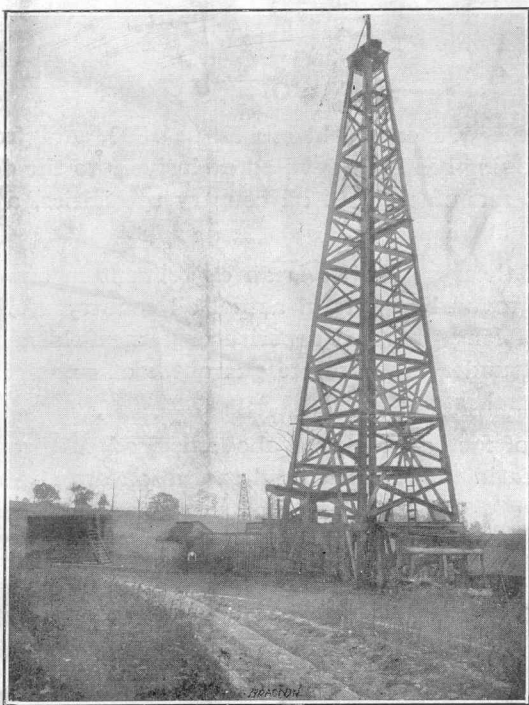
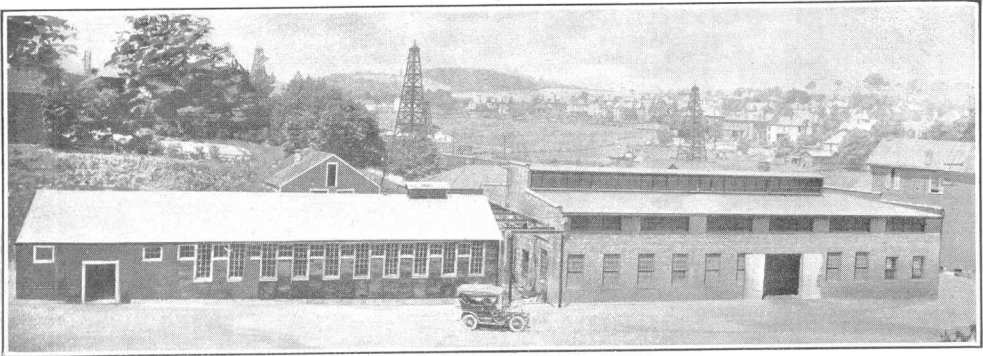


*A few of the  
Tillinghast  
Oil Country Specialties*



**B. D. Tillinghast**

McDonald, Pa.



A factory that is devoted exclusively to the manufacture of oil country specialties.

## Foreword

**T**HIS business was established back in 1883, and from the very beginning has been devoted exclusively to the development and manufacture of oil country specialties, a few of which are shown in this leaflet.

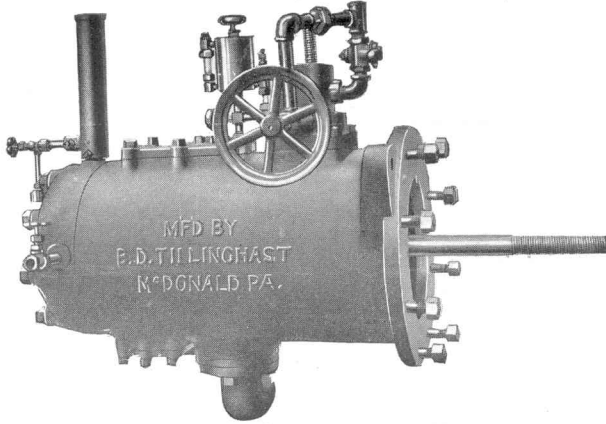
Not one of these specialties is an experiment in any way—each has been proved by years of actual oil country use. They are the result of long practical experience in the field, and each specialty is sold under the absolute guarantee of complete satisfaction to the purchaser.

The fireproof factory, pictured above, is modern throughout. The lighting, heating, ventilation and sanitation are all designed for the welfare of the mechanics, who are enabled to do more and better work in these pleasant surroundings.

The tools are of the latest and best, and every labor-saving device and convenience for rapid and economical production are employed. Special tools for duplicate work make accuracy and interchangeability an absolute certainty.

These modern manufacturing methods and labor-saving systems assure the purchaser an economical product of the highest quality throughout.

B. D. Tillinghast,  
McDonald, Pa.



8x12, 9x12, 10x12 and 11x12.

## Tillinghast Gas Cylinders for Steam Engine Bed Plates

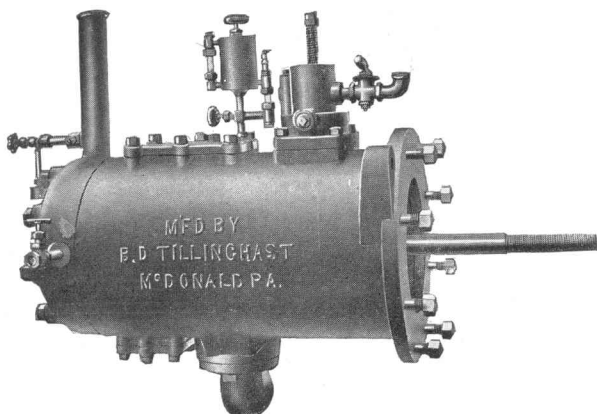
**T**ILLINGHAST Gas Cylinders for steam engine bed plates are made to meet the real need for an economical oil country gas engine. They are built for use on the bed plate of any standard make of oil country steam engine. One of these cylinders enables the operator at small cost to quickly and easily convert an old steam engine into a strong, dependable gas engine. With the addition of the Tillinghast Reversible Pulley he can make of the old steam engine a reverse geared gas engine—an engine that will give the same service, and be equal in every essential, to any reverse geared gas engine on the market.

In replacing the old steam engine the Tillinghast Gas Cylinder eliminates coal bills and boiler repairs, and saves considerable of the investment in line pipe. There are no shut-downs because of scarcity of water. It keeps the well pumping. It is an economical, successful, convenient method of operating the well.

Throughout the oil country there are many wells still using steam power, with all its expense and inconvenience, because their production is not large enough to warrant the heavy cost of a new gas engine. Tillinghast Gas Cylinders offer the opportunity to change these wells to gas power at a very small cost.

The Tillinghast Gas Cylinder and a Reversible Pulley attached to a steam engine bed plate performs every necessary operation in connection with a producing well. It pumps, pulls tubing and rods, it is used for cleaning out and pulling casing when necessary. It does its work just as efficiently as any reverse geared gas engine, no matter what its cost.

The cost of this Tillinghast Outfit (the Gas Cylinder and Reversible Pulley) is only half the price of any complete new reverse geared gas engine outfit. The cost of installing it is almost nothing compared to the price of the new foundation which a new reverse geared engine makes necessary. Then, quite likely, the engine house would have to be enlarged for a new engine. A Tillinghast Outfit saves all this.



8x12, 9x12, 10x12 and 11x12

When installing a Tillinghast outfit it is necessary only to take off the steam cylinder and replace it with the gas cylinder; remove the belt pulley and put on the Reversible Pulley. The engine block is not disturbed, as the reversible pulley lines up with the band wheel without moving the block from its original position. This means a big saving in the cost and labor of installing.

Tillinghast Gas Cylinders are not to be compared to the poorly constructed, low-powered gas cylinders that flooded the oil country in the early days of gas power. These early cylinders were made in small sizes only, and while suitable for pumping, they had not the power necessary to cope with cleaning and pulling out operations.

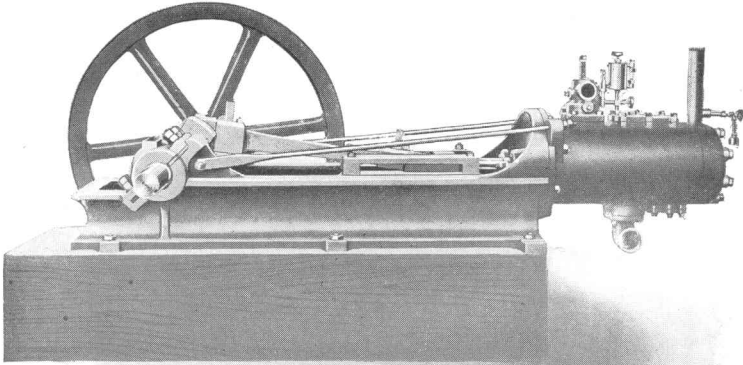
Tillinghast Gas Cylinders are made in sizes from 10 to 25 H.P. When installing these cylinders the bed plate is trussed by two rods extending from the front end of the bed plate to lugs cast on the flange of the cylinder, as shown in the illustration on the following page. These truss rods permit the use of high powered gas cylinders, as they strengthen the bed plate far beyond any possibility of breaking. They make Tillinghast Gas Cylinders suitable for wells of all depths—in fact they are meeting with unqualified success on wells 3,600 feet deep. They are a practical, common sense equipment for any lease.

These cylinders are of the popular two-cycle type, having a power impulse at each revolution. In most two-cycle engines the metal between the intake and exhaust ports, known as the "bridges," cut out rapidly and makes reborring frequently necessary. In the Tillinghast Gas Cylinder these bridges are so proportioned that they wear no faster than the rest of the cylinder wall. Reborring because of worn or cut bridges is unknown in a Tillinghast Cylinder—a feature that helps make these cylinders the most economical and durable in the operation of your lease.

Throughout all Tillinghast Gas Cylinders you will find a durability of construction that gives strength and stability. They are made of a special hard, close mixture of iron that assures long wear. They are free from all complicated parts, and give unfailing service with but little care or attention.

The use of jigs and special fixtures in machining insures the absolute interchangeability of every part.

Each Tillinghast Gas Cylinder undergoes a thorough test in the hands of skilled mechanics before it leaves our shops.



Steam Engine Bed Plate, equipped with a Tillinghast Gas Cylinder  
(Notice the truss rods.)

All Studs on the cylinder are one size larger than ordinarily used. This saves the annoyance and delay caused by broken studs.

Large roomy Hand Holes for cleaning out the Water Jackets are a convenient feature of all Tillinghast Gas Cylinders.

Either Hot Tube or Electrical Ignition is furnished, as ordered.

Tillinghast Gas Cylinders are built for use on the bed plate of any oil country steam engine of standard make. We have templets and complete detail measurements of practically every steam engine in the oil fields.

Usually all the information we require in furnishing you gas cylinders is the make and size of the engine.

By the use of these Tillinghast Gas Cylinders you can secure good gas engines at the lowest possible cost. They are economical to buy and economical to operate. They give you an actual saving every working day, year in and year out. No engine can give you better, more dependable service; yet no other gas engine costs so little. It is profitable economy right through.

In conclusion, these cylinders are not new nor experimental in any sense. Hundreds are in constant operation, covering a period of nine to ten years, and are used by some of the largest operators and in the deepest territory.

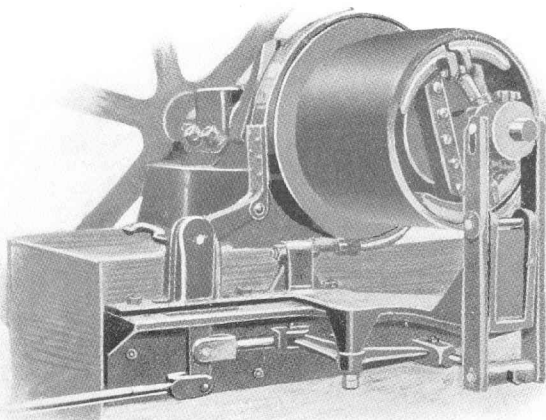
On wells where frequent pulling is not necessary, or in shallow territory, the Cylinder can be furnished with a One-Way Clutch at a considerably lower cost than the Reversible Pulley outfit.

No. 1. We can furnish you a Gas Cylinder with a Tillinghast Reversible Pulley.

No. 2. We can furnish you the Gas Cylinder with a Tillinghast One-Way Clutch Pulley.

No. 3. We can furnish you the Cylinder and either style of Pulley, mounted on the bed plate of a second hand oil country steam engine.

NOTE:—The Tillinghast Gas Cylinder, shown on this page, should not be confused with the Tillinghast D. C. & U. Cylinder. The D. C. & U. Cylinder is convertible—it can be used for **either** gas or steam power. The Tillinghast Gas Cylinder is for gas power **only**—it cannot be used with steam.



Tillinghast Reversible Clutch Pulley on the Shaft  
ready for operation.

## Tillinghast Short Shaft Reversible Clutch Pulley

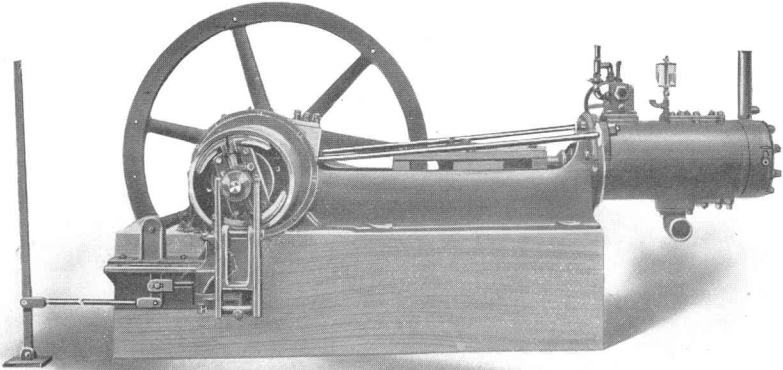
**T**HE Tillinghast Reversible Clutch Pulley is designed to provide an inexpensive and satisfactory method for pulling tubing and rods at wells that are equipped with gas cylinders.

The ordinary reverse gear outfit, as used on standard reverse geared gas engines, is not entirely suitable for this class of work. These reverse gears all must be mounted on a separate shaft, and they then require a special fly wheel to connect it. Outboard bearings are necessary, and the engine block must then be moved to make the pulley line up with the band wheel. Quite often these changes make it necessary to enlarge the engine house.

Each one of these difficulties is overcome by the Tillinghast Reversible Pulley. It is quickly and easily attached, being simply keyed to the projecting end of the engine shaft, just exactly as an ordinary belt pulley. No extra fly wheel is needed, and no outboard bearing is necessary, as the reversing mechanism is bolted directly to the engine block. The Pulley lines up with the band wheel without moving the engine block from its original position. It is handled directly from the derrick. These are features of convenience, and economy of time, labor and money that can be had in no other reversible pulley.

There are thousands of wells all over the oil country that for pumping are using steam engine bed plates equipped with gas cylinders. When many of these cylinders were installed steam was available for pulling out. But boiler repairs, replacements, and decreasing production, cut profits to the point where operating expenses must be reduced or the wells abandoned.

At wells of this kind the Tillinghast Reversible Clutch Pulley provides an inexpensive means of equipping these gas cylinders for pulling and cleaning out.



Steam Engine Bed Plate, equipped with a Gas Cylinder and  
Tillinghast Reversible Clutch Pulley.

In actual working results it makes an equipment equal to any reverse geared gas engine.

Even when used with the smallest size of gas cylinders to be found on any lease today, the Tillinghast Reversible Pulley will successfully handle tubing, rods and casing. With small cylinders, and in deep territory, they have been doing this work for periods covering six and seven years.

These pulleys have been tested for years, far beyond any point of experiment. Many of them are in use today by some of the largest companies operating in the oil fields. Their practical utility has been proved.

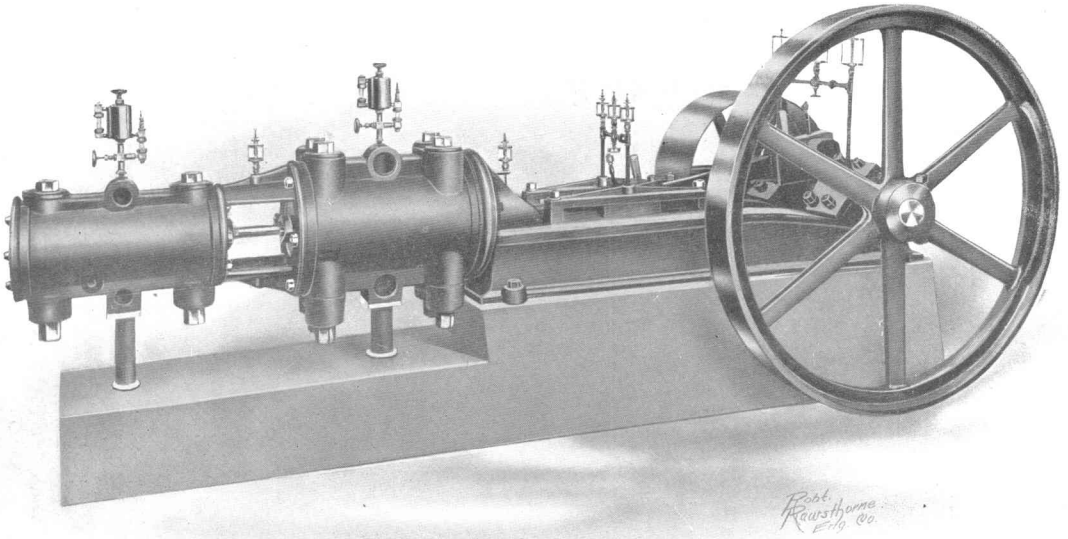
While it is always convenient, and on some leases most economical, to have each well equipped with a Reversible Pulley, it is by no means a necessity. By moving it from one well to another as occasion demands, one Tillinghast Reversible Pulley will take care of all the pulling and cleaning out on the entire lease.

It requires only a short time to take off the One-Way Clutch and put on the Reversible Pulley, changing back again when the work is done. The Tillinghast Reversible Pulley is being used in this manner on many of the largest leases and by some of the largest concerns. It has enabled them to absolutely discard boilers and steam lines, and has saved many old wells.

The Tillinghast Reversible Clutch Pulley is equally adaptable for wells that are now equipped with complete one-way gas engines. It can be applied to almost every gas engine of standard make in the oil fields today.

In construction and durability the Tillinghast Reversible Clutch Pulley cannot be surpassed. The workmanship is of the best, and it is built throughout of the highest grade of materials that can be obtained. All bearings are brushed with bronze, assuring long wear. The gears are of steel, machine-cut from the solid metal. The working parts run in oil. All parts are interchangeable, and are always carried in stock at our factory.

When used with the Tillinghast Gas Cylinder this Reversible Pulley enables the operator to change any standard oil country steam engine into a strong, dependable gas engine at a very small cost. In actual service it is the equal of any reverse geared gas engine. In economy it cannot be equalled.



Tillinghast Two Stage Compressor—12x6x12, 9x4½x12 and 6x4x12.

## Tillinghast Gas Compressors

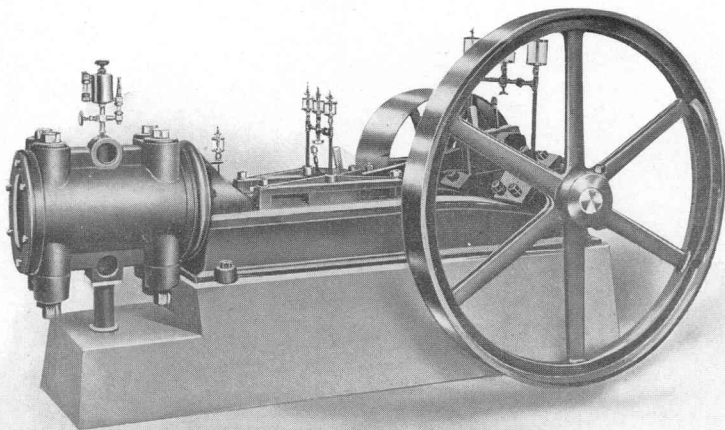
One and Two Stage.

**T**HE value to the producer of Tillinghast Gas Compressors is perhaps best shown by their remarkable record of service. Scores of these Compressors, both one and two stage, have seen many years of uninterrupted oil country use—yet not one has ever given a single cause for complaint.

The design of these Compressors is so simple and efficient, they are composed of so few parts, and the construction is so amply substantial, that repairs or replacements are practically unknown. Their long service has proved beyond question that they are first of all trouble-proof.

This assurance of freedom from tie-ups is of particular value on isolated leases where a necessary replacement of any kind might mean long delay.





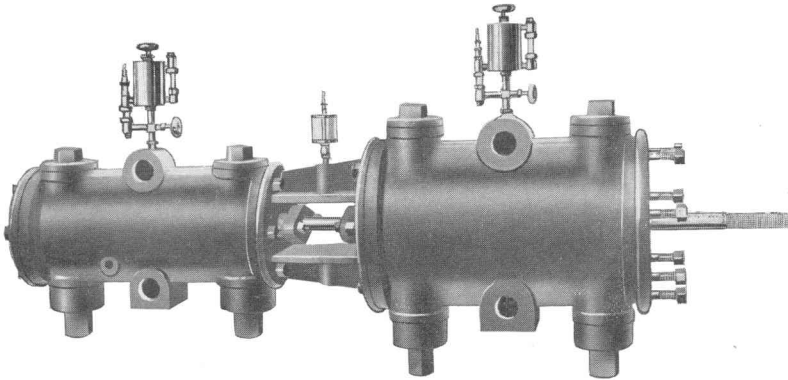
Tillinghast One Stage Compressor.  
12x12, 9x12, 6x12, 4½x12 and 4x12.

Tillinghast Gas Compressors are belt driven, and are the only type that is absolutely safe at all times. They are moderate in cost, economical in operation, and secure the largest possible amount of gasoline.

The workmanship throughout the entire Compressor is of the highest type, and each part is made of the best material obtainable for its purpose. The valves are of forged steel, of the most efficient vertical type; all side wear is eliminated, so that these valves remain gas-tight for years without attention of any kind.

The rings are accurately machined and fitted, and assure long continuous service. The valve seats are removable, and every part of the Compressor is readily accessible. All parts are interchangeable, and no feature has been omitted that would add to the convenience and completeness of these outfits.

Their many years of marked success prove that Tillinghast Compressors are simple, effective and economical gasoline producers. Their substantial construction and lasting durability assure years of uninterrupted service on any lease, and make these Compressors an investment that is practically permanent.



Two Stage Compressor Cylinders—12x6x12, 9x4½x12 and 6x4x12

## Tillinghast Compressor Cylinders

One and Two Stage

**S**IMPLY mounting a Tillinghast Compressor Cylinder on the bed plate of an oil country steam engine makes a gas compressor that is equal in every essential to any complete compressor ever built.

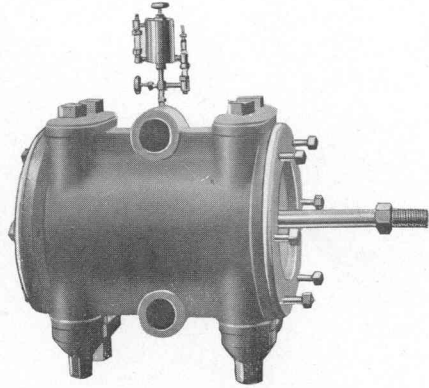
This Cylinder outfit is by no means a make-shift—money cannot buy a better built piece of machinery, and it gives you a compressor that is of the very highest efficiency. It will secure all the gasoline that your gas can be made to yield.

These Cylinders, both one and two stage, are exactly the same as those furnished on the complete Tillinghast Gas Compressors. Their correct design enables them to produce the highest possible results. All unnecessary parts have been eliminated, making them practically free from trouble of any kind, and their simple rugged construction has given them a durability that is practically permanent.

In the matter of first cost alone a Tillinghast Compressor Cylinder makes a saving that is well worth considering. In fact the moderate price of these outfits has enabled many operators to secured good gasoline profits where a more costly outfit would have been out of the question.

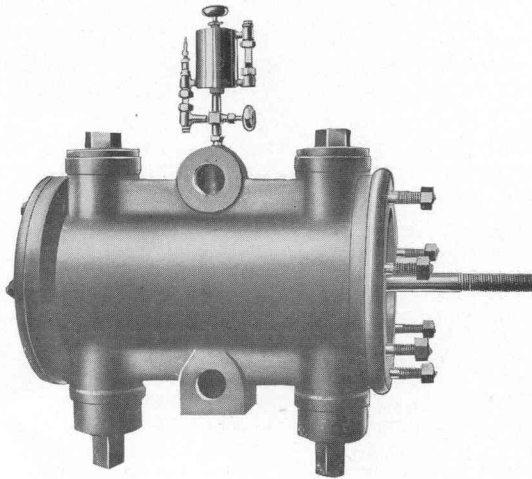
And again, the economical operation of Tillinghast Compressor Cylinder outfits, with their sturdy dependability and freedom from repairs, has made them especially attractive where continued economy is desirable.

To sum up, a Tillinghast Compressor Cylinder enables you to secure an outfit of the highest type at the lowest cost; it assures years of uninterrupted service with practically never a cent of expense for repairs or replacements; and most important of all, this outfit secures every pint of gasoline that your gas will yield—with the largest possible profits to you. It means the utmost in returns on the smallest investment.

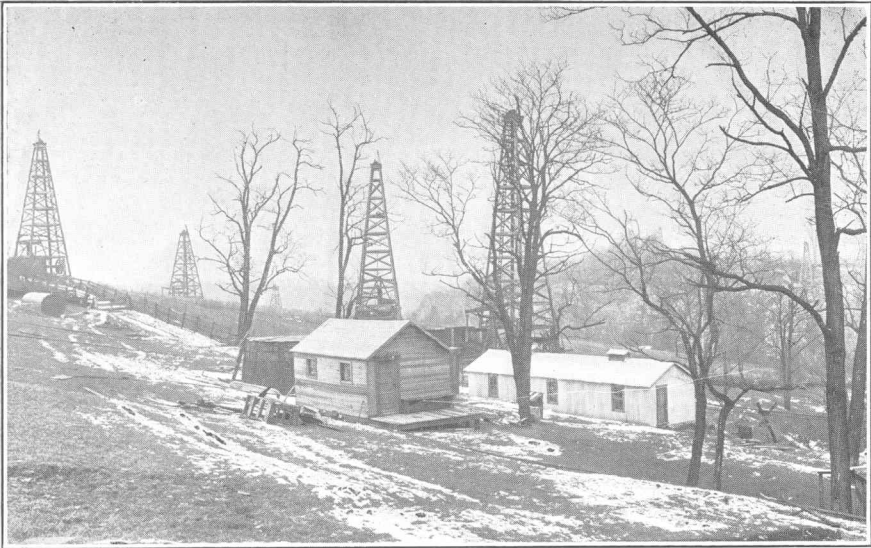


Single Stage Compressor Cylinder—12x12.

Tillinghast Gas Compressor Cylinders, both one and two stage, are furnished complete ready to mount on the bed plate of any suitable oil country steam engine, or we can furnish a bed plate with the Cylinder mounted complete.



Single Stage Compressor Cylinders  
9x12, 6x12, 4½x12 and 4x12.



Tillinghast Gasoline Producing Plant of McKim Oil Co., at Holidays Cove, W. Va.

## Tillinghast Gasoline Producing Plants

**T**O produce gasoline from casing head gas, all that is necessary is to compress and cool the gas. It is a simple operation, requiring no complicated nor expensive machinery.

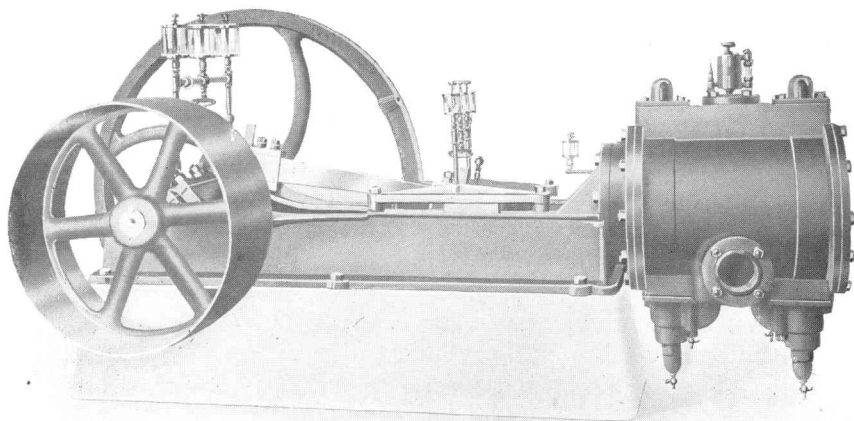
A good belt driven compressor with plenty of power to drive it, three or four tanks, and a properly installed cooling apparatus will extract the utmost amount of gasoline.

It is on this sound principle that Tillinghast Gasoline Producing Plants have established their success. They are moderate in cost, economical to install and operate, and produce the highest possible quantity of gasoline. This means that a Tillinghast outfit will give you the maximum profit on all your production.

In fact, these plants are producing good profits on leases where the limited amount of available gas would prevent any costly outfit from earning even a small return. If your gas can be made to produce a profit in gasoline, a Tillinghast outfit will do it.

These Tillinghast Plants, by adding separate units, can be equipped to handle any amount of gas. The separate units, where the amount of gas is large, have a distinct advantage—if a break should occur the entire plant is not shut down; or if the quantity of gas should diminish, one or more units might still be operated profitably where a single large compressor could not pay.

Tillinghast Gasoline Producing Plants are moderate in cost, simple in construction and operation, complete, practical and durable. Every plant ever installed has been a success from the start; not a single failure has ever marred this perfect record. They secure all the gasoline that can be "squeezed" out of the gas, and their economical cost and operation brings you the largest return on your investment.



This Pump will make a new high vacuum record on your lease.  
20x12, 18x12, 16x12, 14x12 and 12x12.

## The New Tillinghast *High Efficiency* Horizontal Gas Pump

**T**HE new Tillinghast Horizontal Gas Pump is built to a standard of efficiency that is entirely new in oil country work. It has points of distinct advantage that mark it with unusual interest to the lease operator who wants to produce the highest possible vacuum on his wells.

First of all, the correct design and construction of this new Tillinghast Pump is a radical departure from the ordinary type of gas pump in use throughout the oil fields. These pumps were built with but little regard for the mechanical principles that make a pump efficient.

Every one of these pumps now in common use has a large amount of waste space or clearance in the cylinders. This "clearance" is figured as a percentage of the piston displacement. It includes the space between the piston head and the cylinder head when the piston is at the end of its stroke, plus the space in the passages to the valves.

The ordinary pump, with its excessive amount of space between the heads at the end of the stroke, together with its long passages to the valves, has a clearance running all the way from 15% to 20%

of the piston displacement. In the Tillinghast Gas Pump correct design has reduced this clearance to 3%—that is one reason it is the most efficient gas pump ever put on the market.

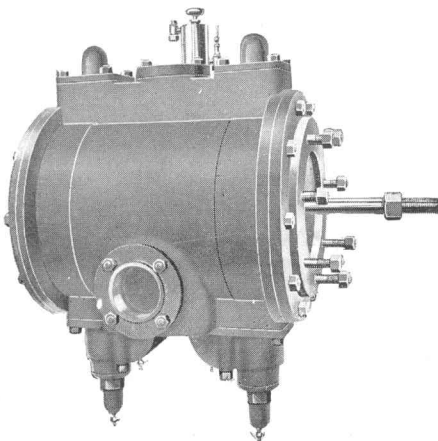
The large clearance in the ordinary gas pump cylinder has exactly the same effect as shortening the stroke—it reduces the capacity of the pump. In other words, all conditions being equal, the less the clearance the greater the capacity of the pump, and the higher the vacuum it will maintain.

In the new Tillinghast Gas Pump correct design has reduced the amount of clearance to what we believe is the lowest point mechanically possible. This accounts for the fact that the efficiency of this new pump is far greater than that of any other pump ever built for oil country use.

The workmanship and material throughout the new Tillinghast Pump are of the very highest grade. The valves are of forged steel, of the vertical poppet type, which obviates all side wear; without attention of any kind they remain gas-tight for years. The valve seats are removable.

The pump has a 4" inlet and 3" discharge; the correspondingly large valve openings offer the least possible frictional resistance to the inflowing gas. The piston rings are absolutely leakproof, and are an assurance of continued high vacuum. The entire pump is simple in construction, all parts being easily accessible, and each part is interchangeable.

These features, together with the new and correct design, place Tillinghast Gas Pumps far in the lead for oil country work.

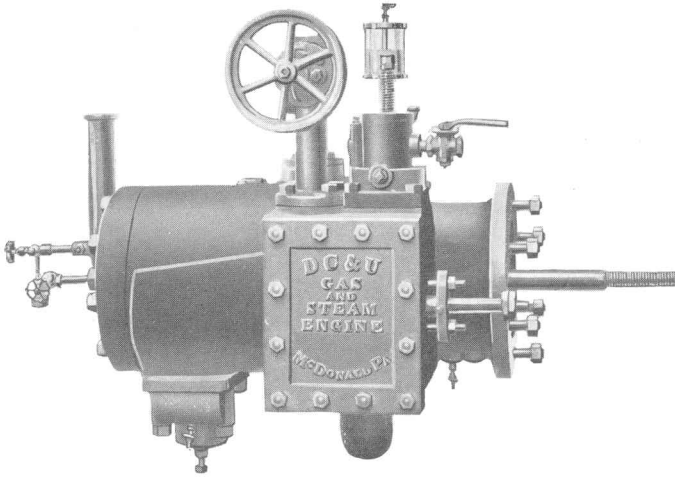


High Efficiency Pump Cylinders.  
20x12, 18x12, 16x12, 14x12 and 12x12.

The new Tillinghast High Efficiency Gas Pumps are furnished in either of the following ways:

No. 1 We furnish a new Cylinder mounted on the bed plate of a second hand steam engine.

No. 2 You can buy the Cylinder only, ready to mount on any bed plate you may have.



8½x12 and 10x12

## The D. C. & U. Convertible Gas and Steam Cylinder

**O**N many successful leases throughout the oil country the D. C. & U. Convertible Gas and Steam Cylinder is filling a need that could not be met by any other method.

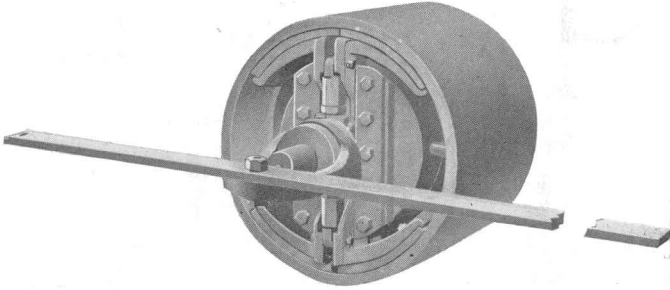
When equipped with this cylinder any standard oil country steam engine can be operated at will by either gas or steam. The change is made in less than five minutes. It enables you to use gas power for pumping, and steam for pulling tubing and rods, and for cleaning out. When operated on gas this cylinder eliminates the trouble and time required for firing up the boiler.

The D. C. & U. Cylinder is not an experiment. It was the first cylinder of its kind to be used in the oil country, and has been on the market 20 years. The first D. C. & U. installed is still doing its work today.

The D. C. & U. Convertible Cylinder can be attached directly to the bed plate of any standard oil country steam engine. It is installed by simply removing the steam cylinder and putting the D. C. & U. in its place. The engine pulley is replaced with a one-way clutch.

As a steam cylinder the D. C. & U. is of the slide valve type—known as the most simple and serviceable. With gas it operates on the two-cycle principle, receiving a power impulse at each revolution. Each cylinder is thoroughly tested out under actual working conditions in our own shop.

We are equipped to furnish the D. C. & U. Convertible Cylinder for any standard oil country steam engine. Or if desired, we can furnish the complete engine equipped with this cylinder.



## Tillinghast Improved Engine Clutch Pulley

One-Way.

**T**HIS Improved One-Way Clutch can be used on the end of the shaft of any engine, as it requires but 5 or 6 inches of shaft to hold it secure. It is simple in construction, strong and durable. Being designed and built especially for oil country use it gives long continuous service.

The Tillinghast Improved Engine Clutch is equipped with wood shoes, which give a positive hold, prevent slipping and transmit the full power of the engine. These wood shoes give lasting service with no wear on the pulley. When replacement does become necessary it is easily made. A roller bearing reduces friction to a minimum.

The Tillinghast Clutch Pulley is used extensively on steam engine bed plates equipped with gas cylinders. On wells that do not require frequent pulling this Clutch Pulley gives thorough satisfaction. It is interchangeable with the Tillinghast Reversible Pulley.

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Write for prices and for any special information  
you may wish on any of these oil country specialties.

**B. D. Tillinghast**  
McDonald, Pa.