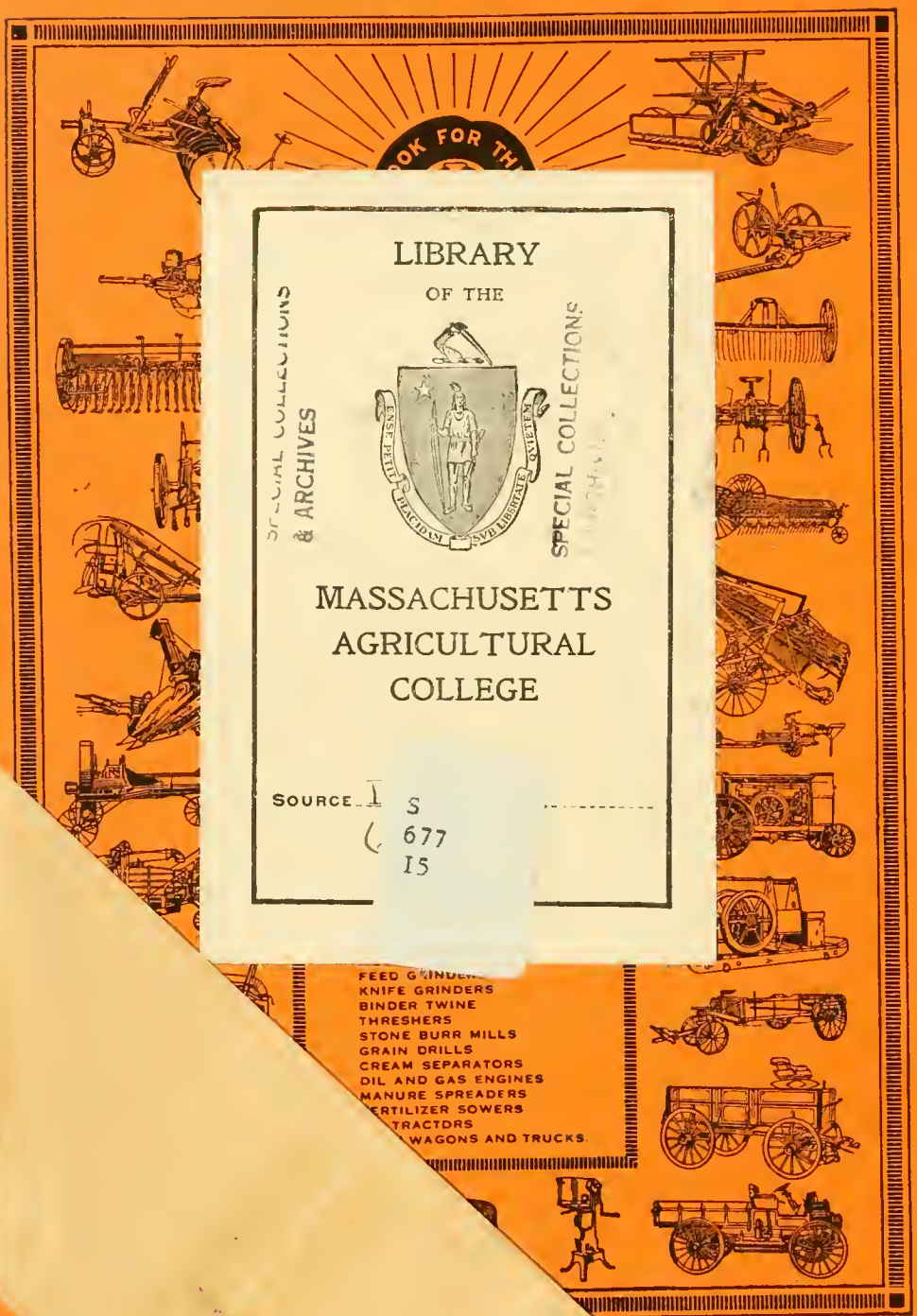
INTERNATIONAL HARVESTER

TRADE MARK

CATALOGUES



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INTERN OF AMERICA


INTERNATIONAL
HARVESTER

INTERNATIONAL HARVESTER

MOGUL

OIL ENGINES

International Harvester Mogul Oil Engines

For Farm Work

TO OPERATE ON

Kerosene, Distillate, Solar Oil, Gas Oil, Motor Spirits, Gasoline, or Naphtha

1 to 50-H. P.

STATIONARY MOUNTING
SKIDDED PORTABLE
TYPES

SPECIAL CATALOG ON LARGER UNITS AND TRACTORS WILL BE FURNISHED ON REQUEST

INTERNATIONAL HARVESTER COMPANY OF AMERICA
(INCORPORATED)
CHICAGO :: U S A

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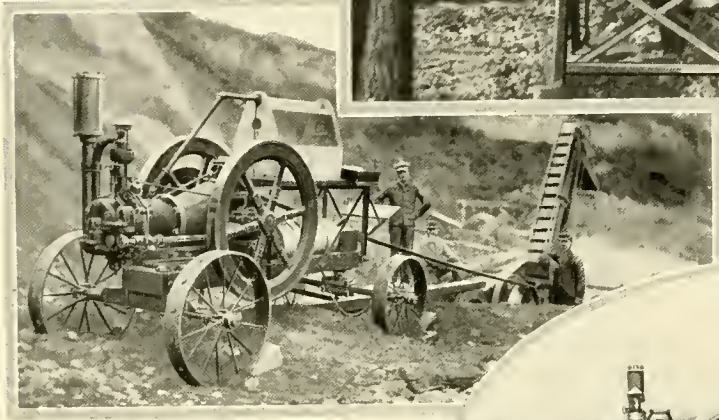
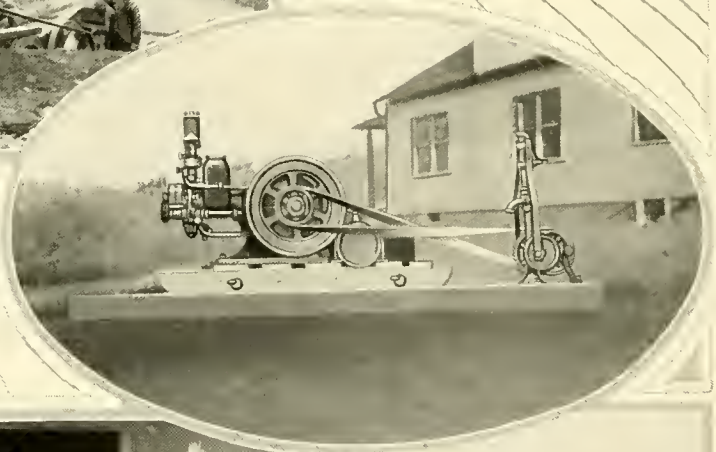
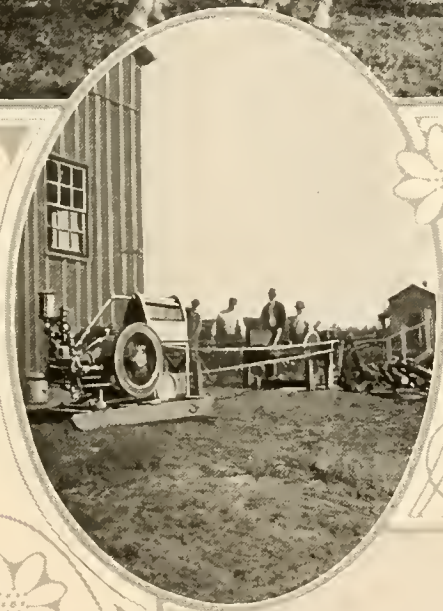






A Mogul Engine Will Give You What You Need—Reliable Power

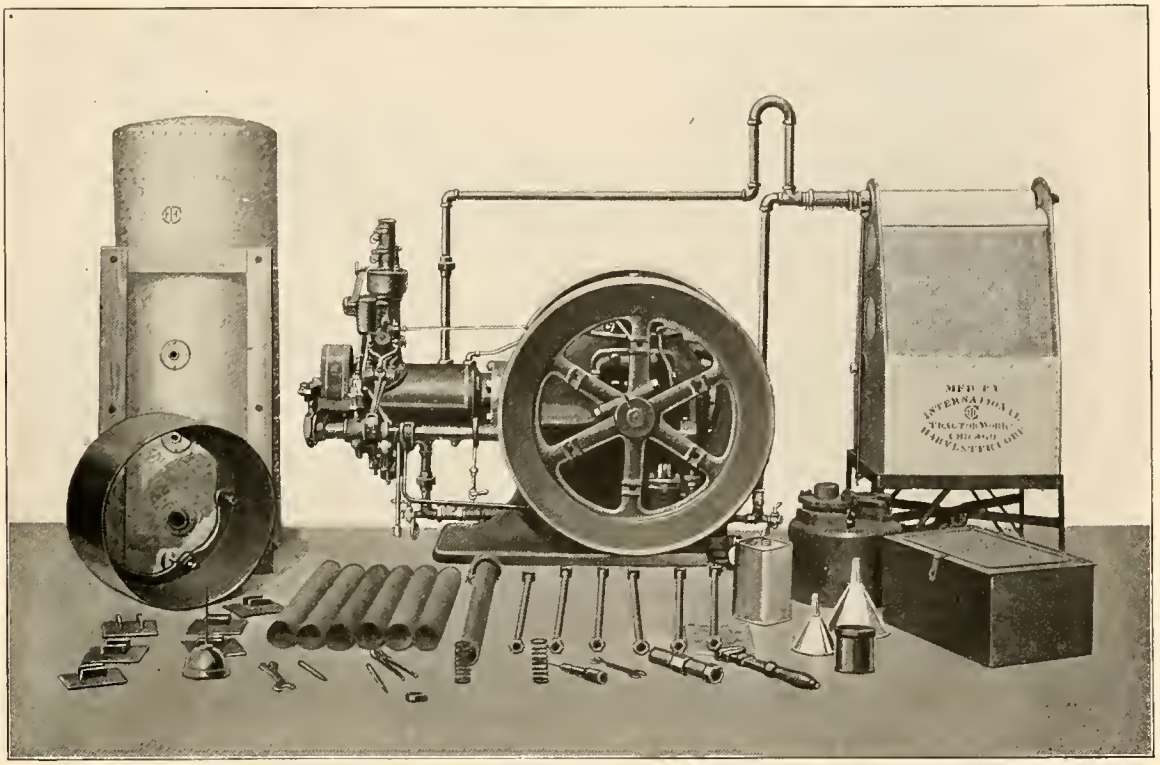
Farm work is hard on machinery. The dust and dirt gets into it and cuts the bearings. The exposure to rain and often snow rusts the parts, the farmer cannot afford to watch his machinery constantly, therefore it often runs out of oil. That's why ordinary engines will not stand up on farm work and that's why the Mogul line of engines was designed. Every adverse condition that an engine is liable to meet on the farm has been taken care of in the Mogul line of engines. The crank case is completely enclosed to keep out dust and dirt. The governor is protected by a case, and many parts are brass or enameled to prevent rust. An automatic force feed oiler on all sizes above 4 H. P. absolutely prevents the main bearings running dry as long as there is oil in the reservoir, and above all, every important bearing is adjustable and removable and can be replaced at a slight cost. In fact, every detail of design has been carefully worked out with the one object in view—Reliable Power.

You Get More In A Mogul Than In Any Other Engine

If you took all the good features of other engines and combined them into one engine you still would not have the equal of a Mogul. Mogul engines have individual features of their own, which enable them to stand up under the hardest service, and to do it at the lowest cost. Then, in a Mogul, you don't have to buy a lot of extra equipment. Mogul engines are shipped complete, ready to run, and include in their regular equipment many features that you have to pay extra for on others, such as magneto, automatic oiler, and steel tool box, on engines from 4 H. P. up, piping and other fittings on stationary engines.

Then, you need never be ashamed of your Mogul. They are nicely finished and present a good appearance. Any man can feel proud to own one.

Each Mogul Oil Engine is a Complete Power Plant



Mogul 4-H. P. Stationary Tank-Cooled Engine with complete equipment except fuel piping which is furnished as follows: 18 feet ¼-inch galvanized fuel pipe and 18 feet of ⅜-inch galvanized overflow pipe

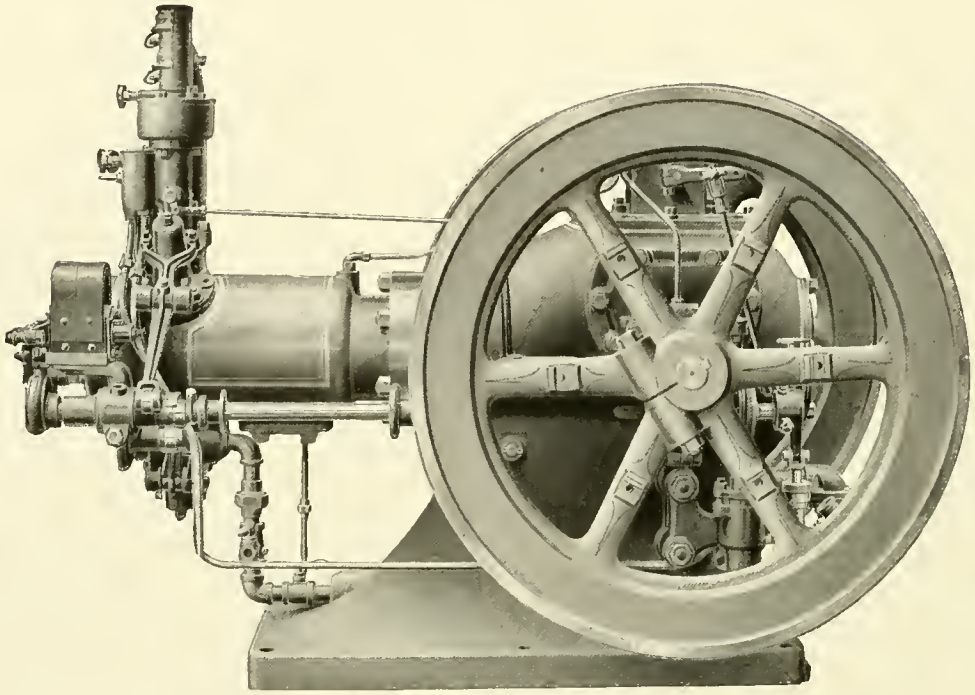
You Can Get Mogul Engines In All Sizes and Types

Mogul Engines are made in all the popular sizes in both tank and hopper-cooled types so that you can get a Mogul to suit your individual needs. If you are not sure what size or type of engine will be the most satisfactory for your conditions of service, write us and we will be glad to give you the benefit of our experience.

The tank-cooled type is made in stationary style, 4, 6, 8, 10, 12, 15, 20, 25 and 50-H. P. sizes; skidded style, 4, 6, 8 and 10-H. P. sizes; mounting style, 4, 6, 8, 10, 12 and 15-H. P. sizes; portable style, 4, 6, 8, 10, 12, 15, 20 and 25-H. P. sizes.

The hopper-cooled type is made in stationary style, 4, 6, 8 and 10-H. P. sizes; skidded style, 1, 1¾, 2½, 4, 6, 8 and 10-H. P. sizes; portable style, 4, 6, 8, and 10-H. P. sizes.

Mogul Tank-Cooled Stationary Oil Engines



15-H. P. Mogul stationary oil engine

Mogul tank-cooled stationary oil engines are designed for hardest work and long runs. They will handle any machinery up to their capacity economically and reliably, and will prove the best engine in the long run for heavy stationary work. They will operate on kerosene, solar oil, gas oil, distillate as low as 39° Baume, motor spirits, naphtha or gasoline. See pages 25 to 27, describing many exclusive and valuable features used on these engines.

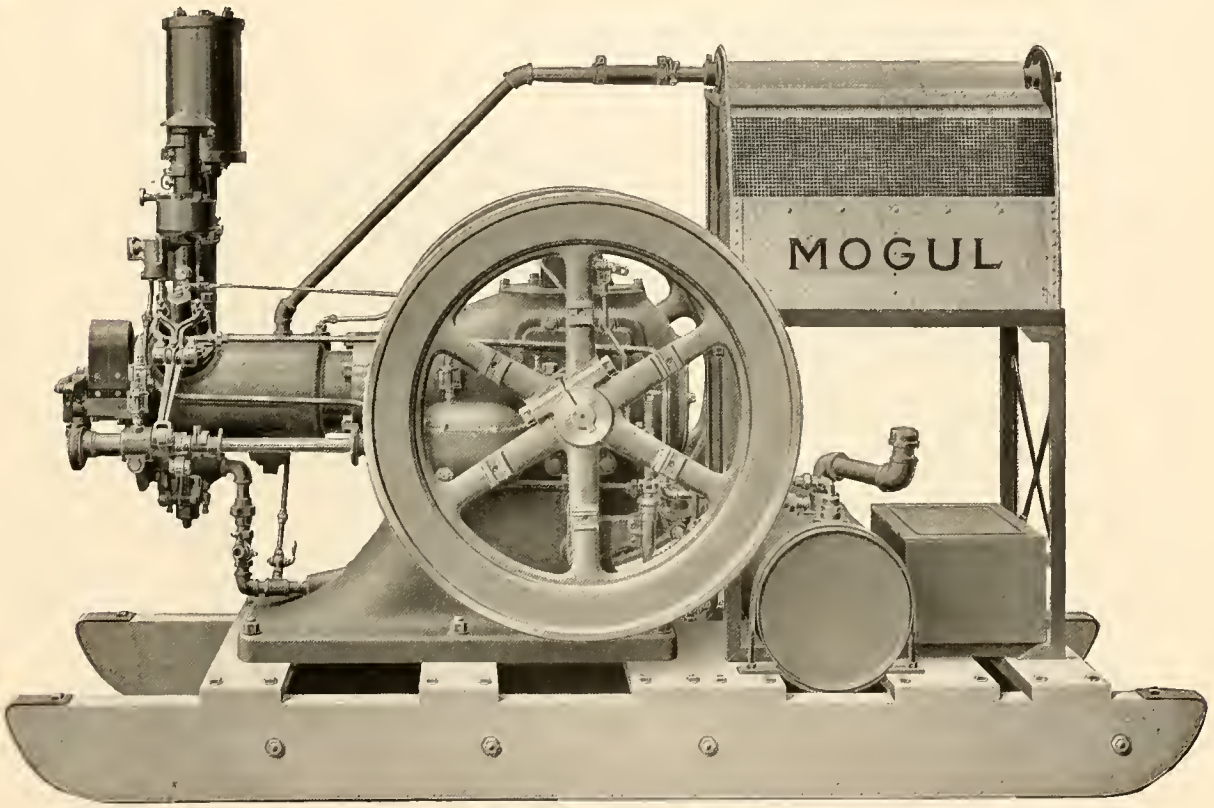
Equipment—Mogul tank-cooled stationary oil engines are fully equipped for running and include the following accessories:

One galvanized steel fuel supply tank with two lengths of pipe and fittings to install the tank outside of the building and connect it with the engine, one galvanized steel cooling tank with pipe and fittings to connect it with the engine, one exhaust pot and one length of exhaust pipe, one plain pulley, magneto, oil can, necessary tools, template and anchor bolts.

Special Accessories—Special size plain pulleys, friction clutch pulleys, gas mixers on all sizes, etc., can be furnished on special order. See pages 20 to 23.

H. P.	Speed R. P. M.	Regular Plain Pulley		Flywheel		Fuel Tank Gallons	Floor Space		Height Inches	Approximate Shipping Weight, Pounds
		Diameter Inches	Face Inches	Diameter Inches	Face Inches		Length Inches	Width Inches		
4	450	16	12¼	30	2½	54	51	36¼	32	1590
6	425	18	10¼	33	3½	54	56¼	38	36	2030
8	400	20	10¼	37	3½	54	63	39¾	40	2760
10	375	22	10¼	41	3½	54	68	41½	44	3240
12	350	22	14¼	45	3½	54	73	48¼	48	3850
15	325	24	14¼	50	3½	54	78¾	50½	54	4610

Mogul Tank-Cooled Skidded Oil Engines



Mogul tank-cooled skidded oil engine

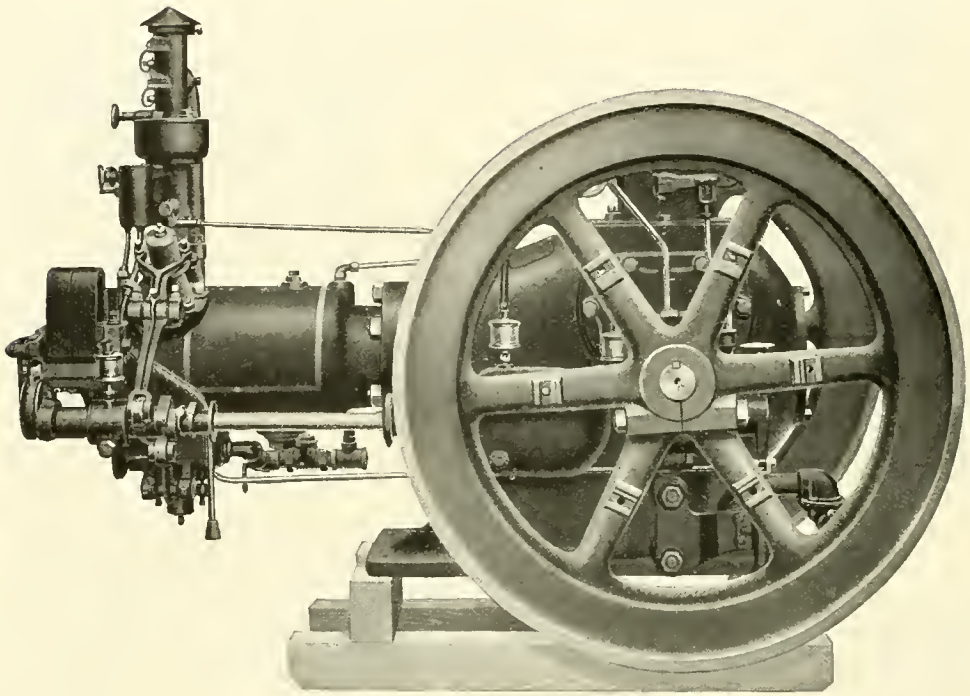
Mogul tank-cooled skidded oil engines are adapted for the hardest service on semi-portable work. They are equipped with a spray type cooling tank, mounted high so no water pump is necessary. They will operate on kerosene, solar oil, gas oil, distillate as low as 39° Baume, motor spirits, naphtha or gasoline. The complete outfit is mounted on skids, equipped with rings for hauling. Many exclusive features of these engines are described on pages 25 to 27.

Equipment—Mogul tank-cooled skidded oil engines are equipped complete for running with the following accessories: One galvanized steel fuel tank, galvanized steel cooling tank, magneto, one regular size plain pulley, muffler, tool box with tools, oil can and large can of the best gas engine lubricating oil, all mounted on substantial wooden skids, making a compact self-contained outfit.

Special Accessories—Special size plain pulleys, friction clutch pulleys, hand trucks, etc., can be furnished on special order. See pages 20 to 23.

H. P.	Speed R. P. M.	Regular Plain Pulley		Flywheel		Fuel Tank Gallons	Floor Space		Height Inches	Approximate Shipping Weight, Pounds
		Diameter Inches	Face Inches	Diameter Inches	Face Inches		Length of Skids, Inches	Width of Engine, Inch		
4	450	16	12¼	30	2½	10	85¼	40¼	53½	1430
6	425	18	10¼	33	3½	12	90	40¼	63	1870
8	400	20	10¼	37	3½	16	100⅝	41¼	66½	2540
10	375	22	10¼	41	3½	20	105	42¼	68	2965

Mogul Tank-Cooled Mounting Oil Engines



Mogul tank-cooled mounting oil engine

Mogul tank-cooled mounting oil engines are designed for mounting on threshers, saw trucks, concrete mixers, and other self-contained outfits. They are furnished with a low base so that the engine will set well down on the truck or base beams. For heavy work and long hours, this engine cannot be equalled. This engine can be furnished either with or without a water pump. The engine is shipped on temporary shipping skids. It will operate on kerosene, solar oil, gas oil, distillate as low as 39° Baume, motor spirits, naphtha or gasoline. See pages 25 to 27 for description of exclusive features.

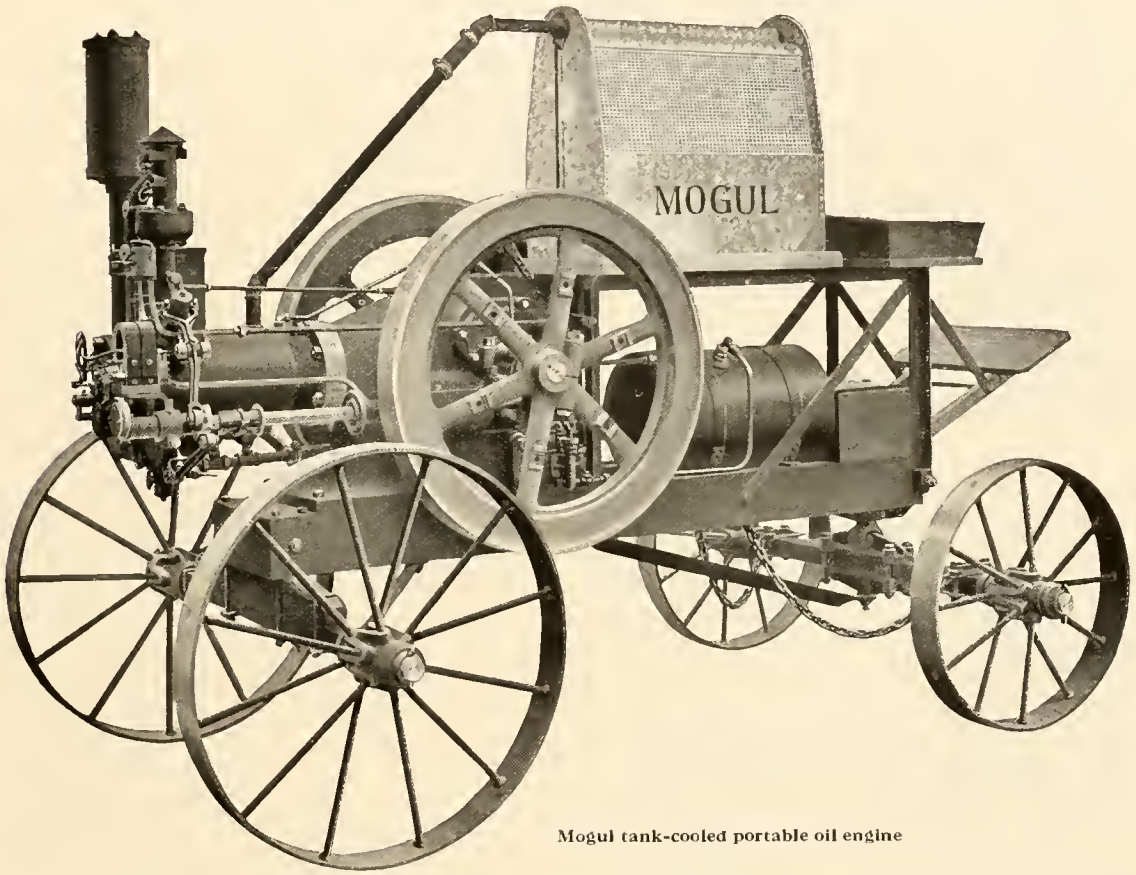
Equipment—Mogul tank-cooled mounting oil-engines are equipped complete for running with the following accessories: One regular size plain pulley, one galvanized fuel tank, one galvanized steel water-cooling tank, magneto, muffler, tool box with oil can, oil, and necessary tools.

Special Accessories—Special size plain pulleys, friction clutch pulleys, etc., can be furnished on special order.

See pages 19 to 23.

H. P.	Speed R. P. M	Regular Pulley		Flywheel		Capacity Fuel Tank Gallons	Base Measures, In.		Height Inches from bottom of Base	Approximate Shipping Weight, Pounds
		Diameter Inches	Face Inches	Diameter Inches	Face Inches		Width of Frame	Length of Frame		
4	450	16	12¾	30	2½	10	10	23	39½	1274
6	425	18	10¾	33	3½	10	11¾	25	42¾	1663
8	400	20	10¾	37	3½	17	14	30½	46¾	2504
10	375	22	10¾	41	3½	17	14⅝	32¾	46¾	2775
12	350	22	14¾	45	3½	25	16¾	36	52	3224
15	325	24	14¾	50	3½	25	17¾	39	55½	4145

Mogul Tank-Cooled Portable Oil Engines



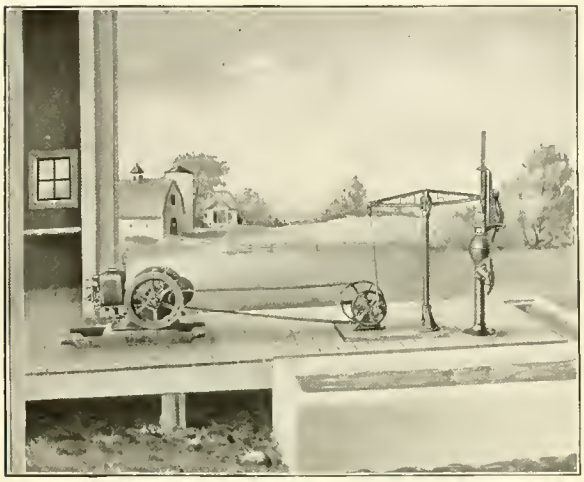
Mogul tank-cooled portable oil engine

Mogul tank-cooled portable oil engines are especially adapted for threshing, filling the silo, running corn shellers, etc. They are built for hard work and long hours and can be relied on to give smooth, even power on a low fuel consumption. The water tank is elevated so that no water pump is necessary. This allows the fuel tank to be placed underneath, thus saving space. These engines will operate on kerosene, solar oil, gas oil, distillate as low as 39° Baume, motor spirits, naphtha or gasoline. Detailed description of parts on pages 25 to 27.

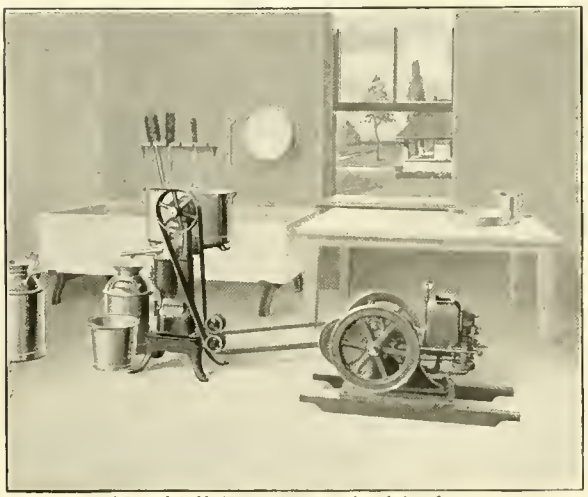
Equipment—Mogul tank-cooled portable engines are completely equipped, ready to run with the following accessories: Galvanized cooling tank, galvanized fuel tank, exhaust muffler, friction clutch pulley, magneto, tool box, necessary tools, oil can, oil, doubletrees, pole, neckyoke, and wheel braces.

Special Accessories—Special size plain pulleys, friction clutch pulleys, brake, shafts in place of pole on 4 and 6-H. P. sizes, etc., can be furnished on special order. See pages 20 to 23.

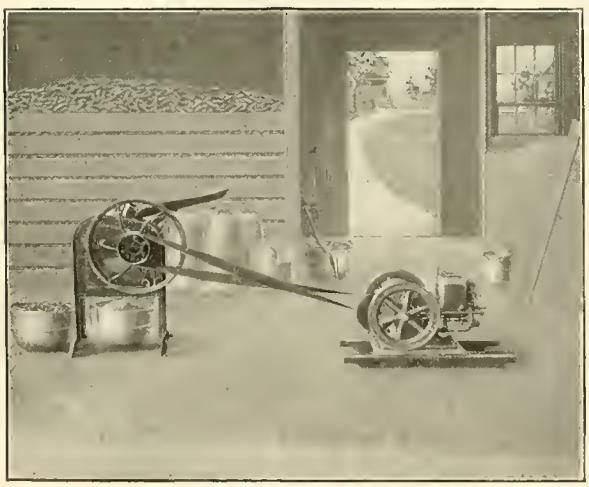
H P	Speed R. P. M	Regular Friction Clutch Pulley		Flywheel		Capacity Fuel Tank Gallons	Tread Inches	Size Truck Wheels, Inches		Height Inches	Approximate Shipping Weight, Pounds
		Diameter Inches	Face Inches	Diameter Inches	Face Inches			Front	Rear		
4	450	20	6½	30	2½	10	48	24	28	63	1684
6	425	22	6½	33	3½	10	50	26	34	67	2520
8	400	24	6½	37	3½	17	55	30	38	82	3367
10	375	26	6½	41	3½	17	55	30	38	82	3658
12	350	28	9½	45	3½	25	64	30	38	84	4729
15	325	30	9½	50	3½	25	64	30	38	84	5352



Mogul 1-H. P. oil engine on the stock farm



Mogul 1-H. P. engine on the dairy farm



Mogul 1-H. P. engine on the general farm

Mogul Small Oil Engines

Every farmer has use for one of these Engines 365 days in the year

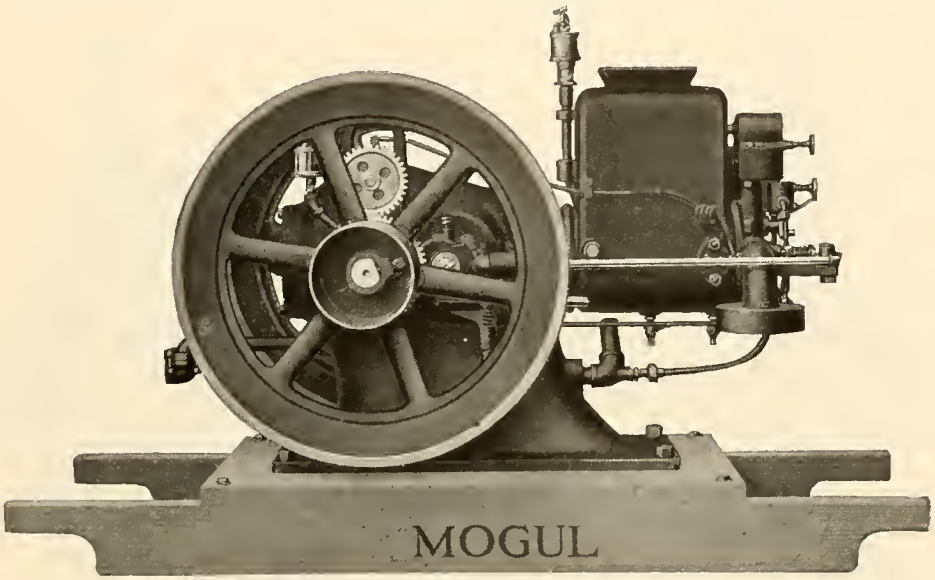
Mogul 1, 1¾ and 2½ H. P. engines are real oil engines, designed especially for operating on kerosene but they will also operate on motor spirits, naphtha or gasoline equally well. They are built with all the precision of a locomotive and include many of the features of the larger Mogul oil engines.

They are so simple that the housewife can easily learn to operate them, and they are *safe*. The fuel tank is below the level of the mixer, and the fuel is pumped to the mixer the same as on the larger Mogul engines, so that it is impossible for the fuel to leak out or run over. The ignition is make-and-break, and the electricity for the spark is supplied by a high grade gear driven magneto built into the engine. No batteries are needed on these engines either for starting or running, so that a big expense is saved in battery renewals not to mention the trouble and time lost on exhausted batteries.

Cleanliness is another strong point of these engines. The enclosed crank case makes it possible to keep all the burned gas from escaping into the room when the exhaust is piped outside. This is a very important feature where an engine is used for dairy work as it **prevents the milk, cream and butter from absorbing the burned gas odors.**

These engines can be used any place where power is needed. They are safe, clean, reliable, and do not give off objectionable odors.

Mogul Small Hopper-Cooled Oil Engines



Mogul 1-H. P. oil engine—a complete little power plant

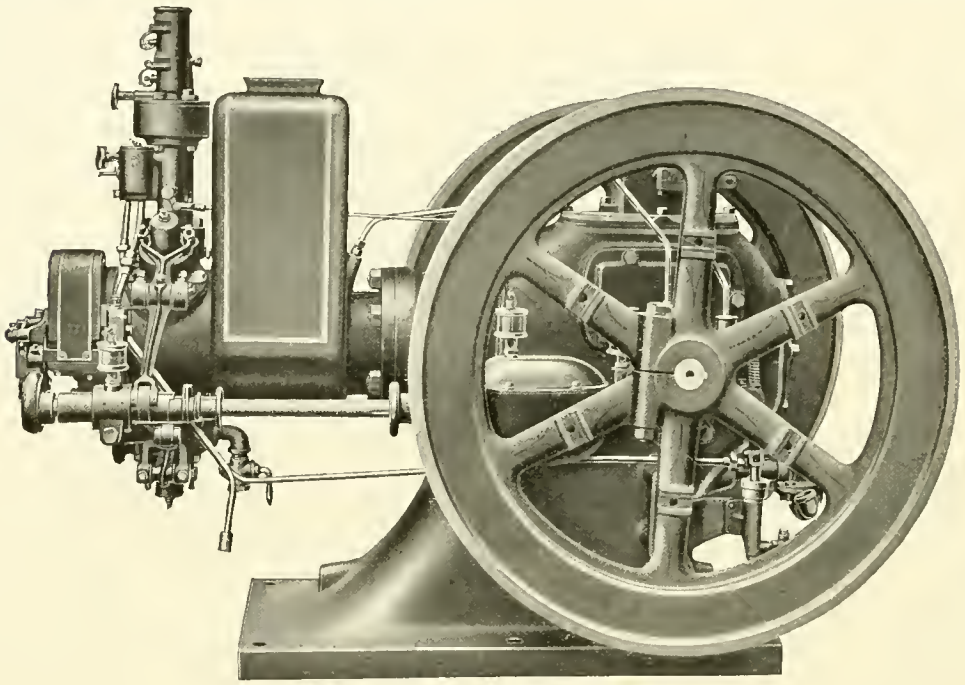
Mogul small hopper-cooled oil engines are the most complete and reliable small engines ever designed for the small work around the farm. They operate on kerosene the same as the larger Mogul engines and will operate the small machines around the farm at so low a cost that it is hardly worth while figuring compared to the work accomplished. If desired, they will operate equally well on motor spirits, naphtha or gasoline without any change in adjustment or equipment so that you can use the fuel that sells at the lowest price in your locality. The complete outfit is mounted on neat hand skids so that the engine can be easily moved around. A description of the construction will be found on page 24.

Equipment—Mogul small hopper-cooled engines are shipped completely equipped and include the following accessories: One plain pulley, galvanized fuel tank, magneto, oil can, can of lubricating oil and necessary tools all mounted on wood skids.

Special Accessories—On special order at extra cost, a reducing gear and pulley for operating cream separator, etc., hand truck equipment and special plain or friction clutch on $1\frac{3}{4}$ and $2\frac{1}{2}$ H. P. pulleys, can be furnished for all three sizes. See pages 19 and 23.

H P.	Speed R. P M.	Regular Pulley		Flywheel		Capacity of Hopper Gallons	Capacity of Fuel Tank Gallons	Skids Measure Inches	Height of Outfit Inches	Approximate Shioping Weight Pounds
		Diameter Inches	Face Inches	Diameter Inches	Face Inches					
1	600	6	2½	17	1⅝	1½	¾	22 x42	20⅝	290
1¾	550	5	5½	20	1¾	3	1	25⅜x48	25¼	350
2½	500	5	5½	22	2¼	4	1½	28½x54	28¼	500

Mogul Hopper-Cooled Stationary Oil Engines



Mogul hopper-cooled stationary oil engine

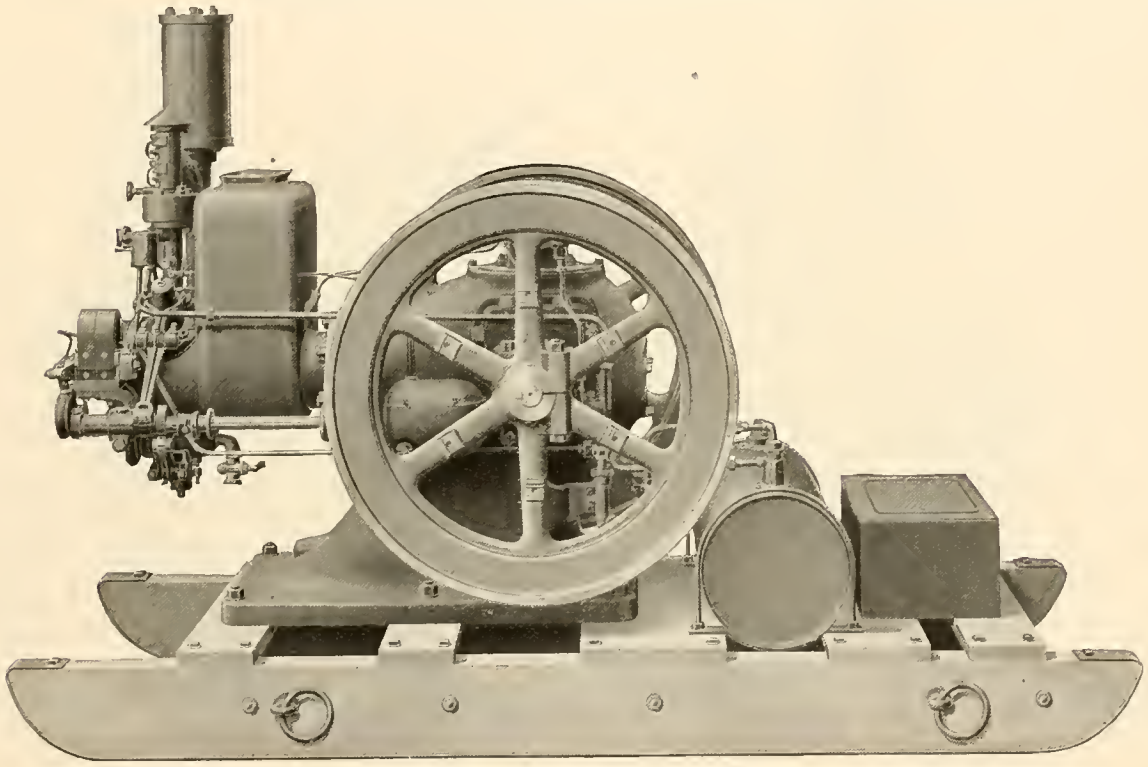
Mogul hopper-cooled stationary oil engines are adapted for intermittent power work where space is a factor. They are very convenient for farm power houses, contractors' use, and other work requiring an engine that can be started or stopped at any time at a moment's notice. Except for the cooling system, they are similar in construction to the Mogul tank-cooled engines. They will operate on kerosene, solar oil, gas oil, distillate as low as 39° Baume, motor spirits, naphtha or gasoline. Pages 25 to 27 describe the construction of many features found on no other engine.

Equipment—Mogul hopper-cooled stationary oil engines are equipped complete for running with the following accessories: One galvanized steel fuel tank with two lengths of pipe and fittings to install the tank outside the building and connect it with engine, one regular size plain pulley, exhaust pot with one length of pipe, magneto, tool box, template, anchor bolts, oil can, can of oil and necessary tools.

Special Accessories—Special size plain pulleys, friction clutch pulleys, etc., can be furnished on special order. See pages 20 to 23.

H. P.	Speed R. P. M	Regular Plain Pulley		Flywheel		Capacity of Hopper Gallons	Capacity of Fuel Tank Gallons	Floor Space Inches	Height Over All, Inches	Approximate Shipping Weight, Pounds
		Diameter Inches	Face Inches	Diameter Inches	Face Inches					
4	450	16	12¼	30	2½	6	54	51 x36¼	32	1468
6	425	18	10¼	33	3½	9	54	56¼x38	36	1900
8	400	20	10¾	37	3½	12	54	63 x39¾	40	2736
10	375	22	10¼	41	3½	15	54	68 x41½	44	3420

Mogul Hopper-Cooled Skidded Oil Engines



Mogul hopper-cooled skidded oil engine

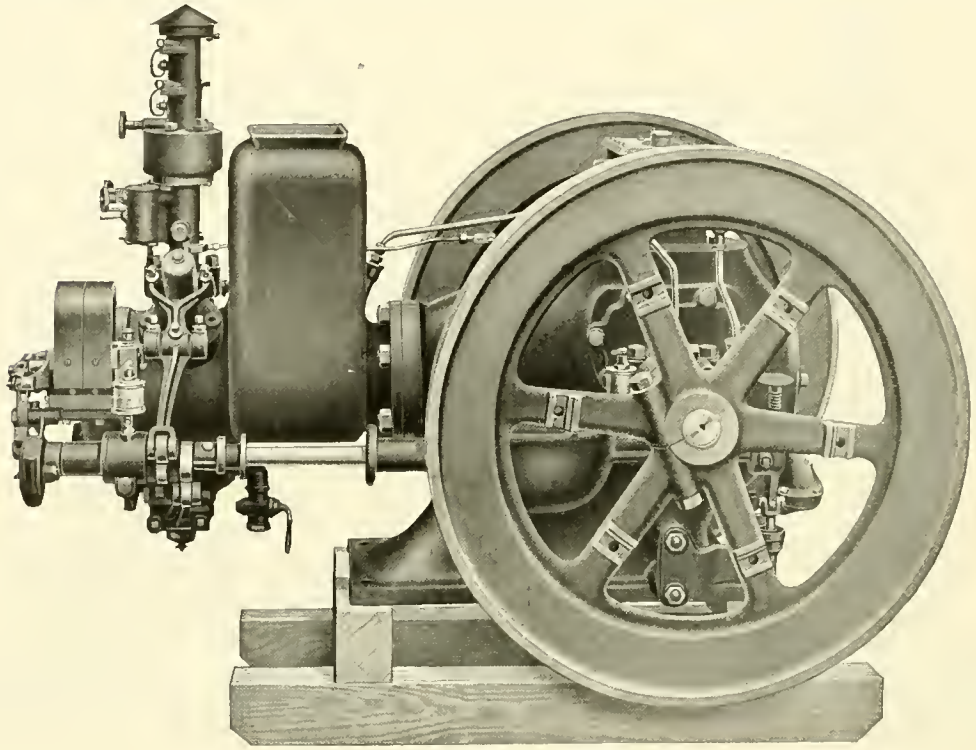
Mogul hopper-cooled skidded engines are particularly adapted to farm work. They are simple, lighter in weight than the tank-cooled engines, and are easily hauled around. The outfit is self-contained. If the fuel and oil tanks are kept full, all that is needed for starting is a bucket of water for the hopper. No battery wires to come loose or batteries to run down. The magneto is always ready. They will operate on kerosene, solar oil, gas oil, distillate as low as 39° Baume, motor spirits, naphtha or gasoline. See pages 25 to 27, describing the many exclusive features you get on Mogul engines.

Equipment—Mogul hopper-cooled skidded oil engines are completely equipped ready to run with the following accessories: One regular size plain pulley, one muffler, one galvanized steel fuel tank, magneto, tool box, oil can, oil and necessary tools, all mounted on substantial wood skids.

Special Accessories—Different size plain pulleys, friction clutch pulleys, hand trucks, etc., can be furnished on special order. See pages 20 to 23.

H. P.	Speed R. P. M	Regular Plain Pulley		Flywheel		Capacity of Hopper Gallons	Capacity of Fuel Tank Gallons	Base Measures Inches		Height of Outfit Inches	Approximate Shipping Weight, Pounds
		Diameter Inches	Face Inches	Diameter Inches	Face Inches			Width of Engine	Length of Skids		
4	450	16	12¼	30	2½	6	10	40¼	85¼″	53½	1400
6	425	18	10¼	33	3½	9	12	40¼	90″	63	1844
8	400	20	10¼	37	3½	12	16	41¼	100⅝″	66½	2425
10	375	22	10¼	41	3½	15	20	42¼	105″	68	2965

Mogul Hopper-Cooled Mounting Oil Engines



Mogul hopper-cooled mounting oil engine

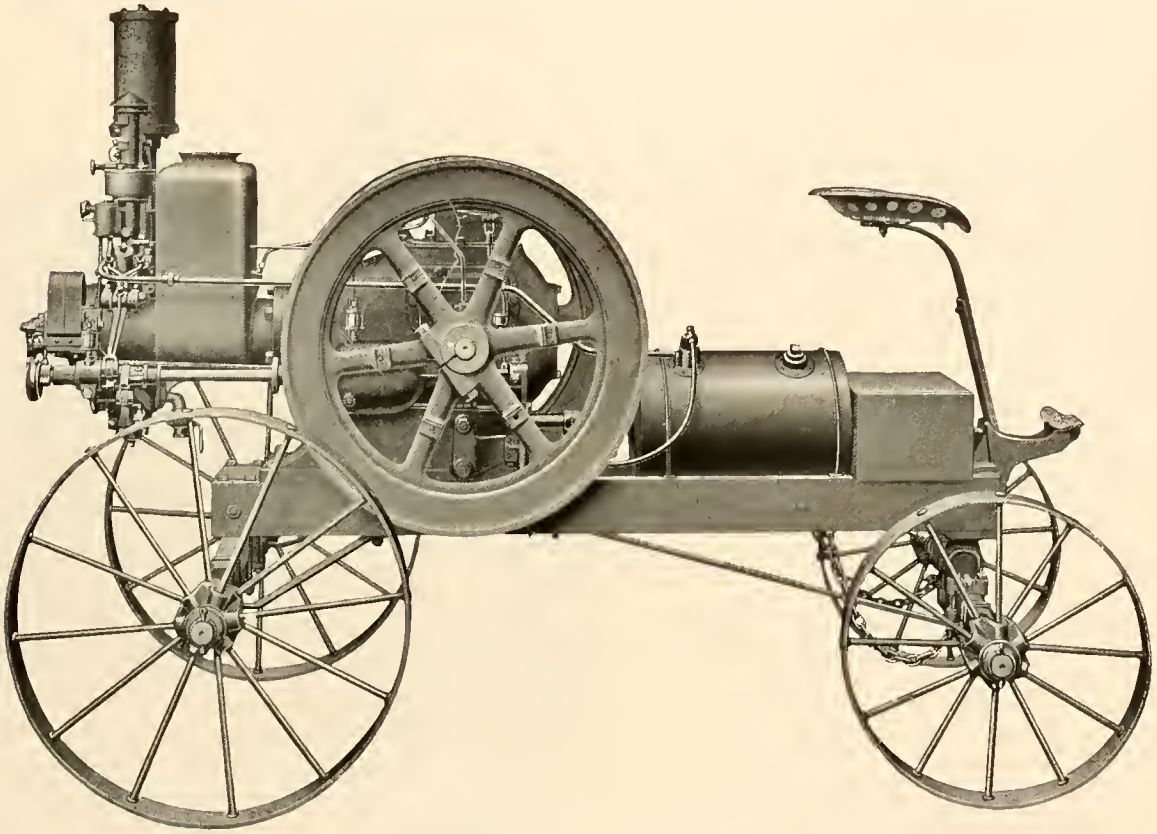
Mogul hopper-cooled mounting oil engines are particularly adapted for farmers who desire to mount their own sawing, threshing or other self-contained outfits. This engine mounted on a farm truck also makes a very desirable portable engine. It has a half base for low mounting and is shipped mounted on temporary shipping skids. It will operate on kerosene, solar oil, gas oil, distillate as low as 39° Baume, motor spirits, naphtha or gasoline. See pages 25 to 27 for detailed description ofparts.

Equipment—Mogul hopper-cooled mounting oil engines are equipped complete for running with the following accessories: One regular size plain pulley, one galvanized steel fuel tank, one muffler, magneto, one tool box, oil can, oil and necessary tools.

Special Accessories—Special size plain pulleys, friction clutch pulleys, etc., can be furnished on special order. See pages 20 to 23.

H. P.	Speed R. P. M	Regular Pulley		Flywheel		Capacity of Hopper Gallons	Capacity of Fuel Tank Gallons	Base Measures Inches		Approximate Shipping Weight, Pounds
		Diameter Inches	Face Inches	Diameter Inches	Face Inches			Width of Frame	Length of Frame	
4	450	16	12¼	30	2½	6	10	10	23	1305
6	425	18	10¼	33	3½	9	10	11¼	25	1662
8	400	20	10¼	37	3½	12	17	14	30½	2167
10	375	22	10¼	41	3½	15	17	14⅝	32¾	2770

Mogul Hopper-Cooled Portable Oil Engines



Mogul hopper-cooled portable oil engine

Mogul hopper-cooled portable oil engines are adapted to all portable farm work. They are very simple, substantial outfits and will give a most satisfactory account of themselves up to the limit of their capacity. They are very economical to run as they require no batteries and run on low grade fuels. They will operate on kerosene, gas oil, solar oil, distillate as low as 39° Baume, motor spirits, naphtha or gasoline. See pages 25 to 27 describing the many desirable Mogul features.

Equipment—Mogul hopper-cooled portable oil engines are completely equipped for running, with the following accessories: One galvanized fuel tank, exhaust muffler, friction clutch pulley, magneto, tool box, necessary tools, oil can, oil, doubletrees, pole, neckyoke and wheel braces.

Special Accessories—Special size plain pulleys, friction clutch pulleys, brake, shafts in place of pole on 4 and 6-H. P. sizes, etc., can be furnished on special order. See pages 20 to 23.

H P	Speed R P M.	Regular Friction Clutch Pulley		Flywheel		Capacity Fuel Tank Gallons	Capacity Hopper Gallons	Tread Inches	Size of Truck, Wheels, Inches		Height Inches	Approximate Shipping Weight, Pounds
		Diameter Inches	Face Inches	Diameter Inches	Face Inches				Front	Rear		
4	450	20	6½	30	2½	10	6	48	24	28	63	1950
6	425	22	6½	33	3½	10	9	50	26	34	67	2338
8	400	24	6½	37	3½	17	12	55	30	38	82	3262
10	375	26	6½	41	3½	17	15	55	30	38	82	3715

Mogul Oil Engine

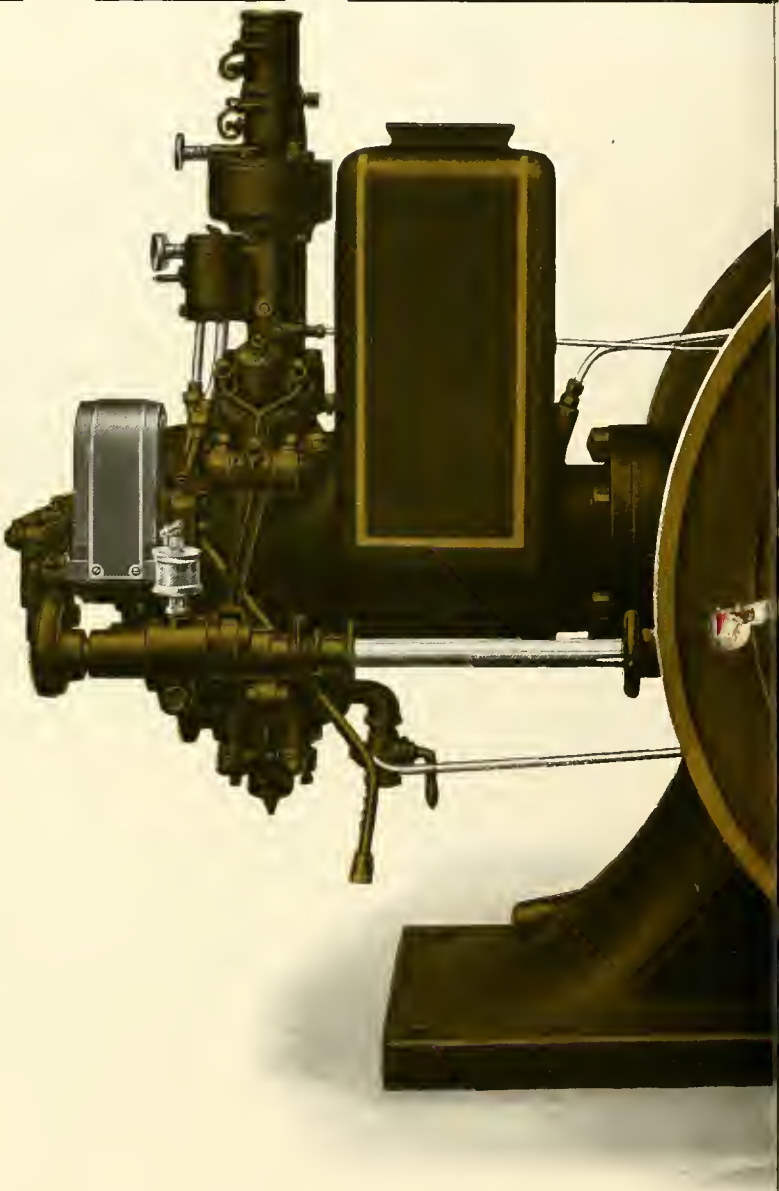
Exclusive Mogul Design Gives You Better Power

—Mogul Oil Mixers on all sizes

—4 to 15 H. P. sizes are side shaft design

—Enclosed crank case on all sizes

—Mogul valve cages on engines from 4-H. P. up



Mogul hopper-cooled

Cheaper to Operate

s for Farm Work

Can You Get All This With Any Other Engine?

—Built-in magneto, no batteries necessary

—Automatic force feed oiler on 4 H. P. and larger

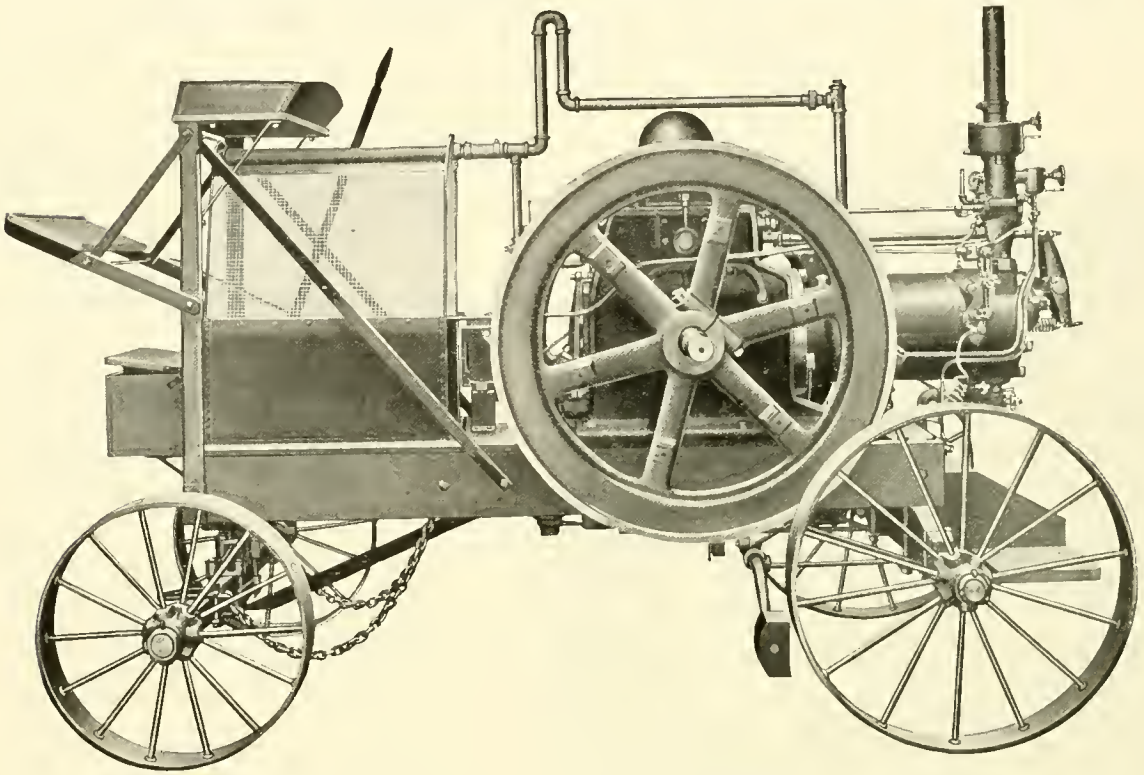
—Steel tool box on engines 4 H. P. and larger and all necessary tools.

—Stationary engines include all piping, tank for outside installation, anchor bolts, etc.

tionary oil engine

and More Complete

Mogul Large Portable Oil Engines



Mogul 20-H. P. tank-cooled portable oil engine

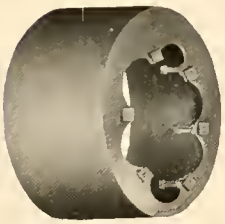
These engines are adapted to the heaviest kind of portable work, such as threshers, large ensilage cutters, corn shellers, etc. They are equipped with a special heavy truck so that they can be hauled over the roughest roads. The engine is equipped with gear driven magneto, throttling governor, mechanically operated valves in removable cages, relief cam, and mechanical oiler. A complete description will be found on pages 28 and 29.

Equipment—Mogul large tank-cooled portable oil engines are completely equipped, ready to run with the following accessories: One galvanized cooling tank, one galvanized fuel tank, exhaust muffler, friction clutch pulley, magneto, battery box, batteries, spark coil, switch, necessary tools, oil can, oil, doubletrees, pole, neckyoke and wheel braces. A brake is regularly furnished with all 20 and 25-H. P. portable engines. Wheels with 8-inch face can be furnished on special order for the 20-H. P. portable engine truck. These wheels cannot, however, be furnished for engines in the field.

Special Accessories—Special size friction clutch pulleys, can be furnished on special order, up to and including 36-inch diameter. See page 20.

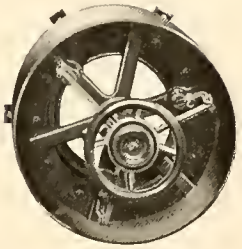
H P	Speed R P M	Regular Friction Clutch Pulley		Flywheel		Capacity Fuel Tank Gallons	Tread Inches	Size Truck Wheels Inches		Height Inches	Approximate Shipping Weight Pounds
		Diameter Inches	Face Inches	Diameter Inches	Face Inches			Front	Rear		
20	350	28	10½	48	4½	29	68	30x6	38x6	93	6890
25	350	28	10½	56	4¾	29	68	30x8	38x8	93	7000

Mogul Oil Engines for Farm Work



Plain pulley

Special Size Plain and Friction Clutch Pulleys for Engines from 1 to 2½ H. P.



Friction clutch pulley

Friction Clutch Pulleys—Classified by Sizes

Diameter Inches	Face Inches	Pulley Only No Carrier	1¼ H P Pulley Comp. With Carrier	2½ H P Pulley Comp With Carrier	Diameter Inches
10	4½	930 T	2935 T	2941 T	10
12	4½	931 T	2936 T	2942 T	12
14	4½	932 T	2937 T	2943 T	14
16	4½	933 T	2938 T	2944 T	16
18	4½	934 T	2939 T	2945 T	18
20	4½	935 T	2940 T	2946 T	20

Plain Pulleys—Classified by Sizes

Diameter Inches	Face Inches	1 H. P Pulley No.	1¼ H P Pulley No.	2½ H P. Pulley No.	Diameter Inches
3	5½	.....	942 T	954 T	3
*4	2½	966 T	.....	.....	4*
4	5	967 T	.....	.....	4
4	5½	.....	943 T	955 T	4
5	5½	.....	944 T	956 T	5
*6	2½	968 T	.....	.....	6*
6	5	969 T	.....	.....	6
6	5½	.....	945 T	957 T	6
*7	2½	982T	.....	.....	7
7	5½	.....	946 T	958 T	7
8	5½	.....	947 T	959 T	8
*8½	2½	981T	.....	.....	8½
10	5½	.....	948 T	960 T	10
12	5½	.....	949 T	961 T	12
14	5½	.....	950 T	962 T	14
16	5½	.....	951 T	963 T	16
18	5½	.....	.....	964 T	18
20	5½	.....	.....	965 T	20

* Crown Face Pulley

Note.—A friction clutch pulley consists of a carrier which contains the friction clutch and is mounted on the engine fly wheel and a pulley ring, which is mounted on the carrier. In ordering friction clutch pulleys where several sizes are needed, only one carrier need be ordered for one engine, as the different size pulley rings can be mounted on the same carrier.

Special Size Friction Clutch and Plain Pulleys

For Engines From 4 to 15 H. P. and Larger

Diameter Inches	Width of Face—Inches					
	Friction Pulleys			Plain Pulleys		
	4 and 6-H P	8 and 10-H P	12 and 15-H P	4 and 6-H P	8 and 10-H P	12 and 15-H P
8				12	12	12
10				12¼	12¼	12¼
12				12¼	12¼	12¼ 10
14	6½	6½	6½	12¼	12¼	12¼
16	6½	6½	6½ 8½ 12½	12¼	12¼	12¼ 12½
18	6½	6½	6½ 8½ 10½ 12½	10¼	10¼	10¼
20	6½	6½	6½ 8½ 10½ 12½	10¼	10¼	10¼ 16¼
22	6½	6½	6½ 9½ 10½ 12½	10¼	10¼	10¼ 14¼
24	6½	6½	6½ 9½ 10½ 12½	9½	9½	9½ 14¼ 16¼

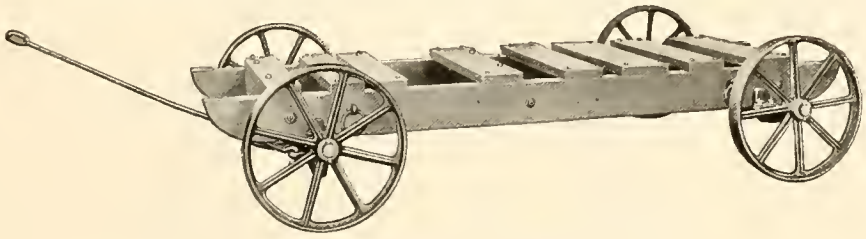
Diameter Inches	Width of Face—Inches					
	Friction Pulleys			Plain Pulleys		
	4 and 6-H P.	8 and 10-H P	12 and 15-H P	4 and 6-H P	8 and 10-H P	12 and 15-H P
26	6½	6½	6½ 9½ 10½ 12½	9½	9½	9½ 12¼ 14¼
28	6½	6½	6½ 9½ 10½	9½	9½	9½ 16¼
30	6½	6½	6½ 9½ 10½	9½	9½	9½ 16¼
32	6½	6½	6½ 9½ 10½	9½	9½	9½ 14¼
34	6½	6½	6½ 9½ 10½	9½	9½	9½ 14¼
36	6½	6½	6½ 9½ 10½	9½	9½	9½ 14¼
38			9½ 10½			12¼
40			9½ 10½			12¼
42			9½ 10½			10¼

Friction Clutch Pulleys for 20 and 25 H.-P. Mogul Engines

Diameter	Face	Pulley Only no Carrier	Carrier	Pulley With Carrier	Diameter
18″	12½″	G 7734	5567 T	9308 T	18″
20″	12½″	G 7285	5567 T	9313 T	20″
22″	12½″	G 7846	5567 T	9318 T	22″
24″	12½″	G 7595	5567 T	9322 T	24″
26″	12½″	G 7843	5567 T	9326 T	26″
28″	10½″	G 882	5568 T	9328 T	28″
30″	10½″	G 883	5568 T	9330 T	30″
32″	10½″	G 884	5568 T	9332 T	32″
34″	10½″	G 885	5568 T	9334 T	34″
36″	10½″	G 886	5568 T	9336 T	36″

Four-Wheel Hand Truck

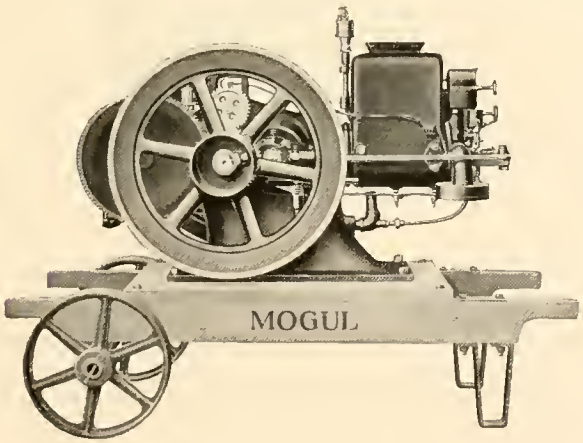
Attachment for Skidded 4, 6, 8 and 10-H. P. Engines



Engine Truck Attached to Engine Skids

The truck consists of rear axle with wheels, front axle with wheels, hand tongue, and four 5/8 inch square-head bolts. Upon each axle held by a "U" bolt are two castings slotted to fit over the heads of the bolts in the skid, and when so placed, hold the truck in position. This truck can be placed under any 4, 6, 8 or 10-H. P. skidded engine skid now in the field or can be shipped from the factory with engine.

Diameter of wheels, 25½ inches. Face of wheels, 3 inches. Shipping weight, about 550 pounds.



Mogul 1-H. P. Engine on Hand Truck

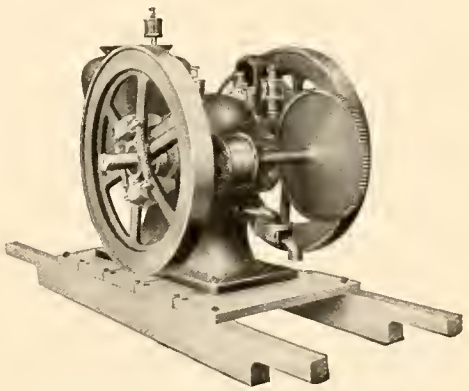
Two-Wheel Hand Truck

A two-wheel hand truck consisting of iron supports for front end and iron axle and wheels for rear end with a wheel lock can be furnished for the 1, 1¾ and 2½-H. P. engines. This truck can be shipped with the engine or attached in the field. The wheel lock is a special feature on these hand trucks and prevents the engine from moving when belted up to a machine.

Reducing Gear and Pulley

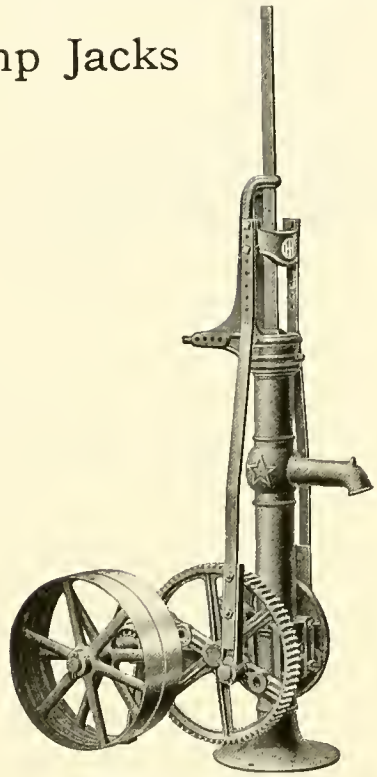
A reducing gear and pulley for operating cream separators, pump jacks, etc., can be furnished for 1, 1¾ and 2½-H. P. engines on special order. It can be shipped with the engine if desired or easily attached in the field.

H P.	R. P. M.	Pulley		Speed Face Pulley
		Dia.	Face	
1	150	3 5/8"	2 3/16"	146' Per Min.
1¾	138	3 7/8"	2 3/16"	146' Per Min.
2½	125	4 3/8"	2 3/16"	146' Per Min



Mogul 1-H. P. Engine with Reducing Gear

Pump Jacks



Standard Pump Jack No. 1

Standard Pump Jack No. 2

Standard Jack No. 1

This jack is designed to attach direct to the standard of any common windmill pump and will pump all the water needed on the ordinary farm. It is substantially constructed of iron and should last a lifetime. It is clamped to the pump and bolted to the well cover or pump foundation. The No. 1 is recommended for pumping from wells up to 50 feet deep with a 3½-inch cylinder or up to a 100-foot head with a 2½-inch cylinder.

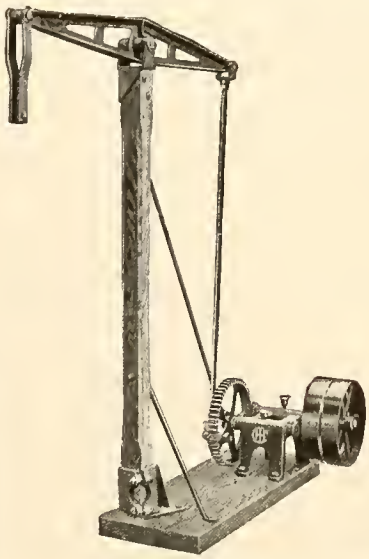
Standard Jack No. 2

The Standard No. 2 jack is similar to the No. 1, but is built heavier and is suitable for pumping from wells up to 200 feet deep. It is used extensively on ranches, stock farms, dairy farms and for pumping from deep artesian wells where a powerful jack is required. Like No. 1 it can be attached to a common windmill pump. This jack is strongly constructed of iron with heavy cast double gears and will give the best of service.

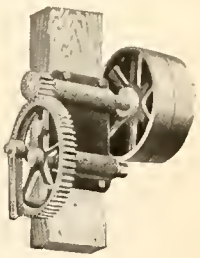
Type of Pump Jack	Maximum Head, Feet	Length of Stroke, Inches	Strokes Per Minute	Size of Engine to be used with	Ratio of Gears	Pulley			Weight, Pounds
						Size Inches	Face Inches	Speed R.P.M.	
Standard No. 1.....	100′ with 2½″ Cyl.	5, 7, 9, 11	40	1 to 2-H. P.	5.7 to 1	14¼	2½	230	120
Standard No. 2.....	200′ with 2½″ Cyl.	5, 7, 9, 11	40	2-H. P.	5.7 to 1	14¼	2½	230	139

When pump jacks are used to pump with a smaller head, the size of the pump cylinder can be increased.

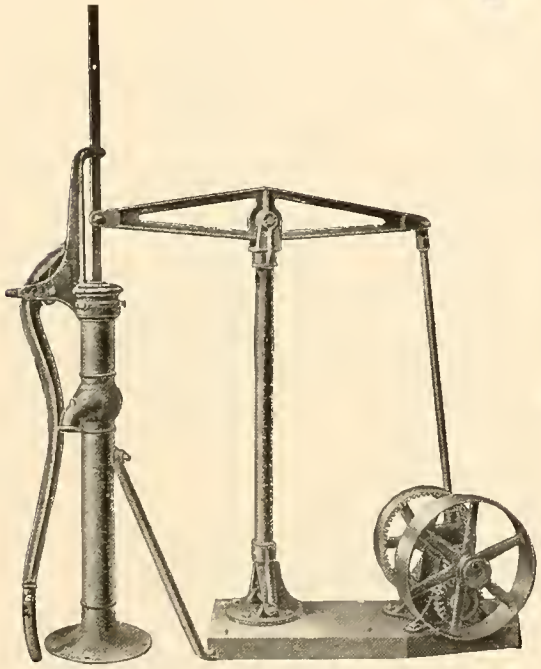
Pump Jacks



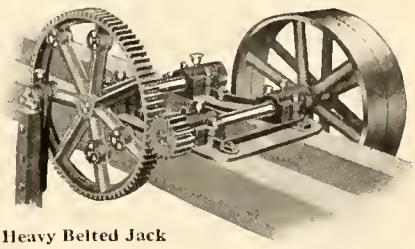
Walking Beam Jack No. 2



Regular Belted Jack



Walking Beam Jack No. 1



Heavy Belted Jack

Walking Beam Jack No. 1—This jack is all iron except the base. It should not be used for pumping against greater than a 100-foot head with a 2¼-inch cylinder. The jack is well constructed from the best grade of materials, and with proper care should last a lifetime.

Walking Beam Jack No. 2—This walking beam pumping jack is a heavier jack than the No. 1 and can be used to lift water in wells not deeper than 200 feet. It is constructed of iron except the base and upright, which are of wood. The safe working load on the walking beam is 1,200 lbs., which is equivalent to a 4½-inch cylinder pumping against a 200-foot head.

Regular Belted Jack—This jack is suitable for ordinary farm pumping where the lift is not high and the work is light. It is well made with long bearings and heavy cast gears.

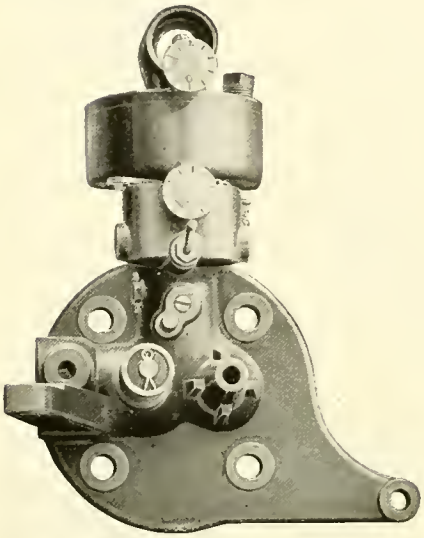
Heavy Belted Jack—The heavy belted pumping jack is an excellent jack for use in lifting water in wells not deeper than 400 feet. It is considerably heavier than the regular jack and has unusual strength and durability. It is designed to be used with engines up to and including 12-horse power. Stockmen and farmers who have deep wells find this heavy jack very desirable.

Type of Pump Jack	Maximum Head, Feet	Length of Stroke, Inches	Strokes per Minute	Size of Engine to be used with	Ratio of Gears	Pulley			Weight Pounds
						Size Inches	Face Inches	Speed R P M	
Walking Beam No. 1	100′ with 2¼″ Cyl	5 to 9¾	40	1 to 2-H. P.	7.1 to 1	13¾	2¾	285	152
Walking Beam No. 2	200′ with 4½″ Cyl	5, 7, 10	40	2 to 3-H. P.	4.66 to 1	14	3	185	303
Regular Belted Jack	200′ with 4½″ Cyl	5, 7, 10	40	1 to 3-H. P.	4.66 to 1	14	3	185	145
Heavy Belted Jack	400′	12,14,15,18,20	32	4 to 12-H. P	5 to 1	24	4½	160	515

When pump jacks are used to pump with a smaller head, the size of the pump cylinder can be increased.

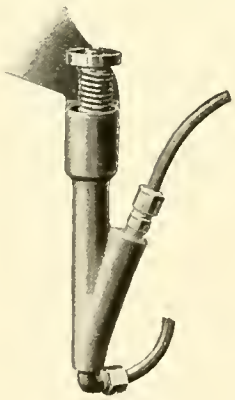
Construction of Mogul Oil Engines

1, 1¾ and 2½ H. P



Cylinder head with oil mixer and exhaust valve in place

I-beam type connecting rod



Fuel pump

Frame—The frame is a single, egg-shaped casting, forming base and crank base. This shape of frame is very much stronger for weight than the square type. The crank case is made with large hand holes with removable covers, to prevent oil and smoke from escaping into the engine room, and at the same time gives easy access to the piston and connecting rods within.

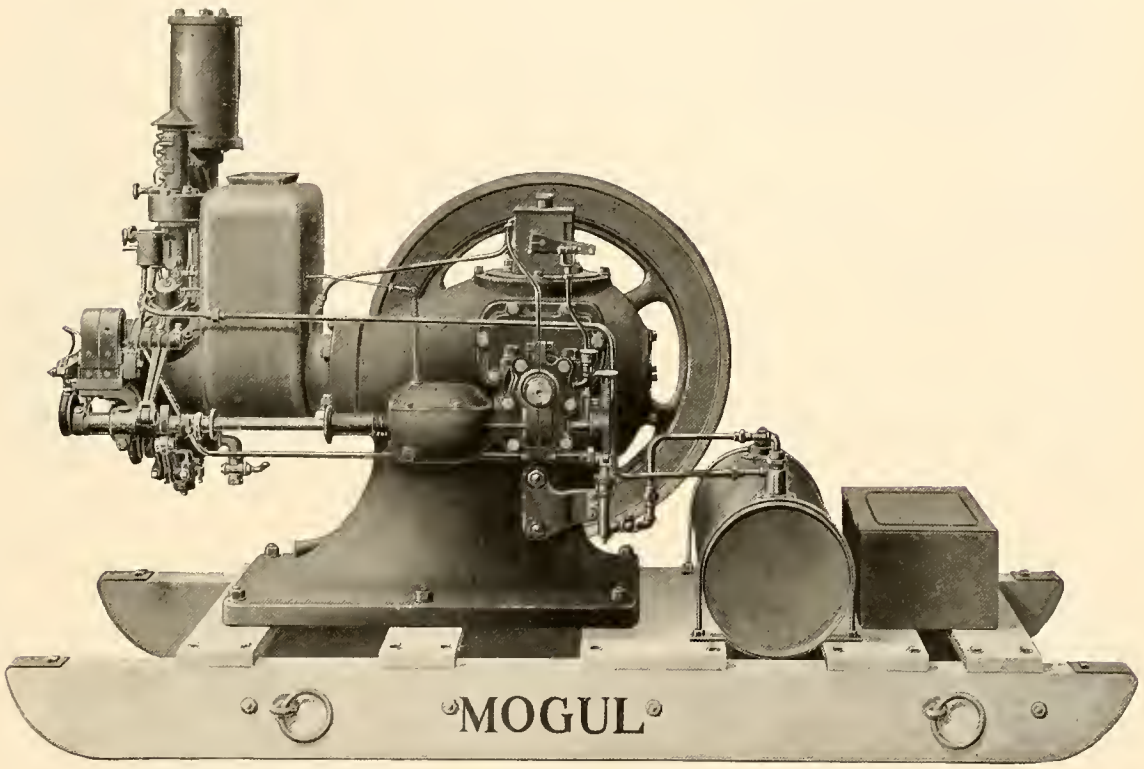
Connecting Rod and Crank Shaft—The connecting rod is a drop-forging of the "I" section type. It is furnished with removable bearings which can be very accurately adjusted. The crank shaft is drop forged and finished with a high polish, and is furnished with removable bearings which can be adjusted to take up wear. The crank shaft is regularly furnished with 3¼ inch extension on both ends, so that the engine can be easily geared to other machinery or the pulley can be placed on either end of the crank shaft.

Mixer—The mixer will handle kerosene, motor spirits or gasoline with equal efficiency without any change or special adjustment. Without the aid of a water injection, this can be accomplished by a special construction of Mogul engines and mixers, the design of which is patented.

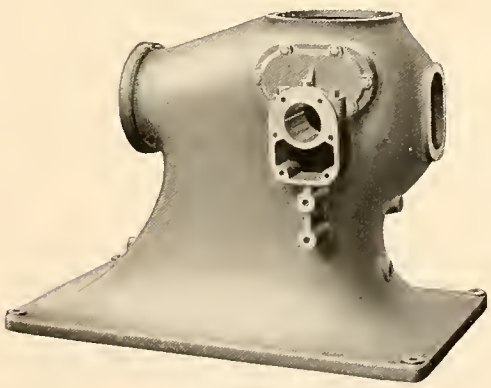
Ignition—Make-and-break ignition is used, the current for which is furnished by a gear driven magneto, and the engine can be easily started without batteries. This means a great saving, as battery renewals must be made at least once a year, and if the engine is run steady, much oftener.

Governor—A throttling type governor is used on this engine. The governor weights are located in the flywheel, and by means of a collar on the crank shaft and connections to the mixer, the butterfly valve is operated in the intake pipe.

Mounting—These engines are mounted on substantial wood skids complete. Skids are furnished with hand grips, and the engines can be easily moved about from place to place.



Mogul hopper-cooled skidded oil engine with fly wheel removed to show side shaft and governor



Engine frame

Note the large hand holes with removable covers

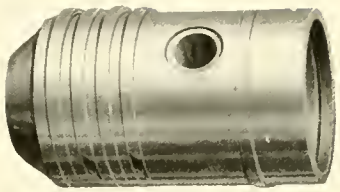
Construction of Mogul Oil Engines

4 to 15-H. P.

Engine Frame—The engine frame is a single casting which gives the greatest strength for the weight and the neatest appearance. The crank-shaft bearings are bushings babbitted with high-grade babbitt and can be easily removed. There are no moving parts in the crank case except the connecting rod and crank shaft, and the crank case is provided with large hand holes with removable covers.

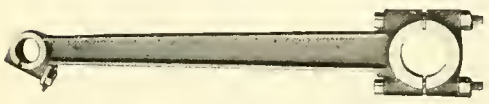
This type of frame has two great advantages. It is stronger for its weight and being completely enclosed prevents gas from escaping to the room and oil from flying around when used for inside work.

It also provides a more accurate bearing surface for the cylinder, especially when heated up, as the expansion is equal on both top and bottom.

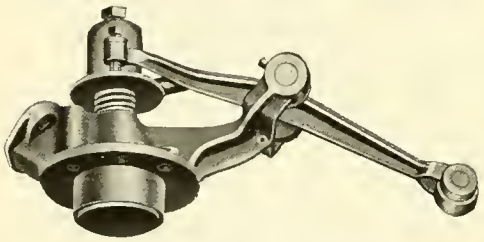


Piston

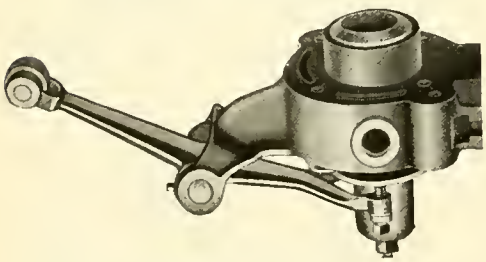
Crank shaft



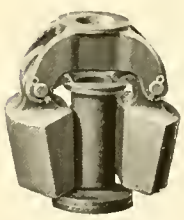
Connecting rod



Intake valve and cage



Water-cooled exhaust valve, cage and valve



Governor

Spiral gears

Piston—The piston is provided with five lap joint rings and both the piston and rings are accurately finished and ground. The wrist pin bearings are long solid bronze bushings. The wrist pin is clamped tight to the connecting rod and has its bearing in these bushings, thus increasing the bearing surface nearly three times.

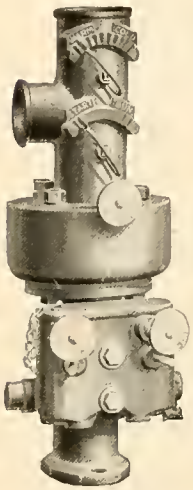
Cylinder—The cylinder is designed so that the only part fastened to the cylinder head is the ignitor which can easily be removed. Special attention has been given to the water jacket so that all parts liable to heat are reached by the cooling water. A hand hole located in the bottom of the cylinder is provided for cleaning out any sediment that may be deposited from the cooling water.

Valves—The cylinder is provided with caged valves which can easily be removed. The cooling water enters the water jacket through the exhaust valve cage so that the valve seat is always kept cool.

A hand wheel conveniently located is provided for relieving part of the compression for starting.

Cam Shaft—The cam shaft is located on the side of the engine and is operated by steel and bronze gears cut with great accuracy and run in oil. This type of cam shaft tends to produce a more perfect balance. The water pump, fuel pump and force feed oiler are operated by the cam shaft. On the cylinder end of the shaft are located the cams and ignitor mechanism. Both intake and exhaust valves are mechanically operated by means of cams on the shaft and tappet arms.

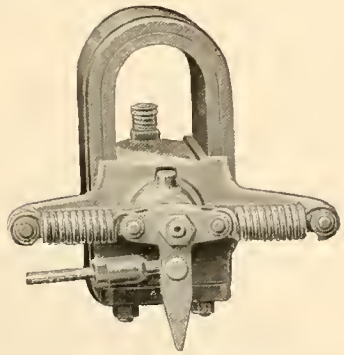
Governor—The governor is placed on this shaft near the gears. It is a spring-controlled, fly-ball throttling type governor and acts on a butterfly valve in the mixer. It is completely enclosed by a removable iron case so that dust or dirt cannot interfere with its operation. A hand wheel located on the shaft and operating on the governor is provided for changing the engine speed.



Oil Mixer

Fuel Pump

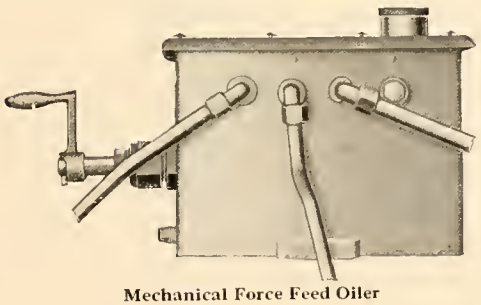
Mixer—The mixer is one of the many distinguishing features of this engine. It is especially designed for operation on the cheaper fuels such as kerosene, solar oil, gas oil, motor spirits, and distillate, but will operate equally well on gasoline or naphtha. It starts on gasoline and as soon as the engine is warmed up the lower grade fuel is turned on. On all Mogul engines the fuel tank is placed below the level of the mixer and a fuel pump is supplied with an overflow pipe leading back to the fuel tank. This method of supplying fuel is absolutely safe and on stationary engines permits the tank to be buried in the ground outside the building. The fuel pump is equipped with a hand operating device for pumping up fuel for starting.



Oscillating Magneto

Ignition—The ignition is of the make-and-break type. The current is furnished by the highest grade oscillating type magneto operated by a lever from the cam shaft. A lever and quadrant on the cylinder head are provided for changing the time of the spark. No batteries are needed. This feature alone eliminates many dollars of expense during the life of the engine for battery replacements.

Lubrication—The piston, connecting rod and crankshaft bearings are supplied with oil by the best automatic force feed oiler that can be bought. If there is oil in the tank, the bearings can never run dry on Mogul engines, and the operator can leave the engine and feel sure that it cannot be ruined by insufficient lubrication.



Mechanical Force Feed Oiler

Finish—Special attention is given to the finish on Mogul engines. They are primed and rubbed so that when the special coats of paint and varnish are applied, they present a perfectly smooth bright finish, and are engines that you can be proud of in every detail.

Piston and connecting rod

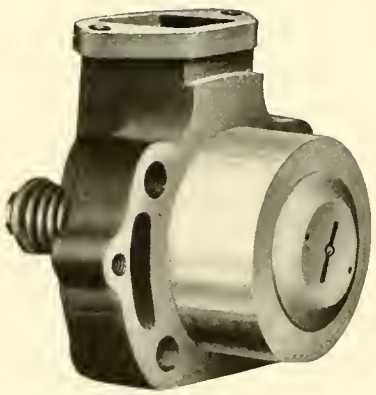
Description of Mogul 20 and 25-H. P. Oil Engines

(Illustrations and Specifications on page 10)

Design—These engines are of the four-cycle type of design conservatively rated at 20 and 25-H. P. Effort or expense have not been spared to make them economical, simple and reliable. Every part is strongly constructed with a generous factor of safety to withstand the heaviest working strain under which it is likely to be operated. Unlike the sizes from 4 to 15-H. P. these engines have the cam shaft located in the crank case.

Crank Case—The crank case is of the enclosed type, which protects the cam shaft, gears and piston from dust and dirt and effectually catches all waste oil; also is provided with a removable cover which can be easily removed for inspecting the working parts in the case. A breather with a spring diaphragm is secured to the crank case to relieve the compression therein.

Exhaust Valve—The exhaust valve is contained in a cage separate from cylinder head, so that it can be easily removed without disturbing the head, and is water-jacketed so that the cooling water from the cylinder water jacket circulates all around it, thus preventing it from becoming too hot from the exhaust gas and sticking or breaking.

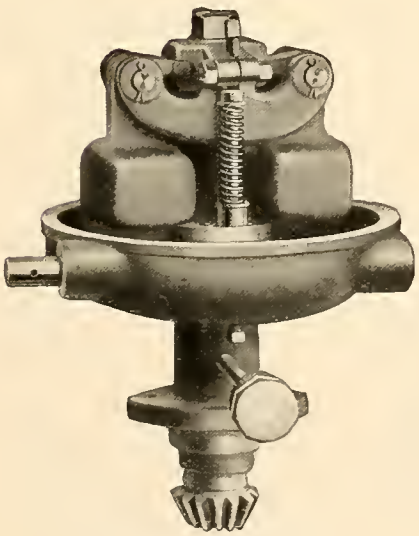


Water-cooled exhaust valve cage and valve

Inlet Valve—The inlet valve is mechanically operated and is contained in a cage separate from the cylinder head. By loosening a single nut, it can be easily removed without disturbing the cylinder head.

Piston and Connecting Rod—The piston is extra long, to insure ample wearing surface, and is provided with five lapped-joint piston rings. The connecting rod is an "I" section of special analysis steel drop forging. The crank pin bearings are replaceable, lined with special anti-friction metal, and are securely held in place with steel bolts, lock nuts and cotter pins, so that it is impossible for them to work loose. The piston pin bearings are replaceable phosphor bronze bushings.

Mixer



Governor with cap removed

Mixer—The mixer is designed to operate on kerosene, but will operate equally well on solar oil, gas oil, distillate down to 39° Baume, motor spirits, naphtha or gasoline. This is a very desirable feature as it enables the owner to operate his engine on the fuel cheapest in his locality. The mixer is very simple in design and can be relied upon under all conditions of weather. The fuel is pumped to the mixer by a pump operated from the cam shaft.

Governor—The governor is of the fly-ball throttling type, gear-driven from the cam shaft, and acts on a butterfly valve in the mixer. The governor is enclosed by a removable cover to protect it from dust and dirt.

Ignition—Make-and-break ignition is used. The stationary electrode of the igniter is insulated with a special mica insulation and can be easily removed for cleaning or inspection. Electric current for running is furnished by a high-grade, low-tension, engine-timed magneto, which is gear-driven from the cam shaft.

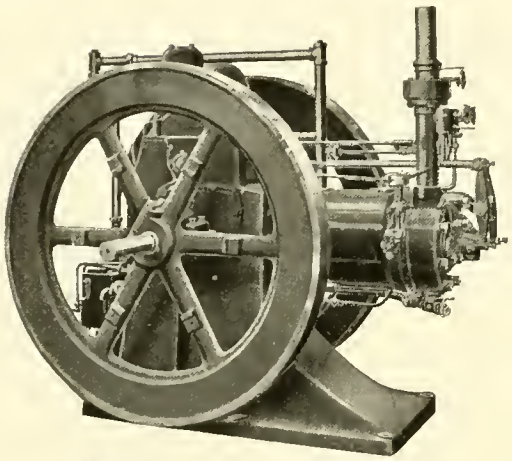
The regular battery equipment is also furnished for starting.

A relief cam is provided to reduce the compression for starting. It is thrown into and out of engagement by a small lever on the crank case. The spark can be advanced or retarded at the will of the operator by a lever.

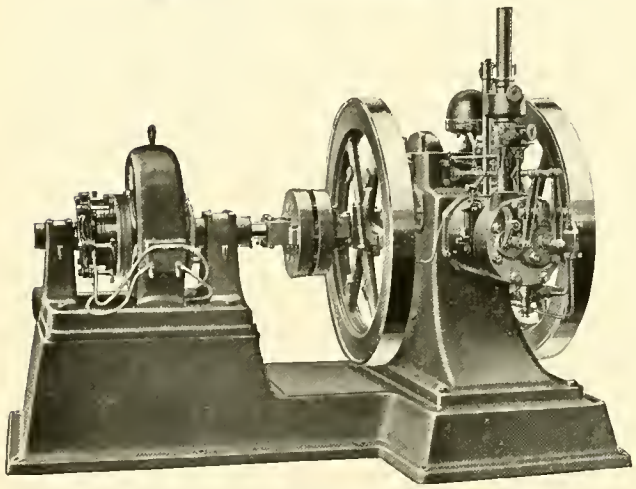
A relief cam is provided to reduce the compression for starting. It is thrown into and out of engagement by a small lever on the crank case. The spark can be advanced or retarded at the will of the operator by a lever.

Cooling—The cylinder is water-jacketed and connected to a spray tank by a special system of piping so arranged that a constant temperature is maintained at all loads.

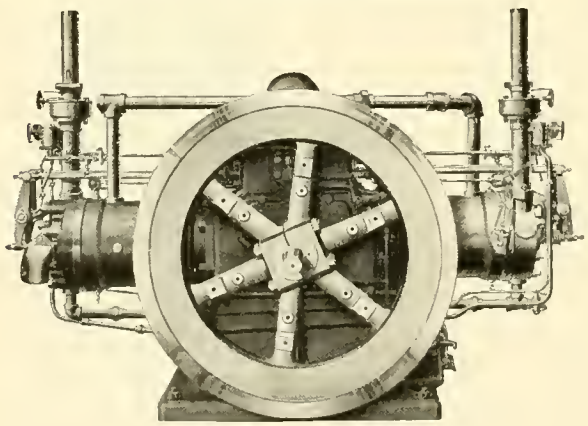
Lubrication—A three-feed mechanical oiler is supplied which lubricates the piston, connecting rod, main bearings and cam shaft. This oiler is of the force-feed type so that the bearings are always supplied with sufficient oil; at the same time none is wasted. Other bearings are equipped with suitable oil and grease cups.



Mogul 25 H. P. Stationary Oil Engine



Mogul 25 H. P. Oil Engine and Generator



Mogul 50 H. P. Stationary Oil Engine

Mogul Large Engines

For Standard Power Work

Mogul oil engines are built in 20 and 25 H. P. single cylinder types, and 50 H. P. two cylinder opposed type. These engines are particularly adapted for heavy continuous work, such as operating large grain elevators, large shops, small factories, municipal pumping plants, and electric light plants.

They are operated on kerosene, distillate, solar oil, gas oil, motor spirits, naphtha and gasoline, and on special order can be equipped for operation on natural or illuminating gas.

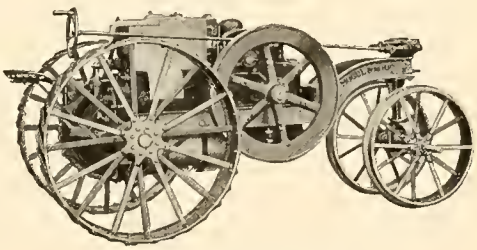
The construction is very heavy, they can be equipped with self-starting mechanism, so that it is not necessary for the operator to exert himself in starting. This operation is practically automatic. Mechanical force feed oilers supply the main bearings and the high grade magneto used insures perfect ignition.

These engines can be equipped for parallel operation for electric light and power work or direct connected singly to generators on special iron base.

They are extensively used throughout the country for this work and a special catalog on this subject will be mailed on request.

Mogul Oil Tractors

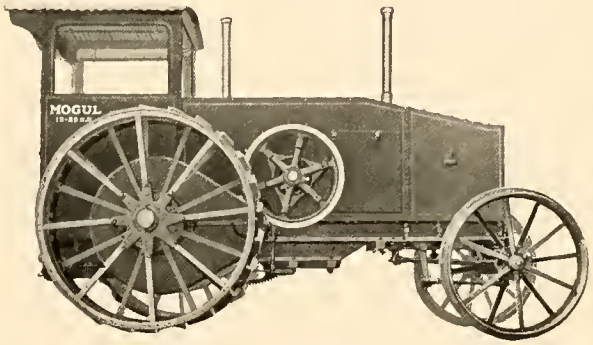
Mogul Oil Tractors are made in several types and sizes to suit the various conditions and different sizes of farms. All Mogul tractors burn kerosene, distillate, solar oil, gas oil, motor spirits or gasoline equally well without change of adjustment.



Mogul 8-16 H. P. Oil Tractor

The power plants are slow speed four cycle engines of the most substantial type, the crank cases are completely enclosed from dust and dirt, all equipment such as magnetos, automatic oilers, etc., are the best that can be obtained.

The 8-16 H. P. and 12-25 H. P. types are light weight tractors designed for small and medium size farms. The 12-25 H. P. Mogul is also used extensively for hauling and road work.

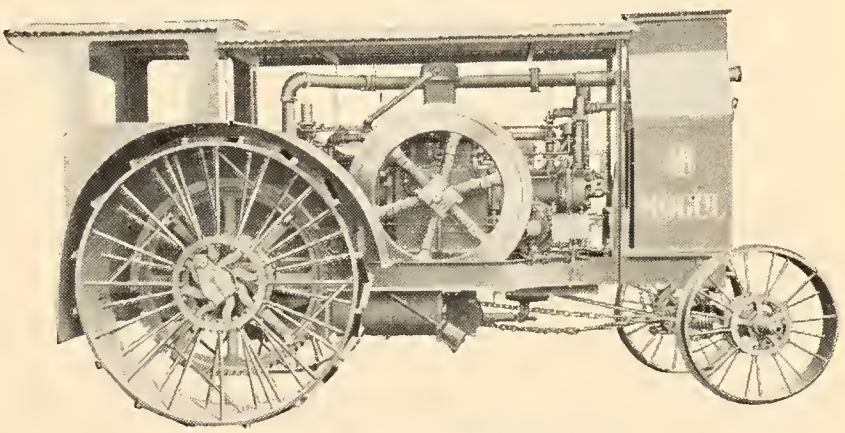


Mogul 12-25 H. P. Two Cylinder Oil Tractor

The 10-20, 15-30 and 30-60 H. P. sizes are designed for large farm threshing outfits and heavy road work. Contractors also find them economical for hauling and belt work.

These tractors are in use in nearly all parts of the civilized world and well known for their reliability and power.

A special catalogue describing Mogul Tractors in detail and the benefits of tractor farming will be mailed on request



Mogul 30-60 H. P. Two Cylinder Oil Tractor

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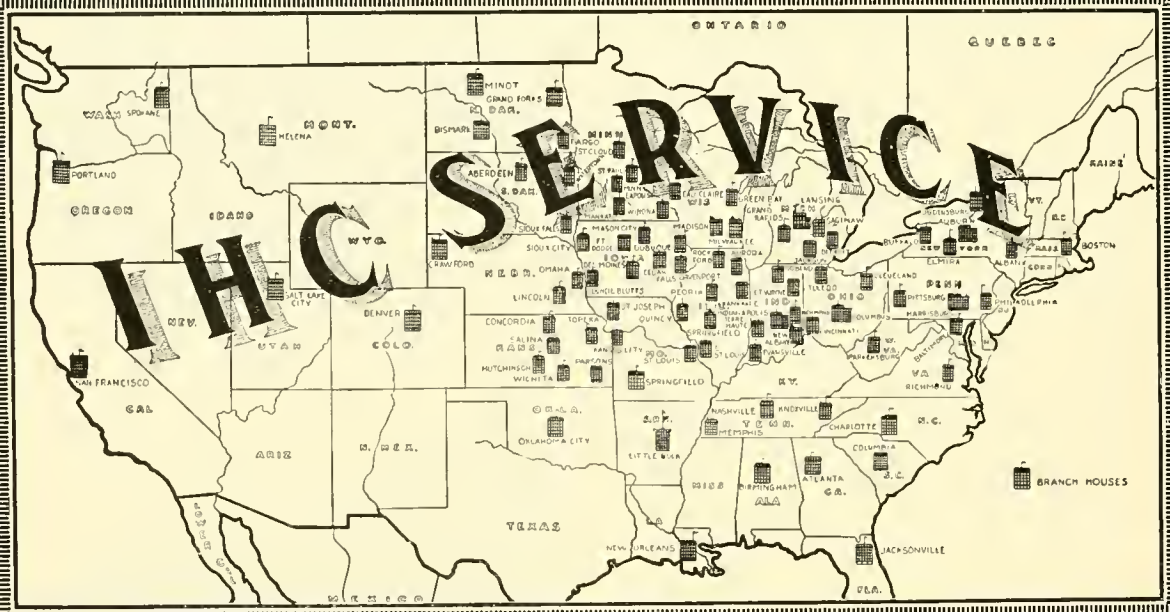

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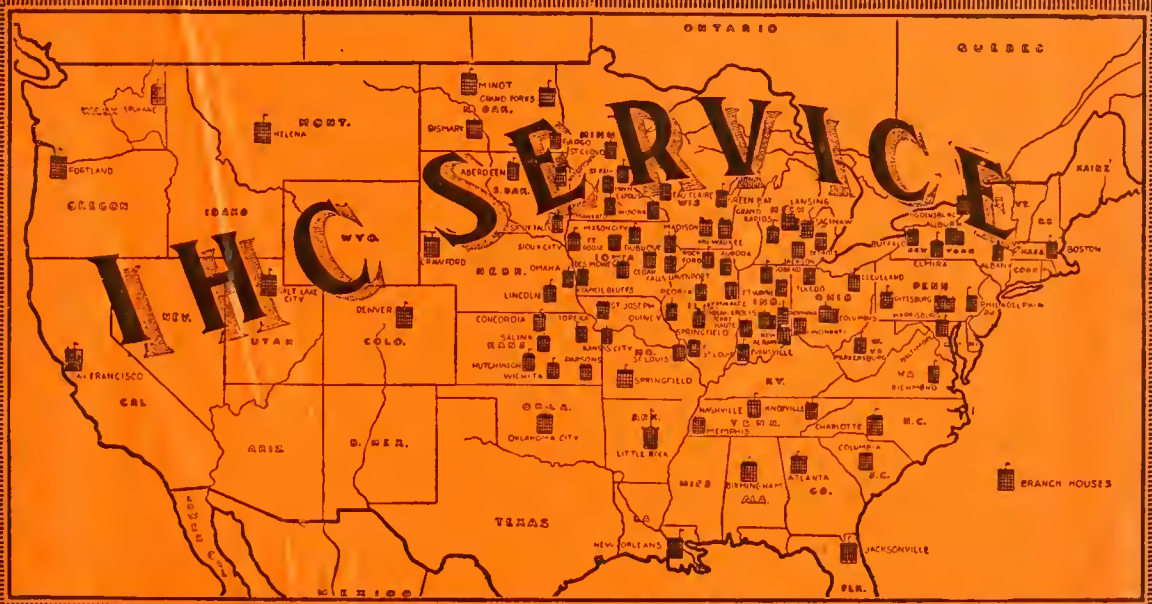

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