 98.9% to 99.44% efficient. Only a machine of like efficiency could be handled with such little effort. Truly an operation without friction meaning for lowered operating costs.

Without obligation on your part, Lufkin engineers will gladly recommend the proper Lufkin installation for your lease—Lufkin Units are designed to operate with any type prime mover.

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