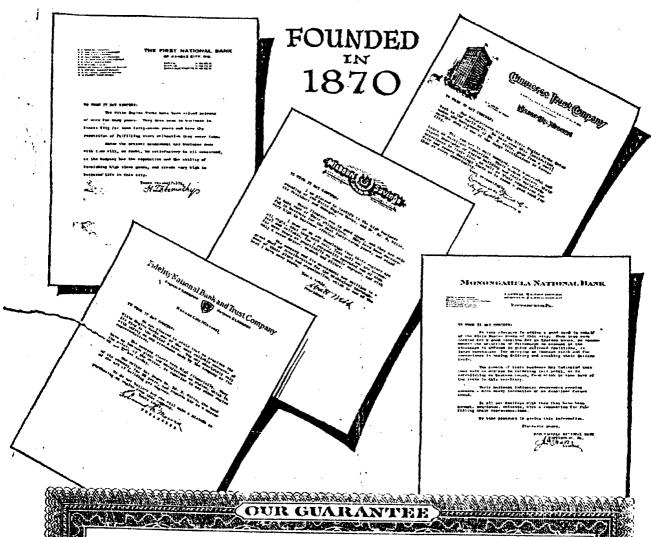


# SAFE TO BUY FROM WITTE



### To the User of WITTE THROTTLING GOVERNOR ENGINES

- LIFETIME GUARANTEE AGAINST DEFECTS, rove defective, we will cheerfully replace such part free of charge upon its return to us, any ti
- SAFE DELIVERY TO YOUR FREIGHT STATION.
- IT COMES TO YOU COMPLETE, READY TO RUN. on thing included an ordered and as per catalog, ready to put in fuel and water and go to work.

  WILL OPERATE ON CHEAP FUELS. operate successfully, in across the catalog of the

- atructions given, on either KEROSENE, GASOLINE, DISTILLATE, ALCOHUL or GAS.

  5. FULL HORSE-POWER WITH LIBERAL SURPLUS, we guarantee that, with Engline is capable of pulling its full actual horse-power with a liberal anciplus, that it will run steadily and prove reliable.

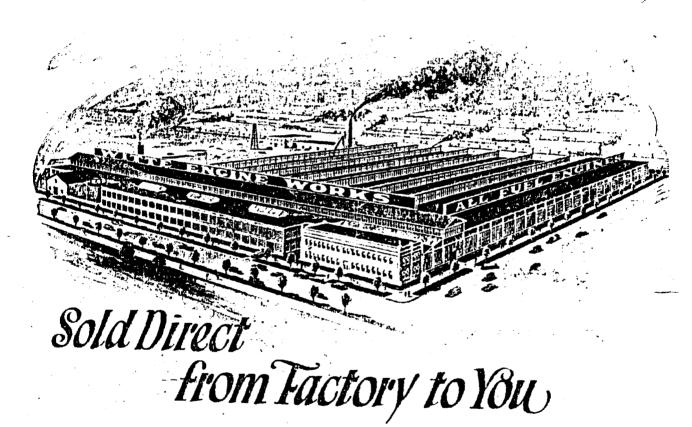
  6. USER'S 30-DAY TEST. The Engine or Saw Rig we ship you will be capable of fulfilling all the above should the Engine or Saw Rig prove defective, you may return it to our correct house by freight, at our capables, any time within 30 larger or Saw Rig, exactly the same size, style and equipment that you originally ordered, thus making our guarantee good at our expense.

WITTE ENGINE WORKS

# WITTEE ENGINES

RUGGED Low Prices

DEPENDABLE
High Quality



The Best Engine That Can Be Manufactured At a Reasonable Price

## WITTE ENGINE WORKS

KANSAS CITY, MO.
PITTSBURGH, PA. SAN FRANCISCO, CAL.

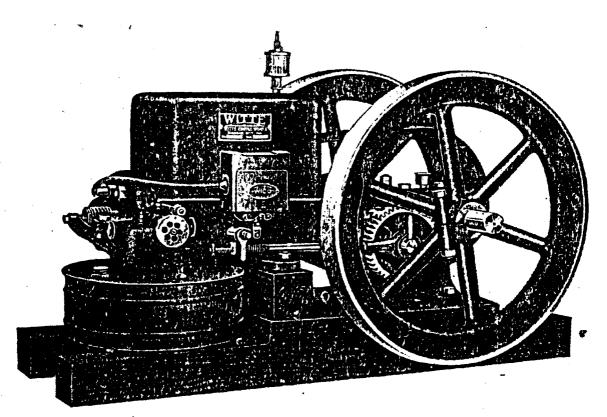






### BUILT TO LAST A LIFETIME

THROTTLING GOVERNOR



## 2-3-5-7 HORSE-POWER-STATIONARY TYPE

The above illustration shows the WITTE Throttling Governor All-Fuel Engine as furnished in sizes 2, 3, 5 and 7 H-P.T his engine is of the valve-in-head type—water cooled—operating on kerosene, gasoline, distillate, gasolide, or gas. It is simple in construction, easy to operate, rugged and dependable in any climate and under any condition. It is equipped with the celebrated WICO High Tension Magneto and the simple and efficient WITTE Magneto Operating Device and Spark Retarder. Speed Regulator. Throttling Governor. WITTE Hot Spot and All-Fuel Carburetor. Die Cast Bearings. Large Fuel Tank and Skids. Plain Pulley, Starting Crank and Operating Instructions. It is complete in every detail and ready to run. We recommend 5 H-P. size for general all-around use.

## OPERATES ON KEROSENE-GASOLINE-DISTILLATE-GAS-OIL-GAS

Rated Horse Power	Easily Develops H-P.	Normal Speed R. P. M.	Cylinder Bore	Longth of Stroke	Diameter of Crank Shalt	Diameter of Fly- Wheels	Plain Dia.	Pulley Face	Floor Space Required	Extreme Height	Hopper Water Cap. Galm.	Fuel Tank- Capacity	Shipping Weight Crated	Shipping Weight Hoxed for Export	Code Word Hentley
5 7	234 834 6 8	600 630 450 400	374 in. 434 in. 5 in. 6 in.	6 in. 6 io. 6': in. 7} <sub>7</sub> in.	11 in. 11 in. 14 in. 2% in.	16 in. 19 in. 24 in. 28 in.	s in.	3!; in. 4!; in. 5!: in. 6!; in.	24x36 26x40 30x45 35x64	18 in. 21 in. 26 in. 29 in.	194 214 5 719	ti gnin. 2 gnin. 3% gais. 6 guin.	250 flim. 356 llim. 535 lbs. 778 lbs.	800 lbs. 425 lbs. 615 lbs. 885 lbs.	WUVRY WUVUR WUVYS

Every Engine Complete, Ready To Run

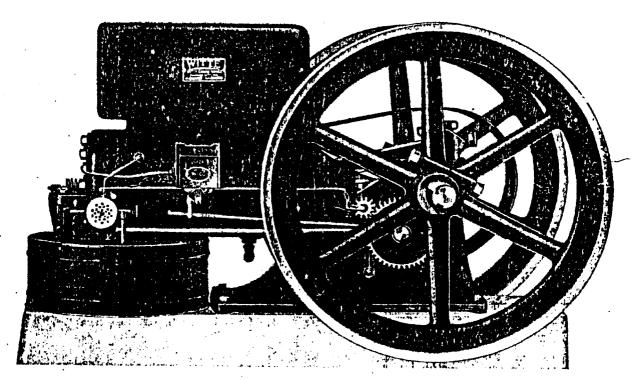


**ALL-PURPOSE ENGINE** 

### GUARANTEED FOR A LIFETIME



SMOOTH RUNNING-POWERFUL



### 10-15-25 HORSE-POWER-STATIONARY TYPE

The above illustration shows the WITTE Throttling Governor All-Fuel Engine as furnished in sizes 10, 15 and 25 H-P., with valves operated mechanically. This engine is of the valve-in-head type, water cooled, and uses kerosene, gasoline, gas-oil, distillate or gas. It is simple in construction, easy to operate, rugged and dependable in any climate and under any condition. It is equipped with the celebrated WICO High Tension Magneto and the simple and efficient WITTE Magneto Operating Device and Spark Retarder. Speed Regulator. Throttling Governor. WITTE Hot Spot and All-Fuel Carburetor. Die Cast Bearings. Large Fuel Tank. Plain l'ulley. Complete Operating Instructions. Starts by the half-over and kick back method—no cranking. These three sizes are made with iron base for mounting on concrete foundation, heavy wood timbers, or other special mountings. Cylinder and Hopper are cast separate from bed. These sizes are especially designed for extra heavy, duty.

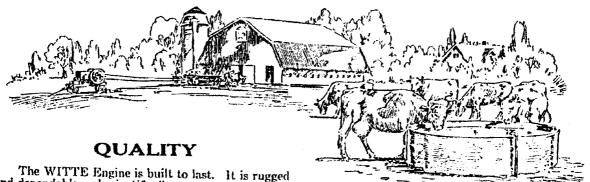
### OPERATES ON KEROSENE-GASOLINE-DISTILLATE-GAS-OIL-GAS

Power	Easily Develops H-P.	R. P. M.	Bore	Length of Stroke	Diameter of Crank Shaft	Diameter of Fly- Wheels	Plain l	Pullry Face	Ploor Space Required	Extreme Height	Hopper Water Cap. Gals.	Fuel Tank Capacity	Shipping Weight Crated	Shipping Weight Hosed for Export	Code Word Bentler
10	11	396	6 ½ in.	9 in.	2% in.	34 in.	12 in.	6 in.	39±60	36 in.	14	7 Gals	1335 lbs.	1550 Hm.	WUYGD
18	17	316	8 ½ in.	11 in.	2% in.	42 in.	16 in.	8 in.	48±72	45 in.	28	16 Gals.	2376 lbs.	2615 Hm.	WUYIR
25	27	300	10 in.	14 in	3% in.	63 in.	20 in	10 in	69±90	54 in.	50	18 Gals	3400 lbs.	4480 Hm.	WUYOS

Every Engine Complete, Ready To Run



## USED ALL OVER THE WORLD



and dependable and scientifically constructed throughout. Weight and strength is carefully placed where it is needed and the finest and most reliable materials are used throughout. High Grade in every way.

### SIMPLE OPERATION

Simplicity is the greatest safeguard you can have in power machinery. The WITTE is simple in construction—intentionally so—there are no complicated or delicate parts to break or wear out. It is easy and safe to operate.

#### **ECONOMICAL**

The WITTE Engine is economical in the use of fuels and lubricating oils. It is proportioned exactly right. The measurements and design throughout assure full power per unit of fuel. The WITTE operates on low priced fuels—kerosene, gasoline, distillate, gas-oil, gas—and being of the throttling governor type the fuel is fully regulated at all times. This means minimum fuel consumption and a real saving to you.

#### SURPLUS POWER

Every motor has its rated capacity, the scientifically determined amount of pulling power which is developed at its average speed. The WITTE will pull far more than its rated power as it is equipped with the WITTE Speed Regulator which permits the engine to be slowed or speeded up according to requirements. Any size WITTE will develop a big surplus of power.

#### POWER RANGE

Most places have use for more than one engine, due to the variety of work. However, if you will carefully study your power requirements you can secure an engine of the proper size to enable you to handle many different kinds of work. For instance, a 5 H-P. WITTE Engine will satisfactorily handle 3, 4, 5, and 6 H-P. work. This power range or flexibility is a built-in feature of all WITTE Engines and you will find it valuable.

#### **ALL PURPOSE**

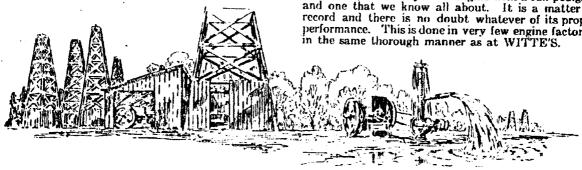
WITTE Engines have been on the market for 42 years and are to-day made in the exact manner to meet the needs of general purpose work. They are used for many different and special needs, but you need have no hesitancy in adopting a WITTE Engine for any or all kinds of work. The utility of WITTE Engines is an item you should not overlook.

#### **STANDARDIZED**

When buying an engine, be sure it is standardized, that is, uniform as to parts, dimensions, etc., as this will make your service and repair item much easier and much more economical. A WITTE Engine is absolutely standardized throughout, a feature you are sure to appreciate.

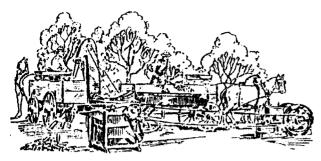
#### CAREFULLY TESTED

Every WITTE Engine is subjected to many different tests before it is allowed to leave our plant. The utmost care and accuracy is pursued throughout all of our manufacturing, but to make doubly sure of satisfaction to you, every engine is minutely and exactingly tested and run under severe brake tests for hours and its performance carefully recorded. In this way we send you an engine with a full pedigree and one that we know all about. It is a matter of record and there is no doubt whatever of its proper performance. This is done in very few engine factories in the same thorough manner as at WITTE'S.





## FOR ALL KINDS OF WORK

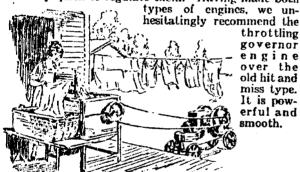


#### ADVANTAGE OF POWER

The best and cheapest help you can get on a farm is a WITTE Engine. The advantage of motor power on the farm hardly needs to be emphasized in these modern times. Besides greatly increasing your daily capacity and helping to solve the problem of labor shortage, it climinates much of the hard, back-breaking, disagreeable work. Engines are indispensable to the modern farmer. You can set a WITTE Engine to work and go away and leave it, feeling sure that it is doing its duty.

### SMOOTH RUNNING-POWERFUL.

The scientific application of the WITTE Throttling Governor makes this engine a smooth running, powerful machine. The throttling governor eliminates the slowing down and the sudden jarring of the old hit and miss type of engine. The action of a throttling and miss type of engine. The action of a throtting governor engine is very similar to the acceleration of the modern motor car engine as there is always an even and constant flow of properly mixed fuel to the cylinder. The throttling governor is of the fly-ball steam engine type and works automatically at all times, is unusually scusifive to variations in speed and years quick to regulate them. Having made both and very quick to regulate them. Having made both



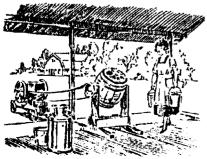
throttling governor engine over the old hit and miss type. It is pow-erful and smooth.

#### RUGGED-DEPENDABLE

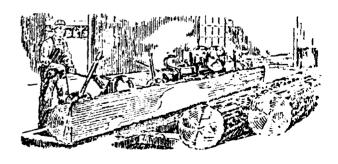
The WITTE Engine is a bull-dog for strength. It will hang onto a load, pulling its way through in a surprising manner. Our customers tell us of how this wonderful engine settles down to a pull, developing a reserve power that is truly remarkable. Note the upstanding, compact and rugged lines of the WITTE.



There are only seven small parts in the WITTE Engine not made by us right here in our own plant under our strict supervision. These are small, un-important parts. We buy all of our raw materials in very large quantities, always for cash, thus securing the very lowest prices. Our plant is modern in all respects, well laid out to secure the lowest possible manufacturing cost. Highly efficient modern machinery, operated by men who have been with us for years,



our own natural gas well, which supplies our fuel, and many, many other advantages, make it possible for us to furnish a high quality engine at unusually low prices, direct to you from factoru.



#### A SQUARE DEAL

We have built this business by giving our customers a square deal, and we will continue to give them a square deal. We know no other way. get the treatment from us you have a right to expect any time and all the time.

EASYNTONSTART



## SIMPLE CONSTRUCTION

NY WAY you look at a WITTE Engine. you are impressed with its rugged, upstanding appearance. The three pictures at the bottom of this page show the front, top and rear views and we call your particular attention to the well-balanced proportions of the WITTE. It is compact and so simple in construction that it will not get out of order easily. It is a well-known fact that a simple machine will operate more steadily and last longer than one with many complicated parts. The long life of WITTE Engines is undoubtedly due to the combination of simplicity in design, the accuracy which is practiced in the manufacture of each part and the very high grade material used throughout.

We draw your attention to the top view which shows the large cooling surface in the hopper, the location of the lubricator, the throttling governor and WICO magneto.

In the top view you will note the wide bearings, the caps of which are held in position by double lock nuts. Note the large oil cups; the oil shield which protects the crank and prevents the throwing of oil; the extension of crank shaft on both sides of the engine so belts may be placed on either end for double drive.

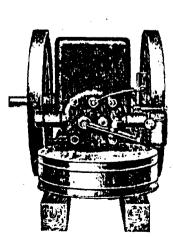
Note that the front view shows the center fire ignition. The spark plug is placed where it fires at the highest compression point and in the richest part of the fuel charge. You see in this front view the valve-in-head system with both valves best placed for proper intake and exhaust. Cylinder head is water cooled in all sizes. The all-fuel carburetor is shown in this view, as is also the fuel tank.

The WITTE Engine is truly an engineering accomplishment. It is the result of 42 years of practical manufacturing and close study of what is required of a stationary engine. It is not an experiment in any way whatever, but as built to-day is the crowning achievement of a long and successful career in the manufacture of internal combustion engines. Believe us, you can safely buy a WITTE because we stand back of it 100 per cent. You take no risk whatever in buying from the WITTE ENGINE WORKS.

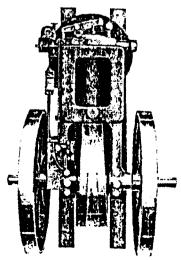
### NOTE THE FINE BALANCE OF WITTE ENGINES

BE SURE TO READ PAGES 20 AND 21

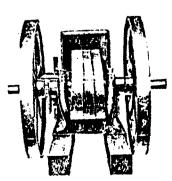
BE SURE TO READ PAGES 20 AND 21



Front View



Top View



Rear View

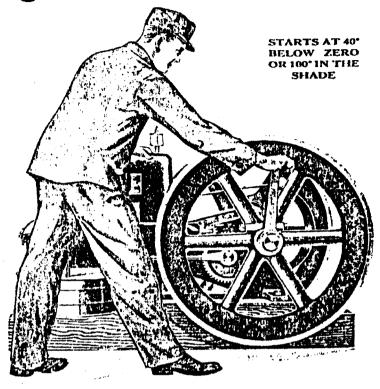


## EASY AND QUICK TO START

WITTE Engines are easy to start. Every engine is equipped with the WITTE Spark Retarder which permits you to set your spark late just as on a motor car. This fires the charge at the exact moment when the crank shaft is at an easy starting angle. Every engine also has the WITTE Hot Spot built into the cylinder head. This is an area superheated over which fuel mixture passes before entering the cylinder. This quickly prepares the fuel by perfect vaporization for easy starting. On each cylinder head is a priming cup for the insertion of raw gasoline as a further aid to starting. With the above features and the hot, lat spark instantly furnished by the WICO High Tension Magneto, you can rest assured that the WITTE is the easiest of engines to start.

HOW TO JUDGE AN ENGINE

(SEE PAGES 20 AND 21)



#### WICO HIGH TENSION MAGNETO

We use the renowned WICO High Tension Magneto as standard ignition equipment because it is so simple in construction that it cannot get out of order. It has only one moving part and requires oiling only in one place. There are no rotating or oscillating parts to get out of order, no delicate wires and bearings to wear out. It furnishes a hot, fat spark under all conditions, is absolutely weather and water proof and will start at 40 below zero. This is the finest ignition we have ever known. Guaranteed for all time against defects in materials or workmanship.

HICH LOUADITE



The WITTE Spark Retarder is a simple device on the lower stud of the magneto which, when set back in the retarded position, causes the spark to fire late. This takes place at the exact time when the crank shaft is at the easiest starting angle. This is a distinct WITTE feature which you will appreciate. This simple
WITTE Magneto
Operating Device
climinates the necessity for sharp tripper
points as usually found
on rotary and oscillating
magnetos. Note the

### WITTE OPERATING DEVICE

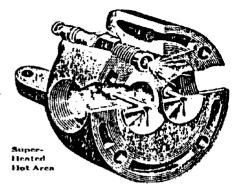
straight push furnished by means of an eccentric from the cam shaft. This is a simple and easy method of operating the magneto and absolutely will not get out of order. There are no tripper points to wear down and change the timing of your engine.

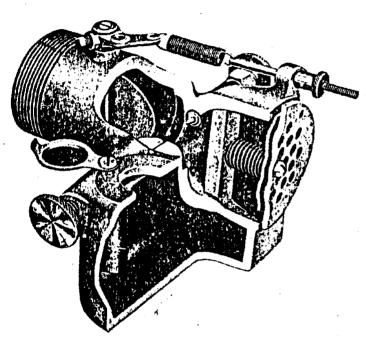


## **FAMOUS WITTE FEATURES**

#### THE WITTE HOT SPOT

Every WITTE cylinder head has a Hot Spot—an area—superheated—over which the fuel mixture must pass before entering the cylinder. This quickly prepares the fuel by perfect vaporization for instant ignition and thus furnishes a maximum of power without fuel waste. The illustration shows the process. This heated area is created by spark and exhaust. It is a simple and economical plan and one of the features that makes the WITTE one of the most popular engines made.



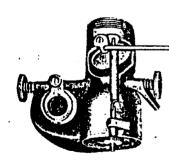


#### HOW TO JUDGE AN ENGINE

(SEE PAGES 20 AND 21)

# WITTE ALL-FUEL CARBURETOR AND SPEED REGULATOR

Every WITTE Engine is equipped with a motor style carburetor that thoroughly and scientifically mixes the fuel before it is transmitted through the manifold into the engine. The illustration shows this famous all-fuel carburetor that permits the use of any low grade fuel. A small quantity of gasoline can be put into the starting chamber and after the engine is warm it is possible to quickly switch over to other cheaper fuels such as kerosene or distillate for the balance of the day, simply by shutting off the gasoline valve and opening up the all-fuel valve which leads to the fuel tank. The mixture passes through the manifold across the hot spot in the center of cylinder head, then on in through the inlet valve directly to the spark plug where it is fired. There is no waste of fuel and the utmost power is developed from each explosion.



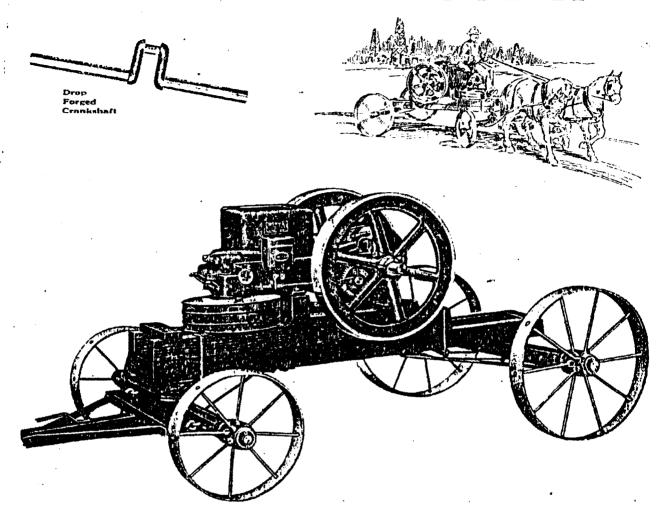
# WITTE THROTTLING GOVERNOR AND SPEED REGULATOR

The WITTE Speed Regulator permits a quick adjustment of speed to suit the work you have to do. This simple and efficient device gives the engine a range of power which permits your engine being used for a large variety of work. For instance, a 5 H-P. WITTE, though it pulls 6 H-P., can be slowed down to do the work of a 3 or 4 H-P. engine with a proportionate saving in fuel. You do not need a small engine for small jobs and a large engine for large jobs. Get a WITTE, the engine with power range and flexibility.

The WITTE Throttling Governor is of the steam engine fly ball type, simple in design and construction, supersensitive and quick to correct any variations in speed. It automatically operates butterfly valve in the carburetor, decreasing or increasing power as the load requires, thus giving a steady, uniform pull, the same as your motor car, and not at all like the jerky, spasmodic action of the obsolete hit and miss type. A throttling governor insures proper mixture of fuel and air and correct temperature in the cylinder, making for efficiency and economical operation. All sizes of WITTE Engines are equipped with the WITTE Throttling Governor.



## WITTE "UTILITY" OUTFIT



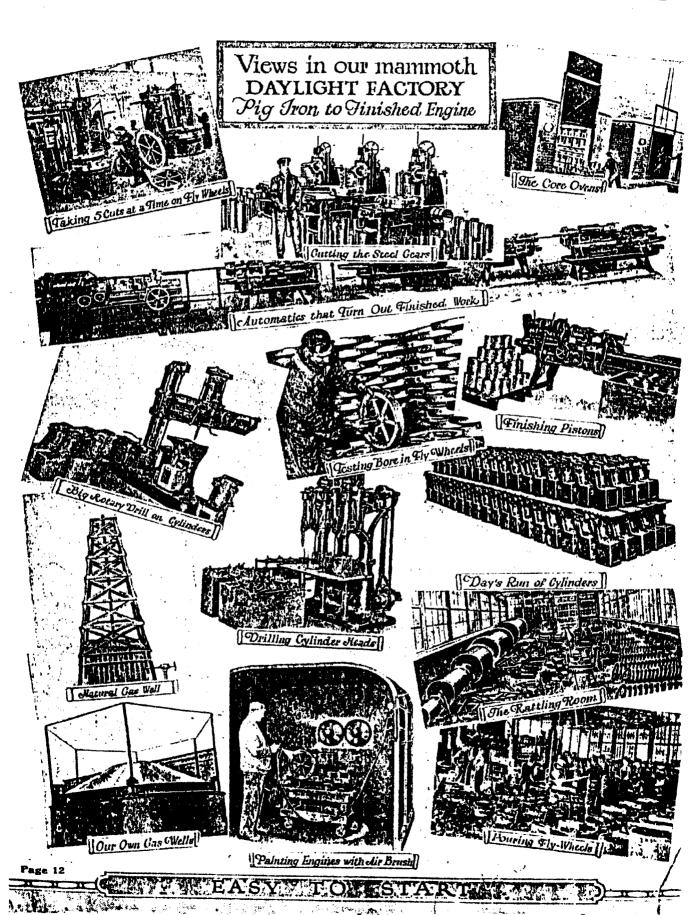
#### 5-7-10-15-25 H.-P. WITTE HORSE DRAWN PORTABLE OUTFIT

This outfit consists of the WITTE Stationary Throttling Governor Engine mounted on all-steel, heavy duty truck with wood tongue, all-steel wheels, standard wagon track width. Engines are mounted securely on truck at both ends and cannot work loose. The front axle is swiveled and pivoted so truck will go over irregular ground without danger of turning over. The rear axle is so constructed that weight is carried near the wheels, thus preventing the axle springing. The all-steel wheels have staggered steel spokes and extra strong wide hubs and plenty of skein bearing surface. We especially recommend this horse drawn portable outfit for running threshers, well drills, ensilage cutters and large feed grinders. It is used extensively in irrigated countries where it is necessary to move power from one "setting" to another. If you require portable power you should buy it already mounted on a truck especially made for the purpose and not attempt to mount it on old trucks or wagon frames. Engine is fully equipped with WICO Magneto, WITTE Spark Retarder and Speed Regulator, Throttling Governor, WITTE Hot Spot and All-Fuel Carburetor, Large Fuel Tank, Die Cast Bearings, Plain Pulley and Tongue and Chain Brake. Complete and ready to run.

Size	5	H-P.	with	pulley	size	8x51/4	shipping	weight	1150	lbs.	Code	YAFUB.
**	7	H-P.	41	• ••	44	10x61/4	77	44	1400	**	••	YAFVA.
41	10	H-P.		**	41	12x6	**	**	2190	44	**	YAFWE.
"	15	H-P.	**	**	44	16x8	**	**	3100	**	**	YAFZO.
4.4	25	11-14.	**	**	14	20x10	44	ř.	4650	**	**	YAGRO.

## WITTE

## MODERN MACHINERY MEANS



## **QUALITY AT LOW COST**



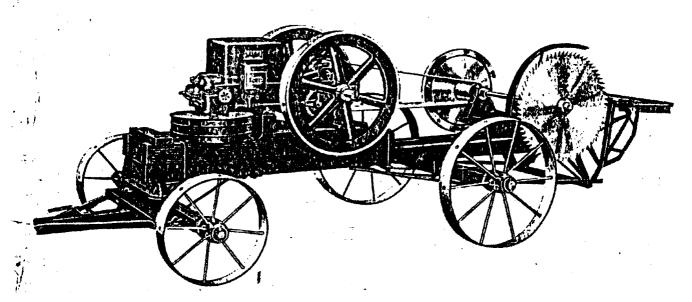
## "MONEY-MAKER" OUTFITS



GO IN **BUSINESS** FOR YOURSELF



WICO High Tension Magneto larte of 40 Beiny



## THIS IS THE CELEBRATED WITTE 3-IN-1 RIG

This justly famous WITTE Outfit has well carned the name "Money Maker." It is used by thousands of professional sawyers as well as farmers. It is without doubt the handlest portable outfit a man can purchase. It can be used as a portable power plant for grinding feed, shelling corn, running pumps, threshing, hay baling, silo filling, or any other heavy work. If desired, engine can easily be removed for use as a stationary engine. The truck filling, or any other heavy work. If desired, engine can easily be removed for use as a stationary engine. The truck can then be used for general hauling. When used as a saw rig, you will find it has unusually large capacity for fast cutting in large quantity poles, posts, ties, rails, slabs or cord wood into stove lengths. It has liberal engine power and is built exactly right to give you service. It is shipped complete, ready to run, with regular WITTE Throttling guaranteed cord wood saw blade. Heavy balance wheel and belt idler as shown on back cover. The all-steel truck is equipped with steel wheels with staggered steel spokes which makes them extra strong. The rear axle is double strength, being made of double steel channels. Front axle is swiveled and is also made with double channels. Truck is supplied with chain brake and tongue. Neckyoke and doubletrees not included. Has regular road tread and will go anywhere you can drive a wagon. Made throughout to take the hard knocks. It is high grade in every way. You will like the utility of this outfit and there is no better saw rig on the market to-day. The engine supplied is the regular WITTE Throttling Governor type fully equipped with WICO High Tension Magneto. WITTE Spark Retarder and Speed Regulator, WITTE Hot Spot and All-Fuel Carburetor, Fuel Tank, Die Cast Bearings, Can furnish Shafts in place of Tongue on 5 H-P. if desired. Can furnish Friction Clutch Pulley or larger size Blades if requested.

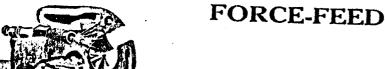
6 II-P. Outfit, with 26-in. Blade. Engine Pulley 12 in. Dia. x 6 in. Face. Shipping Weight 1400 lbs. Gode YOHCO 7 H.-P. Outst, with 28-in. Blade. Engine Pulley 14 in. Dig. x 6 in. Face. Shipping Weight 1625 lbs. Code YAHEZ 10 H-P. Outfit, with 30-in. Blade. Engine Pulley 16 in. Dia. x 6 in. Face. Shipping Weight 2450 lbs. Code YEIIIB

SEE ORDER BLANK FOR PRICES AND EASY TERMS

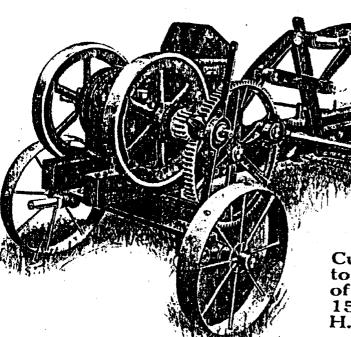
age 14



# WITTE LOG AND TREE SAW







STARTS AT 40° BELOW ZERO OR 100' IN THE SHADE

Cuts them off right close to the ground. E. J. Strube of Fortuna, Calif., cut one 15 feet thick with a 2-H. P. WITTE!

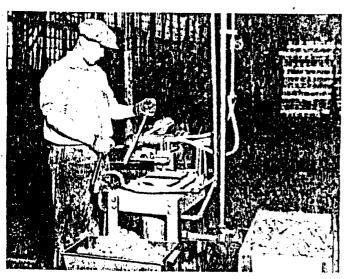
### EQUIPPED WITH WICO HIGH TENSION MAGNETO (Continued from page 16)

Your saw should be run at 180 to 200 strokes per minute to secure the best results. This is the speed recommended by the leading saw blade manufacturers.

You will find this outfit a rigid, sturdy built machine with more power than you will need at any time, built to take all the hard knocks that an outdoor machine is subject to. It is easily portable, weighing only 38 pounds at the handle end. The distribution of weight is very much as you would find it in a wheelbarrow. Careful tests power to meet all conditions and sizes of timber. This is the kind of outfit we furnish. It folds up compactly for moving costs only 25c to 50c per day to execute and file the long felt pagestiv for a practical money-making moving, costs only 25c to 50c per day to operate, and fills the long felt necessity for a practical, money-making

You, of course, can buy the log saw outfit only, but we suggest that you buy the log and tree saw outfit as shown above, which is the same in every way, except that it has the famous WITTE Tree Felling Attachment. Simply raise the saw pitman onto brace as shown in the illustration, and attach the tree attachment to the gear and the spring force feed to the skids, and you are ready to saw down any size tree. At the slight additional cost it will pay you to get an outfit that can be used to saw down the tree as well as to saw it up after it is down. This change can be made in a very few minutes. Saws so close to the ground that you can run your mower over the stump. The weight of the entire outfit complete is 525 pounds. Write us for our Log and Tree Saw Catalog that gives

Code ZAZOP



## WITTE Die Cast Bearings Insure Perfect Replacement

T IS a well known fact that the higher class automobiles, internal combustion engines, and other machinery all have removable bearings. If a bearing cuts or burns out, it can be replaced without the expense and delay of taking the whole cogine or machine to the factory or repair shop.

There are several ways of furnishing removable hearings. The cheapest way is to bore holes for bearings in the foundry when castings are made, then melled babbitt is poured in these rough bearing receptacles to form a smooth surface to receive the removable bearings. Due to shrinking and variable temperature of the melted babbitt, it is difficult variable temperature of the menter bander, it is unicum insure a uniform and perfect surface to receive the removable hearings. The best method and the only reliable one, is to accurately face and hore the bed and connecting rod so that the removable hearing itself can be inserted in a uniform and smooth receptacle of the cast or maileable

The thickness of the bearing itself is really immaterial. if the material back of the bearing is solid and accurately bored. If this is done it is possible to use a much higher

grade of anti-friction babbitt metal in the die cast bearing at no extra expense per bearing for the material. Of course, making engines with hearings in the manner above described calls for a considerable outby. First, the cost of a die casting machine, illustrated above, the boring, the facing, and necessary milling machines to prepare the eastings for the die cast bearing. Second the time required to perform the various operations. This is merely another way of expressing the value of a real guarantee which is "built into the engine" at the time of manufacture. Liberal guarantees are many times worthless if the machine is cheap and poorly constructed, because after all, what is a guarantee of replacement of an inconsequential part, if it takes a trip to the factory or to the repair shop, with a day or two delay to correct the trouble. day or two delay to correct the trouble.

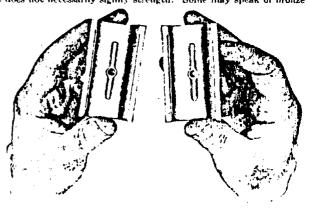
Internal combustion engines are now so nearly perfect, that it is not a question of operating or developing power from liquid fuel, but it is largely a question of how many years of service without failure, and how economical per year per horsepower. Many manufacturers can point with pride to the large bearings on their engines, yet these hearings may be made out of the very cheapest antimonial lead instead of the highest grade babbitt. The same is true when it comes to the size of the crank shaft, yet it may be made from very ordinary steel, 8 to 15 point carbon, whereas at a little higher price, 35 to 49 point carbon steel can be furnished which will give double strength and perhaps one-third less friction. In other words an extremely large crankshaft does not necessarily signify strength. Some may speak of bronze bearings, which every one knows are not the best for an internal

combustion engine. In many cases they are made of cheap habbitt and antimonial lead, poured out like so much soup, with the conse quence that the die cast bearing while apparently perfect, will show under a microscope that it is spongy or honcy-combed. It was to under a microscope that it is spongy or honey-combed. It was to overcome this and to give our customers the most perfect hearing that could be furnished that caused us to design and build a special die easting machine. In this machine we use the highest grade hearing metal. The babbitt is melted by heating to a predetermined hydrometer temperature, then forced under compressed air into the metal dies, which forms a perfect, even grained bearing. These bearings are therefore 100% solid with no sponginess or shrinking. We believe this is the only machine of its type in the United States and we do not think that die cast bearings under ordinary methods can possibly be made as perfect as in this die casting machine. It is possible to make over 6000 castings per day and there is practically no limit if we wish to treble or quadruple the number of dies used at

one operation.

We again wish to emphasize the importance of properly preparing

Rivery size the engine frame and connecting rod for these bearings. engine has only two classes of hearings, the main hearings and the connecting rod. The former are interchangeable.



### OUR BRAND OF SERVICE

that can only be furnished by a concern that actually manufactures what it sells.

EASY TO START

#### From Hendric & Bolthoff Mfg. & Sup. Co. Denver, Colorado

"We thank you for your kind consideration in repairing the Wico magneto sent you, returning same promptly. Wish to assure you that it is this kind of service that helps to make the WITTE engine popular."

From C. G. Moore., Louisburg, Kans.

"I sure wish to thank you for your letter of Oct. 12th. I had no idea my engine was so hadly out of I believe I will have to take off the 5% inch pulley, as it runs too fast for my cream separator and it is pretty hard to slow it down any other way. Again I wish to thank you very much for your prompt advice. I am going to buy another engine next year to grind feed with, and I will sure give you a chance to sell me one.

#### From The American Coment Machine Co., Inc. Kcokuk, Iowa

"Accept our appreciation of the manner in which you handled the Nyman trouble, as advised in your letter of August 29th.'

#### From L. Bankston, Walnut Lake, Ark.

"The New Magneto for the 3 H-P. Engine at the gin arrived yesterday, and was put on yesterday evening, and our starting trouble vanished immediately. It is such service as this that makes it a pleasure to buy a concerns products, and for the Gin Company 1 sincerely thank you.

#### From Arlton Campbell, Route A, Lafayette, Indiana

"Received the pulley yesterday and thank you very much. You certainly give fair, square and prompt service and we are better pleased with the little engine every day in every way. It starts off without the least bit of trouble and runs just fine. We will surely recommend it to our neighbors and friends."

#### From James E. Ryan. Bain, Minn.

"I received the new engine O. K., I also returned

the old one. I also showed how you corrected the defective part of the engine to my neighbor. Thanks."

#### From J. A. Young, Enid, Okla.

"Per your request we are returning via today's Santa Fe freight collect, the 2 H-P. Type "C" Engine No. B12611. The new Engine No. B26575 has arrived and from a brief test shows up to be well balanced and satisfactory in all detail. Thanking you for your prompt correction and co-operation in this matter."

#### From A. De Bernardi

"The free Newstyle 7 H-P. Piston pin received and will be applied at once. This certainly is Service."

#### From Louis Graff, Minier, Illinois

"I want to thank you very much for sending cylinder for 6 H-P. Engine. It sure made me feel good."

# WITTE

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Address All Correspondence to

### WITTE ENGINE WORKS

KANSAS CITY, MISSOURI (U. S. A.)

BRANCHES: PITTSBURGH, PA., SAN FRANCISCO, CAL.



## HOW TO JUDGE AN ENGINE

THERE is a sound reason for every part of a WITTE Engine being designed and made as it is. The engine as a whole is the result of careful study and investigation, and the gradual adoption of principles that have been found correct under actual operating conditions. We have told you in the previous pages of this catalog in a general way about the WITTE Engine. In the following pages we are specific

in describing and comparing some of the main operating parts of a WITTE Engine with others on the market. Bear in mind that we are reliable financially and will be in business to serve you for all time, and that we will do what we say. We will give you what you have a right to expect in quality, service and price, a square deal any time and all the time.

#### CRANK SHAFT

A good crank shaft should be made from a drop forging, carefully ground and polished, and made from a formula that requires a high content of high carbon steel. It should have strength rather than size and weight. A larger crank shaft does not mean that you will get more strength as it is the quality of the material used that counts. WITTE crank shafts are the best that can be made.

#### BORE AND STROKE

Modern and scientific engineering calls for properly proportioned bore and stroke on an engine, whether it is for a motor car or for stationary use. We have the exact proportions necessary for correct operation and economical fuel consumption. An excessive bore and stroke in a stationary engine-results in waste of fuel and oil.

#### **FLY-WHEELS**

A cheap fly-wheel and one that is very frequently used, is merely bored to slip on over the crank shaft and is held in place by a wedge. They become loose and work off and this results in damage to the engine and frequently to the operator. Many inferior fly-wheels also have holes in the spokes to which the pulley is fastened. This is done to save a few inches of crank shaft. WITTE Fly-Wheels are made with heavy split hubs bolted and key-scated onto the crank shaft, with a heavy key which fits in a slot in the end of the crank shaft and in a slot in the hub of the fly-wheel itself. They cannot give you any trouble and are reversible and interchangeable.

## THROTTLING GOVERNOR VS. OLD METHOD

For many, many years WITTE built what is known as "hit and miss" governor engines, engines that would take a charge of fuel then "cut out" or make several revolutions before taking another charge. By this method it was necessary to build them heavier, there were more parts to operate and the main object of the hit and miss governor was a theoretical saving of fuel. With the WITTE throttling governor control as now used, the sconomy in fuel is just as great and besides you have a steady and smooth running engine, no sudden jerks or jars. So automatic is the throttling governor that sudden loads are automatically taken care of because additional power is immediately supplied. The WITTE Throttling Governor is in itself an adaptation of the oldest governing device known. It is the horizontal, fly ball, steam engine governor type, familiar to all of us. Anyone experienced in mechanics will tell you that this is the most reliable style of governor made. Some manufacturers still use the governor in the fly-wheel. We say to you that the throttling governor as used on WITTE Engines is the best regulating device you can get.

#### SPEED REGULATOR

If an engine is not equipped with a speed regulator—and many are not—you must expect nothing more of the engine than what its rating in horse-power calls for. Contrast this with the WITTE with its wide power range and flexibility in speed which permits a 5 H-P. engine being used for 3, 4, 5 or 6 horse-power.

#### IGNITION

The ignition on the first WITTE Engines and first automobiles that were built was what is known as "make and break" ignition. This method was discarded many years ago by ourselves and motor car manufacturers in favor of the now universal "jump spark" ignition. Some engine manufacturers still put the make and break ignition on their engines, most likely for the reason that they do not want to go to the expense of changing their patterns. We unhesitatingly say that the "jump spark" ignition is the one to use and the engine you buy should have it.

#### **ELIMINATE BATTERIES**

It is somewhat cheaper to furnish battery or the "make and break" ignition, but the finest ignition that can be put on any engine is a magneto and the best of magnetos is the WICO High Tension. It always furnishes a hot, fat jump spark and eliminates practically all ignition troubles. It is extremely simple in construction, having only one moving part, is weather and water proof and has absolutely nothing on it to get out of order or to break. We unhesitatingly say that the WICO High Tension Magneto as used on WITTE Engines is one of the greatest steps forward in recent years in improving the efficiency of engines.

#### CARBURETOR

Are you content to buy a horse that will eat only oats and would refuse to work if you fed him corn? A parallel case might be drawn from the average engine burning only gasoline, or if it is a so-called crude oil engine, using crude oil alone. The WITTE Engine is rightfully called the "all-fuel" engine, because it uses practically all of the available fuels of to-day—gasoline, kerosene, natural gas, gas-oil, distillate, alcohol, motor spirite, etc. This use of many fuels is made possible by the design of the WITTE Carburctor. The simplicity of our automatic carburctor is such that it requires no adjustment. Judge for yourself the desirability of having an engine that will successfully operate on all of these fuels.

(CONTINUED ON PAGE 21)

Page 20 PUT THE SAVING IN YOUR POCKET



# HOW TO JUDGE AN ENGINE

(CONTINUED FROM PAGE 20)

#### CAST IRON

Massive construction and weight are usually impressive to the average man, yet engineers know that the chemical analysis of the ingredients, in other words, the formula, of the iron and steel mixture is the all important factor. Plain east iron is cheap and easy to get, but you will not find it in a high grade tool. You rightfully expect quality, light weight and durability. We use semi-steel. All castings are therefore close grained, non-porous, tough, hard and of high tensile test. Semi-steel makes a very smooth casting, several times stronger than cast iron. Scientific design and the use of high grade semi-steel makes the WITTE Engine unusually powerful per pound of weight. When judging an engine, bear in mind that quality comes before weight. We make our own semi-steel castings from our own formula and we know that they are high grade in every way.

## COOLING SURFACE

Any engine to be efficient in fuel consumption and to develop the greatest amount of horse-power should have a uniform temperature. It is necessary, however, that a certain degree of heat be attained to bring about this efficiency. This has all been a matter of scientific study on our part and the construction of a WITTE Engine is such that this efficient heating point is quickly reached. There is an abundance of water cooling surface to prevent over-heating and a thorough circulation of water around the cylinder and cylinder head.

### LUBRICATION

We use an all brass, full polished, glass body, sight feed, snap lever lubricator. It is located so that feed pipe runs down through the hot water in the hopper. This makes the oil flow freely at all times. All main bearings have large screw feed grease cups. You will have no lubrication trouble on a WITTE.

## SELECT CAREFULLY

The engine you buy should be selected so that one size will take care of as many kinds of work on your farm as possible. If you have work for a 5 or a 6 H-P. engine, or a 3 or a 4 H-P. engine, let us suggest that you buy a 5 H-P. WITTE, thus taking care of all of your work. The size engine to buy is the one that will handle the greatest amount of your work. If you have three hours of work per day for a 5 H-P. engine and only 15 minutes per day for a 3 H-P., it is obvious that you should buy the 5 H-P. In judging an engine, be sure it has wide power range and flexibility.

### SIMPLICITY

We have told you considerable about the simplicity of WITTE Engines. We draw your attention to the very few working parts on a WITTE Engine as compared with others on the market that have what engine manufacturers know as "outside rigging." We will use as a comparison some of the numerous parts found on automobiles of the earlier days, as against the modern motor car with many thousand fewer parts. Simplification of parts is a point you cannot overlook in judging engines.

### APPEARANCE-FINISH

After a WITTE Engine is thoroughly tested on our main testing floor, it passes into the paint department where it is hand filled with a superior grade of iron filler. It is then rubbed down by hand and a lustrous green paint applied. The paint is especially made for us by the largest makers of quality paints in America. Painting hasn't much to do with the mechanical operation of an engine but we all like to have one that looks right.

### **GUARANTEED FOR LIFE**

Because of the high quality of material used, and the positive knowledge on our part that our engines are as good as can be made, we guarantee them for life. All you have to do if any part is defective is to return it to us for replacement.

## INVESTIGATE THE FIRM YOU DEAL WITH

An engine is a machine made of many parts, and the assembling of these parts into a perfectly working unit is a problem for mechanical men. Therefore, your greatest safety must come from buying your engine from parties that are thoroughly schooled, from long and practical experience, in the profession of engine building, and who are also sufficiently strong financially to carry out their promises. You can easily judge for yourself if you will look up their standing and reputation, how long they have been in business, and if they give their customers a square deal. Ask any Bank, postmaster, railway or express agent, or the Dun and Bradstreet Commercial Agencies about the WITTE ENGINE WORKS, and then judge for yourself. We have been in business right here since 1870.

SEE ORDER BLANK FOR PRICES AND EASY TERMS

Page 21

## **HOW TO ORDER**

#### 24-HOUR SERVICE

Practically all of our orders are shipped within 24 hours after they are received. 80 per cent are shipped the same day. We can definitely promise you quick and satisfactory service.

#### SAFE DELIVERY GUARANTEED

We absolutely protect you at our expense against damage in transit. Just have agent note any damage on freight bill and send to us. We will take care of entire matter without trouble or annoyance to you.

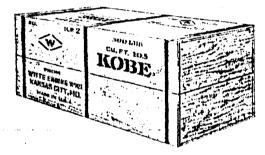
#### HOW TO ORDER

Enclosed with this catalog is an order blank and price list. All you need do is to fill in your name and correct address, and if you are enclosing remittance you can send us post office or express money order, bank draft, personal check, currency or Liberty bonds.

#### **SAVE \$15 TO \$200**

Low manufacturing cost, low cost of materials, every timesaving device, means we produce a good engine at an unusually low figure. This saving we pass along to you in the way of reduced selling prices. You save 20 per cent to 40 per cent when you buy a WITTE.

#### BOXED FOR EXPORT



Above picture shows our method of boxing, banding and marking shipments for export. Nearly every country on the globe has its WITTE Engines.

#### WRITE US

We can supply you any information you may need in reference to your power installations. We will gladly help you if you will write us stating plainly what your problem is. It will be a pleasure for us to give you the benefit of our experience.

#### IN ANY LANGUAGE

Write us in your own language. We can read it, as we receive orders and inquiries every day in nearly all languages. We will write you in your own language if you request it.

#### WIRE IF NECESSARY

If you are in a hurry you can have your bank send us a telegram at our expense, stating size and style of engine you want. Wire your correct address, and state if bank will make settlement for engine upon arrival. Your banker understands how this is done and will be glad to accommodate you. We will make immediate shipment.

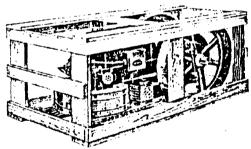
#### EASY PAYMENT PLAN

We are glad to sell any reliable person on easy payments. Under our liberal plan you need only to make a small first payment and the balance can be extended over a period that will be easy and convenient for you, a year if necessary, and in amounts that will suit, without any interest charge whatever. No red tape or inconvenience when purchasing under our Easy Payment Plan.

#### CASH WITH ORDER

If you prefer to send us payment in full for your engine, the Cash Prices quoted in order blank will apply, and you may remit with post office or express money order, bank draft, personal check, currency or Liberty bonds. If you prefer you can send us part cash and pay balance on arrival.

## CRATED FOR DOMESTIC SHIPMENT



For the shorter, all-rail hands, we securely crate all engines, thus protecting all parts from damage in transit. We guarantee against damage on route to you.

#### CONFIDENCE

A successful business is always founded on confidence. Confidence develops slowly and is only brought about by a long and clear record of square dealing and honest quality. We have been in business since 1870 and point with pride to the fact that our financial standing and our reputation with our customers is such that we unhesitatingly refer you to any WITTE user, or to any of the banks on the following page. Ask any banker, postmaster, freight or express agent, or Dun's and Bradstreet's Commercial Agencies about the WITTE ENGINE WORKS.

### SHIPPED FROM NEAREST POINT

Shipped from factory or branches at Kansas City, Mo., Pittsburgh, Pa., San Francisco, Calif., or from warehouses at Dallas, Texas, Minneapolis, Minn., New York, N. Y., Trenton, N. J., Orlando, Fla., Atlanta, Ga., New Orleans, La., Denver, Colo., and El Paso, Texas. We carry engines there in carload quantities and can make immediate shipments. Mail your orders to Kansas City, Mo., or to one Pittsburgh, Pa., or San Francisco, Calif., offices. Large Stocks. No Delay.

We Can Furnish Saw Frames - Pump Jacks - Clutch Pulleys - Plain Pulleys - Engine Trucks - Saw Blades

## A PERSONAL MESSAGE



WITTE Engine, you must be told something of my 42 years' experience in the manufacturing of engines. My friends, and even my competitors, unhesitatingly say that Ed. Witte has an unusual knowledge of what is required of an engine. I have made an intense study of the subject and fortunately have many thousands of WITTE users who are so friendly to me and my engine that they have always told me how I might improve my product, and believe me, I have always been quick to take advantage of their suggestions. I am an engine designer and manufacturer who takes particular pride in being able to turn out a quality product. I have been in the game so long and am so well established that I can promise you the exact service you should require from the man that you buy your engine from.

When I tell you of my 42 years in the engine business as a practical manufacturer, it is for a distinct purpose. I want you to know that I know the engine business from all angles, that I am financially responsible and that I live up to my word. The WITTE ENGINE WORKS is a large and prosperous business establishment, a real live result of giving a square deal.

My father started this business in a very small way back in 1870 and I learned the business of mechanics with him in the days when there was only one way to learn it—get in and actually do the work. In 1883 we started making engines. I have been at it ever since and have been through the entire development of the internal combustion engine question. It is the experience gained during these long years that enables me to build the engine as it is to-day.

I know machines and can run any machine in my factory myself. I can work right out there with my men when it is necessary; know them all by their first names, because most of them have been here since we had a small shop. They know their job thoroughly, know just how to get the necessary accuracy. I have modern machinery for them to work with and that is another reason why we get that justly praised performance of WITTE Engines. I have always demanded quality. WITTE Engines are made to last. I have always sold them at a reasonable and living profit and consequently am able to give you a guarantee of reliability second to none among engine manufacturers. The WITTE ENGINE WORKS is in business to stay. You will always be able in future years to get, the necessary service. You will get a square deal from us any time and all the time. Therefore, I ask for your engine business because I have something to give you in return. I give you a quality engine, low in price, and you get fair, square and prompt service, and above all a guarantee from us and from our banks that you will get what you have a right to expect Direct From The Factory.

Yours sincerely,

Ed H Witte

P. S.—I believe I have covered everything in this message except that I am going to ask you not to forget that we are manufacturers selling only what we make ourselves, direct to you, and are not in any sense a "mail order house."

BE SURE TO READ PAGES 20 AND 21 ON HOW TO JUDGE AN ENGINE