

SPECIAL LABOR SAVING MACHINERY AND TOOLS FOR FORD AND FORDSON SERVICE STATIONS



CATALOG No. 8

The FAIRBANKS *Company*

Exclusive Distributors for

SERVICE STATION EQUIPMENT COMPANY, Inc.

Chicago, Ill.

HEMPY-COOPER MANUFACTURING COMPANY

Kansas City, Mo.

PETTERSON ENGINEERING & MANUFACTURING COMPANY, Worcester, Mass.

AND OTHER MANUFACTURERS OF GARAGE EQUIPMENT

Mill, Mine, Railway Supplies and Specialties
Automobile and Service Station Equipment
Trucks and Wheelbarrows
Power Transmission

Engines and Pumps
Machine Tools
Valves
Scales

SPECIAL LABOR-SAVING MACHINERY AND TOOLS

for

FORD AND FORDSON
SERVICE STATIONS

THE FAIRBANKS COMPANY

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Automobile and Service Station Equipment
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More Profits in the Repair Shop

DURING the war, when new cars were not available, many Ford Agents who established repair shops and installed labor-saving machinery were surprised at the volume of profitable business they were able to do in this line. They made money during a time when there was apparently nothing for the Ford Agent to do, and they gave satisfactory service to car owners.

The organizers of the Service Station Equipment Company have had a wide experience with Ford Cars and Fordson Tractors and have operated their own service stations. They saw the need for all of this labor and time saving equipment, and they designed and are now making the principal machines, tools and appliances which are a necessity in every Ford repair shop and service station.

A Few Facts for You to Think About

Let us give you an idea of the benefits than can be derived from the use of modern shop equipment. In using the Bearing Burning-in method a saving of from four to five hours can be made on each and every motor overhaul on the bearing work alone. By the old scraping method it required from five to six and a half hours to scrape-in a set of main or connecting rod bearings, and after this had been done the actual bearing surface did not exceed 40%. By the use of the Burning-in Machine this work can be done in from thirty to forty minutes and it gives a 100% bearing surface all the way across on the main and connecting rod bearings.

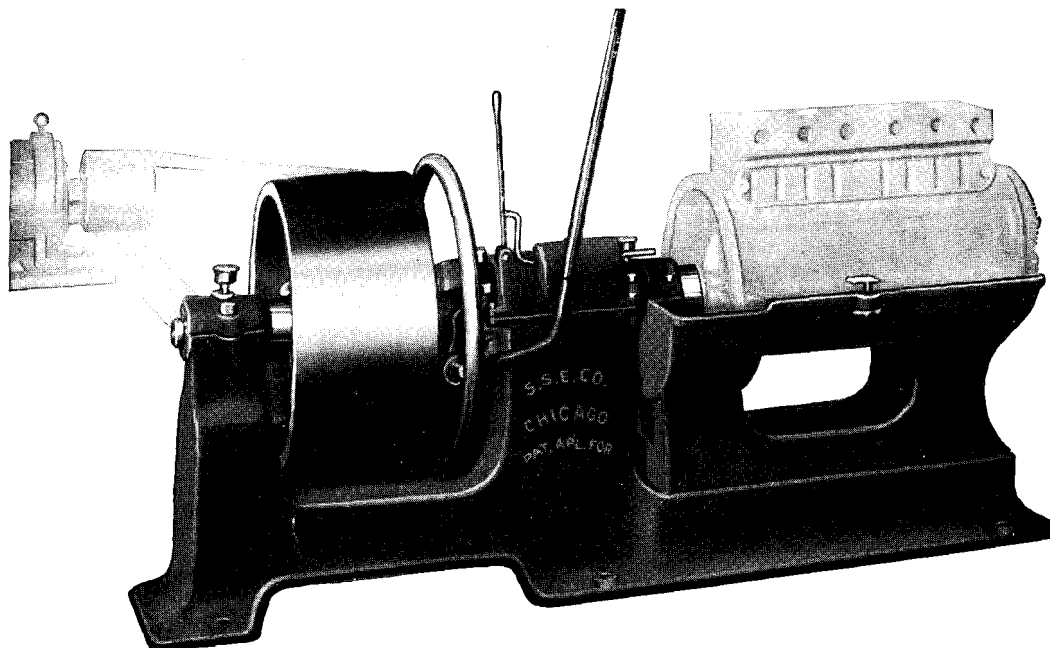
After the bearings have been properly burned-in, the motor is assembled and placed on the Motor Test Stand where it is run-in from the line-shaft until sufficiently limbered up to operate under its own power. The motor is then operated on its own power on

the Test Stand so that all oil leaks, noisy gears, timing trouble, magneto and carburetor trouble can be immediately detected and most of the corrections can be made on the Stand, eliminating the necessity of pulling the motor from the chassis, as has to be done when the motor is put into the car before the final test is made.

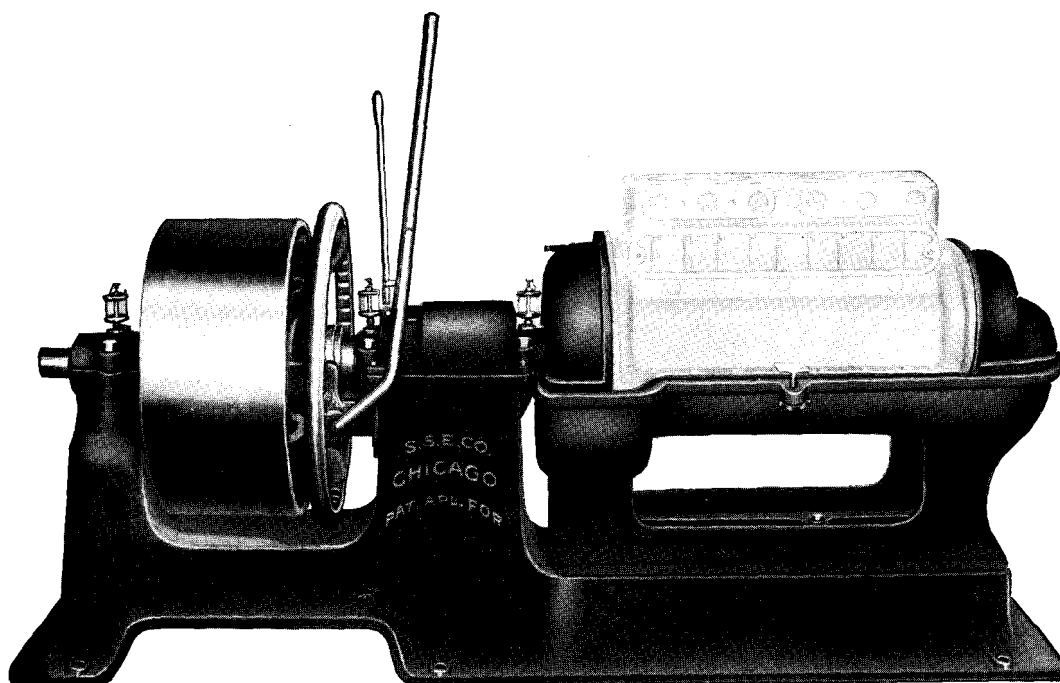
THE BIG ITEM: Please remember that during the time this motor is being run-in on the Test Stand, you have no mechanics testing an overhaul motor job and towing the car to start it. On the contrary, you have every man in your shop where he should be and where he can go ahead with other regular work, giving you two men who would otherwise be spending your time or your customer's time—which means money—in adjusting and tuning a motor which has been placed in a chassis without being tested.

All prices are f. o. b. factory and are subject to change without notice.

**The American Universal Bearing Burning-in, Motor Test
and Running-in Stand**
for the Fordson Tractor and the Model T Ford Motors



Showing the bearings of a Fordson Tractor Block being burned-in in the upright position at 220 R.P.M. with a 15 H.P. motor



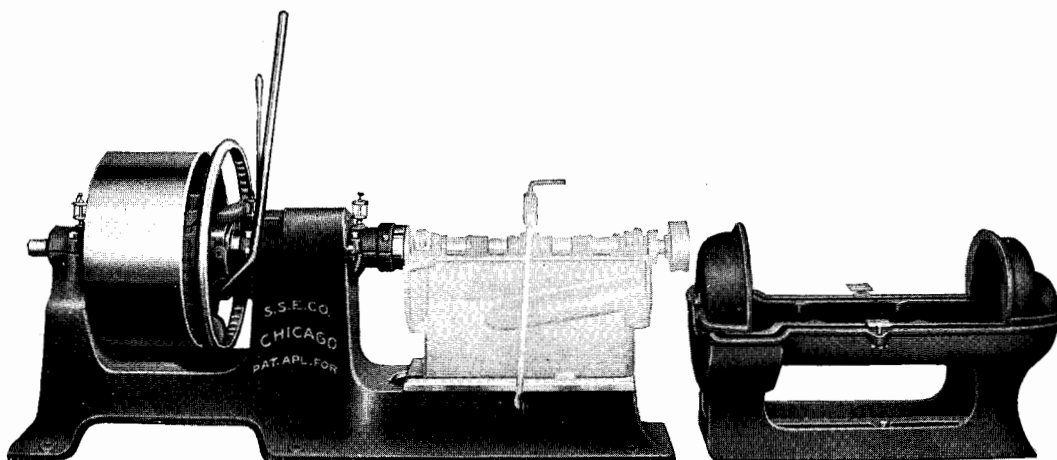
Showing a Fordson Tractor Block being limbered up with oil at 600 R.P.M.

For description and prices see Page 6

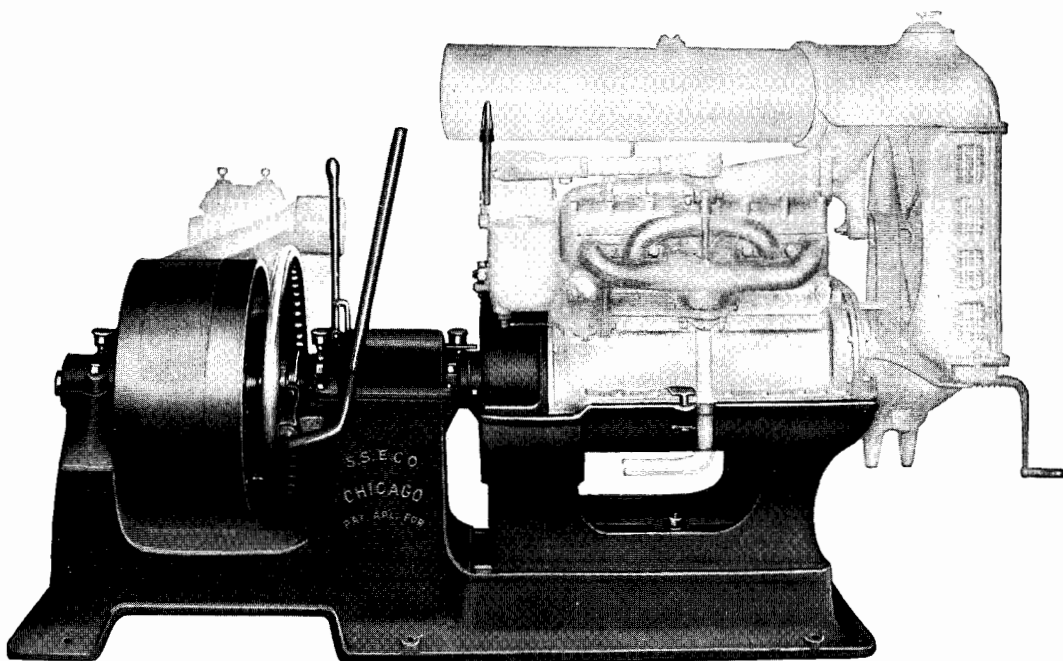
The American Universal Bearing Burning-in, Motor Test and Running-in Stand

for the Fordson Tractor and the Model T Ford Motors

(Continued)



Burning-in the bearings of the Fordson Tractor Block in the upside-down position. In this position the bearings are exposed to the view of the operator who can make adjustments in the bearings while the crank shaft is in motion and without removing the block from the machine.



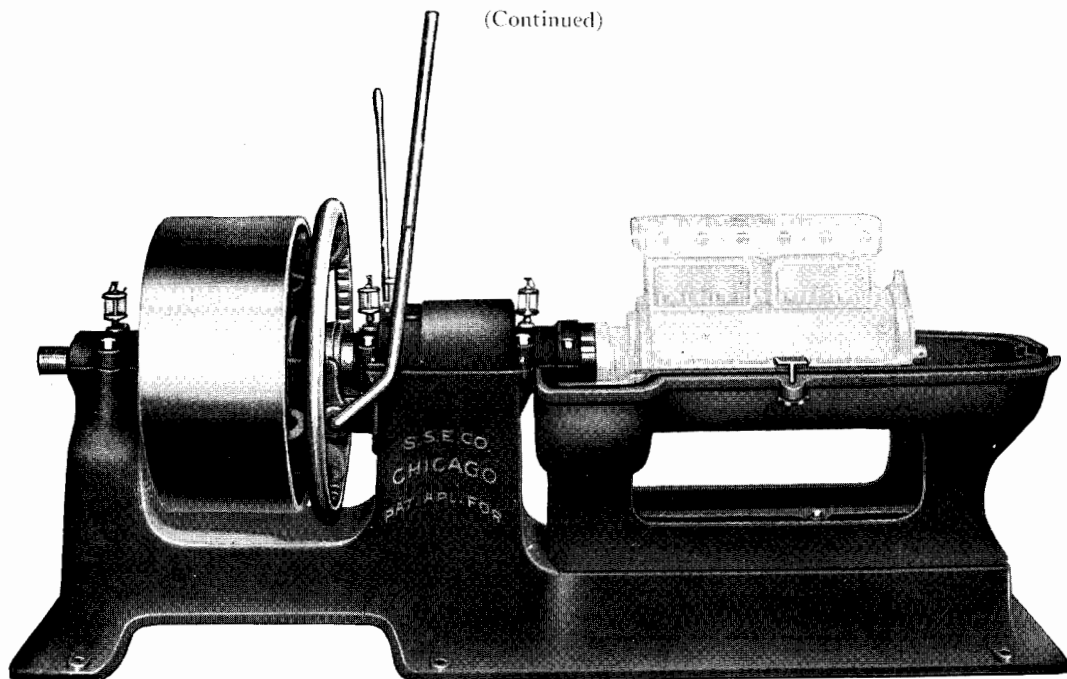
Showing the complete assembled Fordson Motor running under its own power after being limbered up and run-in at 600 R. P. M. on the American Universal Machine.

For description and prices see Page 6

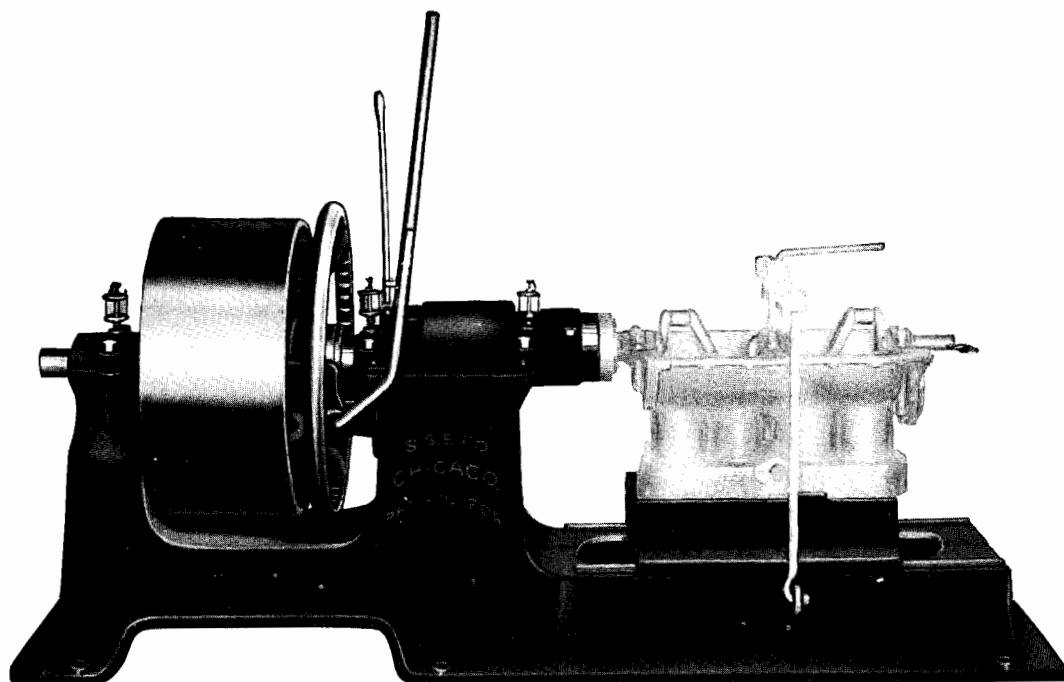
The American Universal Bearing Burning-in, Motor Test and Running-in Stand

for the Fordson Tractor and the Model T Ford Motors

(Continued)



Showing the bearings of a Model T Ford Block being burned-in, in the upright position. The complete assembled Ford Block, including connecting rods, pistons, etc., can be limbered up with oil in this position at 600 R.P.M.

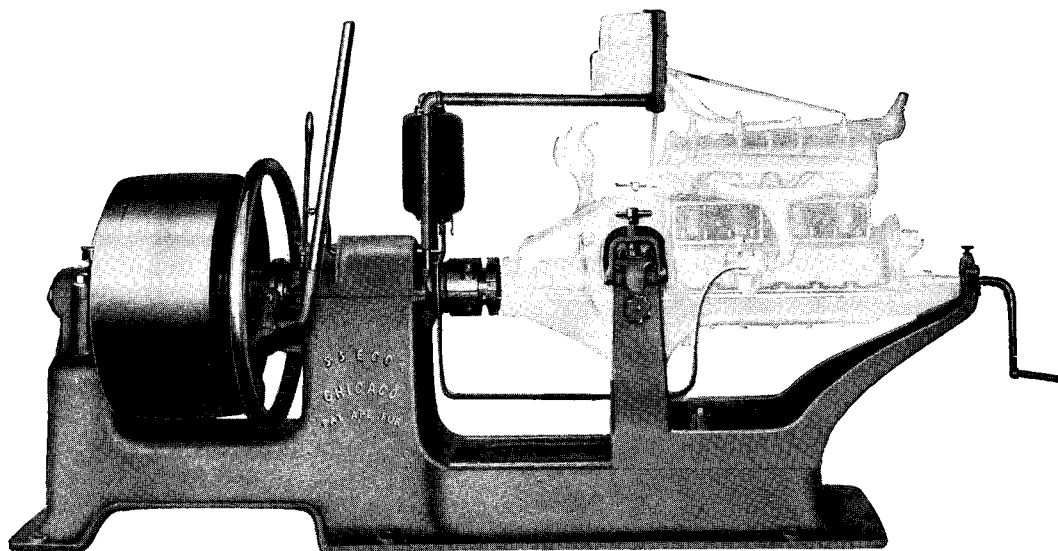


Universal Machine showing Ford Motor Block ready for Burning-in, with bearings exposed to view of the operator
For description and prices see Page 6

AUTOMOBILE AND SERVICE STATION EQUIPMENT DIVISION

The American Universal Bearing Burning-in, Motor Test and Running-in Stand for the Fordson Tractor and the Model T Ford Motors

(Continued)



Universal Machine with fixture for running-in and testing assembled Ford Motor

General Description

The new American Universal Machine is designed especially for use in repairing both Fordson Tractor and Model T Ford Motors, and will burn-in both Fordson Tractor Block and the Ford Block, and it will run-in the assembled motor for either machine. It is so constructed that the bearings of the Fordson or Ford Block are exposed to view of the operator while being burned-in, or, if desired, it will burn the bearings in the regular way.

The American Universal is a complete self-contained unit, the base being one solid casting. The center of gravity is low and the weight is sufficient to allow the machine to rest solidly on the floor without undue vibration. Every part is well balanced, made of the best materials and properly designed. No expense is spared to produce the most durable and practical machine for use in repairing Fordson Tractors and Model T Fords.

After the bearings have been burned-in and the motor has been reassembled, the running-in attachment can be put in place and the motor run-in before being placed in the car. A thorough test of this kind enables one to locate any trouble in the motor, and to adjust the valves, timing, carburetor, etc. Adjustments are made more con-

veniently and with less expense than if the motor were placed in the chassis before testing.

When adopted for handling the Fordson Tractor Motor, the American Universal offers the same advantages for handling these motors as other American machines for handling the Ford Motors.

The old system of scraping the bearings obtains only 40% to 50% bearing surface, because no mechanic can scrape an even or uniformly smooth surface.

With the American Universal Machine you always obtain 100% bearing surface because when burned-in the bearing must fit the shaft absolutely tight—it takes less than one hour to do the complete job on all bearings.

The bearings of the American Universal Machine are all made of Non-Gran Bronze and Nickel Babbitt. This machine is equipped with two speed gears so that you can burn-in at two different speeds.

Length over all, 85 inches; extreme height, 36 inches; width, 26 inches; size of fly wheel, 10 $\frac{3}{4}$ x 22 $\frac{1}{2}$ inches; height of motor arms, 26 inches; shipping weight, 1500 lbs.

Price Schedule

Machine complete, with two (2) speeds, without fixtures, net weight 1250 pounds. **\$362.00**

No. 1—Fixture with Oil Sump for Burning-in Fordson and Model T Ford Cylinder Blocks at 200 R. P. M., running-in Fordson and Model T Cylinder Blocks at 600 R. P. M.; testing Fordson Motor complete, less lower crank case, under own power, includes fixture Hood for covering Fordson fly wheel while testing, gasoline tank and air wash supports **55.00**

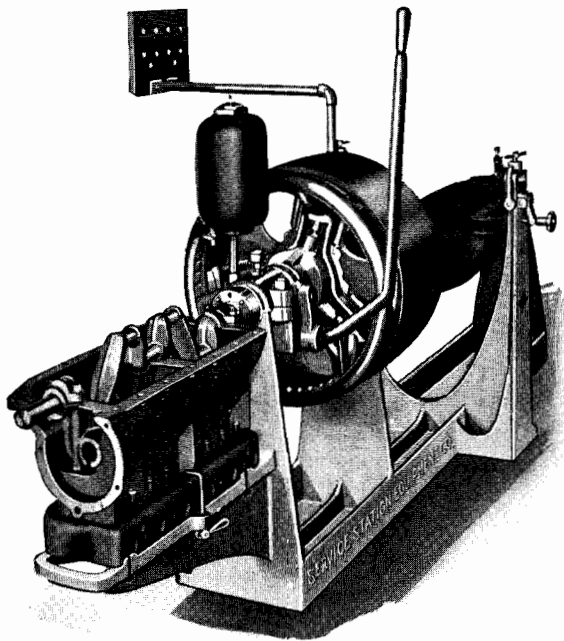
No. 2—Fixture for Testing Model T Ford Motor completely assembled, including gasoline tank, coilboard and water connections . . . **\$45.00**

No. 3—Fixture for Burning-in Model T Ford Bearings Crankshaft in upside-down position, including flange **14.00**

No. 4—Fixture for Burning-in Fordson Bearings, Crankshaft in upside-down position **14.00**

Universal Machine, complete with fixtures—Nos. 1, 2, 3 and 4. **490.00**

American Junior Combination Bearing Burning-in and Motor Test and Running-in Stand



The AMERICAN JUNIOR is designed so that the bearings of the Ford Block are exposed to the view of the operator while being burned-in. This permits the operator to detect any faulty adjustment of the bearings before the operation is completed.

The Burning-in Base is provided with openings large enough so that the Pistons and Connecting Rods can be installed or fitted without removing the Block from the machine. The Block is held in position with quick acting clamps set in guides.

The AMERICAN JUNIOR is constructed along the solid unit principle, no bolts or rivets being used in the frame. This eliminates vibration and also the danger of the frame shaking loose from constant use.

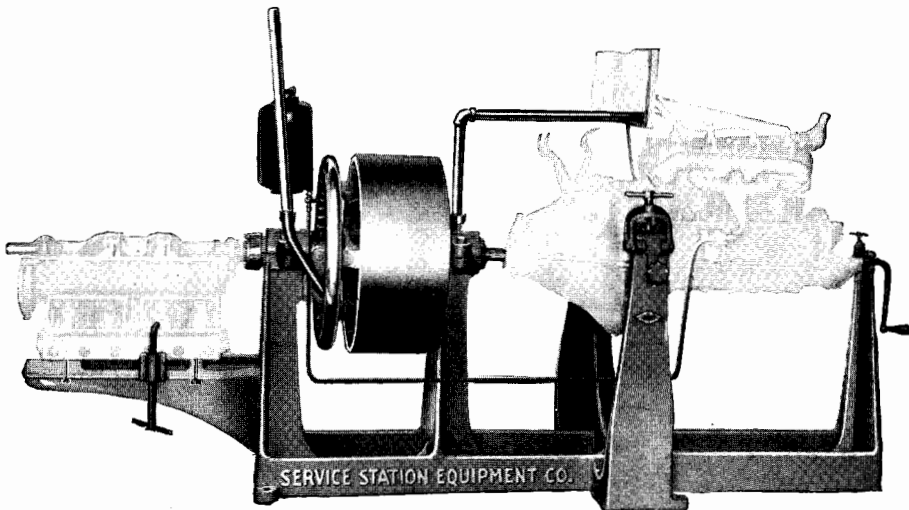
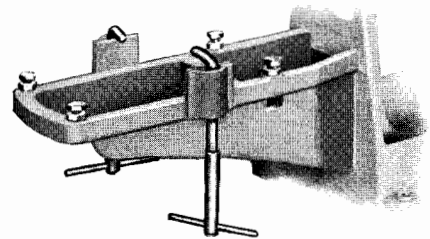
This machine has the quick adjusting alignment device on right hand motor support for aligning the Universal Joint quickly and accurately. The Motor Test part can be operated independently or at the same time that the bearings are being burned-in. The clutch is equipped with a try-out wheel so that the stiffness of the motor and bearings can be determined without removing either unit from the machine.

The AMERICAN JUNIOR comes completely equipped with gasoline tank, inlet and outlet water connections, and coil support as shown in illustrations.

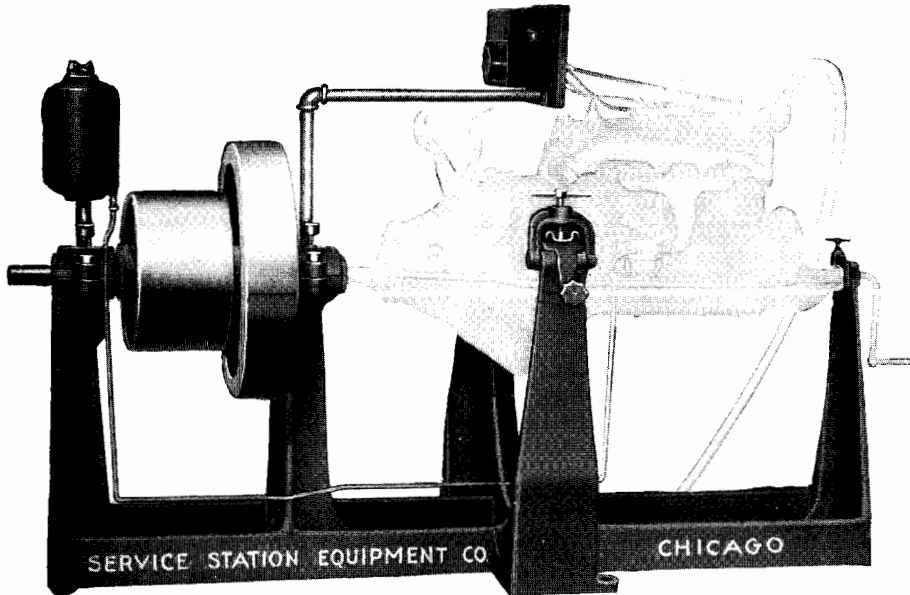
Shipping weight, 750 pounds; length, 84 inches; height, 22 inches. Pulley, 22 x 10". Bearings, Non-Gran Bronze and Nickel-Babbitt. Clutch, 3 point maple block expanding. Requires $7\frac{1}{2}$ to 10 H. P. to operate. Net weight, 700 pounds.

Price, complete.....\$197.50

Adjusting screws are provided with the Burning-in base to elevate or lower the Ford Cylinder Block in order to allow for variations in the worn main bearings.



American Power Stand for Ford Motors

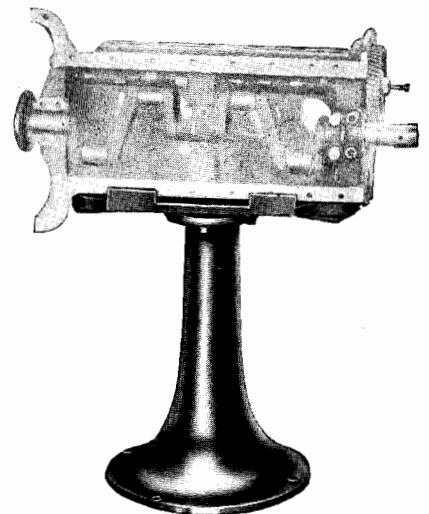
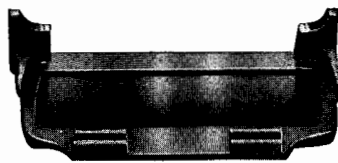
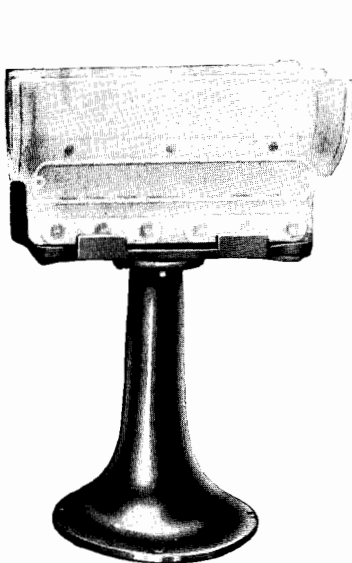


This stand is designed so that the power of a Ford Motor can be properly harnessed for the driving of Burning-in and Running-in Machines. It is furnished with 200-pound fly wheel and proper size pulleys for securing the correct number of revolutions for the Burning-in Machine.

This attachment is built extremely rigid and strong, and is fitted with chrome nickel steel shaft.

Price of attachment, complete. \$90.00

American Fordson Motor Overhauling Stand



Every Fordson dealer will require this stand for holding the cylinder block during the various operations.

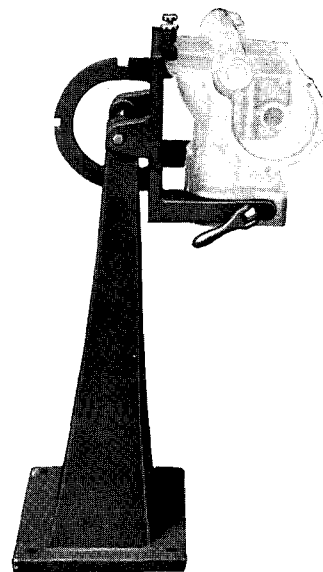
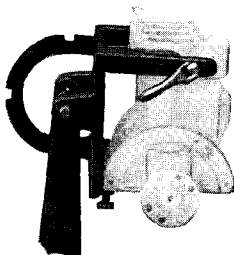
It is adapted to hold the block upside down for fitting cam shaft gears, crank shaft bearings, etc., preparatory to burning-in the block; also for holding block while reaming main bearings, etc.

It will also hold the block side-wise while fitting pistons, connecting rods and cam shaft, grinding valves and assembling magneto to block.

Net weight, 200 pounds.

Price \$30.00

American All-Angle Ford Motor Stand



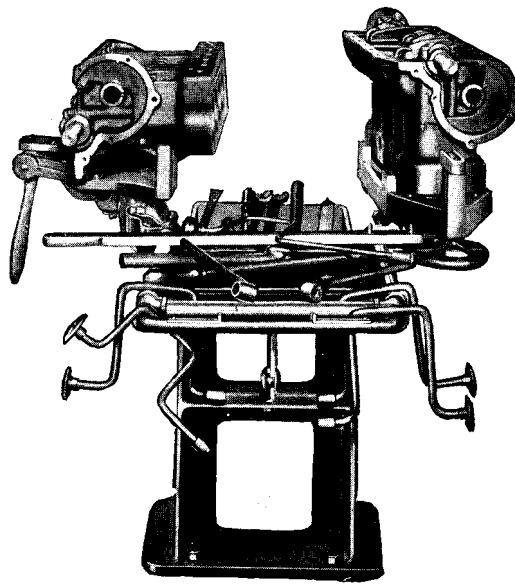
The All Angle Motor Stand is designed to hold a Ford Motor Block in the three necessary positions for overhauling. The cylinder block is placed in the motor bench on its side. A few turns of the hand clamp and the motor is locked securely in the stand. This position we will call No. 1. It permits the use of a speed wrench for the removal of the connecting rods and pistons.

Position No. 2 shows the motor upside-down. The cylinder block is held in a very low position, permitting the use of a brace wrench for the removal of main bearing bolts, filing and fitting of the bearings and caps preliminary to the burning-in process.

Position No. 3 shows the cylinder block in a right-side-up position. The cylinder block is now in the correct position for the grinding of the valves and adjustment of the valve stems. The design of the stand permits the installation of the magneto field and completely assembled transmission.

Price, without base and casters	\$35.00
Price, complete with base and casters	50.00

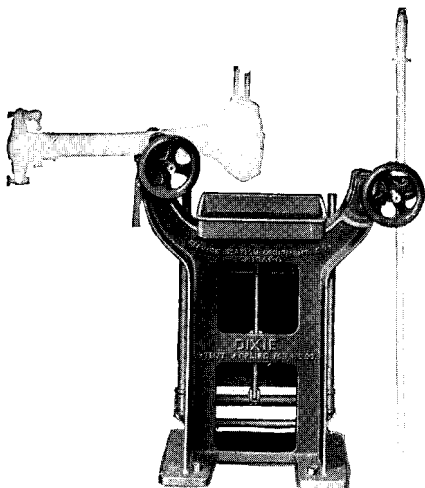
Dixie Combination Engine, Front and Rear Axle Stand



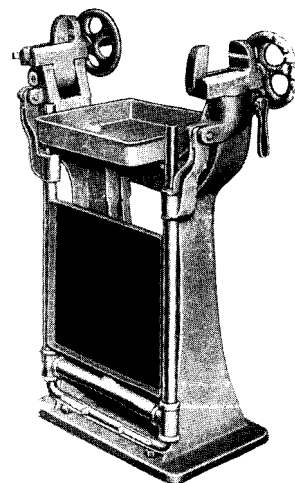
Dixie used as Engine Stand

The Dixie Stand is a combination clamping fixture designed to take care of the front and rear axles while they are being overhauled.

The jaws of the Dixie Stand are removable, which allows the operator to substitute motor clamps M-11 and M-13, thus converting the Dixie Stand into an ideal Motor Bench, the grease pan being used for bolts, nuts and parts of the engine, while the drive shaft support becomes a tool rack. The stand is equipped with two vises; one of which tips sideways to make the axle housing accessible for the removal of the roller bearing sleeve, the other turns on a spindle to allow the easy removal of the differential and axle shaft. A heavy cast-iron grease pan is provided to catch the oil and grease from the differential when disassembled.



Dixie used for Rear Axle Overhauling

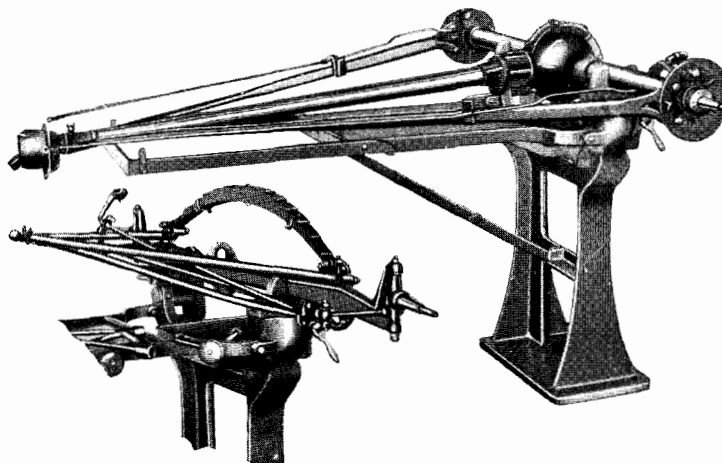


Dixie folded

For prices see Page 11

Dixie Combination Engine, Front and Rear Axle Stand

(Continued)



Dixie Stand Used for Front and Rear Axle Overhauling

Height of stand, including vises, $34\frac{1}{2}$ inches. Length of bed, extended, 53 inches. Vise open, $4\frac{1}{2}$ inches. Base, 20 x 12 inches.

Dixie Stand fitted complete with M-11 and M-13 motor clamps. Net weight, 400 pounds.

Price \$100.00

Dixie Stand only, without M-11 and M-13 Motor Clamps. Net weight, 250 pounds.

Price \$60.00

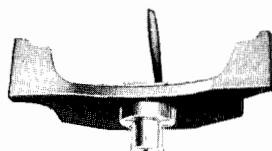
Motor Clamp M-11 for the Dixie Stand. Net weight, 50 pounds.

Price \$15.00

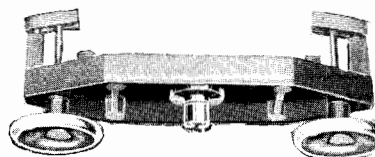
Motor Clamp M-13 for the Dixie Stand. Net weight, 70 pounds.

Price \$25.00

The Dixie Stand can be used for front and rear axle overhauling on nearly all makes of small cars under 3,000 pounds.



M-11



M-13

Showing Motor Clamps supplied with Dixie Combination Stand

The Hempy-Cooper Bearing Boring Machine and Re-babbitting Jig

for Ford and Fordson Crank Shaft Bearings



The above cut shows manner of attaching babbitting jig to cylinder block

Saves time and expense, and nets a good profit. Guaranteed to do the work in an absolutely accurate and satisfactory manner.

NOTE: A gauge for correctly setting cutting tools is furnished with each outfit.

Distributed exclusively by The Fairbanks Company

A machine for boring the Main Bearings in Ford and Fordson Cylinder Blocks.

A jig for re-babbitting the bearings in Ford and Fordson Cylinder Blocks.

Time consumed in babbitting and re-boring bearings, not over thirty minutes.

One operation bores all three bearings in one straight alignment, thus insuring perfect fit of the crank shaft.

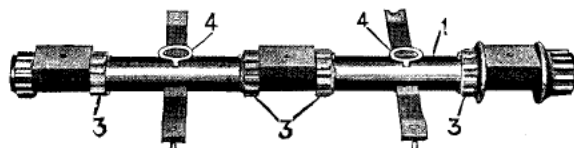
This machine, as part of your shop equipment, makes it unnecessary to send out Cylinder Blocks for re-babbitting and re-boring crank shaft bearings. Makes it possible to install new crank shaft bearings every time you overhaul an engine.

Re-babbitting Jig

Fig. No. 1—Babbitting shaft.

Fig. No. 3—Eccentric locks for clamping babbitting shaft to cylinder bearings, preventing leakage of babbitt.

Fig. No. 4—Handles for lifting jig.



Main Bearing Boring Machine

Fig. No. 1—Power pulley to be connected if desired.

NOTE—It is unnecessary to use power with this machine, as it is easily operated by hand, and will bore all three bearings in three to five minutes.

Fig. No. 2—Cam shaft centering pin accurately locating boring machine to cylinder block.

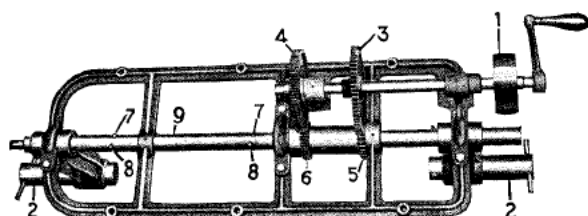


Fig. No. 3—Master drive gear driving boring bar pinion gear No. 5.

Fig. No. 4—Master gear for driving feed control with pinion gear No. 6.

Fig. No. 5—Boring bar pinion gear, driving bar.

Fig. No. 6—Pinion gear driving special feed screw.

Fig. No. 7—Cutting tools in boring bar.

Fig. No. 8—Set screw for holding cutting tools in proper position.

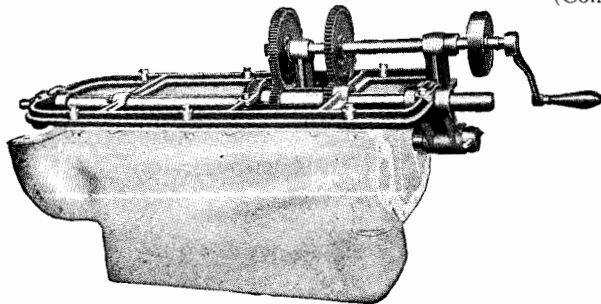
Fig. No. 9—Boring bar.

For prices see Page 13

The Hempy-Cooper Bearing Boring Machine and Re-babbiting Jig

for Ford and Fordson Crank Shaft Bearings

(Continued)



The above cut shows manner of attaching boring machine to cylinder block (Patent applied for)

Distributed exclusively by
The Fairbanks Company

Main Bearing Boring Machine

Price of Ford Model T Boring Machine
and Re-babbiting Jig \$125.00

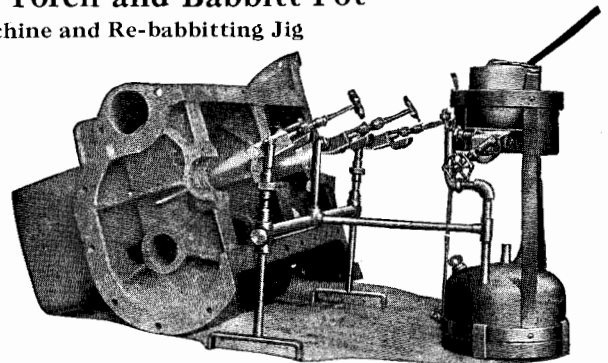
Price of Fordson Tractor Boring Machine
and Re-babbiting Jig 150.00

Combination Four-Way Torch and Babbitt Pot

To Be Used With Boring Machine and Re-babbiting Jig

The illustration shows the torch preheating, melting and removing the old bearings from a cylinder block, at the same time melting and heating the babbitt, for pouring new bearings.

The Burners employed on this torch are of the most expensive and reliable type known. Their heating capacity is almost ten times greater than that of the ordinary blow torches—they do the work quickly. The Burners are adjustable to both horizontal and perpendicular positions, so that the torch can be used on both Ford and Fordson cylinder blocks. The Tank is seamless pressed steel—tinned inside and out—reinforced heavy bottom. Same Torch can be used for Ford or Fordson blocks.



Price \$48.50

Two-Way Babbiting Ladle

To Be Used With Re-babbiting Jig

The illustration shows the application of our two-way Ladle to Re-babbiting Jig and cylinder block.

The Ladle is made with two spouts which straddle the Babbiting Shaft.

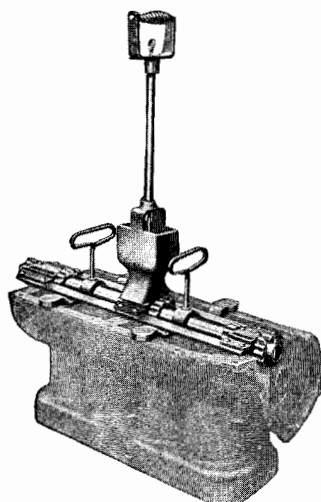
By lifting the small plunger handle the melted babbitt is allowed to flow into the bearings on both sides at once, thereby evenly distributing the melted metal and casting a perfect bearing.

By drawing the melted metal from bottom of Ladle there is no residue or scum, and the bearings are made of pure clean metal.

A cool handle and perfect control of the flow are assured.

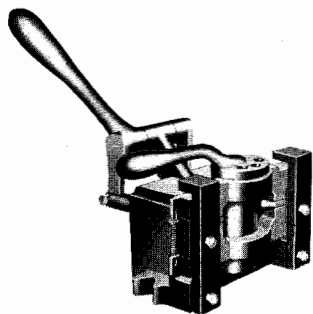
Price of Ford Ladle \$8.50

Price of Fordson Ladle 8.50



Made in two sizes, one for
Model T Block, one for
Fordson Block

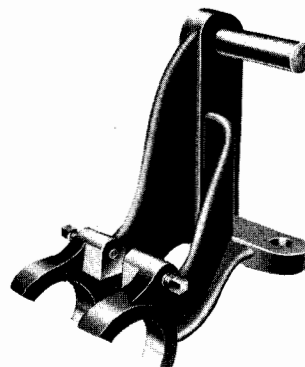
Hempy-Cooper Connecting Rod Rebabbiting Jig



Time and expense are consumed by returning connecting rods for re-babbiting. With the aid of this jig connecting rods may be re-babbitted in a very short time and at minimum expense.

Price for Ford **\$32.50**
Price for Fordson **\$40.00**

Connecting Rod Boring Attachment

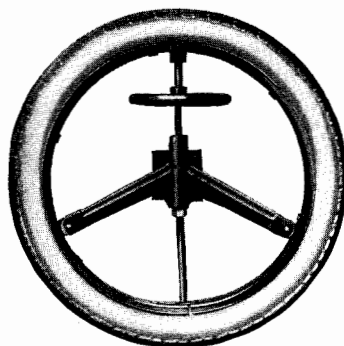


To be attached to Hempy-Cooper Main Bearing Boring Machine. By using this small attachment, you will be able to bore your own connecting rod bearings, after re-babbitting with Hempy-Cooper Jig.

Price for Ford **\$10.00**
Price for Fordson **\$12.25**

Rim Tool

This rim tool has revolutionized the method of removing and replacing tires on split rims.



It is absolutely correct in principle of operation and is practically indestructible.

Every garage, tire and repair man knows the difficulty of making split rim tire replacements with the customary use of hammer and jimmy.

This tool will expand as well as contract the rim, thus allowing tire to be removed very easily. It will work on all sizes of split rims.

It will easily lock badly sprung or warped rims.

Price **\$18.00**

Bilt-Rite Electric Drills and Valve Grinders

Distributed exclusively by The Fairbanks Company

Combination Drill and Valve Grinder

A Combination Drill and Valve Grinder in a garage or repair shop means maximum efficiency. This machine can be used for grinding valves and with slight adjustments is converted into a drill with a three-eighth-inch capacity.

The valve grinding attachment gives the oscillating motion necessary in this operation.

No screws, clutch, or other special mechanisms are necessary.

Work is completed in less time and better results obtained than are possible with hand tools.

Price \$55.00

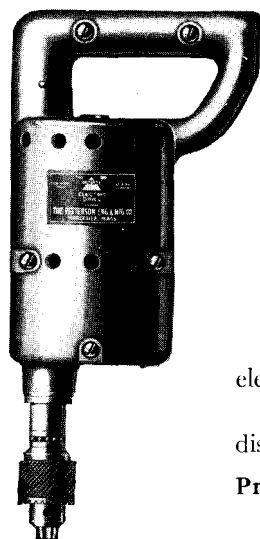


Electric Valve Grinder

The Electric Valve Grinder is fast and powerful. The oscillation of the grinding spindle is the same long steady sweep as is used in grinding by hand.

The Machine will grind valves of any internal combustion engine where the diameter of the valve does not exceed three and one-half inches.

Price \$45.00



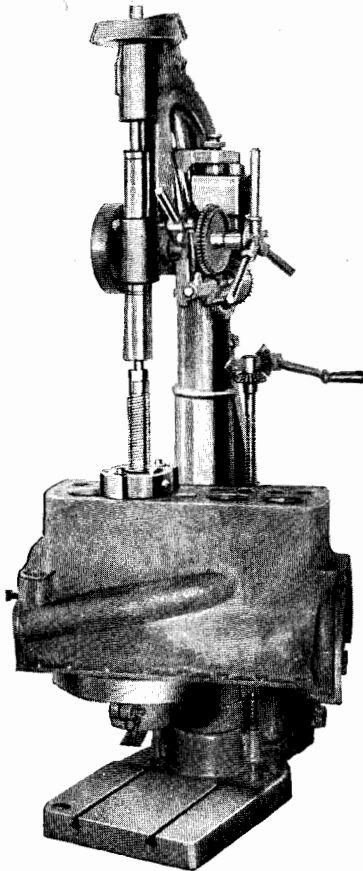
Portable Electric Drill

Many occasions arise in repair shops or manufacturing plants for a light portable electric drill.

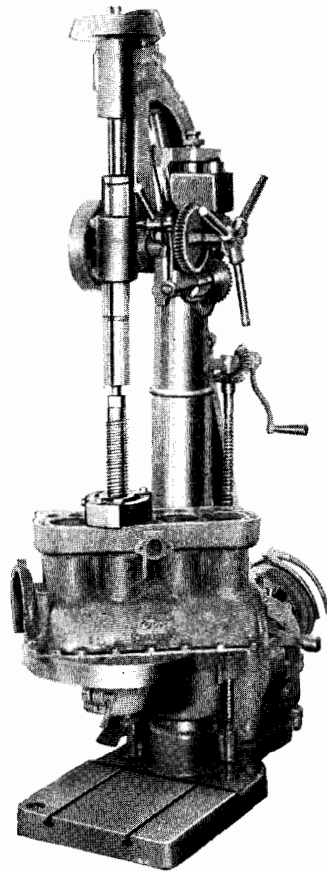
This drill is light and compact, but embodies very high standards of construction and distinctive features in design. Capacity, $\frac{3}{8}$ -inch.

Price \$55.00

Hinckley-Myers Cylinder Reboring Machine



Reboring Fordson Block in
Drill Press



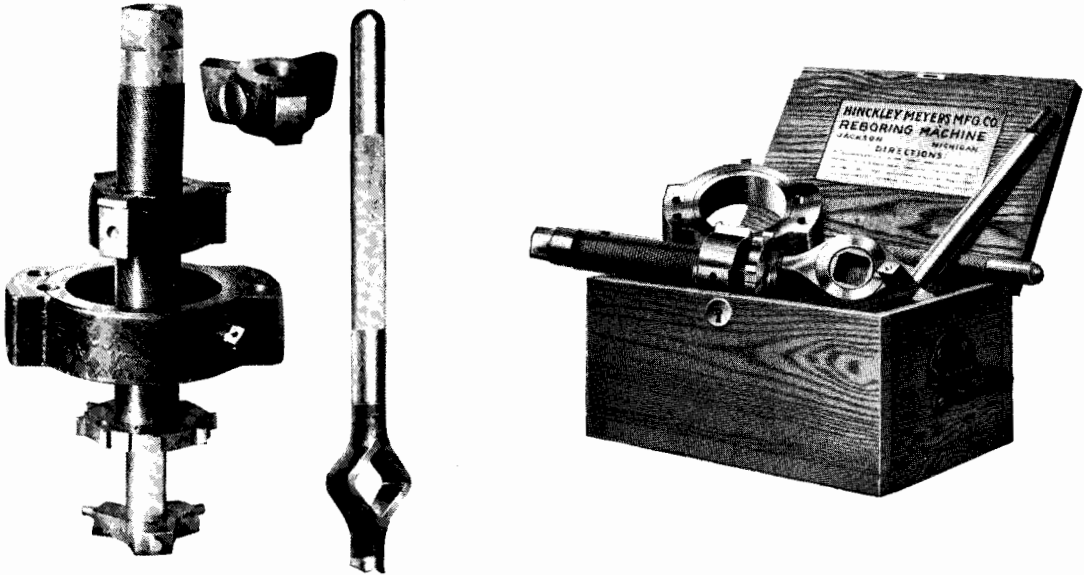
Reboring Ford Block in
Drill Press

A micrometer test has shown there is never more than .0001 inch variation in the boring of the cylinder wall by this machine. The scientifically constructed multiple cutters finish the work so smoothly that a roller is not necessary. The cutting bar of this machine is centered at both ends, which insures perfect alignment. The machine is operated either by hand or in a drill press of 20 inches or over. A drill shank is supplied with the machine for this purpose. A four-cylinder block can be rebored in a drill press in approximately 20 minutes. This machine can also be used by hand, as shown in illustration on page 16.

For prices see Page 16

Hinckley-Myers Cylinder Reboring Machine

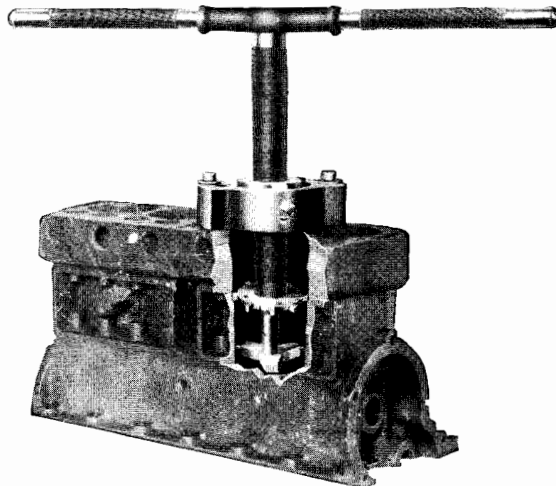
(Continued)



Fitted for either Fords or Fordsons. The equipment included with the machine will rebores for .031-inch oversize pistons.

State whether machine is to be used for Ford or Fordsons—price includes only one set of cutters.

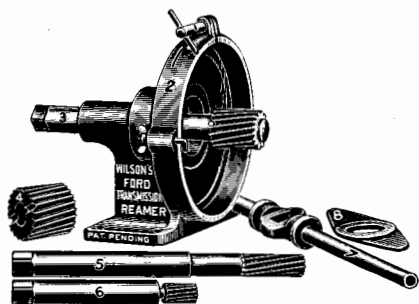
Price	\$75.00
Additional Set of Cutters for Ford or Fordson	15.00



Boring Ford and Fordson Block by Hand

We advise ordering with each machine an additional set of cutters so that when cutters become dull you can send them to the factory for regrinding. The charge for this service is \$1.50.

Transmission Bushing Reaming Machine



A device which reams the transmission drums and triple gear, securing perfect alignment by means of the long bearing in the rear of the machine which guides the reamer and prevents any inaccuracy in the work. It is possible to completely overhaul the transmission and triple gears in 30 minutes, securing a perfect fit of all bushings and preventing any noisy transmission gears which would result from the slightest inaccuracy in the fitting of these drums.

All reamers are especially designed with Spiral Flutes and do practically all the cutting on point of reamer; flutes serve to give final finish by scraping slightly. Average time required to insert ream and take out drum is less than two minutes each.

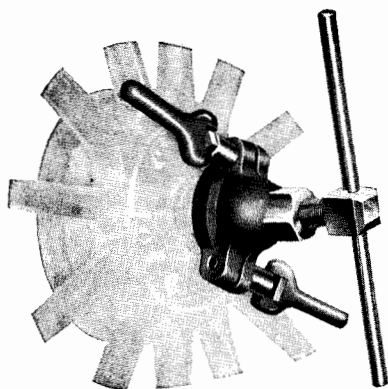
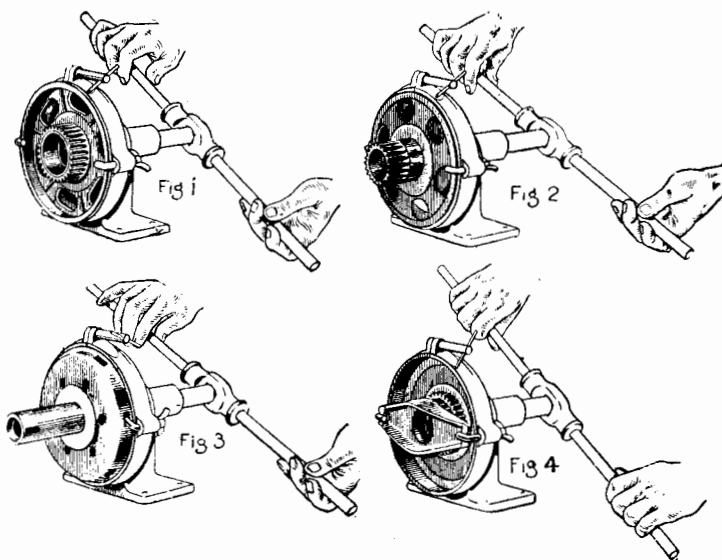
Price, complete, with Reamers for Transmission Drums and Triple Gear \$72.00

Fig. 1—Reaming Reserve Transmission Drum Bushing.

Fig. 2—Reaming Slowspeed Drum Bushing.

Fig. 3—Reaming Transmission Brake Drum Bushing.

Fig. 4—Reaming Triple Gear Bushing.



American Ford Wheel Puller

A heavy duty wheel puller, two slats with vise handles, which can be quickly and securely clamped to the wheel hub.

Price \$5.00



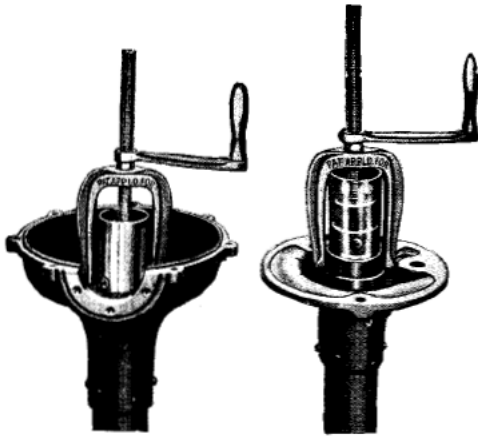
Special Ford Reamers



		PRICES	
		Solid type	Expansion type
No. 2517.	Differential Case Bushing Reamer	\$7.50	\$13.00
No. 2525B.	Differential Pinion Bushing Reamer	3.00	4.00
No. 2527.	Differential Spider Bushing Reamer	4.75	7.25
No. 2540.	D. S. Front Housing Bushing Reamer	4.50	6.75
No. 2559.	Hub Cam Shaft Bushing Reamer	2.75	3.40
No. 2713-2714.	Spindle and Spindle Arm Bushing Reamer	3.00	
	Same as above except with spiral flutes	3.25	
No. 3022½.	Wrist Pin or Piston Pin Bushing Reamer	3.50	4.80
	Same as above, except with spiral flutes	3.75	
No. 3024.	Connecting Rod Bushing Reamer	6.00	8.90
No. 3042-3044-3545	Reamer. This Reamer takes care of the three bushings below, as they are the same size	3.50	4.80
	No. 3042. Cam Shaft Front Bearing.		
	No. 3044. Cam Shaft Rear Bearing.		
	No. 3545. Steering Post Bracket Bushing.		
No. 3052X.	Valve Stem Bushing Reamer	2.50	
No. 3058B.	Push Rod Bushing Reamer (with pilot)	6.00	
No. 3059½.	Push Rod Bushing Reamer	3.00	
No. 3304.	Reverse Gear Bushing Reamer	15.50	19.50
No. 3309.	Slow Speed Gear Bushing Reamer	9.50	14.00
No. 3311-3320B	Reamer. This Reamer takes care of the two bushings below as they are the same size	6.00	6.75
	No. 3311. Brake Drum Assembly Bushing.		
	No. 3320B. Driven Gear Sleeve Bushing.		
No. 3314½.	Transmission Gear Bushing Reamer	3.75	4.40
No. 3320C-3327B	Reamer. This Reamer takes care of the two bushings below as they are the same size	5.50	6.25
	No. 3320C. Driven Gear Sleeve Bushing.		
	No. 3327B. Driving Plate Bushing.		
No. 3521.	Steering Gear Pinion Bushing Reamer	2.50	3.30
No. 3820-3844	Reamer. This Reamer takes care of the two bushings below as they are the same size	2.75	3.65
	No. 3820. Front Spring Perch Bushing.		
	No. 3844. Rear Spring Perch Bushing.		

Spiral Flute Reamers

No. 3024.	Connecting Rod	\$6.00
No. 3314½.	Transmission Gear Bushing	3.75



Jiffy Rear Axle Sleeve Puller

The Jiffy Puller is especially built for removing the roller bearing sleeve in Ford rear axle housing. This device will save considerable time and prevent injury to the sleeve. It can be used for both ends of the housing. Net weight, 2 pounds.

Price, each \$2.50

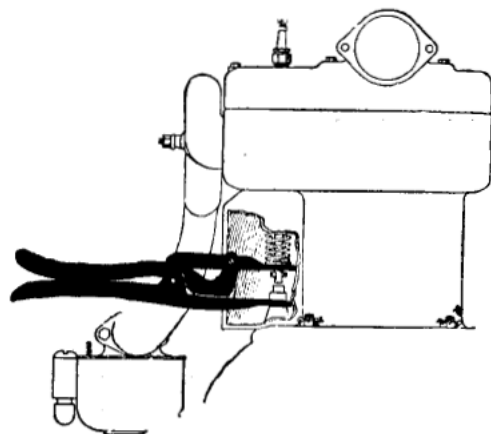
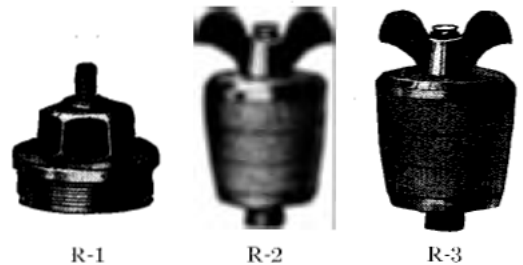
American Radiator Test Plugs

In Ford Radiator repairing, a set of Test Plugs is very essential. The ones with thumb nuts are inserted in the inlet and outlet holes of the Radiator. The one with the valve screws into the Radiator in place of the Radiator Cap so that air pressure can be admitted to the Radiator. Made of brass and highest quality live rubber. Net weight, 2 pounds.

Price, per set \$5.00

These Test Plugs may also be purchased separately, as follows:

- R-1—Radiator Cap Test Plug \$2.00
- R-2—Inlet Test Plug 2.00
- R-3—Outlet Test Plug 2.00
- Set of three rubbers for R-2 and R-350

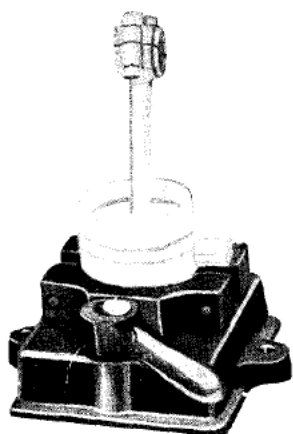


American Valve Lifter for Model T Ford Motors

A valve tool that is efficient—simple—no chains, hooks or springs to get out of order.

It automatically locks itself when applied to the spring, allowing the free use of both hands to remove the pin and take out the valves. Net weight, 1/2 pound.

Price \$0.60



Piston Clamp for Ford Cars

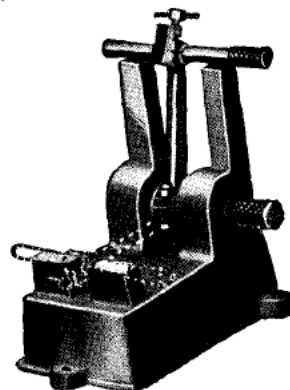
This Piston Clamp is very essential when assembling the connecting rod to the piston as a great number of connecting rods are twisted when they are assembled in the vise. This is due to the leverage and pressure to which the connecting rod is subjected when assembled in this manner. This device is also used for holding the pistons while reaming bushings for wrist pin. This device is lined with babbitt in order that the piston and rings cannot be marred. It will take care of all over-size Ford pistons. Size, $3\frac{3}{4}$ inches. Net weight, 15 pounds.

M-4—Price \$10.00

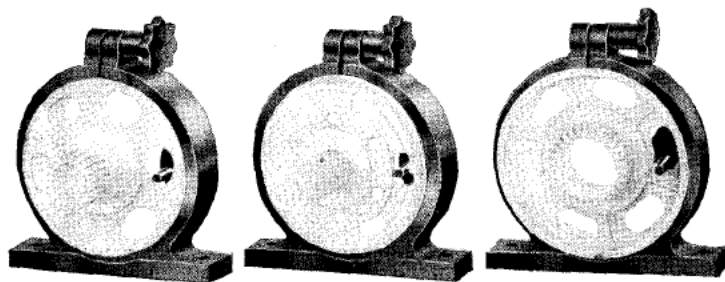
Connecting Rod Alignment Jig for Ford Cars

This illustrates a special Jig for testing the alignment of connecting rods and also for straightening them. This device will indicate whether the rod is bent or twisted. Net weight, 50 pounds.

M-2—Price \$30.00



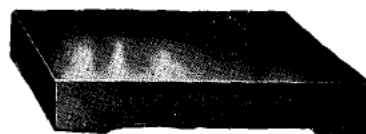
Transmission Drum Clamping Device



For holding transmission drums while reaming the Bushings. Will hold all three drums rigidly without any danger of cracking or defacing them. This enables you to ream the bushings perfectly. Can be used with drill press or bolted to the work bench. Net weight, 15 pounds.

T-8—Price \$8.75

Surface Plate



For testing the level of the Main Bearing and Connecting Rod Caps. This gauge enables the workman to obtain accuracy on this kind of work and it is the only means of determining an accurate level in filing the Caps so they will fit evenly, without rocking.

M-7—Price \$5.00

Bench Clamp for Bench Work



This Clamp is used for holding the Ford Cylinder Block while filing Cam Shaft Bearings, Gears, Crank Shaft Bearings, etc., preparatory to burning-in the Block. It is also used for holding the Block while reaming the main bearings. Net weight, 65 pounds.

M-3—Price \$20.00



Bench Clamp for Bench Work

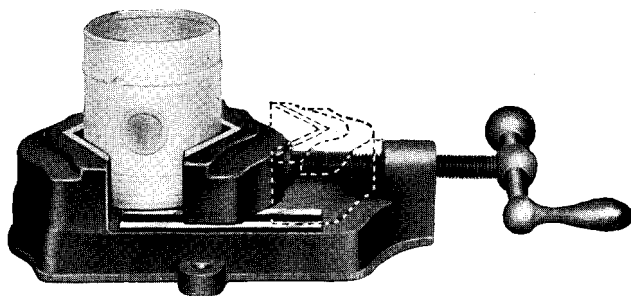
For holding the Ford Cylinder Block when assembling Pistons, Connecting Rods, Crank Shaft, etc. It is also used when assembling the Magneto and Transmission to the Crank Shaft. Net weight, 45 pounds.

M-1—Price \$10.00

Universal Piston Clamp

For use when assembling pistons and connecting rods. It is built on the style of vise and will accommodate pistons between 3-inch and 6-inch diameter.

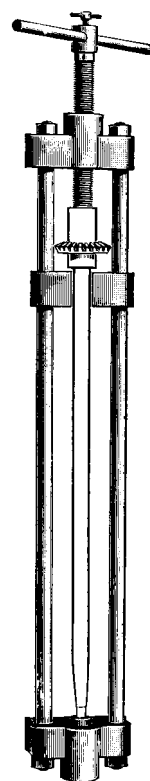
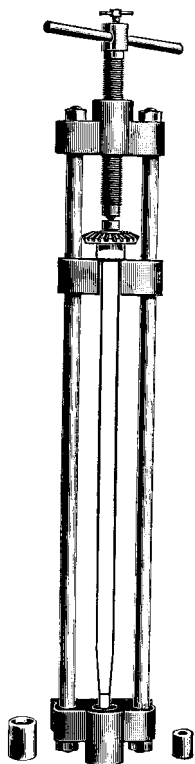
Price \$18.00



Rear Axle Pinion Gear Press

This Press is designed for taking off and putting on Ford axle shaft drive gears. It accomplishes this work very quickly and does not damage any parts. Weight, 55 pounds.

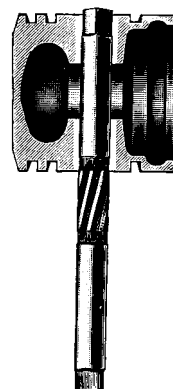
Price \$22.00



Piston Bushing Reamer

This Bushing Reamer is designed so that a perfect fit is secured through one operation. The front pilot accurately fits the unreamed bushing and serves to guide the Reamer. After the Reamer passes the first bushings, the rear pilot enters and holds the Reamer steady until it has passed through the second bushing. Thus a perfect alignment with both bushings is obtained.

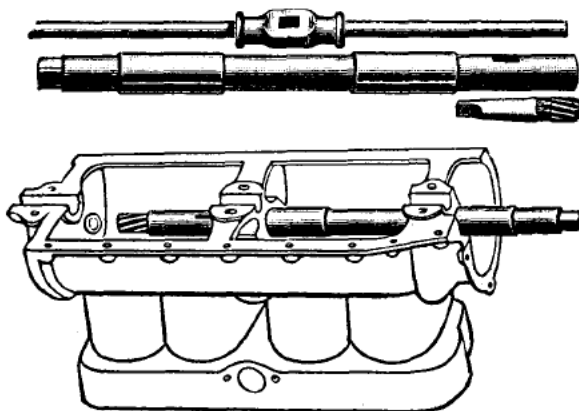
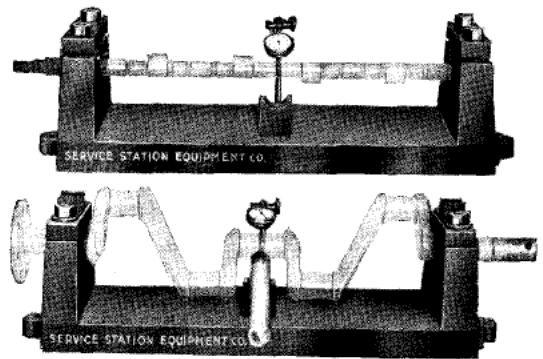
Price \$5.00



Crank and Cam Shaft Tester for Ford Cars

This device is provided with a dial indicator for locating bent cam shafts and crank shafts. A perch is provided in the center for the use of a straightening bar, which allows the shaft to be straightened without the use of a straightening press.

Price \$40.00

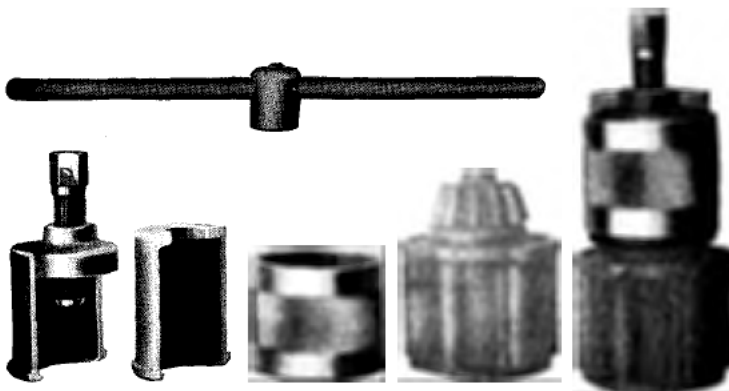


Cam Shaft Aligning Reamer

A reamer for rear cam shaft bearings, which is inserted at the front of the block, guided and held in perfect alignment by two front cam shaft bearings. This absolutely insures that the cam shaft will be in perfect alignment when assembled.

Price \$10.00

Ford Pinion Gear Puller



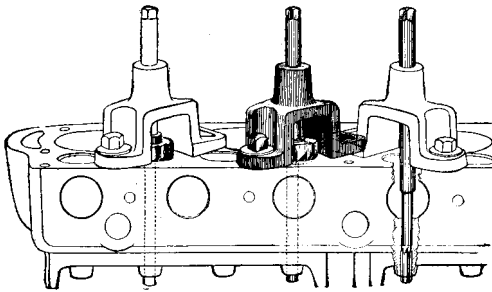
The most difficult pinion or gear to remove in the Ford car is the drive shaft pinion. This difficulty can be overcome by the use of this pinion puller, which consists of two malleable castings, with case hardened flanges which fit under the narrow shoulder of the drive shaft pinion. A collar is furnished which fits over the two castings, holding them in place, while a turning down of the set screw removes the pinion. Made of tool steel.

Price \$7.50

There is also illustrated here our No. 3-T Wrench, which fits the pinion gear puller. It also fits the differential pinion nut and rear axle nuts. The price of this Wrench is not included in the price given above for the pinion gear puller.

Price \$1.50

American Valve Port and Valve Stem Guide Renewing Tool



Every repairman knows that he cannot satisfactorily regrind valves that have worn out of round, or whose face has worn too wide. He also knows that leaky valve stems and irregular seats permit leakage and admit air, interfering with the proper working of the motor. This tool corrects these faults.

The enlarging reamer enlarges the port so that new narrow seats for the valves (similar to those of a new motor) can be formed by the valve seat reamer. This enlargement of the port is desirable, because it allows quicker passage of the gases, improves the power and speed, and keeps the engine cooler.

The upper jig holds the reseater in correct position, insuring a true and accurate seat, which requires little or no grinding.

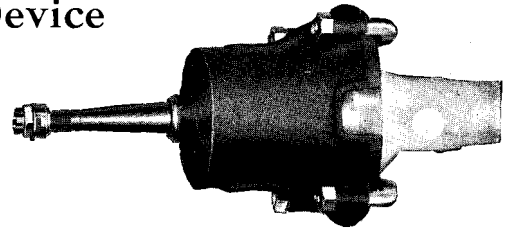
Standard size valve heads are sufficiently large to permit of this enlargement.

The stem guide reamer enlarges the stem guide for 1-64 inch oversize stems, the upper jig insuring accuracy.

Price \$15.00

Ford Emergency Wheel Clamping Device

In case of a broken rear axle, locked differential and various other troubles, this device can be placed on a rear axle housing for towing the car. It is so constructed that it hooks over the housing with four hook bolts. It is furnished with the standard Ford ball races which permit the use of the regular Ford front wheel while towing in the disabled car.

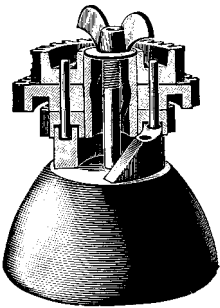


Price \$15.00

Triple Gear Riveting Jig for Ford Cars

This fixture automatically spaces pins endwise for riveting the triple gears.

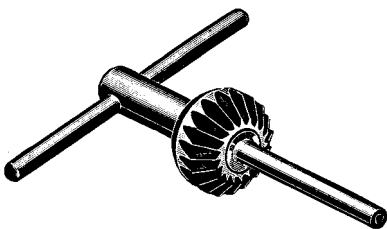
Price \$4.00



Spindle Body Bushing Facer for Ford Cars

This tool is designed to secure a parallel surface with axle yoke, which is accomplished by means of a speed reamer and guide.

Price \$3.00



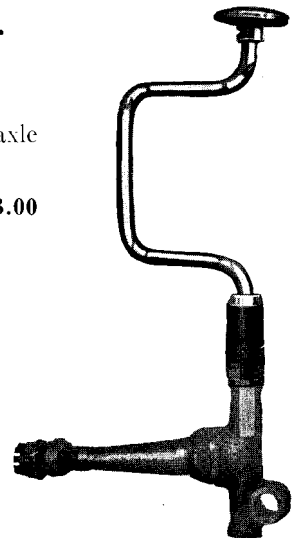
American Valve Reseater

For Ford Motors—Made of high grade tool steel. Net weight, 1 pound.

Price \$1.25

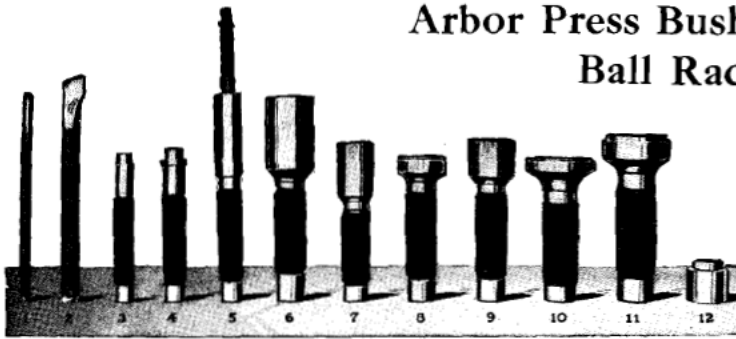
For Fordson Tractor Motors—Made of highest quality tool steel. Net weight, 1 pound.

Price \$1.50





Arbor Press Bushing Drivers and Ball Race Tools



This set will save a great amount of time when driving out Bushings and Ball Races in Fords. Highest quality hardened steel. Made to stand extra long and severe usage. Set of 12 tools. Net weight per set, 20 pounds.

Price, per set \$30.00

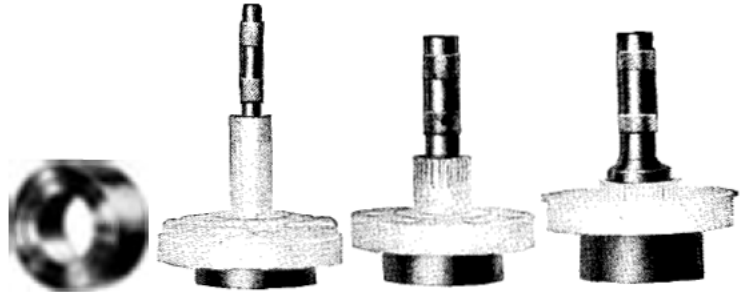
These tools can also be furnished separately at the following net prices:

1—Spindle Body Bushing Bracket	\$0.80	7—Tool for Driving Roller Bearing Sleeve on Propeller Shaft	\$3.75
2—Inner or Outer Ball Race Remover80	8—Front Wheel Outer Ball Race Driver	4.00
3—Spindle Arm Bushing Driver	1.50	9—Slow speed Bushing Driver	3.50
4—Triple Gear Bushing and Wrist Pin Driver	1.60	10—Front Wheel Inner Ball Race Driver	4.25
5—Transmission Brake Drum Bushing Driver	5.25	11—Reverse Drum Bushing Driver	4.35
6—Tool for Driving Timing Gear on Crank Shaft	4.25	12—Driven Gear Puller Block50

Transmission Drum Support

For supporting drums on the bed of the Arbor Press in removing Bushings. Drums cannot be broken or bent when using this support. Net weight, 5 pounds.

T-10—Price \$2.50



Bending Irons

For bending Lamp Brackets, straightening Connecting Rods and Fender Irons. Net weight, 3 pounds.

L-1—Price \$2.00

Turning Bar

For turning the Motor after the Transmission has been assembled to the Crank Shaft. Round bar, square bent end. Length, 23 in. Net weight, 6 pounds.

M-6—Price \$1.50

Testing Bar

To try out the stiffness of Crank Connecting Rod Bearings. Made of high quality steel with tool steel tempered pins. Length, 25 inches. Net weight, 5 pounds.

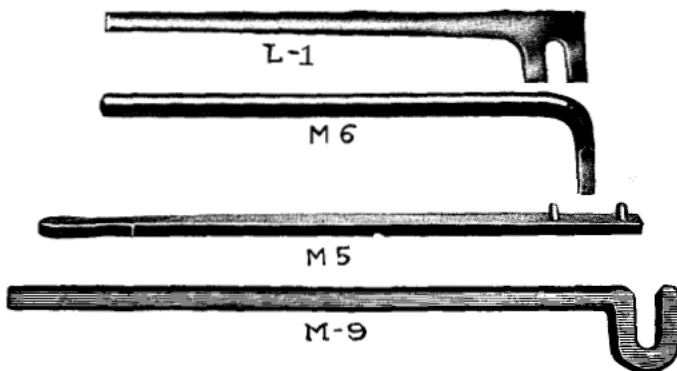
M-5—Price for Ford \$2.00

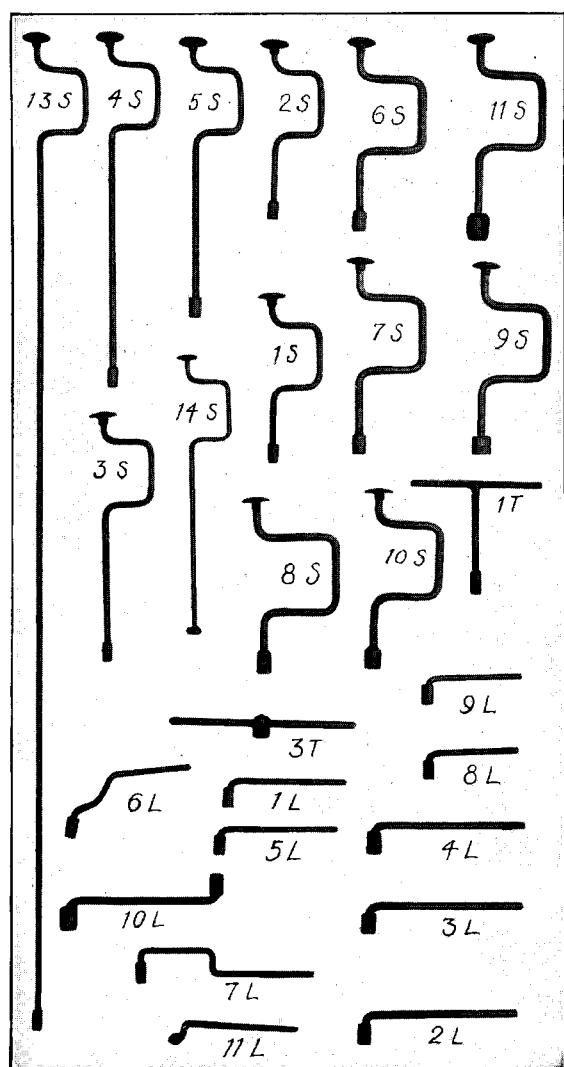
M-5—Price for Fordson 2.50

Front Axle Straightening and Bending Bar

For aligning the Front Axle, to insure easy steering. Length, 56 inches. Net weight, 20 pounds.

M-9—Price \$7.00





Model T Ford Wrenches

Made of highest quality tool steel. A most complete set of Ford Service Wrenches.

T Wrenches

- 1-T—Crank Case and Transmission Bolts and nuts \$0.90
- 3-T—Drive Shaft Pinion Nuts 1.50

Speeders

- 1-S—Lower Crank Case Cover Screws . . . \$0.90
- 2-S—Front Cover and Driving Plate Screws, Front Radius Rod, Bearing Socket Cap, Valve Cover Nuts90
- 3-S—Valve Cover Nuts, Transmission Cover Screws, Crank Case Screws and Nuts . . 1.00
- 4-S—Removing and putting on Radiators, Crank Case Bolts 1.00
- 5-S—Cylinder Head Cap Screws 1.00
- 6-S—Main Bearing Bolt Hexagon Nuts . . 1.00
- 7-S—Main Bearing Bolt Square Nuts . . . 1.00
- 8-S—Main Bearing Bolt Oblong Nuts . . . 1.00
- 9-S—Front Wheel Adjusting Cone 1.25
- 10-S—Radius Rod Nut Spring Perch Nut . . 1.25
- 11-S—Spindle Lock Nut 1.25
- 12-S—Spark Control Universal Joint Nut Speeder90
- 13-S—Universal Ball Cap Screws, 72" long . 2.25
- 14-S—Valve grinding speeder75

L Wrenches

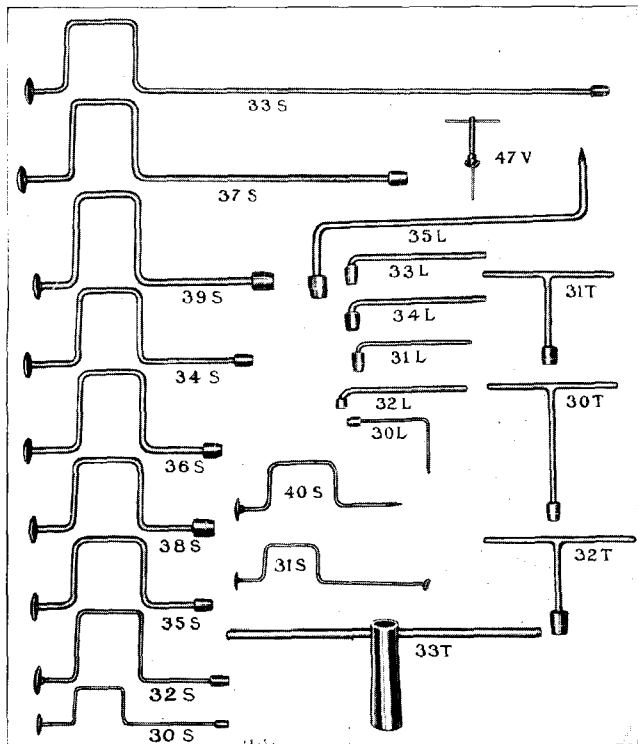
- 1-L—Cylinder Head Cap Screws \$0.65
- 2-L—Main Bearing Hexagon Nuts, Front Lamp Nuts65
- 3-L—Main Bearing Square Nuts65
- 4-L—Main Bearing Oblong Nuts65
- 5-L—Connecting Rod Cap Nuts65
- 6-L—Fourth Connecting Rod Cap Nuts75
- 8-L—Differential Housing Bolts and Nuts65
- 9-L—Drive Shaft Roller Bearing Housing Nuts65
- 10-L—Double End Wrench, Front Radiator Rod Nut, Spring Perch Nut, Spindle Body Bolt Nut, Steering Arm Nut90

Complete Set

- Price per set of 25 Wrenches \$24.05
- Net weight, 45 pounds.



Fordson Tractor Speeders and Wrenches



The Fordson Tractor Speeders and Wrenches shown in this illustration constitute a complete set to fit every bolt or nut in the entire tractor. These wrenches are made of nicely finished, high grade steel and are all numbered. Guaranteed to stand up under normal use.

This set of tools is necessary in shops and Service Stations doing repair work on tractors.

Speeders

30-S—Radiator Water Tank Bolt Speed Wrench	\$0.75
31-S—Valve Grinder Speeder75
32-S—Crank Case Bolt, Timing Gear Case, Steering Ball Arm Speeder	1.35
33-S—Trans. Case to Motor, Crank Case Bolts from top Speeder	2.25
34-S—Cylinder Head Bolts and Long Connecting Rod Speeder	1.80
35-S—Connecting Rod Cap Nut Short Speeder	1.50
36-S—Crank Shaft Bearings Cap Bolt Speeder	1.60
37-S—Rear Axle Housing Bolt Speeder	2.00
38-S—Front Spindle Nut and Tie Rod Arm Nut Speeder	1.60
39-S—Rear Wheel Bolt Speeder	2.25

L Wrenches

30-L—Radiator Water Tank Bolt Wrench	\$0.75
31-L—Crank Case Bolt Wrench85
32-L—Fly Wheel Stud Nut Wrench (Special)	1.75
33-L—Connecting Rod Cap Nut Wrench85
34-L—Crank Shaft Bearing Cap Bolt and Rear Axle Housing Bolt Wrench	1.00
35-L—Combination L Wrench and Chisel Rear Wheel Bolt Wrench	2.00

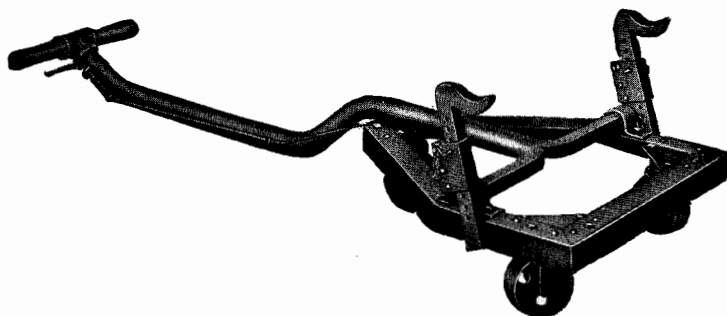
T Wrenches

30-T—Connecting Rod Cap Nut Wrench	\$1.50
31-T—Radius Rod Nut Wrench	1.50
32-T—Front Wheel Spindle Nut and Steering Arm Nut Wrench	1.75
33-T—Drive Shaft Nut Wrench (Special)	2.25

Complete Set

Price per set of 21 Wrenches for Fordson Tractor	\$30.00
Net weight, 52 pounds	

Tucker Quick Action Adjustable Jack Truck



Can be adjusted in an instant to any size car. The most practical Jack made for quick change of tires, putting on chains, adjusting brakes, turning cars and placing same in crowded garages, etc.

Made with extra heavy roller bearings and extra wide wheels, so that it can be used on wooden floors. The lifting hooks are adjustable to permit the use of the Jack on any type of car.

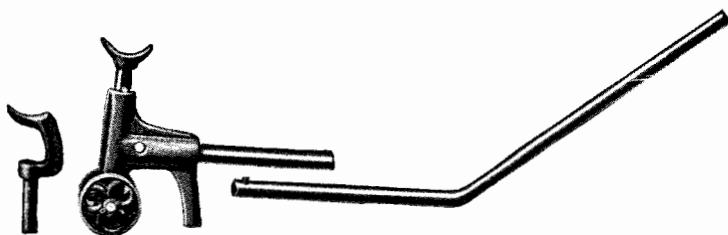
Raise handle and place hooks under the axle on the downward stroke. The handle will lock the Jack automatically.

Price \$22.50

The Jiffy Garage Jack

A quick-acting device for raising one wheel at a time in making tire changes, adjusting bearings, etc.

To operate, set Jack to height of car axle and force long lever down. When in that position, the weight is distributed over center far enough so that the Jack will not tip up.



There are two (2) fixtures, one for Axles without Truss Rods and the other made to be inserted between the Truss Rod and the Axle.

Price, complete \$8.00

Fordson One Man Tow Bar



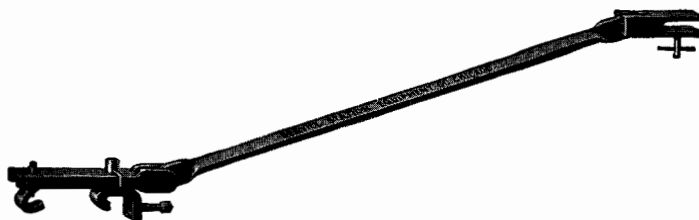
For towing Fordson Tractors without having a man on the Tractor to steer it. Net weight, 55 pounds.

Price \$18.00

One Man Tow Bar for the Ford Car

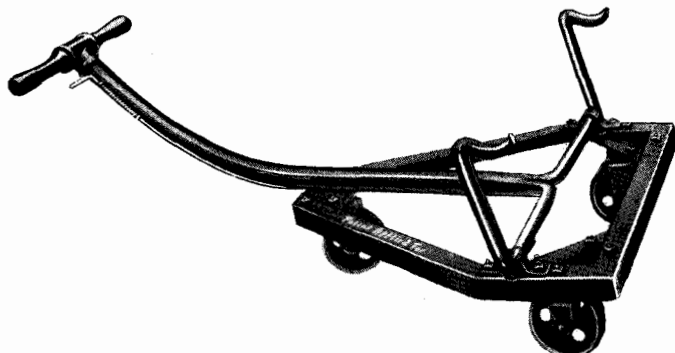
This Tow Bar is an absolute necessity in every Ford Service Station. The use of it makes the towing of a Ford car a one-man job. Made of extra heavy forged steel. Will withstand severe usage. Net weight, 50 pounds.

Price \$14.00



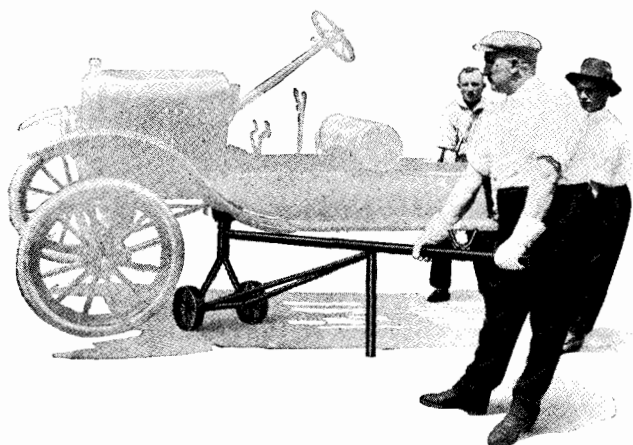
Quick Easy Ford Jack

This is the quickest Jack made for lifting Ford or other light cars, a down stroke of the handle and the car is raised. Raise the handle and place the hooks under the axle. Can be used on any car filled with truss rods. Locks automatically when the handle is pressed down and keeps same from dumping forward when loaded. Should be in every Ford Service Station.

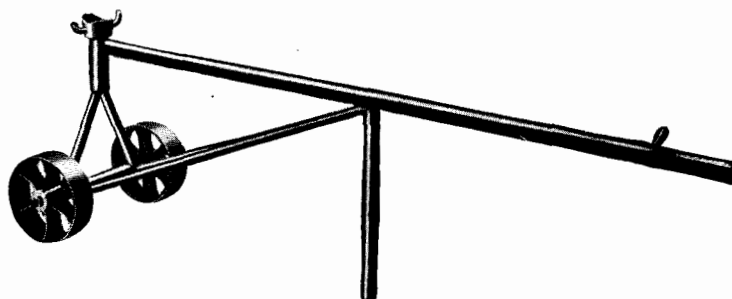


Price \$16.00

Model T Ford Loading and Unloading Dollie



Showing two men raising rear axle while Dollie is being put under the crank case from the side



The car is easily raised clear off the ground and pushed across the platform. Net weight, 150 pounds.

Price \$20.00

American Quick Action Motor Truck for Model T Ford Motors

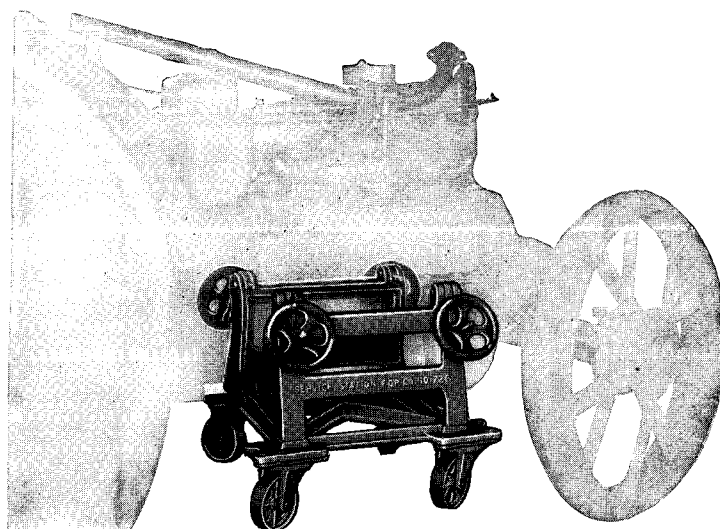


It is so constructed that a Ford engine placed upon it is firmly held for transportation to any part of the shop, or while assembling or disassembling; not only takes the place of a bench, but renders additional service of holding motor in its natural position.

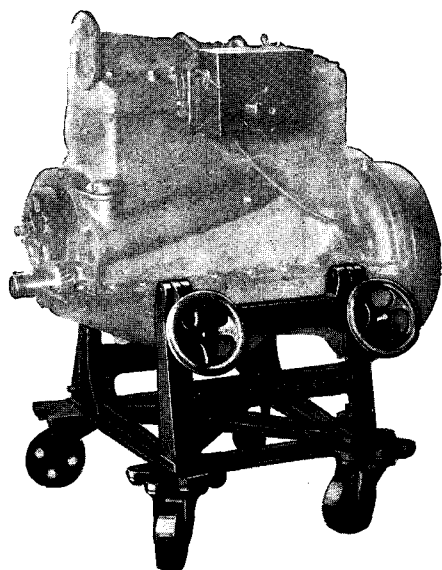
Net weight, 100 pounds.

Price \$15.00

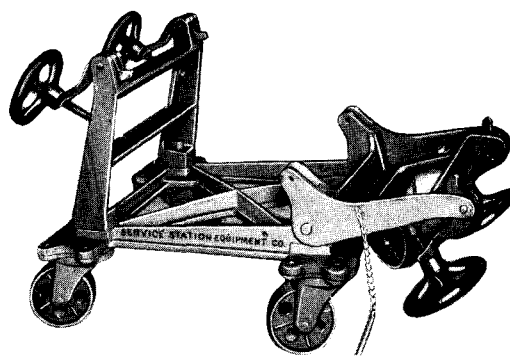
American Fordson Tractor Assembling and Disassembling Stand



Showing Stand under Fordson Tractor



Showing Stand under Fordson Motor



Showing Stand in position ready to insert
under the Tractor

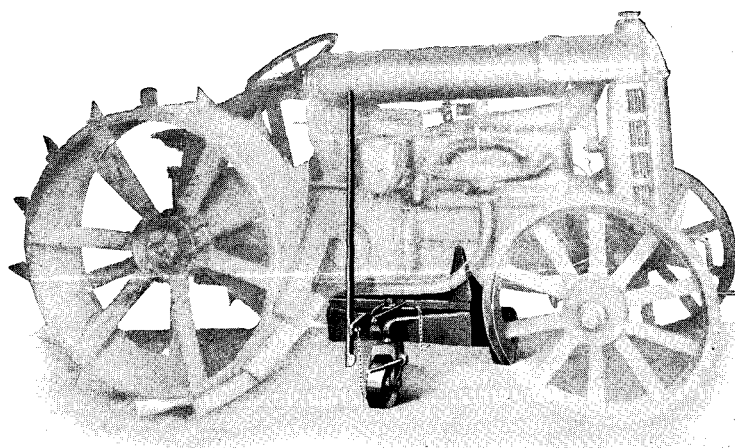
This device is constructed so that one side can be dropped while inserting the fixture under the tractor. There are four adjustments by means of which, when assembling the motor to the gear case, adjustments can be made from four different points, thus enabling the mechanic to get perfect alignment.

Range of lift, 1½ inches. Net weight, 200 pounds.

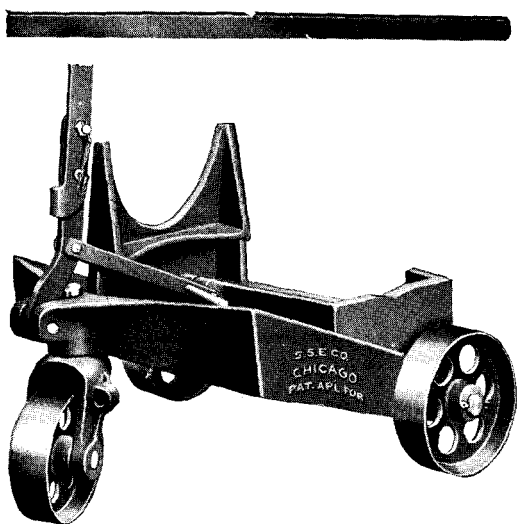
Price \$45.00

AUTOMOBILE AND SERVICE STATION EQUIPMENT DIVISION

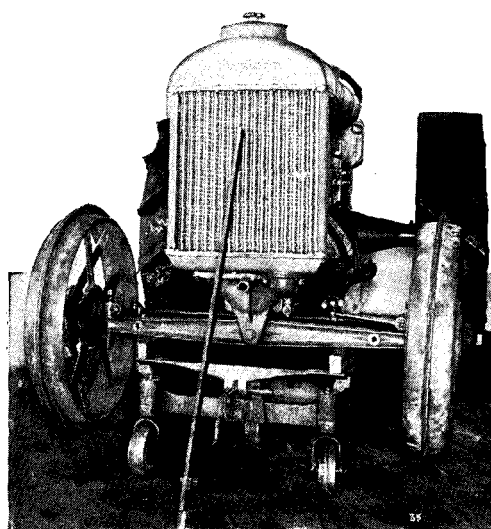
American Tractor Lift and Unloading Truck



Showing Truck under center of Fordson Tractor—lifts both ends at same time



Showing Truck ready for use

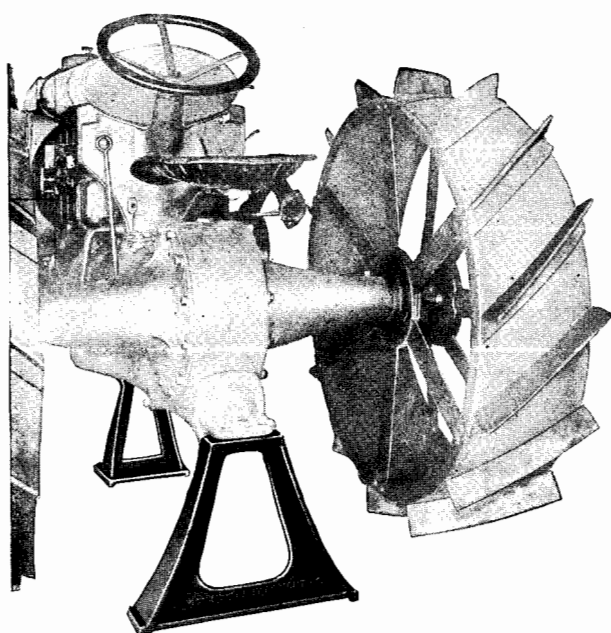


Showing Truck under front axle

With this Unloading Truck the tractor can be handled in a very small space so that the unloading is very much simplified. Slide the truck under the side of the tractor; then, by means of the handle-lever, the tractor is lifted from the floor and can be easily pushed to the side door and slid out. Both ends of the tractor are lifted at one time, perfectly balanced. This truck is also of great value for moving the Fordson tractor on the display floor or in the warehouse.

Built extra strong and rigid. Wheels extra wide so they cannot break through the floor. Net weight, 251 pounds.

Price \$40.00



Supports for the Fordson Tractor

For holding the Tractor while removing the rear wheels and housings, also for holding up the gear case when removing the motor.

No. 740—Rear Standard. Net weight, 50 pounds.

Price \$7.00

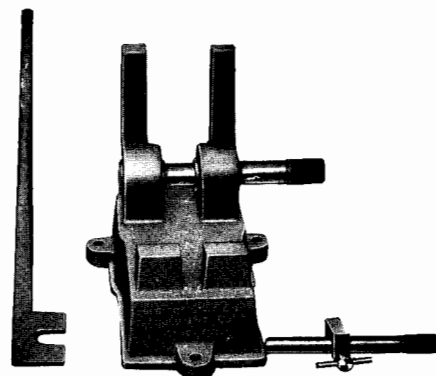
No. 741—Front or Center Standard. Net weight, 40 pounds.

Price \$6.50

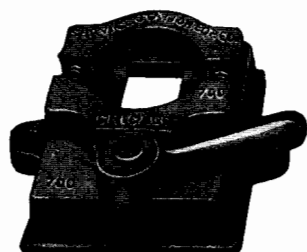
Connecting Rod Straightening and Alignment Device for Fordson Tractor

This illustrates a special Jig for testing the alignment of connecting rods and also for straightening them. This device will indicate whether the rod is bent or twisted. Net weight, 70 pounds. Complete with straightening iron.

Price \$50.00



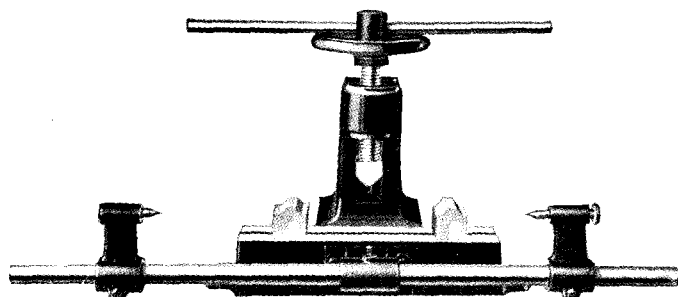
Piston Clamp for Fordson Tractor



This Piston Clamp is very essential when assembling the connecting rod to the piston, as a great number of connecting rods are twisted when they are assembled in the vise. This is due to the leverage and pressure to which the connecting rod is subjected when assembled in this manner. This device is also used for holding the pistons while reaming bushings for wrist pin. Lined with babbitt in order that the piston and rings cannot be marred. Net weight, 21 pounds.

Price \$16.00

American Straightening Press



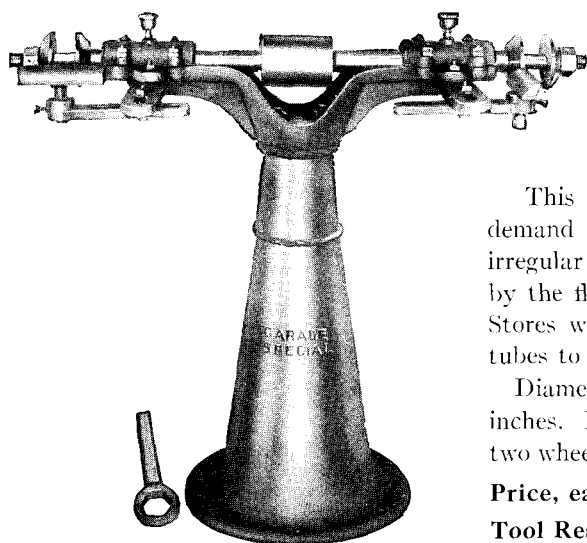
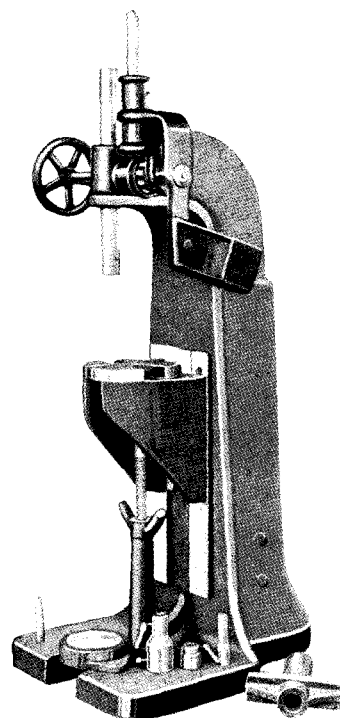
This Press is adapted to straightening work of all kinds, such as Shafting, Front and Rear Axles of any size, Crank Shafts, etc. It takes six feet between centers and has a capacity of ten tons. Using any standard dial indicator in connection with it, work can be tested to the thousandth part of an inch. Net weight, 428 pounds.

Price \$95.00

American Arbor Press

Substantially and neatly constructed for convenient and easy operation. A counterweight attached to the ratchet lever permits the ram to operate with free action, producing a 60 to 1 leverage, with a movement of 22 inches. It will accommodate work up to and including 19 inches in diameter and 30 inches above the table. The table can be quickly adjusted to any required position by means of an entirely enclosed counterbalance weight. This weight is held in position by a hand nut and screw support from below. Two quickly adjustable emergency bolts extend through the side of the frame giving additional strength for extra heavy work. A careful inspection will show that this press has various safety devices not found on others of this type. Briefly, this machine is perfected to the highest point of efficiency. Net weight, 750 pounds.

Price \$135.00



American Power Grinder

This Garage Special is the outgrowth of an ever increasing demand by garages for a stand high and wide where large and irregular shapes can be ground or buffed without being congested by the floor. Especial attention is directed to its use in Rubber Stores where scratching and buffing is required on casings and tubes to be vulcanized. Height, 34½ inches.

Diameter Pulley, 5 inches. Pulley Face, 5 inches. Arbor, 42 inches. Diameter of Arbor between flanges, 1¼ inches. Will carry two wheels, 20 x 3 inches. Net weight, 200 pounds.

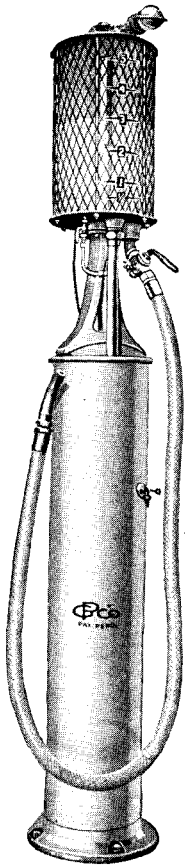
Price, each \$30.00

Tool Rest for Grinder 1.50



Groetken Complete Visible Measuring Gasoline Dispenser

Distributed Exclusively By
The Fairbanks Company



This Pump is a practical solution of the "blind" curb pump problem. With the ordinary pump, you may **tell** the customer that you are giving him correct measure—but with this Pump you **show** him, and he is convinced. You may have a large dial on your pump but even that does not satisfy the customer that he is getting what the dial indicates. The Visible Measuring Dome of this Pump is the best advertisement and drawing card for a garage. The autoist prefers to buy gasoline from a Visible Measuring Dome Outfit where he can see whether or not he gets clean gasoline and the correct quantity. And an increased number of gasoline customers means an increased number of customers for the other goods handled by you.

The Groetken Pump is designed and constructed as a curb outfit and is of the positive valve reciprocating plunger type. It is very simple in construction. The Visible Dome on top of the pump housing has a capacity of five gallons and is filled by the stand pipe overflow method and has direct exhaust through the hose to the tank of the car. Thus the customer is given a full view of the quantity of gasoline being transferred to his tank. The Pump has a displacement of $\frac{1}{3}$ of a gallon, requiring fifteen strokes to fill the five-gallon container. This compares favorably with other long stroke large capacity pumps of the gear and rack type which are operated by a crank, as the majority of these pumps of five-gallon capacity require fifteen revolutions of the crank to complete a cycle and in addition must be reversed to return the plunger to the starting point of the working stroke.

The housing of this outfit is equipped with a swinging door, through which the handle is attached when it is desired to use the pump. This handle is detachable and is removed as a safeguard against the contents of the tank being dispensed without knowledge of the party in charge. In addition to this safeguard, the door is equipped with a flush lock.

The Visible Measuring Dome which appears on the Pump described above is also sold separately as an attachment for any other pump. It requires no expensive electric motor and consumes no power. Your old pump continues to be operated in the same manner. The Dome is so simple in construction that anyone can attach it to any pump.

Groetken Complete Visible Measuring Gasoline Dispenser (exclusive of hose and electrical equipment)	\$125.00
Groetken Visible Measuring Dome Attachment	50.00
Electric Light Attachment (including wiring, pipe, weather-proof socket and shade)	5.00
8-ft. length, 1-inch Triplexed All Metal Line, Duck Covered Hose and Filler Spout	13.00

Prices of Boiler Plate and Galvanized Tanks on application



To Fit Crank Shaft and Connecting Rod Bearings with the Use of the American Bearing Burning-in Machines

1. Securely fasten cylinder block in the cylinder block clamp on work bench, then place crank shaft in bearings of block.

2. Place all three main bearing caps in their regular positions.

3. Rock caps on crank shaft. If the caps do not rock file them so that they will rock from .004 to .006. Should the cap rock more than this, insert brass shims to make up the difference.

4. After all caps have an equal rock (.004 to .006) draw down main bearing bolts securely.

5. Place cylinder block in burning-in machine, throw in the clutch, and let it run about a minute and a half.

6. Release clutch and try out the bearings with hand wheel, as to their stiffness. If crank shaft can be turned then the main bearings are finished.

7. Remove cylinder from burning-in machine to motor block clamp on bench, then insert pistons and connecting rods. Connecting rod caps should be fitted so that they will have .004 rock.

8. Clamp all connecting rod caps tight and insert the cotter pins.

9. **Put oil on all three main bearings** so that they will not burn any more while burning-in the connecting rod bearings. Then repeat operations Nos. 5 and 6.

10. **IMPORTANT.** Be very careful that the crank shaft, motor block, connecting rod bearings and caps are entirely free from oil and dirt before burning-in.

11. These machines should be run not less than 200 R. P. M., and not more than 300 R. P. M. for burning-in bearings and the motor running in and test speed should be from 500 R. P. M. to 600 R. P. M. The pulley dimensions are 18 in. x 7 1/4 in. The best results are obtained by using a 6 in. double-ply belt. Run from a line shaft driven with 7 1/2 H. P. to 10 H. P. motors.

If the above instructions are carefully followed it is unnecessary to remove the bearing caps after the bearings have been burnt in. The American Burning-in Machines produce perfect glazed finished bearings, and the total time necessary for the above operations is one hour.

Instructions for Installing and Operating the American Junior Combination Bearing Burning-in, Motor Test and Running-in Stand

1. Be sure that the base is securely and evenly fastened to a solid foundation.

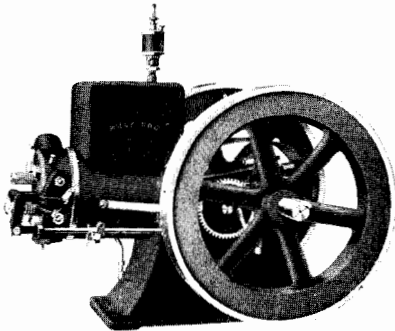
2. Use not less than a **six-inch** double-ply belt from the machine to the line shaft. This machine should not be operated over 300 R. P. M.

When burning-in bearings it is only necessary to see that the bearings are properly fitted, and that the block is securely clamped to the burning-in machine before engaging the clutch. The clutch handle is conveniently located so that operator can engage and disengage the clutch at intervals until the bearings become sufficiently limbered to enable the motor to carry it at a regular speed. When the bearings are real tight, the speed of the motor may be reduced to such an extent that it would be practicable to disengage the clutch, to allow the motor to regain its momentum. There is absolutely no secret in burning-in bearings, simply see that they are properly fitted so that each bearing has between .004 and .006 rock before tightening down; also be careful that all bearings are **free from oil, grease or dirt**. Proper recesses should be filed be-

tween the cap so that the excess bearing babbitt which is being burnished will have a place for clearance.

In testing the Ford Motor it is most necessary to see that the universal is properly aligned. This can be done with the adjusting device on the right-hand post of the machine. The Ford Motor should be filled with oil—possibly one quart over the top pet cock. All spark plugs, gasoline line, etc., should be connected up in regular position so that as soon as the machine has limbered up the Ford Motor sufficiently, the switch can be thrown on and the motor can operate under its own power. As soon as the motor starts, disengage the clutch. In case you have a Ford Motor running-in under its own power, and at the same time desire to burn-in bearings, simply throw the Ford Motor transmission clutch into the neutral position—this will enable you to stop the shaft—put on your Ford block and throw in your clutch the same as when burning-in the block alone. The Ford transmission neutral position serves as a disconnecting feature between the motor and the burning-in stand.

Bull Dog—Regular



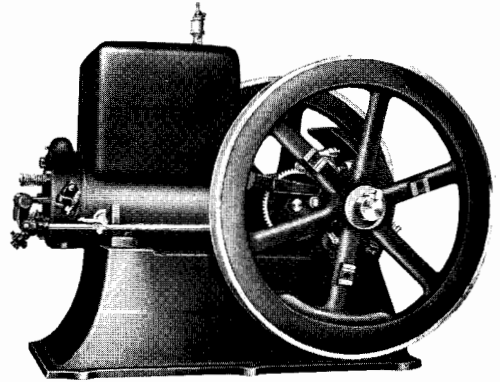
1½, 2½, 4, 5, 6 H. P.

The Fairbanks Bull Dog Engine is built to operate on gas, gasoline or kerosene.

It is equipped with a Webster Oscillating Magneto.

Each engine is tested before leaving the factory.

Bull Dog—Iron Sub-base



8, 12, 16 H. P.

We aim to meet your requirements fully with the following lines and equipment:

ENGINES—Gas, Gasoline, Kerosene 1½ H. P. to 16 H. P. Super-Diesel Heavy-Duty (Hvid Patent) 20-30-40-50-60-100 H. P. Heavy Duty-Oil 75-90-110-125-160-190-230-260 H. P. Marine—Single and Double Cylinder, 1½ to 25 H. P., inclusive.

PUMPS—Every description and size, including Centrifugal Pumps, Rotary Pumps, Steam Duplex Piston Pumps and Working Heads.

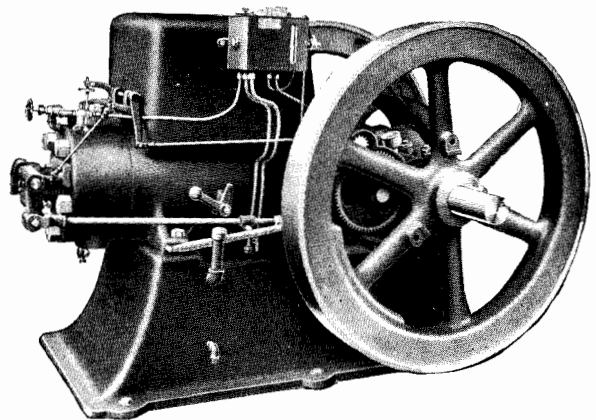
HOISTS—Single, double and triple drum. Reversible and Non-reversible.

CONCRETE MIXERS—6-12-20-30 cu. ft. capacity. Operated by Fairbanks Bull Dog Engines.

SAWING OUTFITS—Contractors' Portable and Stationary Outfits. Cordwood Saws, Circular Wood Saws.

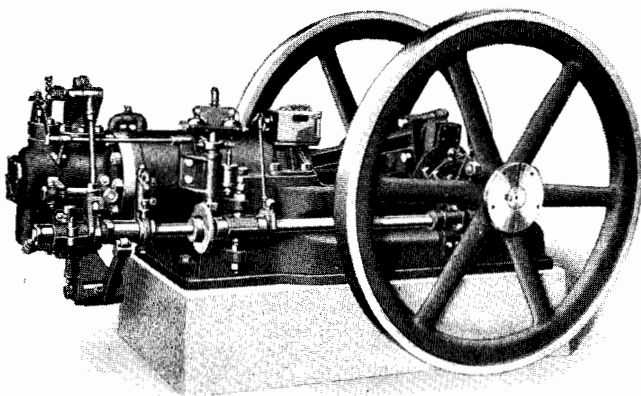
AIR COMPRESSORS—Air cooled and water cooled.

Bull Dog Oil Engine



3, 5, 8, 12 H. P.

Fairbanks Super-Diesel Heavy Oil Engine



20, 30, 40, 50, 60, 100 H. P.

The Fairbanks Super-Diesel and Bull Dog Heavy Oil Engines operate on kerosene, fuel oil or heavy oils.

They are built under the Hvid patent.

No hot bulb

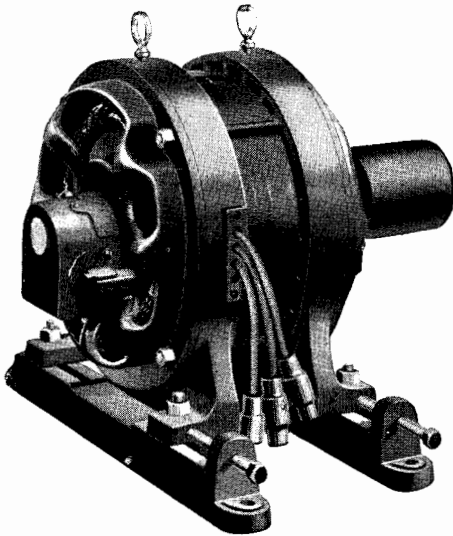
No batteries

No magneto

No wiring

No carburetor

Electric Motor



The motor illustrated has been designed, after very careful and thorough experiments and tests, to meet the special requirements for bearing burning-in service and is arranged so as to withstand the unusual high overload capacity required at certain stages of the burning operation.

This motor is especially recommended and should be used in preference to a commercial motor.

Complete data will be supplied upon receipt of your request.

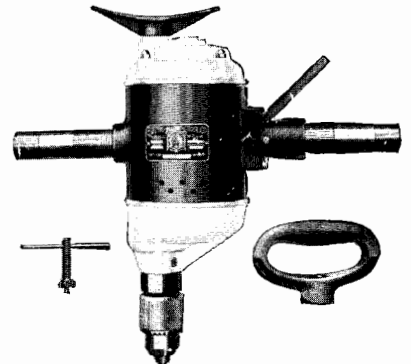
The motor is made for either alternating or direct current. For the American Junior machine $7\frac{1}{2}$ H. P. is recommended and for the Universal machine 15 H. P.—speed 1200 R. P. M. When ordering, complete voltage specifications must be furnished. With each of these motors we supply full information in regard to the wiring and installation.

Portable Electric Drill

Universal—Operates on Either Direct or Alternating Current

Type	Chuck Capacity	Weight	Full Load Speed
U-B	0 to $\frac{1}{4}$ in.	7 lbs.	650 R. P. M.
U-C	0 to $\frac{3}{8}$ "	14 "	550 "
U-D	0 to $\frac{1}{2}$ "	18 "	350 "
U-E	$\frac{1}{8}$ to $\frac{5}{8}$ "	21 "	300 "

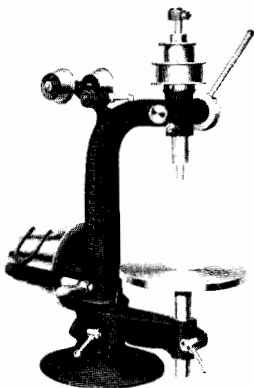
Voltage must be specified



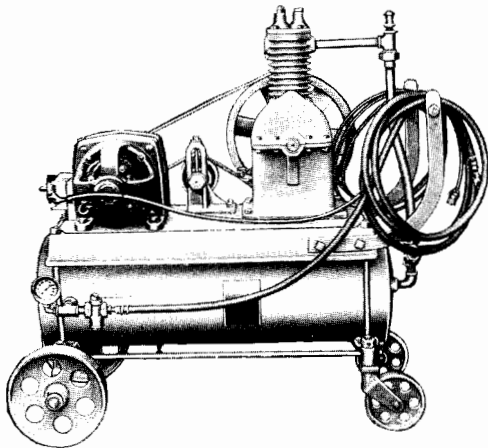
No. 1—10 inch Sensitive Drill Press

Specifications of Nos. 0 and 1 Drill Press

Greatest distance from spindle to table.....	$7\frac{1}{2}$ inches
Vertical movement of spindle.....	$2\frac{1}{2}$ inches
Vertical movement of table.....	7 inches
Diameter of table.....	8 inches
Distance from center of spindle to frame.....	$5\frac{1}{8}$ inches
Drilling capacity.....	0 to $\frac{5}{16}$ inch
Size of tight and loose pulley.....	$1\frac{1}{2}$ x 4 inches
Speed of driving pulley.....	550 revolutions



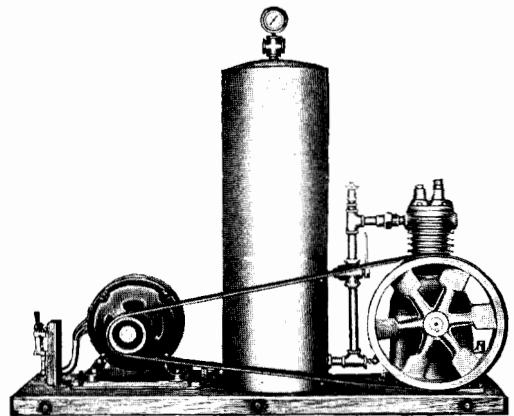
Portable Air Compressors



STYLE "X" FURNISHED BELTED
OR GEARED

Style and No.	Size Compressor	Compressor Speed	Cubic ft. Displacement	Maximum Pressure, lbs.	Motor H. P.	Size Tank, Inches	Time required to fill tank from 0 to 150 lbs.
X-1-A	1½x2	600	1.35	150	¼	12x36	28 min.
X-2-A	2½x2½	500	2.47	150	½	12x36	15 min.
X-3-A	2½x3	450	3.84	150	¾	12x36	10 min.
X-4	3 x3½	400	5.8	150	1	12x36	8 min.
X-5	4½x4½	325	13.2	150	3	14x48	5 min.

The X-1-A is the most popular size outfit and has the same storage capacity as the X-2-A, but takes longer to fill the tank to the required pressure. The X-2-A is also a popular size and both can be plugged in on a lamp socket. Larger sizes are not usually permitted to be plugged in on a lamp socket.



STYLE "Z" FURNISHED BELTED
ONLY

Style and No.	Size Compressor	Compressor Speed	Cubic ft. Displacement	Maximum Pressure, lbs.	Motor H. P.	Size Tank, Inches	Time required to fill tank from 0 to 150 lbs.
Z-1-A	1½x2	600	1.35	150	¼	12x36	28 min.
Z-2-A	2½x2½	500	2.47	150	½	12x36	15 min.
Z-3-A	2½x3	450	3.84	150	¾	14x48	19 min.
Z-4-A	3 x3½	400	5.8	150	1	14x48	14 min.
Z-4-B	3 x3½	400	5.8	150	1	16x60	23 min.
Z-5	4½x4½	325	13.2	150	3	16x60	8 min.
Z-5-A	4½x4½	325	13.2	150	3	20x60	13 min.

The Z-4-A is the size recommended for the average public garage of 60 to 100 cars, or for service stations. For small service stations, the Z-2-A is a very popular outfit.

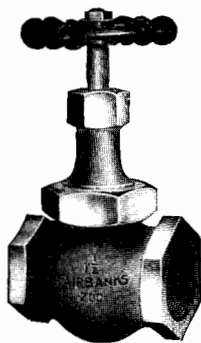


Figure 029—Screw End

These valves are made of the highest grade bronze metal. They are of the regrinding type, enabling repairs by regrinding the seating surface, without the labor and expense of disconnecting pipes.

Valves

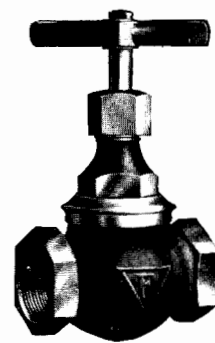
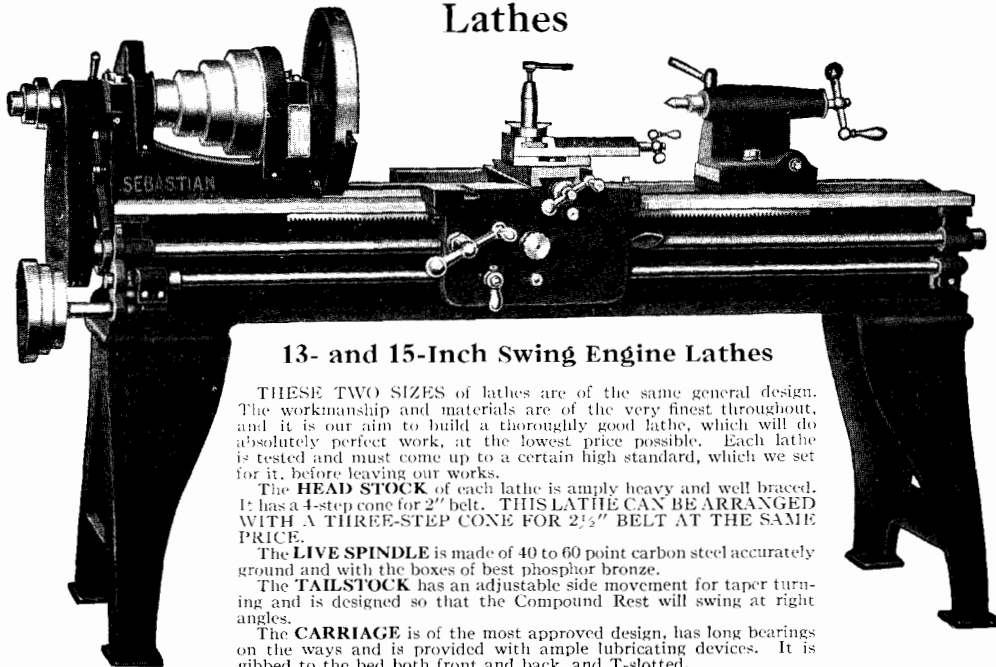


Figure 01

Illustrating our well-known Vulcabeston Disc Globe Valve

The careful design and workmanship with the easy renewability of the disc have made these valves very popular for many years. Discs may be renewed in about three minutes.

Lathes



13- and 15-Inch Swing Engine Lathes

THESE TWO SIZES of lathes are of the same general design. The workmanship and materials are of the very finest throughout, and it is our aim to build a thoroughly good lathe, which will do absolutely perfect work, at the lowest price possible. Each lathe is tested and must come up to a certain high standard, which we set for it, before leaving our works.

The **HEAD STOCK** of each lathe is amply heavy and well braced. It has a 4-step cone for 2" belt. THIS LATHE CAN BE ARRANGED WITH A THREE-STEP CONE FOR 2½" BELT AT THE SAME PRICE.

The **LIVE SPINDLE** is made of 40 to 60 point carbon steel accurately ground and with the boxes of best phosphor bronze.

The **TAILSTOCK** has an adjustable side turning movement for taper turning and is designed so that the Compound Rest will swing at right angles.

The **CARRIAGE** is of the most approved design, has long bearings on the ways and is provided with ample lubricating devices. It is gibbed to the bed both front and back, and T-slotted.

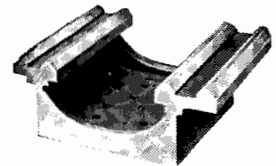
The lathe can be arranged with Metric Lead Screw and Half Nut instead of regular U. S. at the same price.

We can also furnish a special set of Gears and Yoke for Metric Thread Cutting, which can be attached to lathe instead of regular Gears and Yoke, making it possible to cut both U. S. and Metric Threads on same lathe.

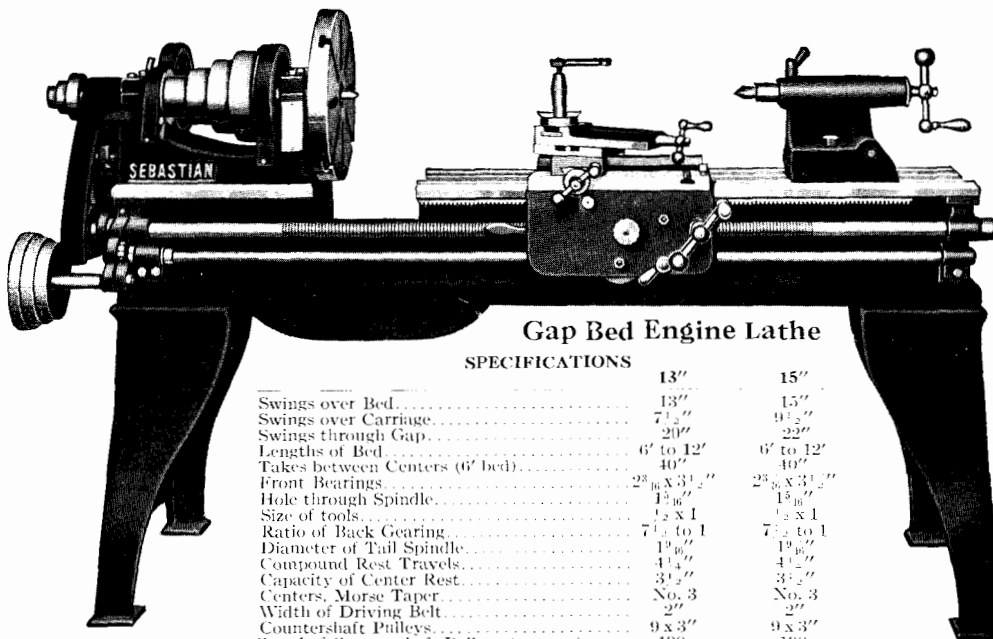
These lathes are provided with both screw and rod feed as well as with power cross feed, the latter being graduated. A **COMPOUND REST** which is **GRADUATED** is regularly furnished, steady and follower rests, large and small face plates and friction countershaft. A plain rest and the usual lathe attachments can be furnished if desired.

We also build either of these lathes with a **GAP BED**, as shown in cut, without extra charge. The Gap is 7¾ inches long and 3½ inches deep, thus increasing the swing of the lathe in Gap 7 inches. The **Bed** is so braced at the Gap that it is just as strong as at any other point. The **Carriage** will run over and connect on opposite side of Gap without letting down.

A **Bridge** which is easily and quickly placed in position or removed, may be fitted in the Gap at a small extra charge, but this **BRIDGE** cannot be fitted after the lathe is finished.



Bridge for Gap Lathe



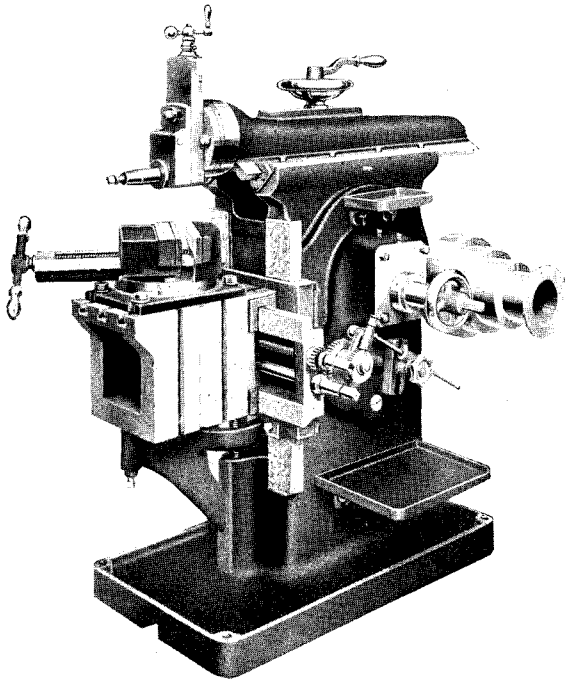
Gap Bed Engine Lathe

SPECIFICATIONS

	13"	15"
Swings over Bed	13"	15"
Swings over Carriage	7½"	9½"
Swings through Gap	20"	22"
Lengths of Bed	6' to 12'	6' to 12'
Takes between Centers (6' bed)	40"	40"
Front Bearings	28 1/8 x 3 1/2"	28 1/8 x 3 1/2"
Hole through Spindle	1 3/16"	1 3/16"
Size of tools	1 1/2 x 1	1 1/2 x 1
Ratio of Back Gearing	7 1/2 to 1	7 1/2 to 1
Diameter of Tail Spindle	1 9/16"	1 9/16"
Compound Rest Travels	4 1/2"	4 1/2"
Capacity of Center Rest	3 1/2"	3 1/2"
Centers, Morse Taper	No. 3	No. 3
Width of Driving Belt	2"	2"
Countershaft Pulleys	9 x 3"	9 x 3"
Speed of Countershaft Pulleys (r. p. m.)	190	190
Weight	1,150 lbs.	1,250 lbs.

14-Inch Shaper

(Single Geared)



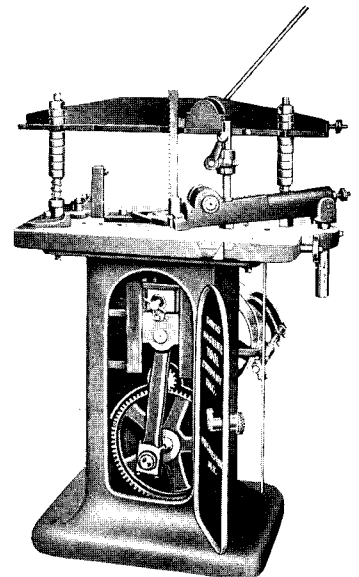
This Shaper is regularly furnished with cone pulley drive, V-ways for ram, swivel vise, box table support and tight and loose pulley countershaft.

Planes long	14 $\frac{3}{4}$ inches
Planes wide	18 inches
Planes high	14 inches
Vise—between jaws	9 inches
Ram—Width	8 $\frac{13}{16}$ inches
Total length	35 $\frac{1}{2}$ inches
Bearing in column	22 inches
Vertical adjustment of head	6 inches
Size box-table	10 $\frac{7}{8}$ x 15 $\frac{1}{4}$ inches
Length of rocker arm	30 inches
Width of driving belt	21 $\frac{1}{2}$ inches
Changes of speed	4
Largest shaft through column	2 $\frac{3}{4}$ inches
Size tight and loose pulleys	10 x 3 $\frac{1}{2}$ inches
Speeds of countershaft	200
Finished weight	1,790 lbs.
Gross weight, boxed for export	2,210 lbs.
Size of box	40 x 50 x 59 inches
Size of base	20 x 36 inches

Keyseaters

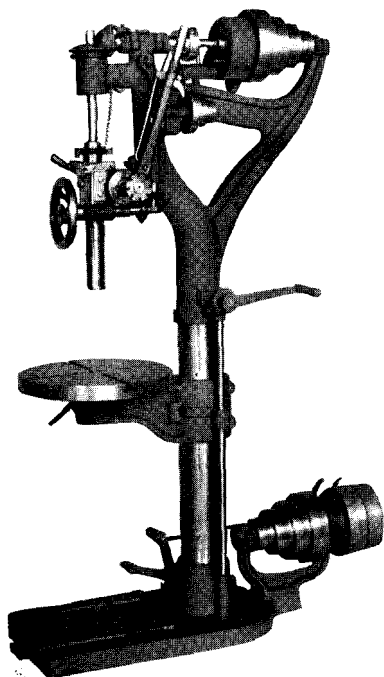
These machines are intended to cut keyways in gear blanks, pulleys, bell cranks, crank handles and similar work; can also be used for cutting slots for oil grooving.

Length of cut with 20-inch cutter	8 inches
Length of stroke	4 inches
Size of table	16 x 27 inches
Tight and loose pulleys	14 x 4 inches
Cuts keyways	1 $\frac{1}{8}$ x 5 $\frac{5}{8}$ inches
Will keyseat	6 $\frac{1}{2}$ inch hub
Largest blank handled	26 inches
Speed of T and L pulleys	175 R. P. M.
Net weight	500 pounds
Gross weight, boxed for export	700 pounds
Size of box, for export	36 x 36 x 42

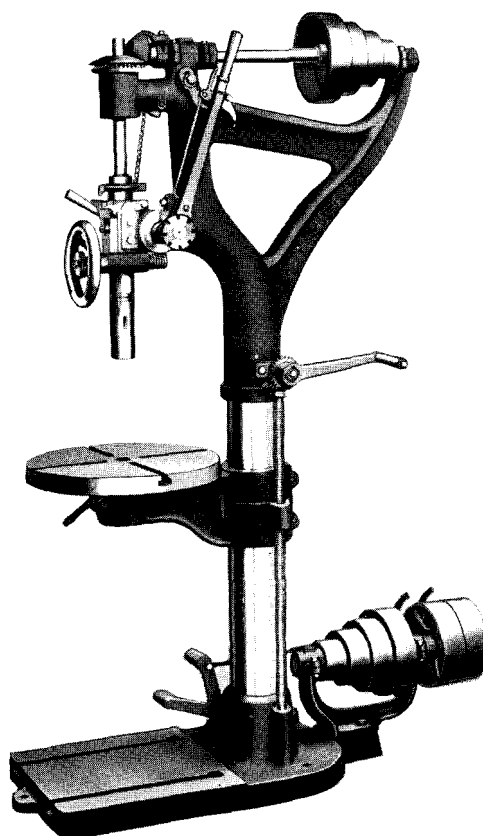


No. 2 Keyseater

20-Inch Back Geared Upright Power Drill



20-inch Back Geared Drill



20-inch Wheel and Lever Feed Drill

This is a thoroughly modern power drill, combining all the good features that a machine of its kind should have; equal, and in many respects superior, to any drill of its size previously placed on the market. It combines simplicity and speed in operation with strength and rigidity, and drills with perfect accuracy from the smallest hole up to $1\frac{1}{2}$ inches. The gears are machine cut. The bearings are all large and powerful.

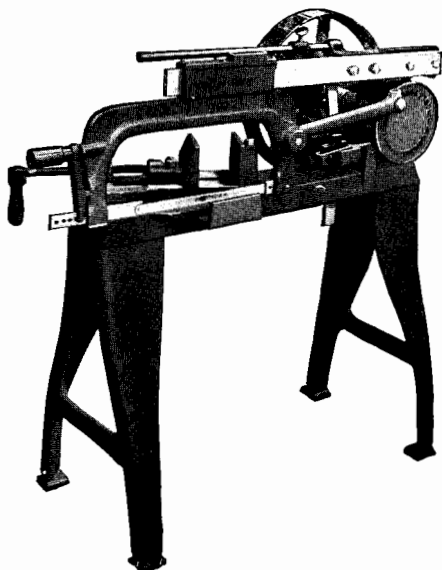
The back geared drill has eight speeds with three distinct and complete feeds—power feed, hand wheel feed, and lever feed. It is supplied with all the graduated and automatic features of higher priced drills. The spindle is counterbalanced by a weight in the hollow column; has automatic stop with quick return lever giving rapid movement to the spindle. Quick action screw for raising and lowering the table.

Height of drill	75 in.
Distance between table and spindle	27 in.
Distance between spindle and base	$42\frac{1}{4}$ in.
Distance from column to center of spindle	$10\frac{1}{4}$ in.
Diameter of column	$5\frac{1}{4}$ in.
Traverse of table on column	$18\frac{1}{2}$ in.
Diameter of table	16 in.
Diameter of spindle	$1\frac{1}{4}$ in.

Traverse of spindle	8 in.
Size of tight and loose pulleys	$8 \times 2\frac{3}{4}$ in.
Size of cone pulleys (4 Step)	4, $5\frac{3}{4}$, $7\frac{1}{2}$, 9×2 in. face
Speed of driving pulleys	300 R. P. M.
Floor space required	22×35 in.
Horse power required	1
Weight—net	675
Crated weight	800

Hole in spindle bored to fit Morse taper No. 4.

Hack Saw Machine



This tool is unequalled by any other machine of the dry cutting type, for fast and accurate cutting of metals. It cuts on the draw stroke and lifts on the return by a cam and grip motion, very simple and effective.

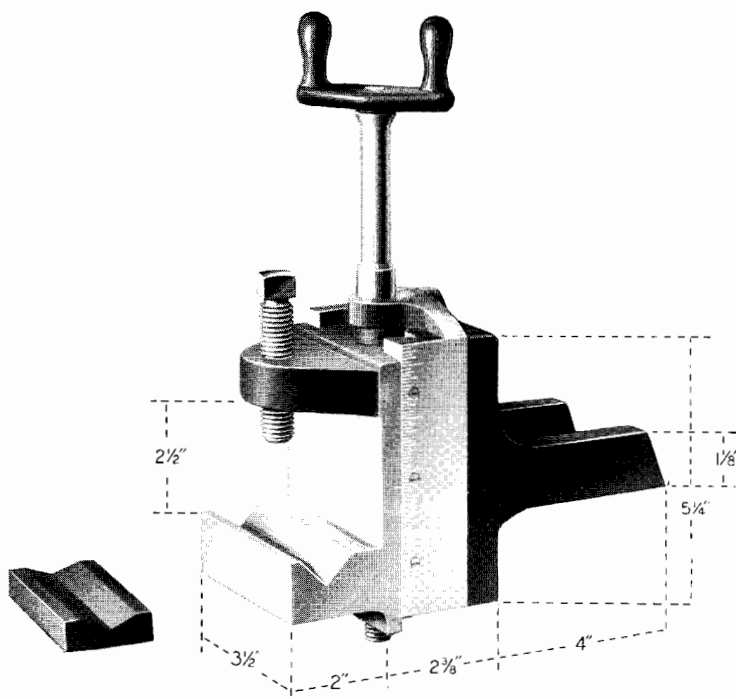
This tool cuts a round bar in $1\frac{1}{4}$ minutes at a speed of 60 strokes per minute, uses blades from 10 to 14 inches. The vise swivels to 45 degrees. The frame is supported on the rectangular bar and is provided with gibbed top and side for wear adjustment. All surfaces are closely machined. It is direct drive on the crank shaft with a friction clutch in pulley, and stops automatically when the cut is completed.

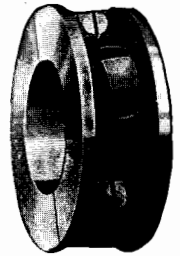
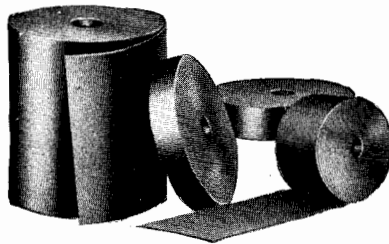
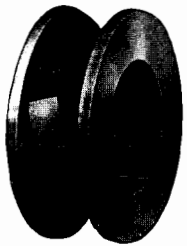
Capacity, 6 inches x 6 inches.

Paschall Lathe Attachment

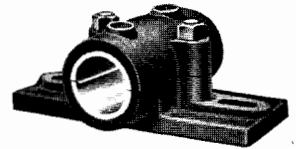
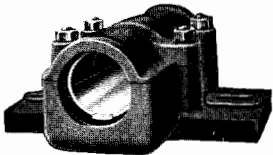
The Paschall Lathe Attachment is a very valuable appliance for the garage or machine shop and is adaptable to a large and varying class of work, as you will readily note from its construction. It makes the lathe a more universal machine. No extra attachment is required with the lathe to accommodate the use of this tool and no fitting whatever is necessary. The Paschall attachment is mounted on the tool block of the lathe, the tool post passing between the two extended lugs on the rear. The placing of an ordinary piece of square steel or iron in the opening of the tool post, crossing the lugs and tightening the tool post screw securely, the same as you would to hold the lathe tool, acts as a binder which holds the attachment rigidly in place.

With the use of this attachment milling Woodruff Keyways and many other milling, boring and drilling jobs can be accomplished. It is a very inexpensive article—a great time saver, and by having one with the lathe many jobs may be handled which could not otherwise be done. It is designed especially for repair shops where there is not a sufficient amount of work to warrant the purchase of a milling machine.

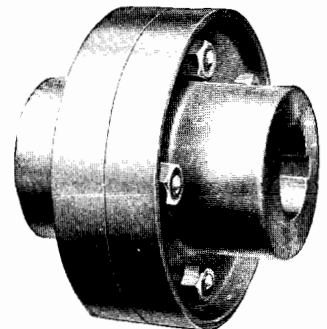
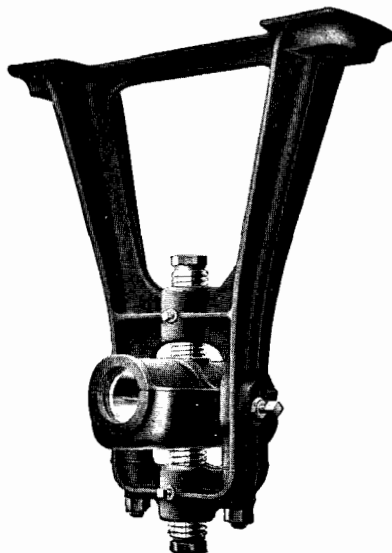
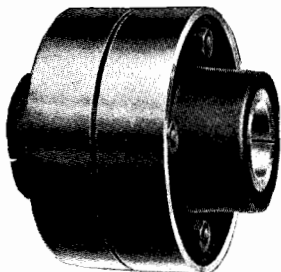
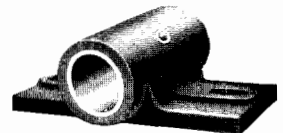
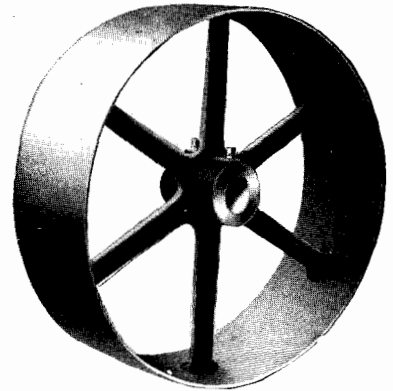




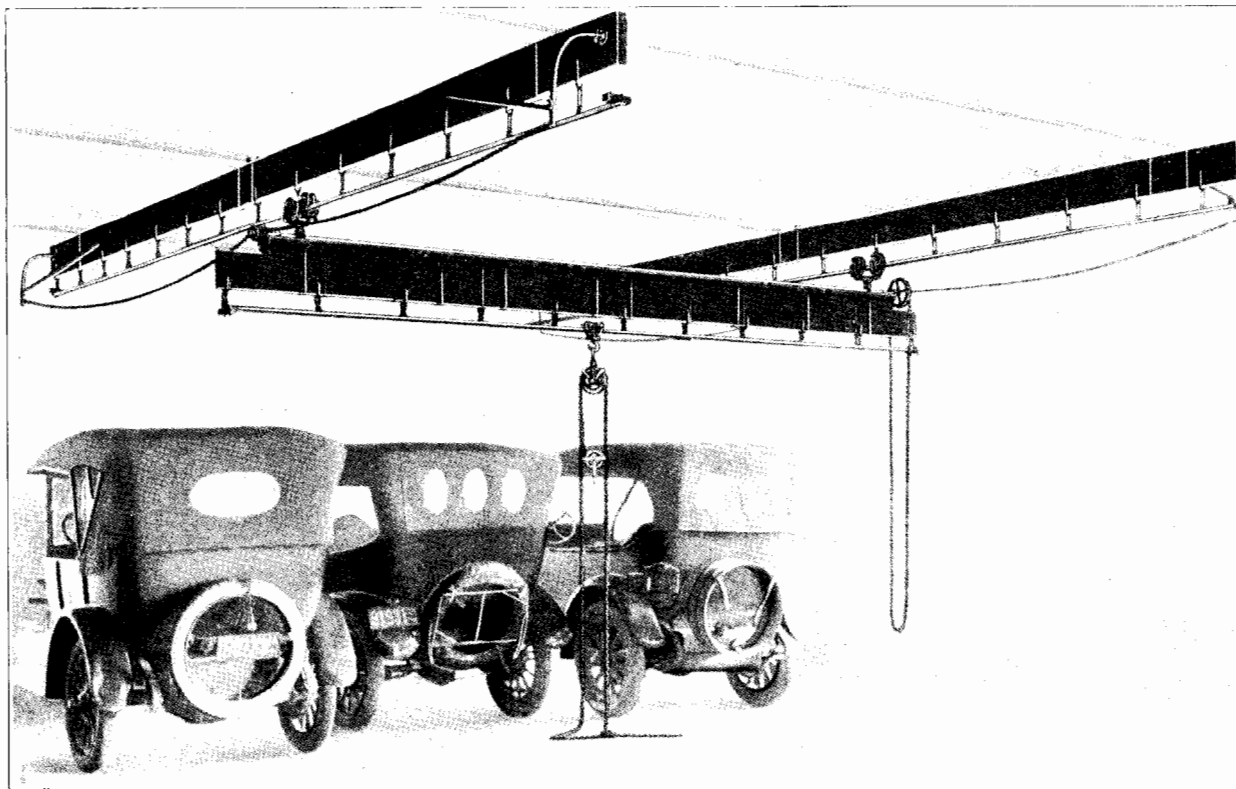
**Everything for the Mechanical
Transmission of Power**



Wood, Iron and Steel Pulleys
Shafting and Hangers
Compression Couplings
Post Boxes
Clamps
Friction Clutches
Pulley Stands
Sprocket Wheels
Belting
Leather
Burmaline
Rubber
Balata
Canvas Stitched
Solid Woven
Link



Louden Traveling Crane for Garages



Operates Over Entire Garage Floor

This illustration shows the handiest and most efficient Traveling Crane ever designed for all kinds of lifting and conveying work in garages.

In the construction of the crane two main tracks, parallel with each other, are placed at either side of the building, or any other desired distance apart, and run the entire length of the room. Operating back and forth on these two main tracks are trolleys which carry a track running across the building. This cross track has a trolley and a hoist, making it possible to work from one side of the room to the other. The entire crane can be easily and quickly moved lengthwise of the room on the two main tracks and there is, therefore, not a single foot of space in the entire room that is not accessible to the track.

This entire outfit is exceptionally strong in construction, is not expensive, and is easy to install in any garage. It is just the system needed for working on a number of cars scattered over the room—the engine can be lifted out and conveyed to the work bench, or the car can be raised giving a chance for work underneath. It is a general, all-purpose crane for every kind of garage work in which a lift is needed.

Louden Traveling Crane



For Every Garage

These two illustrations show the practical use of this handy equipment in garage work. This type is particularly adapted to the work in Ford Service Stations. Hundreds of users have found that this equipment will pay for itself in the labor saved during the first month's operation.

For garages where it is not necessary to cover the entire floor space, the Loudon Overhead System can be installed so that the track will run from the work benches and machines to other parts of the building where it would be in a handy position for general use on cars and at the same time could be used for transporting motors and parts to any place in the shop. The Loudon Garage Equipment Carrier has a capacity of 500 pounds, fulfilling the general requirements of the garage. Where heavier work is necessary a double truck carrier with a capacity of 1,000 pounds can be furnished.

Louden Overhead Carrying Systems can be easily moved with a load, inasmuch as the trolleys are all of the stationary axle, roller-bearing type. With this type of trolley the bearing point of the load is on the bottom roller bearings where they are close together. Therefore, they turn easily and smoothly.

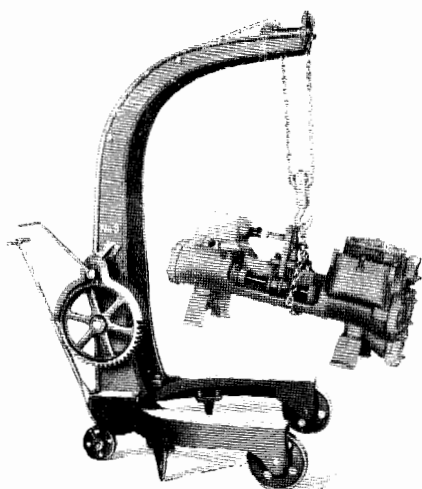
Specially designed Loudon Overhead Carrying Systems can be perfected to meet the individual requirements of any garage.

Further information giving details of this system will be furnished upon application.

Portable Floor Crane and Hoist

This Crane was designed to meet the requirements of garages and automobile factories. It has a large over-hang of 3 feet 6 inches, enabling the Crane to lift an engine out of a chassis without marring sides of car. It has a low base, with wide wheels and sufficient height and lift to handle any job in the up-to-date garage.

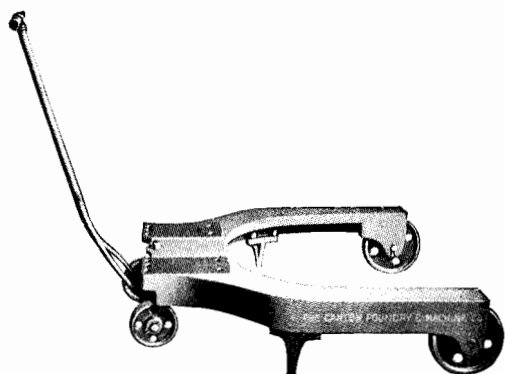
Because of the large over-hang of this Hoist, capacity is less than our No. 3 regular crane. We recommend either our No. 3 Low Bed Crane or No. 3 Garage Special for garage work—the former where a greater lifting capacity than 2500 lbs. is desirable. An engine too awkward and heavy for several men is easily handled by one man with the Canton.



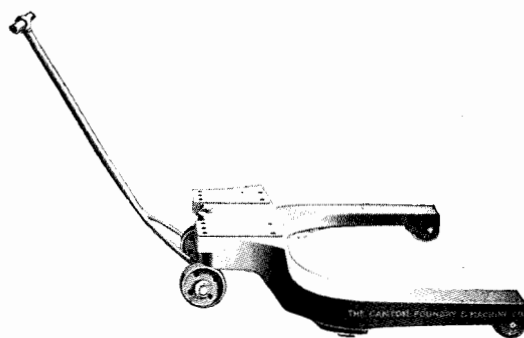
Number Three—Garage Special

SPECIFICATIONS

Total Height	7 ft. 6 in.
Lift	6 ft. 4 in.
Over-hang	3 ft. 6 in.
Width of bed—	
Outside	3 ft. 3 in.
Inside	2 ft. 4 in.
Length of bed	4 ft. 6 in.
Height of bed	6¾ in.
Weight	890 lbs.
Capacity	2500 lbs.
List Price	\$125.00



Regular Base—12 Inches High

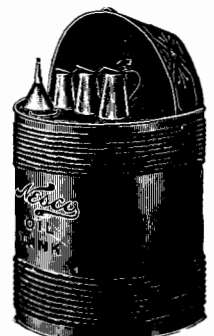
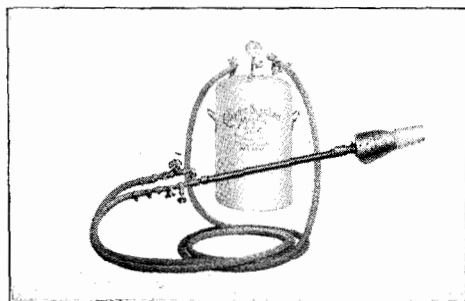
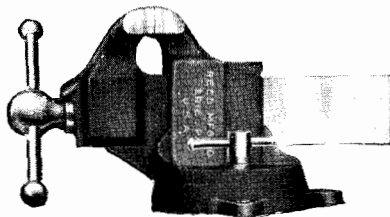
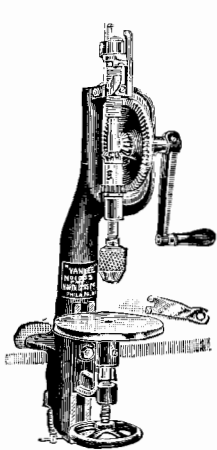


Low Base—6¾ Inches High

The Crane with 12-inch Base, because of larger wheels, pulls a little easier than the Low Down type. We recommend the High Base, where it is not necessary to run under low places. Wheels on High Base are 10¾ inches diameter—on Low Base 6 inches diameter. *Unless otherwise specified, all Cranes are furnished with 12-inch Base.*

The design of the Canton Low Base enables you to run the Crane under a machine farther than you could with any other Hoist. On both Low and High Base, wheels are roller-bearing—carefully fitted and tested to produce an easy-running Crane. Two small feet serve as a *double lock* when Crane is not in operation.

Mill, Mine, Railway Supplies and Specialties



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 Cans
 Soldering Coppers
 Portable Floor Cranes
 Cold Chisels
 Oil, Grease and Priming Cups
 Drills and Reamers
 Dies and Taps
 Hand, Breast, Bench and Post
 Drills
 Turkish Emery
 Fire Extinguishers
 Files and File Handles
 Forges
 Grindstones
 Graphite and Albany Grease
 Chain Hoists
 Bench Legs
 Oilers
 Screw Plates and Pipe Stocks
 Emery Cloth and Sand Paper
 Prick and Center Punches
 Pliers
 Taper Pins
 Gasoline Fire Pots and Torches
 Brazing Blow Pipes
 Metal Polish
 Packing
 Bench Shears
 Tinnerns' Snips
 Punches and Shears
 Lag Screws
 Machine, Wood and A. L. A. M.
 Screws
 Screw-drivers
 Solder
 Auto Oil Syringes
 Storage Tanks
 Overhead Track
 Brownhoist Trolleys
 Blacksmith Tools
 Scraping and Packing Tools
 Vises
 Emery Wheels
 Wrenches
 Lock Washers
 Cotton Waste

