THE NASH FOUR

Instruction Book

NUMBER ONE

THE NASH MOTORS COMPANY
KENOSHA, WIS.
U. S. A.

SUMMARY OF CONTENTS

INTRODUCTION

IN presenting this instruction book to the owner of the Nash Four, a point of contact is provided between the manufacturer and the user of a product, the successful operation of which will redound to their mutual advantage.

The purpose of the book is to convey to the driver of the car, the few but important instructions for the care and operation of the car which are necessary to secure the full measure of service and pleasure which the purchaser of a Nash car has every reason to expect. Suggestions are added, bringing to the owner's attention some of the adjustments which will be obvious to him.

The owner's responsibility is chiefly that of regularly and thoroughly lubricating the car and this book will indicate a systematic method of so doing. Details of more complicated adjustments are purposely omitted as the Nash distributors, dealers, and service stations are conveniently located and adequately equipped to most efficiently assis the owner in making adjustments which require the skill of their specialists.

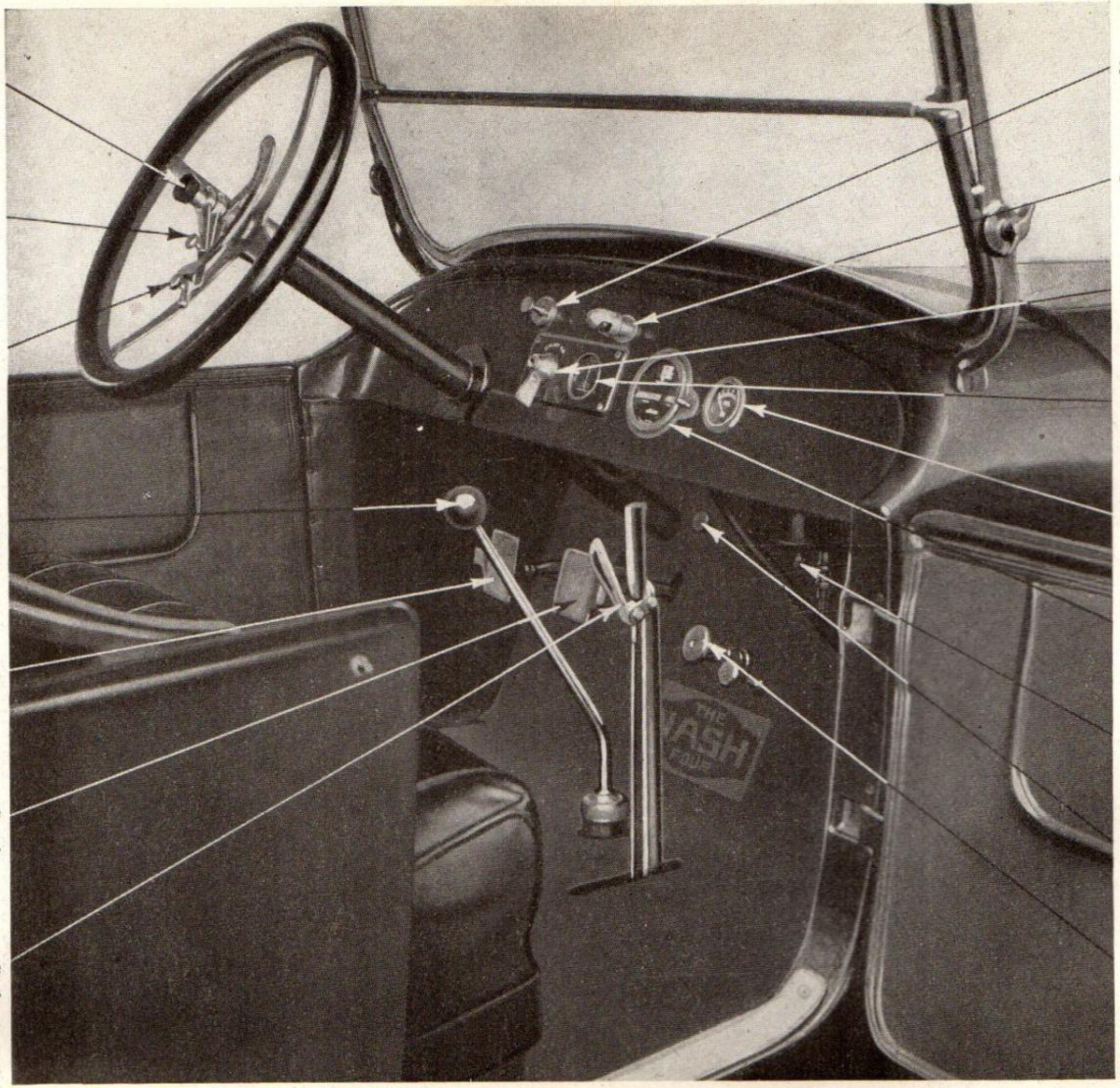
The Nash Motors Company heartily co-operates with the distributors in their efforts to insure the continuance of the superior performance which is an inherent quality of the Nash Four.

ATTENTION

Your car is known to the factory by its Serial Number only. This number is located on the Left Side of the Front Frame Cross Member.

All letters seeking information, or ordering parts, must contain this number to insure prompt and efficient response or service.

1. Horn Button
2. Spark Control
3. Gas Control
4. Gear Shifting Lever
5. Clutch Pedal
6. Service Brake Pedal
7. Emergency Brake Lever



8. Carburetor Choker
9. Dash Light
10. Light and Ignition Switch
11. Ammeter
12. Oil Pressure Gauge
13. Speedometer
14. Vacuum Tank
15. Starting Pedal
16. Foot Accelerator

No. I—FRONT COMPARTMENT AND CONTROL

PREPARATION

Fill the radiator with clean water, permitting a quantity to flow from each of the three drain cocks, one on the radiator lower pipe, one below the pump, and one at the forward left side of the cylinder block. Close the cocks firmly.

Fill the gasoline tank and note that no leakage occurs at the drain plugs of the gasoline tank, the vacuum tank under the dash, or the base of the carburetor.

Remove valve cover and pour over the mechanism and into the crank case, one gallon of medium heavy engine oil or at least sufficient oil to cause the flow of oil from the test level indicator on the lower right of the engine oil pan.

FAMILIARITY WITH CONTROLS

The accompanying illustration indicates various dash instruments and control pedals and levers.

1—Horn button
2—Spark control
3—Gas control
4—Gear shift lever
5—Clutch pedal
6—Service brake pedal
7—Emergency brake lever
8—Carburetor choke
9—Dash light
10—Light switch and ignition
11—Ammeter
12—Oil gauge
13—Speedometer
14—Vacuum tank
15—Starting pedal
16—Accelerator

GENERAL OPERATING INSTRUCTIONS

Starting Engine

Place the spark lever (2) one inch from the bottom of its sector. Place the gas lever (3) two inches from the base of its sector. Depress the clutch pedal (5).

Throw back the emergency brake lever (7). Insert the switch key in the ignition switch lock (10) and turn to the right as far as possible. Note if the gear shifter lever (4) is free to move to the right and left, indicating that it is not engaged in any speed. With the right foot depress the starting pedal (15). The starting motor will begin to revolve the engine and if all conditions are normal, the engine will start after it has been turned a few revolutions. If it does not immediately start, release the pedal (15) and pull out the carburetor choke (8) and again depress the starting pedal (15). As soon as the engine starts, release the starting pedal, advance the spark lever, push in the carburetor choke and move the gas lever either up or down sufficient to keep the engine operating, but preventing it from attaining high speed. The clutch pedal may now be released.

Stopping the Engine

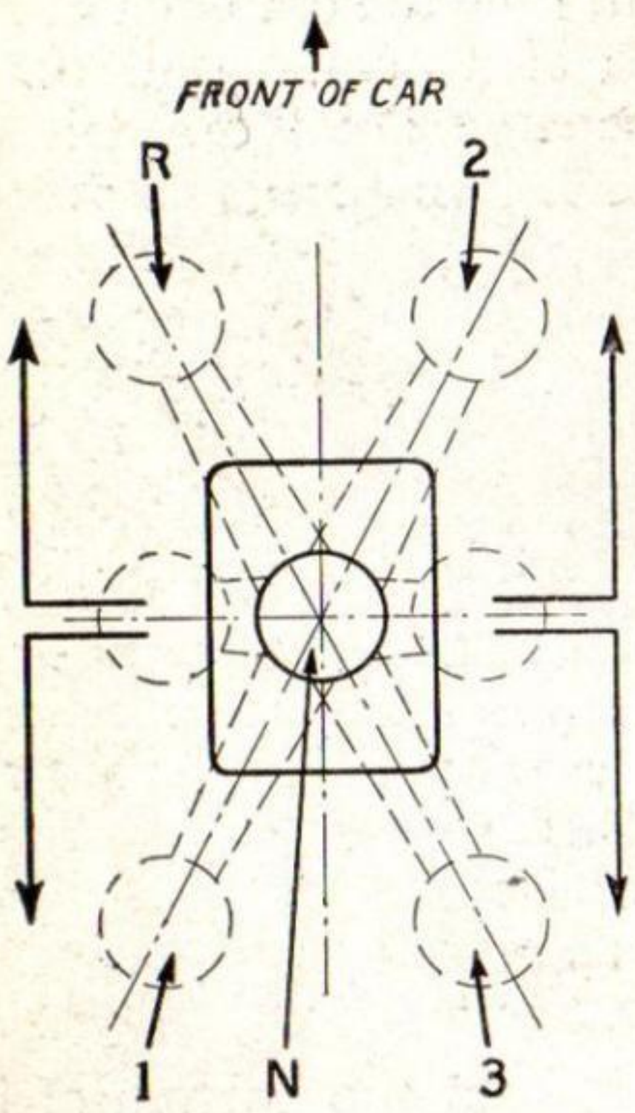
To stop the engine turn the ignition switch key to the central position and slightly advance the gas lever as the engine ceases to rotate.

Driving the Car

The driving of a car becomes a matter of habit after the first one thousand miles and incidents which were the source of anxiety to the new driver become ordinary experiences. Therefore, the first one thousand miles should be a training period for the owner and also for the car. During this time the car should not be driven at a speed exceeding twenty-five miles per hour, preferably not in excess of twenty miles for the first five hundred miles.

The engine and other parts will, during this preliminary, become well polished at their points of bearing and be in condition to meet the demands of the road for speed and endurance.

Gear Shift There should be an intimate relation between the operation of the clutch pedal and the gear shift lever, that is, at the instant of engaging gears by means of the shifter lever, the clutch pedal should be depressed about two-thirds of its total movement. The most essential point to remember is that in shifting gears the clutch pedal must always be depressed, otherwise the annoying clashing of gears will result.



No. 2

First Speed—Position 1 The first move in starting the car will be to disengage the clutch by depressing the left pedal (5). Grasp the shifter lever ball lightly with the right hand. Note the freedom of movement of this lever when in neutral position. Move lever to left and to the rear. If the gear fully engages, the shifter lever will automatically lock in position. If it does not do so, release and depress the clutch pedal until the gear lever enters the engaged position. Then release the clutch and the car will move forward in first speed. If the driver is a novice and unfamiliar with driving automobiles, it would be well to travel for some distance in first speed—starting, stopping, engaging the gear and becoming thoroughly familiar with the movements of the car and its response to acceleration, before attempting further gear shifts.

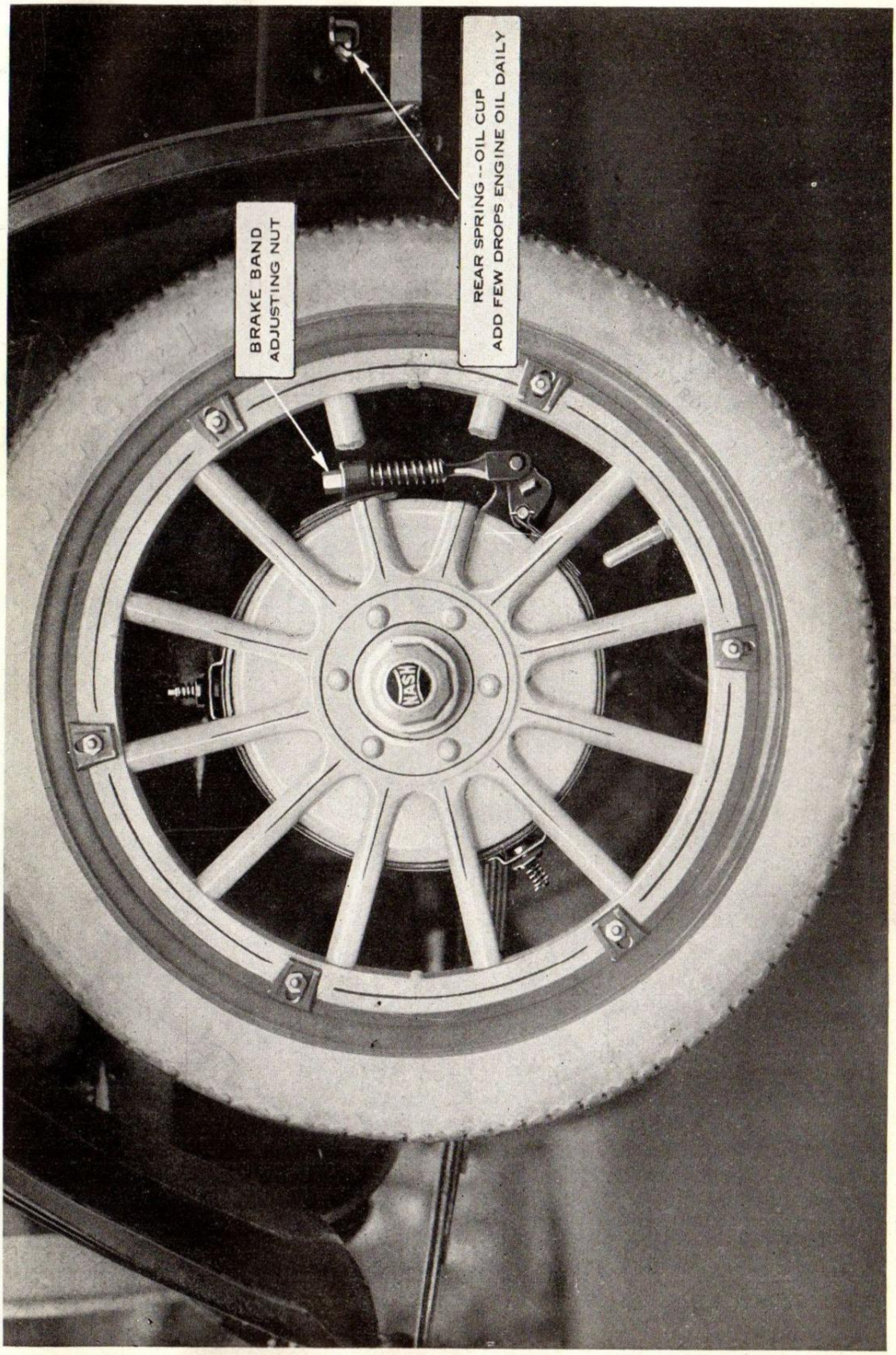
Second Speed—Position 2 When the car attains a speed of six or eight miles per hour, the clutch should be released, the gear shift lever brought forward to neutral, moved to the right and forward into second speed position. Considerable practice will be necessary before the operator can successfully make this speed change without clashing the gears.

It will be noticed after some practice that the shift is made with less noise when the operator is able to gauge the speed of the motor and car. In shifting from first to second or from second to third speed, it will therefore be necessary to release the throttle to slow down the motor or in shifting from third to second, speed the motor up slightly.

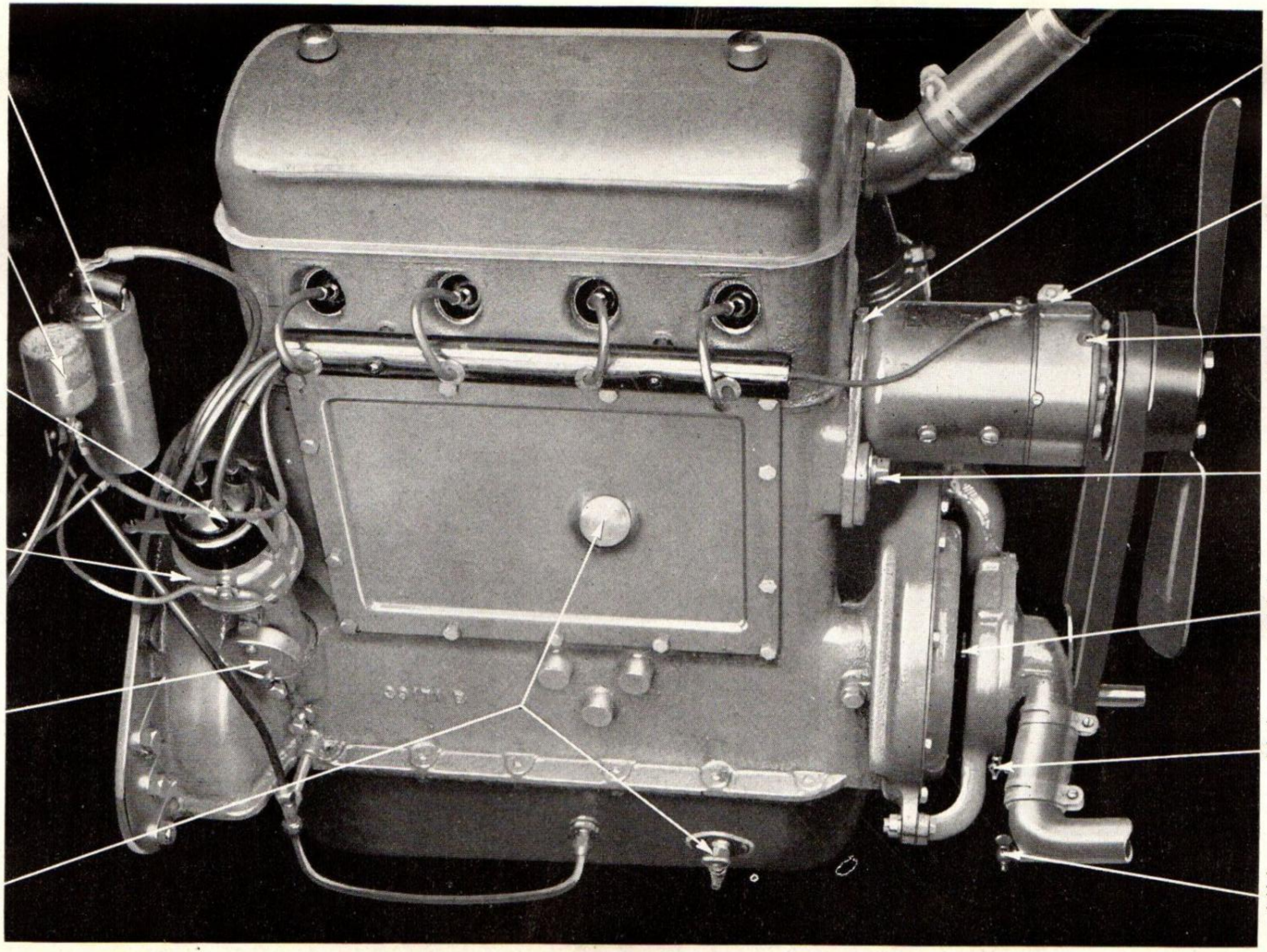
Third Speed—Position 3 Attaining a speed of from ten to twelve miles per hour in second, the clutch pedal should again be depressed and the shift lever pulled straight back through the neutral point to the third speed position. With the clutch again engaged, the car is traveling in third or high speed. By careful operation of the throttle lever or accelerator pedal, the car can now be operated at a wide range of speeds.

To Stop the Car To stop the car it is first necessary to lower the throttle lever or release the foot accelerator, depress the clutch, and gradually apply the foot brake. As soon as the car comes to a standstill, place the gear shift lever in central or neutral position and apply the emergency brake. Shut off the motor by turning the ignition key.

Reverse It will be advisable to engage the reverse gear and become familiar with the operation of the car in driving backward. Release the clutch; place the shifter lever in neutral, then to the left and farthest



NO. 3—REAR WHEEL—BRAKE ADJUSTMENT AND SPRING OIL CUP



No. 7—RIGHT SIDE VIEW OF ENGINE

CARBURETOR

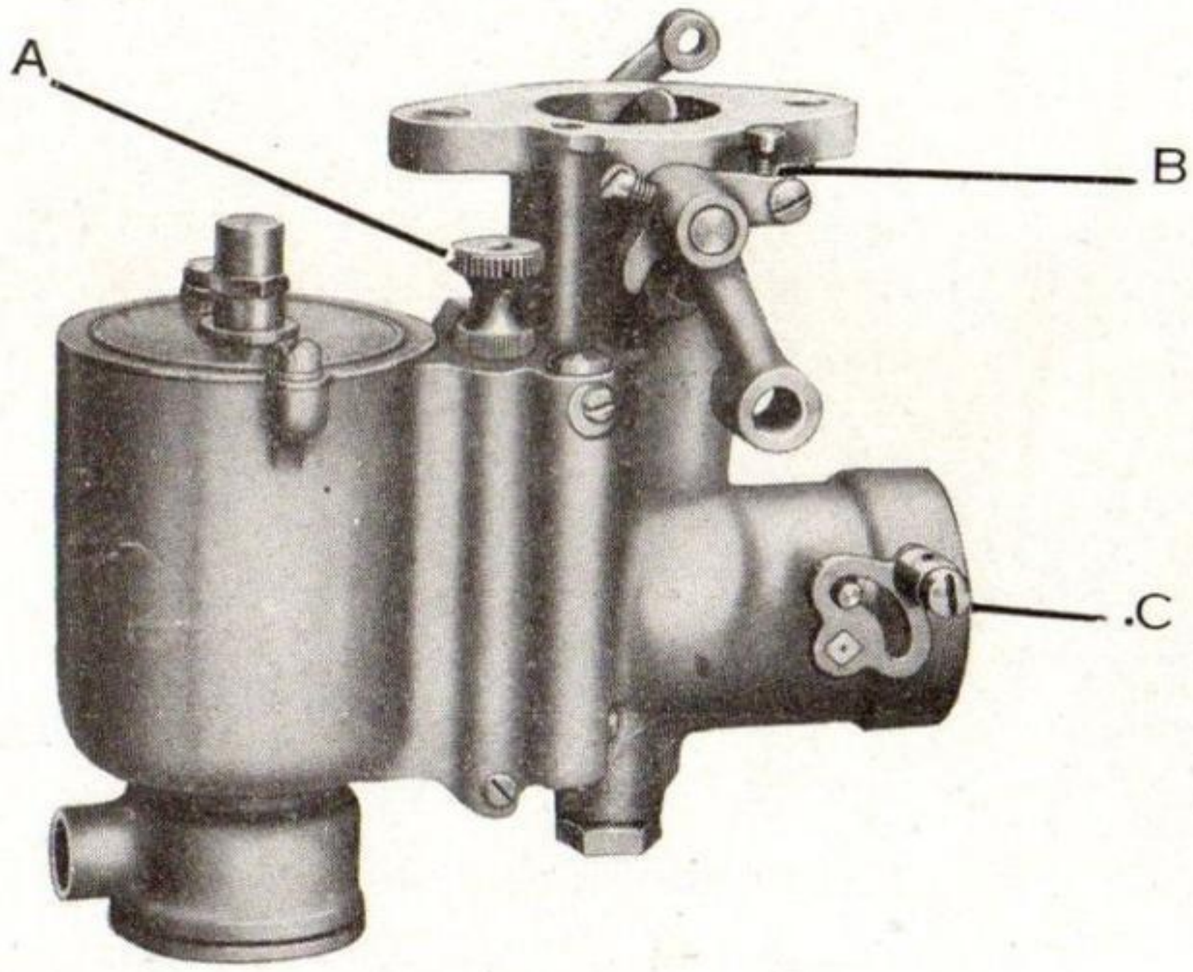
The carburetor used on this engine is the model "A" Schebler. Other than the occasional cleaning of the filter screen immediately below the float chamber, the carburetor requires no attention from the owner. If unusual climatic conditions are encountered, it may be necessary to slightly vary the carburetor adjustment. Referring to the illustration No. 5 below, needle valve (A) controls the idle adjustment. Ordinarily this needle valve (A) will require one turn and a quarter or one turn and a half for satisfactory operation. The stop screw (B) on the throttle control should be turned until the throttle valve remains open when the hand control lever is at the base of its segment sufficient to permit the idling of the engine.

AIR SHUTTER

An air shutter operates on the air intake pipe between the exhaust manifold and the carburetor. In warm weather this shutter should be opened wide and closed as much as necessary to obtain sufficient heat to vaporize fuel when the weather becomes cold.

CHOKE VALVE

The choker is operated by the button on the dash. When it is pulled out an excessively rich fuel mixture is drawn into the engine. The choker should be used only when cold weather retards the vaporization of the fuel, and its most successful use is to pull it out for a few seconds as the starter rotates the engine, then release fully when the engine has reached its normal temperature.



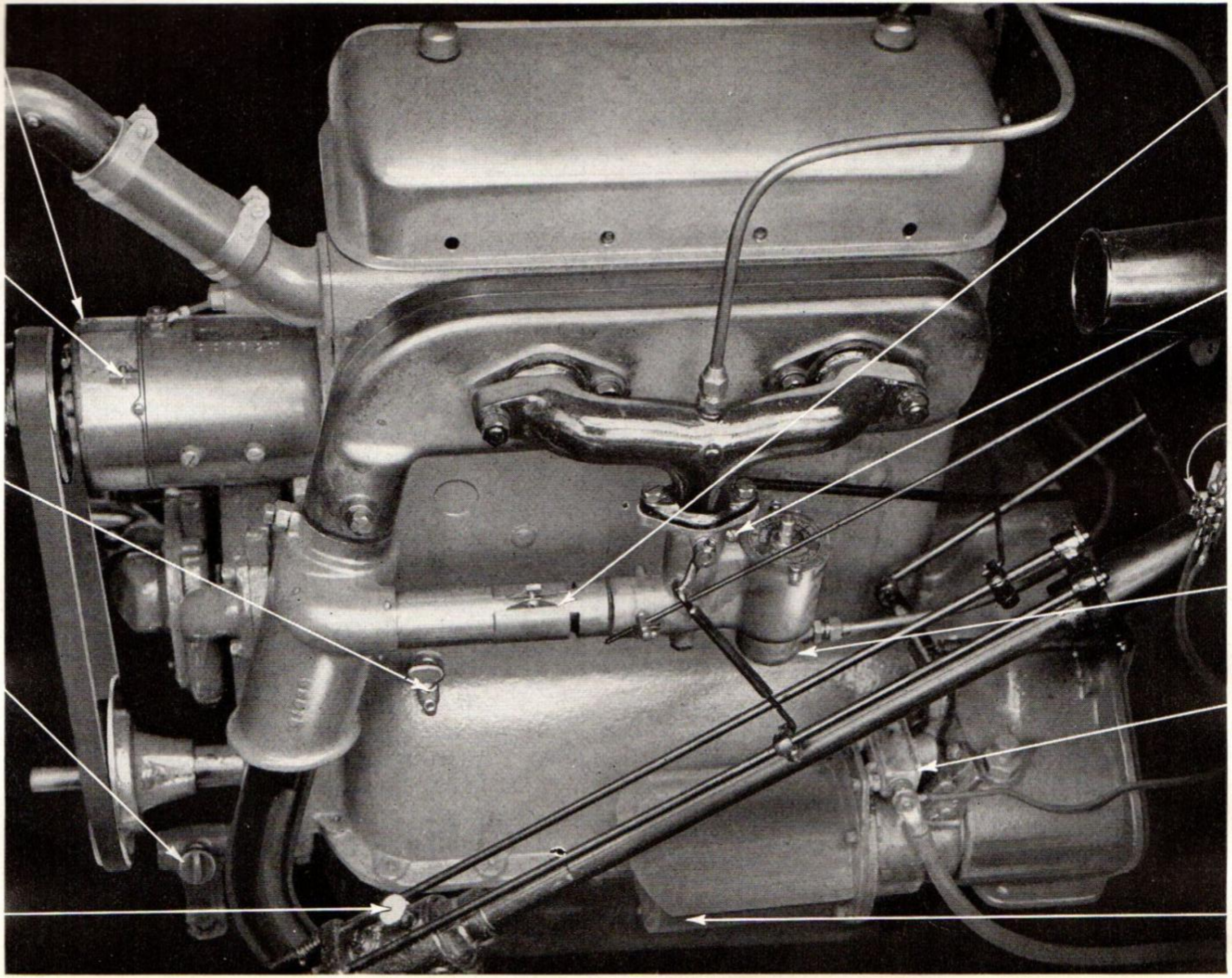
No. 5—Schebler Carburetor

FUEL

The carburetor and manifold arrangement permits the use of ordinary fuel but, if possible, take precaution that impurities are strained from the fuel previous to its being put in the tank. Unless the impurities are removed, they will accumulate in the sediment screens in the vacuum tank and the carburetor, necessitating the frequent removal of these screens for cleaning.

VACUUM TANK

The vacuum tank is mounted under the dash and will require no adjustments. Once each one thousand miles, the drain cock at the bottom of the tank should be opened and a quantity of fuel drained out, as any water or sediment condensed or accumulated in the fuel line can be removed at this point.



No. 4—LEFT SIDE VIEW OF ENGINE

COOLING

The radiator contains sufficient tube surface to adequately insure the most efficient cooling of the engine. Each one thousand miles the radiator drain should be opened and the radiator flushed out with fresh water. The pump and cylinder block drains should also be opened for the same purpose.

THE FAN

The fan is mounted on the generator shaft and requires no attention. If the generator drive belt has the correct tension to effectively drive the generator, the fan will function properly. (See generator—Page 28.)

WATER PUMP

The water pump is driven direct through its connection on the end of the camshaft. A packing gland on the inner side of the pump prevents leakage of water around the shaft.

COLD WEATHER PRECAUTIONS

When cold weather is anticipated, precautions must be taken to prevent the freezing of the water in the cooling system unless an anti-freezing solution is immediately placed in the radiator. It will be advisable to drain the car whenever it is in operation for a period exceeding a few hours. The drains of the cooling system are three in number.

1—At the lower connection on the right corner of the radiator.
2—At the lowest point of the water pump housing.
3—At the forward left side of the engine block.

These drains should not only be opened, but should remain so until the radiator is again filled. If the temperature is unusually cold, it is advisable to prevent the formation of ice in the drains by frequently inserting a small wire when the water is flowing slowly. Should a bead of ice form at the drain, the residue of water accumulating in the pump would freeze and possibly shear the pump impeller from the shaft when the engine is started. By running the engine slowly while the circulating system is being drained, the temperature of the water can be maintained and the more thorough draining accomplished.

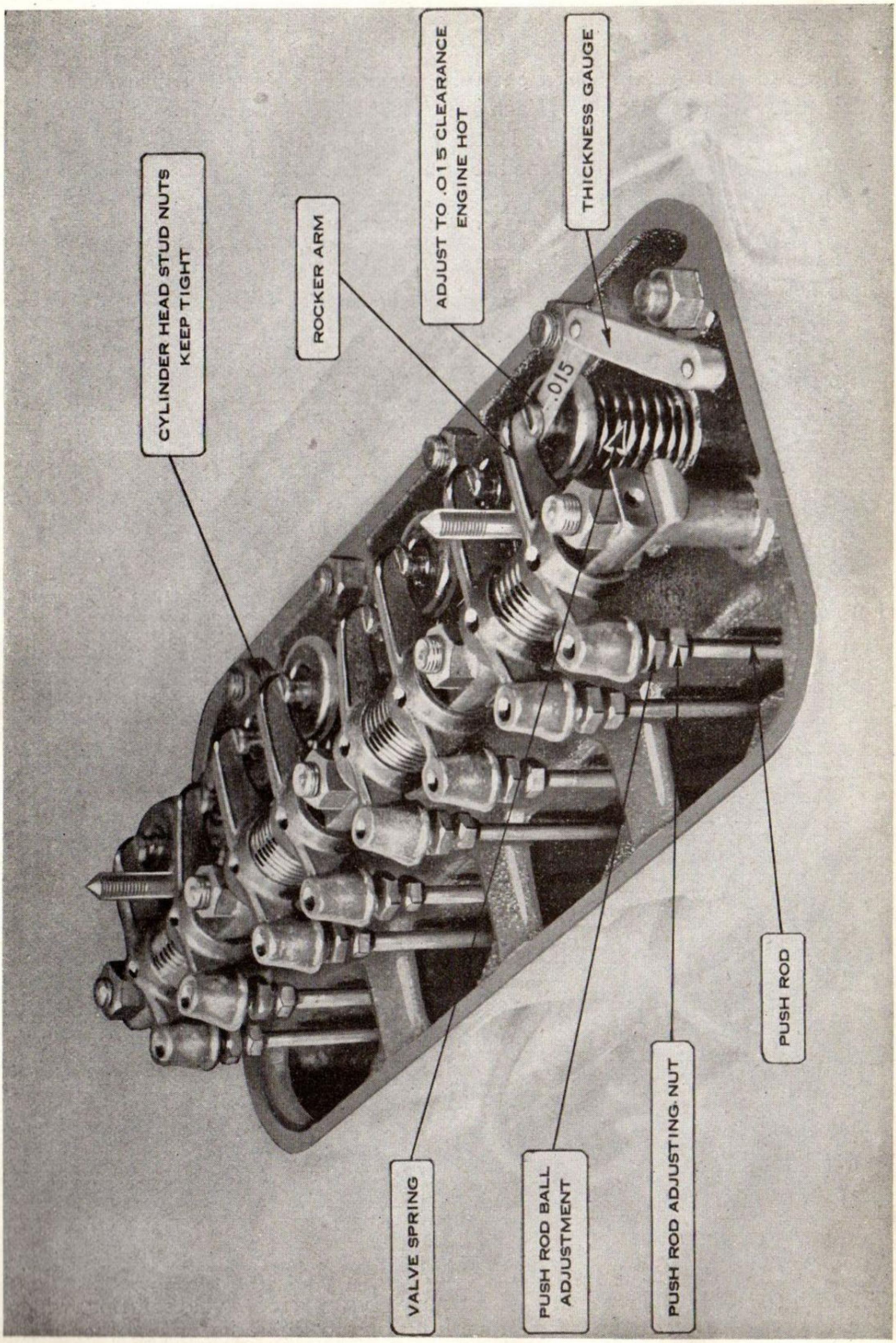
A radiator cover is recommended during the cold weather, as the most efficient operation of the engine demands that the normal temperature of the cooling water be maintained. A radiator cover equipped with a curtain can be so adjusted that the passage of air in the radiator will be adequate.

ANTI-FREEZING SOLUTION

The following solution is suggested for use in the radiator:

25% Alcohol
25% Glycerine
50% Water

This solution will not freeze at fifteen degrees below zero. Avoid solutions which, due to corrosive reactions, may prove injurious to the radiator or other metal parts.



NO. 6—CYLINDER HEAD AND VALVE MECHANISM

VALVES

The eight valves control the entrance and exit of gases from the cylinders. Their functioning involves the correct operation of a number of parts. It is advisable to have the valve mechanism occasionally checked by the Nash Service Station and necessary adjustments made.

Adjustment The valve stems expand due to heat and in order to insure the closing of the valves a clearance is necessary between the valve stem and its point of contact with the rocker arm. This clearance is measured when the engine is hot (as after one hour's operation) and the rocker arm is free. A thickness gauge or strip of sheet steel .015 (fifteen thousandths) of an inch thick should pass closely through the gap between the rocker arm and the valve stem. Loosen the push rod lock nut and move the ball adjusting nut either up or down until the correct clearance is obtained.

All the valves should be similarly adjusted and the lock nuts firmly tightened.

Caution Do not permit mechanics unfamiliar with your car to make adjustments contrary to the above instructions. Consult your Nash Dealer.

Valve Grinding The most satisfactory operation of the engine can be maintained if the owner visits the Nash Service every 2500 miles to permit the inspection of the car, the adjustment of the valves and the grinding of the valves, if their condition necessitates it.

VALVE COVER

Replace cover with breather holes on the left side.

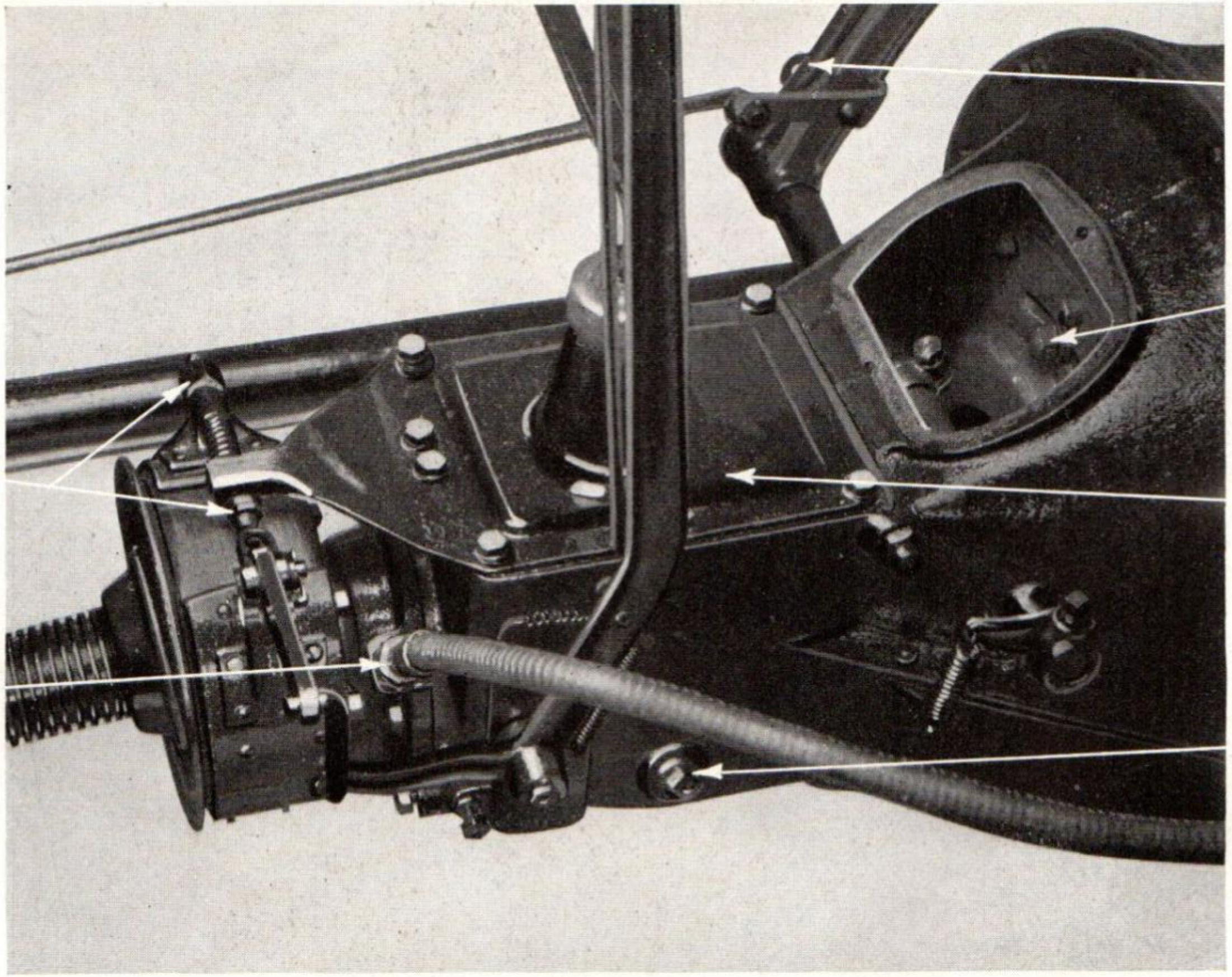
THE CLUTCH

The clutch consists of one steel disc interposed between two friction discs and is positive in its action and requires no lubricant from external sources. The ball bearings of the clutch throwout and of the clutch shaft are lubricated by oil ducts leading from the transmission to the bearings.

CLUTCH ADJUSTMENTS

Two adjusting screws will be found located in two curved slots, one on either side of the clutch cover. If the clutch is slipping, loosen both adjusting screws and depress the clutch pedal about half its total possible movement. With the handle of a hammer gently strike the adjusting screws in a clockwise direction, thus moving the adjusting plate (right-hand movement), not to exceed half an inch. Return the clutch pedal, tighten the adjusting screws, and try the clutch. If the clutch engagement is violent the above procedure should be followed, except that the adjusting screws should be turned in an anti-clockwise or left-hand direction, thus slightly releasing the pressure on the discs.

The clutch pedal should be free in its movement and not strike the floor board. A knurled connection is provided at the hub of the clutch pedal to permit its being located at a point which will give sufficient clearance from the floor board and insure the disengagement of the clutch when the pedal is depressed.



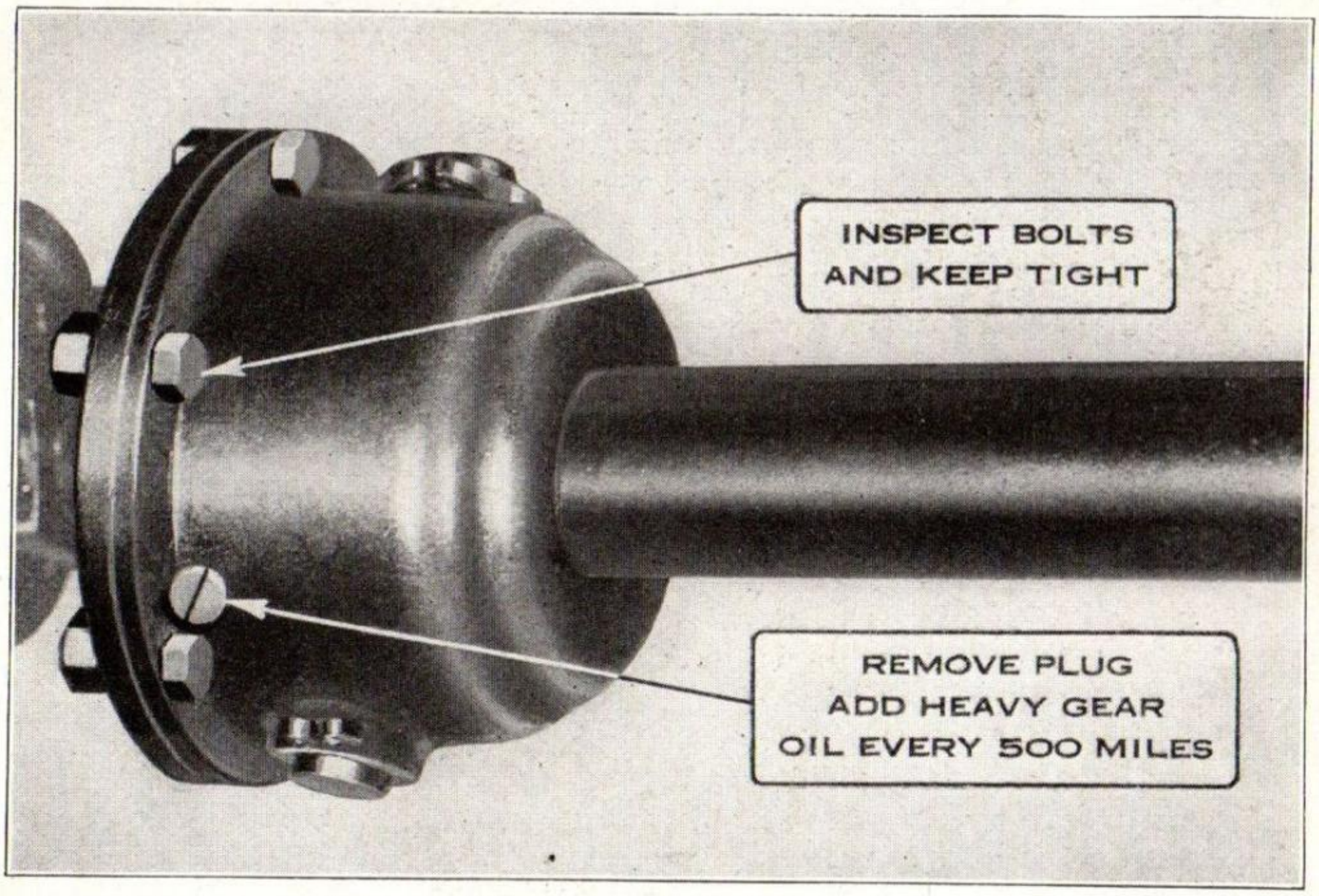
No. 8—CLUTCH AND TRANSMISSION

TRANSMISSION

The transmission being part of the unit power plant, is rigidly held in alignment and requires no adjustments to maintain its correct operation. Each one thousand miles it should be inspected and if the lubricant is below the level of the plug on the right-hand side of the case, sufficient gear oil should be added to fill it to the level of the plug. Each five thousand miles the cover should be removed from the transmission, the plug removed from base, the old oil washed out and replaced with new. The speedometer is driven through a spiral gear connected at the rear of the transmission. Once each season the speedometer cable should be removed from its tube and dipped in graphite and oil.

UNIVERSAL JOINTS

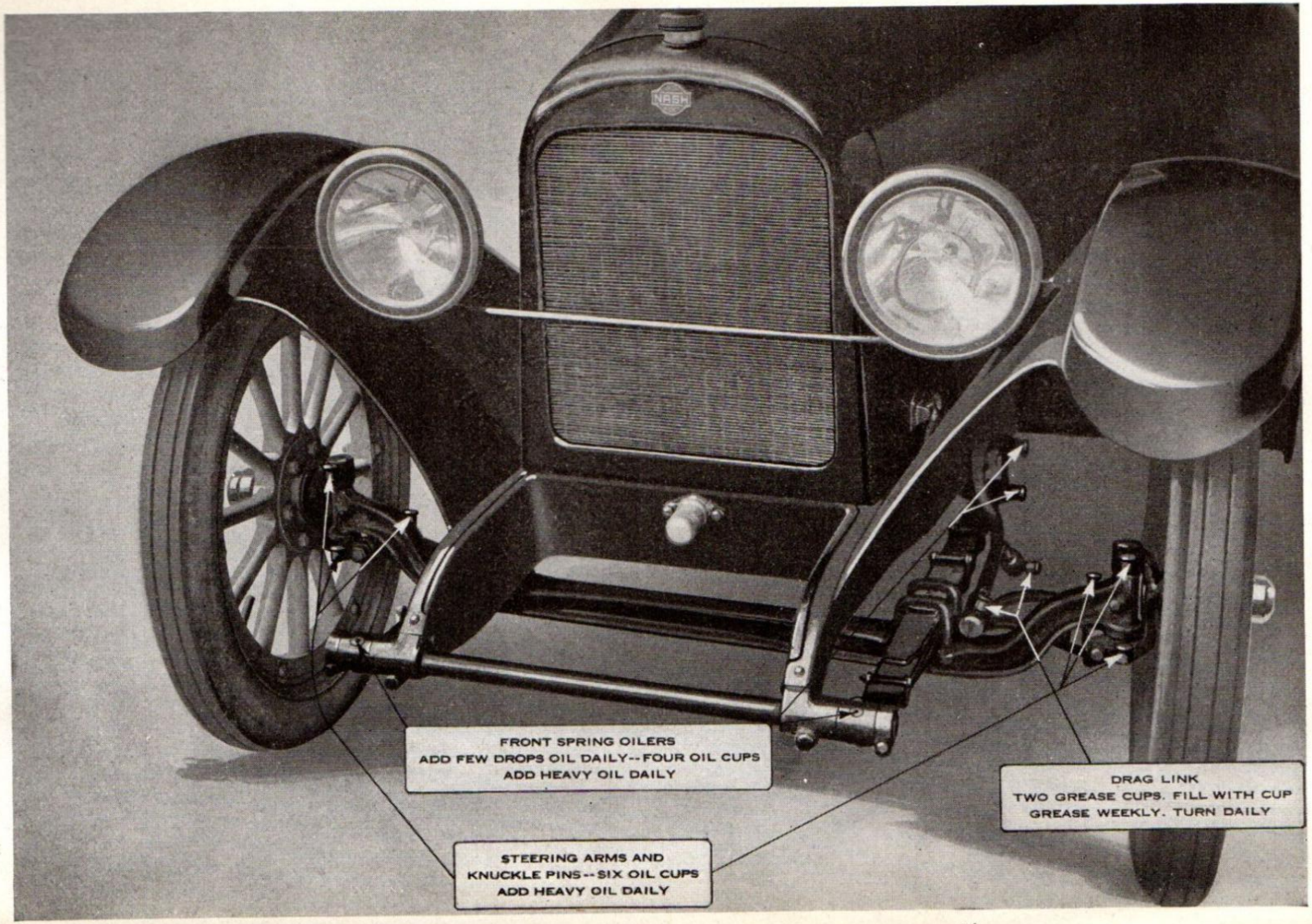
The propeller shaft equipped with a universal joint at each end transfers the power from the transmission to the rear axle. The function of the universal joints is to permit this transference without appreciable loss, regardless of the angular positions of the drive shaft.



No. 9—Universal Joint

It is essential that the joints be regularly lubricated once each week or every one thousand miles. Small plugs in the joints should be removed and a quantity of heavy gear oil or medium cup grease inserted. If the grease in the joint becomes hard, it should be removed as it will prevent the passage of the lighter oil to the points of friction.

A new packing may occasionally be necessary to retain the grease in the joint. The bolts which hold the universal joint to the drive flanges, front and rear, should be inspected and tightened if necessary, at the time the joints are lubricated.



No. 10—FRONT AXLE AND STEERING CONNECTIONS

FRONT AXLE

Front Wheel Front wheels, mounted on the spindles of the front axle, operate on Nash taper roller bearings. The removal of the wheels is accomplished by taking off the hub cap, pulling the cotter pin, removing the nut, and jarring the wheel slightly to free it from the bearings. The bearings should be cleaned carefully, repacked with grease and reassembled. The oil retaining felt washer should be replaced if badly worn, that dust may be excluded from the bearing. The adjusting nut on the wheel spindle should be tightened until the wheel binds, then loosened about a half turn until the wheel swings freely, its proper tightness being indicated by the fact that the weight of the valve stem causes the wheel to stop turning with this additional weight at the bottom.

Steering Knuckle The steering knuckle operates on the steering knuckle pin. This pin is retained in the axle bed by a lock bolt and turns in bushings mounted in the upper and lower portions of the knuckle yoke. Above and below the ends of the knuckle pin are placed dust caps which are peined into the knuckle body. It is necessary that these be removed before the pin can be driven out. The lubrication of the pin and bushings is provided by the oil cups on the knuckle body.

Wheel Alignment Front wheels should be properly aligned to facilitate steering and prevent undue wear of tires. This adjustment can be secured by removing the yoke pin on tie rod and so adjusting yoke to permit an equal distance between the outer circumference of wheel felloes at a point equidistant from the ground, both front and rear. Having secured this position, lengthen the tie rod by at least one complete turn of yoke to permit the front distance between the wheels to be $\frac{5}{16}$ shorter than at the rear.

STEERING GEAR ASSEMBLY

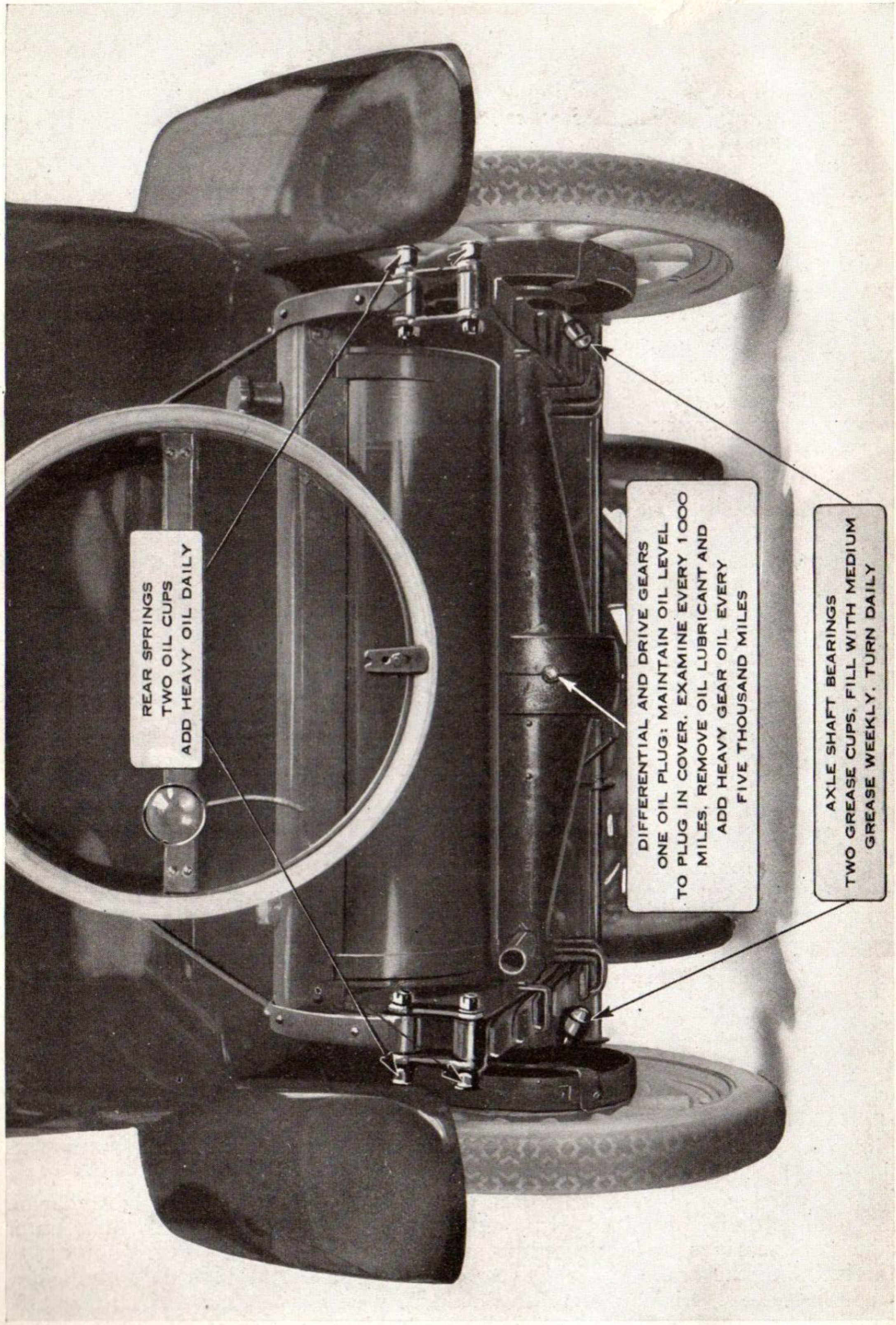
The steering mechanism is of the worm and gear type. It requires no attention other than lubrication. Two grease cups and an oil plug are provided for this purpose.

Drag Link The drag link connects the steering Pitman arm with the steering knuckle arm and consists of two ball and socket joints. It requires frequent lubrication through the grease cups provided. There should be no appreciable looseness in these joints other than that absorbed by the compression of the springs in the joints.

Tie Rod The tie rod adjusting nuts should be kept tight against the yokes to keep the wheels in proper alignment. The bolts should be oiled daily to facilitate steering.

REAR AXLE

The rear axle system consists of bevel pinion shaft, the differential unit with the helical bevel drive gear, two axle drive shafts, and the wheel hubs. All these parts are mounted on Nash taper roller bearings. The lubrication of the pinion shaft and differential roller bearings is provided by maintaining the lubricant in the axle housing to the level of the small plug at the rear of the housing. Heavy gear oil should be used during the warm season and light gear oil or steam cylinder oil mixed with engine oil during the cold season. The outer axle shaft bearings are lubricated by means of two grease cups on the housing to the inside of the brake flange. They should be given one turn daily and filled when necessary. Light cup grease should be used in these cups. The rear axle should be cleaned at least once each season, the grease removed, the bearings examined, adjustments made, and fresh lubricant added.



No. 11—REAR AXLE—WHEELS—DRIVE GEARS—SPRINGS

ELECTRICAL EQUIPMENT

STORAGE BATTERY

The storage battery is one of the most important accessories on your car. It is responsible for the proper operation of the electrical system. Do not neglect it. Although it is a complicated apparatus and depends upon chemical action and reaction for its usefulness, it will give you long and faithful service if you give it but a small amount of care and attention.

Most battery troubles are the result of lack of proper education. If all users of storage batteries were as familiar with them as they are with carburetors and other parts of the car, the battery would have a much longer life. Troubles often arise from very little things which could be easily remedied if taken in time.

Many people are under the impression that a storage battery receives and stores up the actual electricity used in charging it. On the contrary, the charging of the battery causes certain chemical action between the positive and negative plates in the presence of a medium known as electrolyte or battery solution. This does not actually store up electricity, but produces a chemical change in the plates. When a circuit is established between the elements, the active material of the plates changes back to its original condition and an electrical current is generated.

It is characteristic of storage batteries to deteriorate when they are not in use. A car may stand in stock or storage for some time, and also may be en route to destination long enough to put the battery temporarily out of commission. It is, therefore, essential that you examine the condition of the battery on your new car when it is received.

There are three separate and distinct cells in your battery. Remove all three caps or vent plugs and see if the solution covers the plates and comes up the bottom of the well. (The well is that part from which you unscrewed the cap.) If it does not, add DISTILLED WATER until it does. However, DO NOT fill the cells above the bottom of the well, for this will cause the solution to bubble out of the vent plug. .

Thereafter the battery should be FILLED EVERY TWO WEEKS. Use only clean non-metallic vessels for handling and storage of water. Use a glass funnel.

If the battery is low and will not crank the engine, running the engine for several hours should bring it back to proper condition.

The battery is fully charged when the specific gravity of each cell is up to 1.280 or 1.300. To determine the specific gravity, use a hydrometer syringe. In using the hydrometer, be sure to return the solution drawn into the syringe to the cell from which it was removed. Specific gravity readings above 1.200

3—Test all cells with a hydrometer on the first and fifteenth of every month. If any cells are below 1.280 on two successive testing dates, take the battery to the Willard service station and have it fully charged. In taking these readings, care should be exercised to return the electrolyte from the hydrometer syringe to the same battery cell from which it was taken.

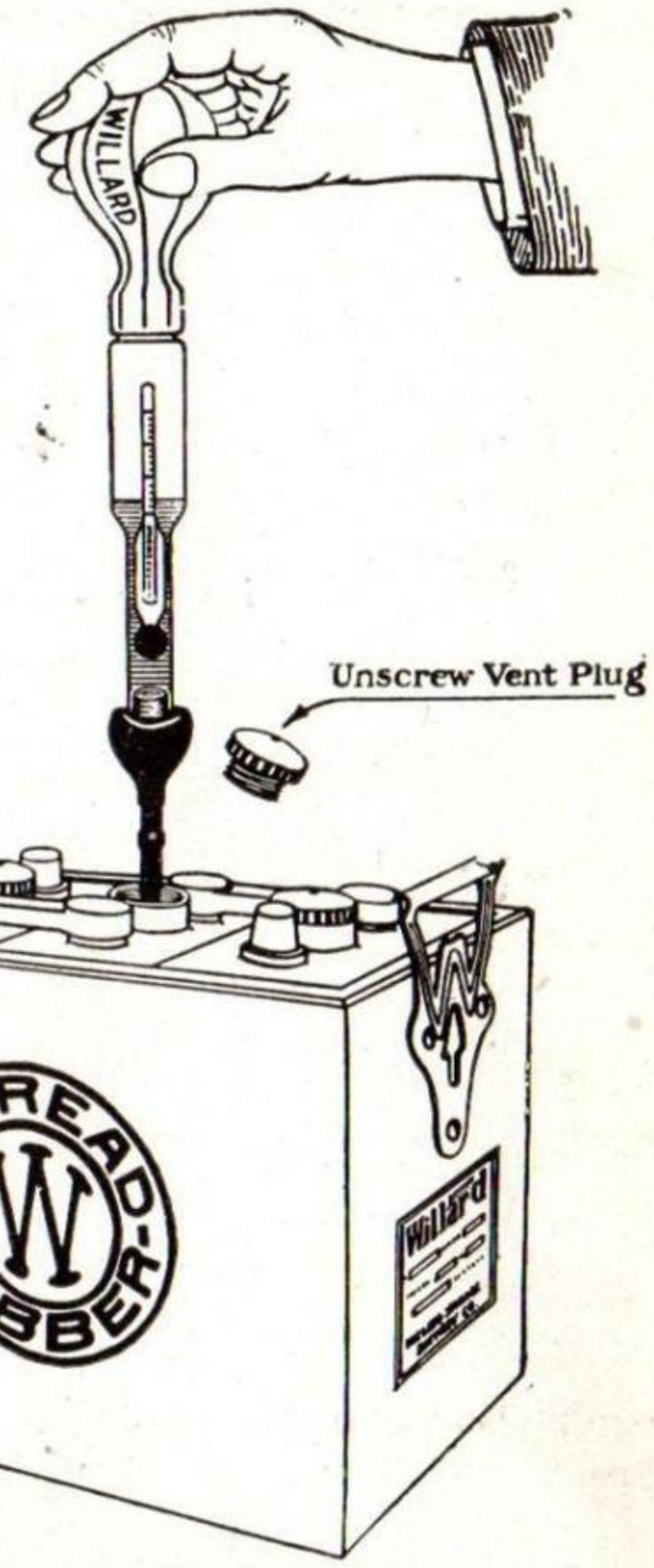


Figure 14

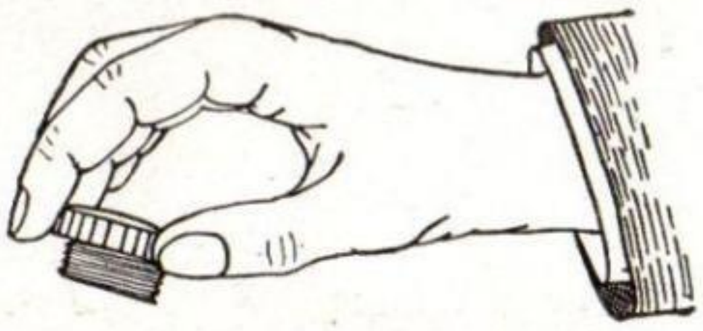


Figure 15

4—KEEP ALL CELLS FILLED WITH DISTILLED WATER TO A LEVEL ½ INCH ABOVE THE TOP OF THE PLATES. NEVER FILL ABOVE THIS LEVEL.

5—Keep battery clean and dry.

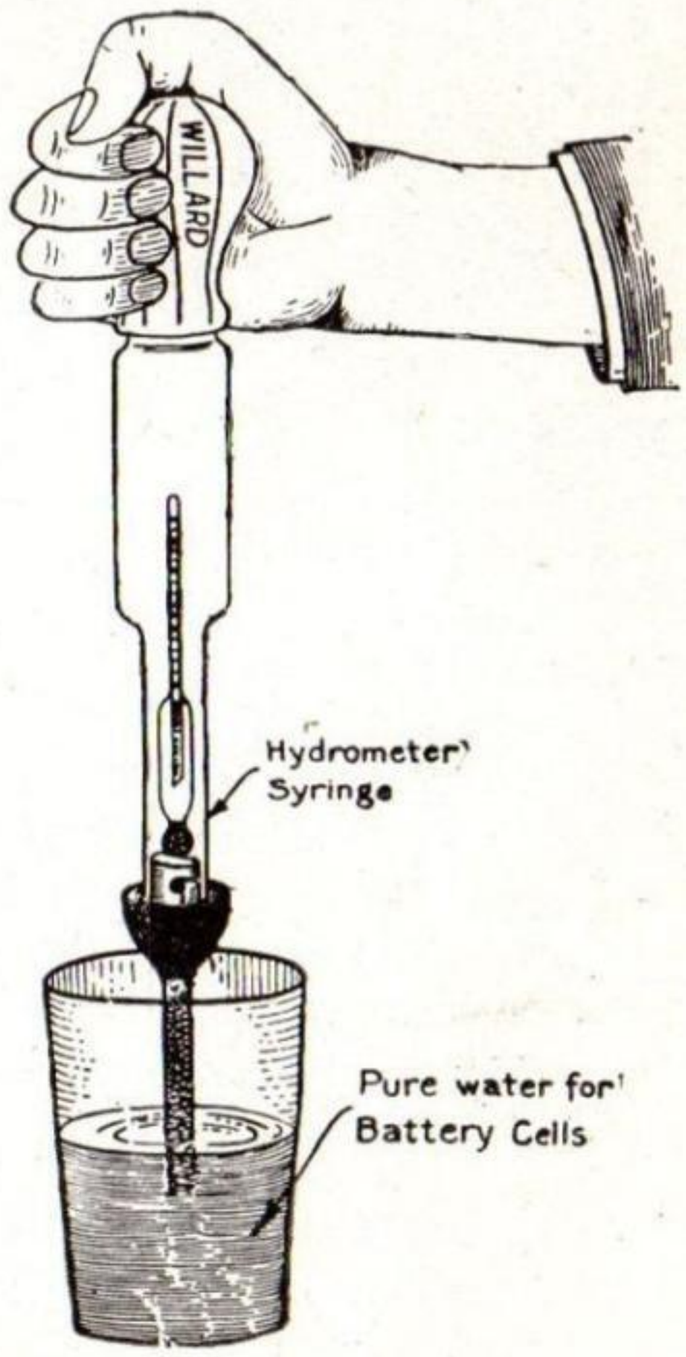


Figure 16

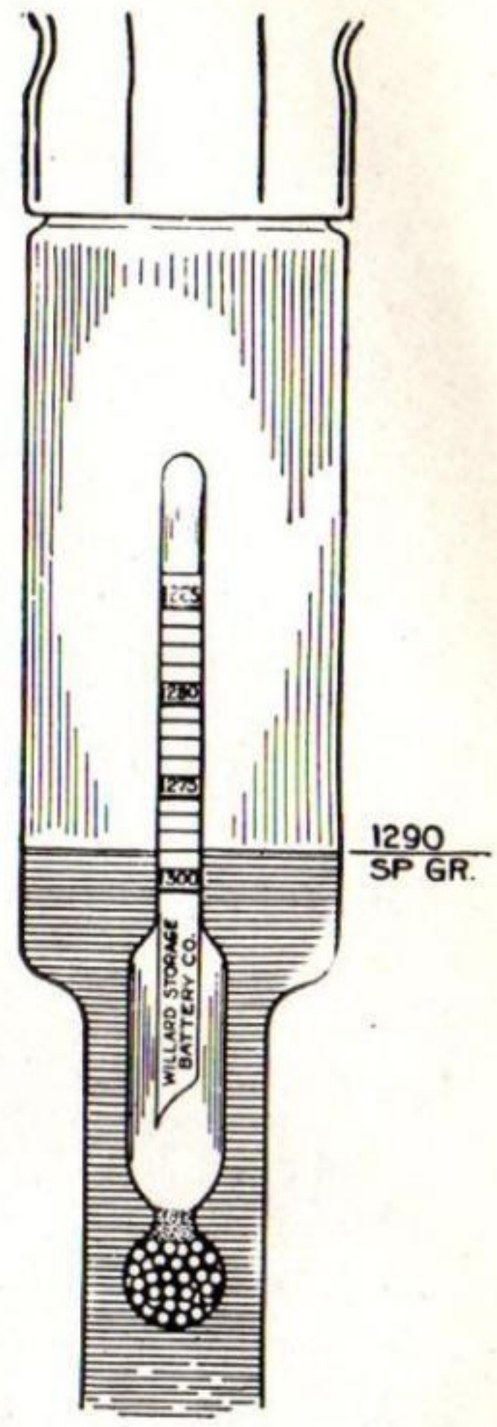
6—Keep terminals clean and tight and well covered with vaseline to prevent corrosion.

7—Never allow the battery to become heated in service above 100 degrees Fahr. Watch the battery for heating one or more times every day, in warm weather. If the top connectors feel more than blood warm to the touch, take the temperature with a dairy thermometer. If the temperature registers over 100 degrees Fahr. burn all the lamps while driving, until you can consult a Willard service expert who will prescribe what is necessary. If the temperature reaches 120 degrees Fahr., the battery may be ruined.

8—In order to prevent freezing in cold weather, test your battery frequently and see that the gravity is kept up to at least 1.275. A discharged battery will freeze at a little below the freezing point.

9—When filling, if one cell takes considerably more water than the others, this indicates a leaky jar and the battery should be taken or sent to a Willard service station. Unless repaired immediately, the battery may be ruined.

10—If you lay up your car, the battery should be removed and placed in storage with a Willard service station, who will issue a receipt for it.



Reading for fully charged battery should be between 1280 & 1300

No. 17

A battery will slowly discharge when standing idle. Serious injury will result if it is not kept charged, and it is not practical to do this by running the engine when the car is not in use.

WILLARD SERVICE AND ADJUSTMENT POLICIES

1—Every new Willard battery is insured for 90 days from the date of purchase, provided the battery is registered immediately at the nearest Willard service station. If any repairs are necessary during this period, the same will be made without charge to the owner. Recharging is not considered repairs, and the owner is expected to pay for any recharging that may be necessary.

2—During the fourth, fifth, and sixth months of ownership, if a battery needs any repairs the same will be made on a basis satisfactory to the customer.

3—During the seventh, eighth, ninth, tenth, eleventh, and twelfth months of ownership, if repairs are necessary the owner will be given the option of paying the regular charge for the same or he may exchange the old battery for a new one by paying a fractional part of the retail price, based on the number of months of service received from the old battery. For example: If the battery has given eight months' service the adjustment price for the new battery would be eight-twelfths ($\frac{8}{12}$) of the retail price.

4—All questions concerning batteries which have not been registered, or which may have attained some age at the time the car is delivered, are to be settled in the customer's interest between the car dealer and the Willard service station dealer.

WILLARD SERVICE STATIONS

The Willard Storage Battery Company has the most complete and extensive storage battery service organization in the world.

The benefits of the above service and adjustment policies can be had only through authorized Willard service stations. If there is none as yet in your city, consult your dealer.

We strongly recommend that you take advantage of the service which we have provided for you by equipping our cars with Willard batteries.

NOTE

The Nash Motors Company does not sell batteries. See the nearest Willard service station for prices. By communicating with the nearest of the following Willard Branches you can secure information regarding the service station nearest your city.

Atlanta, Ga	Corner Ivy and East Baker Streets
Chicago, Ill	2524-34 South Wabash Avenue
Cleveland, Ohio	Chester Avenue and East 23d Street
Detroit, Mich	1242-44 Cass Avenue
Indianapolis, Ind	25-27-29 West Eleventh Street
Minneapolis, Minn	36-38-40 South 10th Street
New York City	418-20 West 125th Street
San Francisco	1380 Bush Street
Willard Storage Battery Co., Dallas, Texas.	2022-24-26 Jackson Street

STARTING MOTOR AND SWITCH

The starting motor is located in front of the flywheel on the left side of the engine. It is for the purpose of cranking the engine, deriving its power from the storage battery.

The starting switch is located on the starting motor and serves to connect the starting motor with the storage battery when it is desired to start the engine. Do not abuse the starting system by moving the car by means of the starter. Trouble will surely result from such abuse.

The starting motor consists of a simple series wound direct current pedal shift motor with a gear reduction and overrunning clutch suitable for cranking the engine.

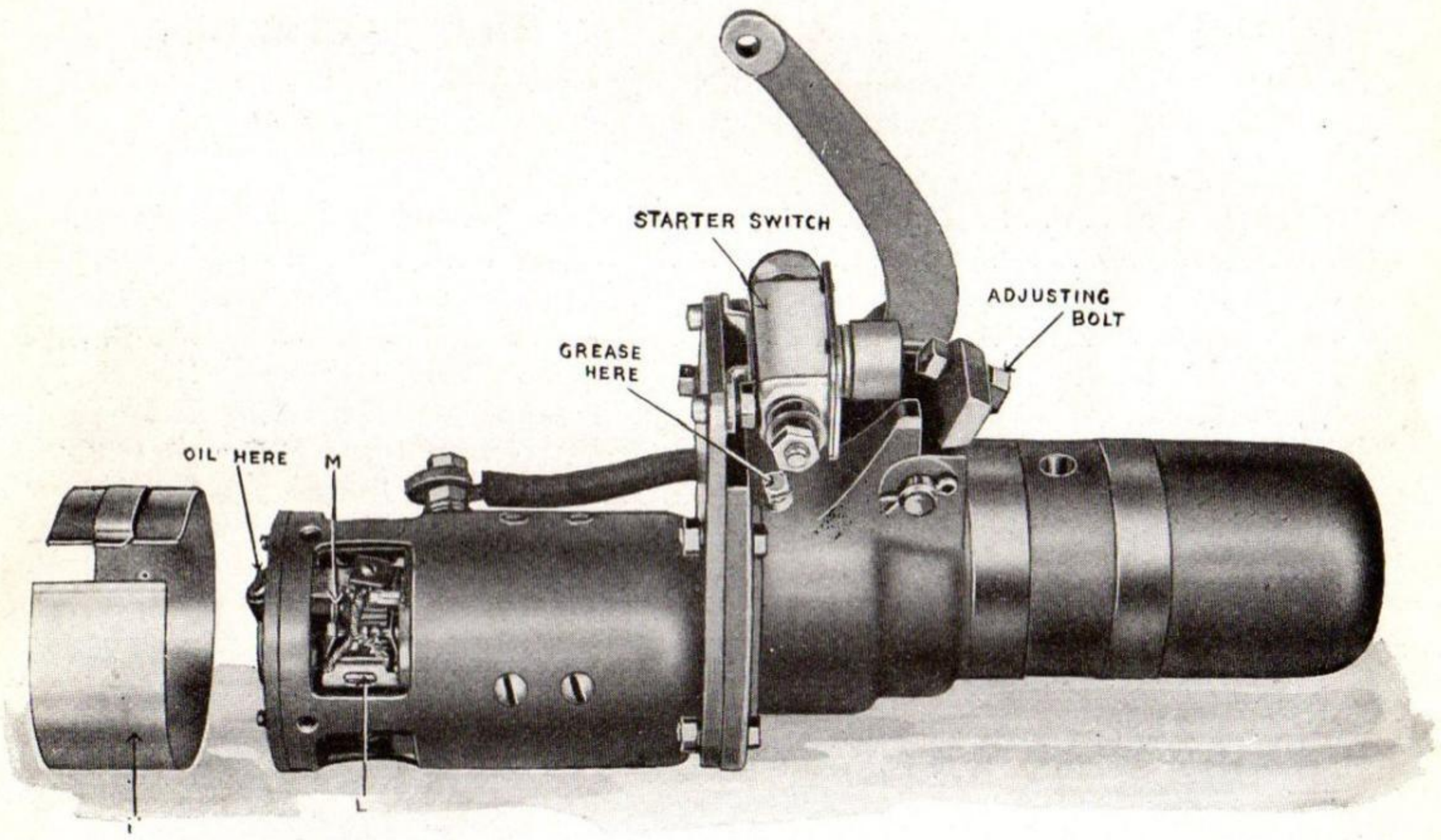


Figure 18

The starting motor is connected to the engine by a pinion which meshes with the teeth of the flywheel. This sliding pinion is shifted along the spline shaft by means of a shifter lever and floor pedal, which also acts on the switch mounted on the starting motor, closing the contacts of the switch. The return of this lever to original position is made by a spring connected to the shifter lever.

Starting When the floor pedal is pressed down with the foot, the motion is communicated through the shifter lever on the motor to the switch plunger which compresses the spring and at the same time brings the contacts together. This closes the circuit and the starting motor will crank the engine.

When the floor pedal is released the spring returns it to its original position, thereby forcing the contacts of the switch apart. This will open the circuit and the starting motor will stop. The foot should be removed from the floor pedal as soon as the engine fires, to prevent the engine from communicating speed to the starting motor. When starting, it is desirable to have throttle not open more than one-third of the distance on the quadrant, so that engine will start slowly, and not race when it begins to fire.

Lubrication The gear shaft revolves in a bronze bushing and this gear shaft as well as the gears and clutch are lubricated with a form of grease called "GREDAG." This grease is inserted in the gear casing by removing the plug (Fig. 18) and inserting the grease in this hole, using an ordinary grease gun for this purpose. It will then distribute itself over the clutch, gear and pinion as well as the gear shaft. Be careful to keep these gears well lubricated with "GREDAG." It can be obtained from any automobile supply house.

The bearing for the starting motor should be well lubricated with a good grade of machine oil every 500 miles.

METHOD OF STARTING

(a) Set the throttle lever, spark lever, and ignition switch so that the engine will fire readily when it is cranked by the starter.

THE SPARK LEVER SHOULD BE FULLY RETARDED TO AVOID BACK FIRING

(b) Be sure that the transmission lever is in the neutral position, and clutch disengaged.

(c) Push the pedal as far as it will go, which will connect the starter to the battery. The pinion will automatically engage the flywheel teeth and the starter will crank the engine.

(d) Release the pedal as soon as the engine fires. The pinion will automatically disengage the flywheel teeth.

Failure to Start The starter will not start the engine if the battery is not in reasonably good condition. Refer to the battery instruction for complete information.

When the starter has caused the engine to spin, it has done its duty. If the engine will not fire, investigate the condition of your engine, carburetor, or the ignition system.

If the starter will not crank the engine, and you are certain the battery is fully charged and that the carburetor, ignition system, etc., are O. K., try to crank the engine by hand. If you find that you can not crank the engine by hand, there is something the matter with the engine—probably the bearings are stiff.

If the starter makes no attempt to start, and everything seems to be O. K., including the battery, etc., there may be an open circuit in the wiring leading from the battery to the starter. With an open circuit the starter can not start, and the remedy is to locate this open circuit and fix it. Examine all wires carefully and look for loose connections. This open circuit might possibly be in the switch, due to contacts not touching properly. To determine this condition, remove one of the wires leading to the switch and place this wire on the one still connected.

If the starter does start, it indicates that the contacts inside of the switch do not touch properly, and the switch should be removed from the car for examination. The contacts should bear against each other with a moderate amount of pressure, thereby, insuring good contact. If you find that these contacts do not touch, or that they are burnt or in bad condition, you can either repair them or obtain new contacts to replace them. If the starter does not start, then it indicates that the trouble is elsewhere.

Look for CORRODED OR SULPHATED TERMINALS on the battery.

Brushes The brushes on this starter were set at the factory in the proper place and changing this brush setting will not help the starter. You should, under no condition change this brush setting.

The commutator and brushes are located on the front of the starter, underneath the cover. This cover should be removed from time to time for the purpose of inspecting the condition of the commutator and brushes. This commutator should be smooth and clean and the brushes should bear on the commutator with a moderate amount of pressure. The brushes should be well seated; that is they should touch along their full length so as to insure good contact.

If you find the commutator dirty or rough, it should be smoothed up and cleaned. No lubricant is to be used as the brushes are self-lubricating. Application of vaseline or grease is harmful, as all forms of grease possess insulating qualities to a greater or less extent.

GENERATOR AND RELAY

The generator is mounted on the front end of the engine, and is driven from the crankshaft by a belt which drives the fan. Its function is to keep the storage battery fully charged at all times.

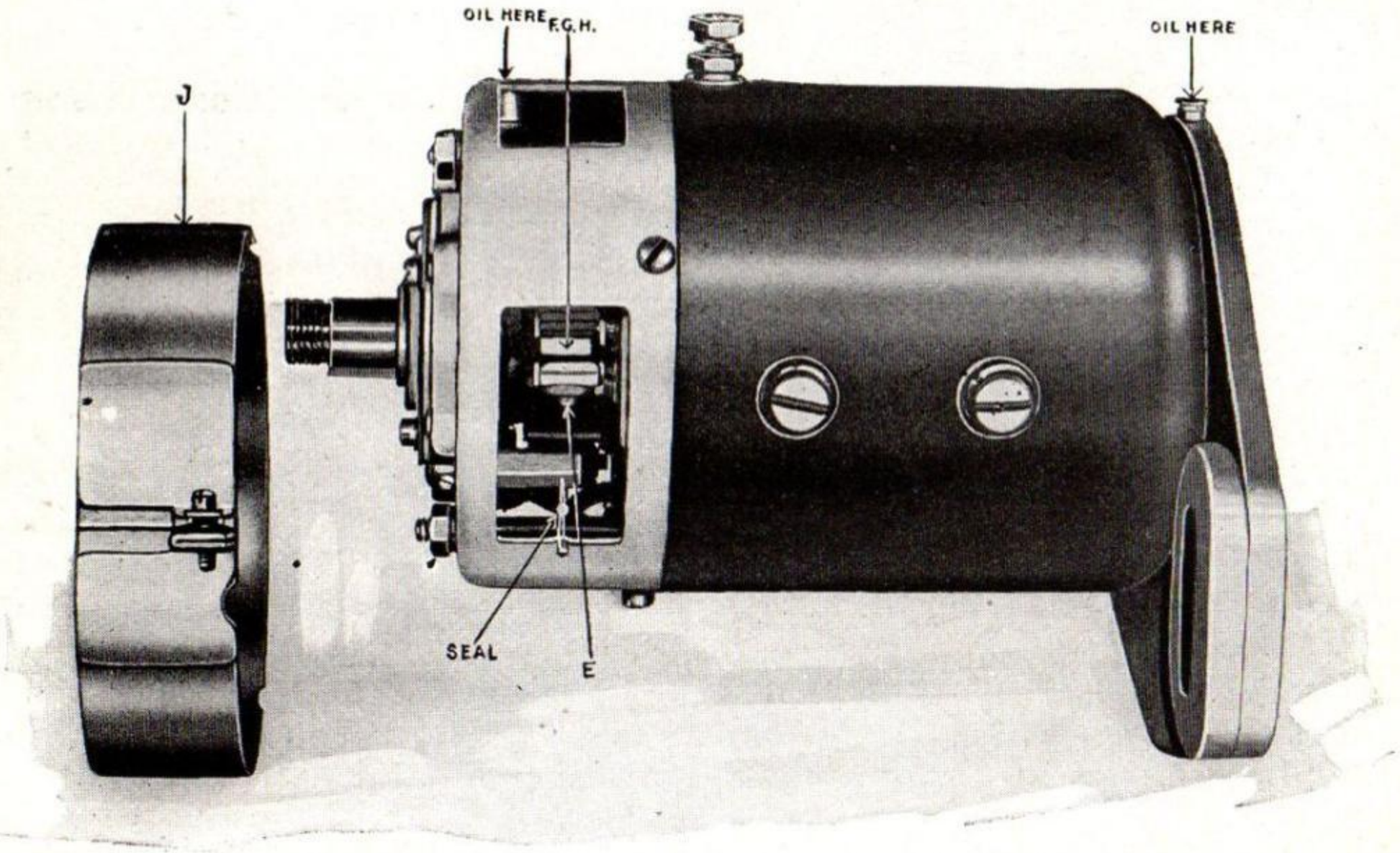


Figure 19

The generator (Fig. 19) is a specially wound machine. It is equipped with ball bearings on both ends and these bearings should be kept lubricated with a good quality of machine oil once a week.

The places for lubrication are indicated on Fig. 19.

Commutator The commutator (E, Fig. 19) and brushes (F. G. H.) are located under the cover. These brushes collect the current from the commutator and furnish this current for charging the battery through the relay, and also for exciting the field of the generator.

Sealed Adjustment The exciter brush, or third brush as it is sometimes called, is carefully adjusted at the factory and sealed. When making this adjustment special resistances and equipment

are used. The adjustment should not be tampered with, for if a readjustment of the charging rate is incorrectly made it may result in the burning out of the field windings in the generator, the armature, or both, entailing considerable expense and inconvenience.

Relay The function of the relay is to connect the battery to the generator when the voltage of the generator is slightly above the voltage of the battery. It also disconnects the battery from the generator when the voltage of the generator falls below the voltage of the battery.

Ammeter An ammeter is installed on the dash of the car and is connected in the battery circuit. The ammeter gives indication of battery current showing zero when no current is being taken from the battery by lights, ignition, or horn, and showing charge when the generator is charging the battery.

Brushes The commutator and brushes should be kept perfectly smooth and clean. If the generator refuses to charge, it might be due to dirty commutator and brushes, or possibly due to a rough commutator, both of which will cause bad contact. The cover should be removed from time to time to inspect the condition of the commutator and brushes. If they are found to be dirty or rough, they should be smoothed up.

Do not use sandpaper on either commutator or brushes without first trying to get results by wiping off the dirt as outlined below:

TO CLEAN THE COMMUTATOR

Stop your engine and turn the generator fan over by hand and wipe the commutator with a piece of cloth (not waste) dampened with gasoline so as to remove grease and dirt. If the commutator is apparently rough, hold a piece of very fine sandpaper, grade 00, on the commutator and proceed as above. This will face the commutator evenly. Do not use emery cloth.

To clean the brushes it is not necessary to remove them from the holders. Lift the brushes and wipe the surface with a piece of cloth dampened with gasoline. If the brush surface is apparently rough, insert piece of sandpaper, grade 00 (rough side toward the brush), under each brush separately, and then let the brush press on the sandpaper. Draw the sandpaper back and forth across the commutator, taking care that it is held in such a way that it conforms to the curvature of the commutator.

No lubricant is to be used as the brushes are self-lubricating. Application of vaseline or grease is harmful, as all forms of grease possess insulating qualities to a greater or less extent.

Fan Belt If you are having trouble keeping the battery charged which would seem to indicate that the generator is not giving its rated current output, there is a possibility that the fan belt slips. This should be investigated before generator is removed from car and sent to a Wagner service station for adjustment. Belt slip means that the ratio of speed between engine and generator is not maintained. To determine this, take the car out on the road, and with lights off observe the action of dash ammeter. The charging current should increase as the car speed increases until a speed of 18 to 23 miles per hour is reached, when any further increase in car speed should cause the charging current to decrease in value. The maximum or peak value of the charging current reached will be about 12 amperes on the dash ammeter with lights off, occurring approximately at 18 to 23 miles per hour.

The word "approximately" is used because allowance must be made for inaccuracies of ammeter and speedometer. Should it be necessary to drive 30 to 35 miles per hour before current reaches peak value and begins to drop with further increase of car speed, or if current does not begin to decrease in value, it is a good indication that the fan belt is slipping. This should receive immediate attention. Never break the seal of generator and attempt to change adjustment.

VISIT NASH SERVICE STATION

Loose Connections In tightening the belt, be careful not to get it too tight. You may find one or two loose connections on the generator, relay, battery, or ammeter, which have come loose, due to vibration. Look for corroded or sulphated terminals on the battery. If these loose or corroded terminals are cared for, the charging current will drop down to normal. A loose connection will sometimes cause the lights to flare up to excessive brilliancy or to flicker and go out.

Lights If a great deal of slow driving is done at night with all lights burning, and if it is necessary to let the car stand at the curb with all lights burning, this will demand an excessive current from the battery. The same amount of current must be put back into the battery, and the engine must be run long enough to do this. In other words, the car must be driven enough in the day time to put back into the battery what is taken out at night. If driving conditions correspond with schedule, this matter should be taken up with the manufacturer of the car, as some other provision must be made for this class of service. Always turn on the dimmers when the car is standing still, and is to remain standing for some time.

On the condition of the battery depends the operation of the generator, lights, and starter. It is, therefore, essential that you have your battery in good condition. Refer to the battery instruction, Part 1, sent with the car, for complete instructions.

Removal of Generator If it ever becomes necessary to operate the generator with the battery or relay removed from the car, take a piece of No. 10 copper wire and connect one end of this wire to the generator terminal (Fig. 19). Connect the other end of this wire to the generator frame by raising up one of the bracket bolts and then tightening the bolt down on the wire. Be sure that you have good metallic contact at both points.

When you replace the battery on the car and reconnect it, be sure to remove this wire.

CAUTION! Do not experiment with the starting and lighting system. The tests enumerated herein are meant to be used in locating trouble. If the starting and lighting system is working satisfactorily, let it alone, except for necessary oiling of the bearing on the starter and generator. If actual trouble occurs, then is the time to resort to these tests, if unable to secure the assistance of a Nash Service Station.

IGNITION

The Wagner Ignition System consists of the following units: (1) A spark coil which converts current at low voltage from the storage battery to a current at very high voltage that will jump the gaps in the spark plugs; (2) a timer distributor, the purpose of which is to secure the proper timing and distribution of the ignition current; (3) a condenser which reduces the arcing or burning at the contacts of the timer-distributor, and also increases the voltage induced in the secondary winding of the coil.

Coil The spark coil is mounted on the engine side of the dash. It is enclosed in a hermetically sealed steel case, thereby making it impervious to moisture and resistant to mechanical injury.

A safety gap is incorporated in the bakelite top of the coil to protect the windings from abnormal electrical strains, such as would result from running with one or more high tension spark plug leads disconnected.

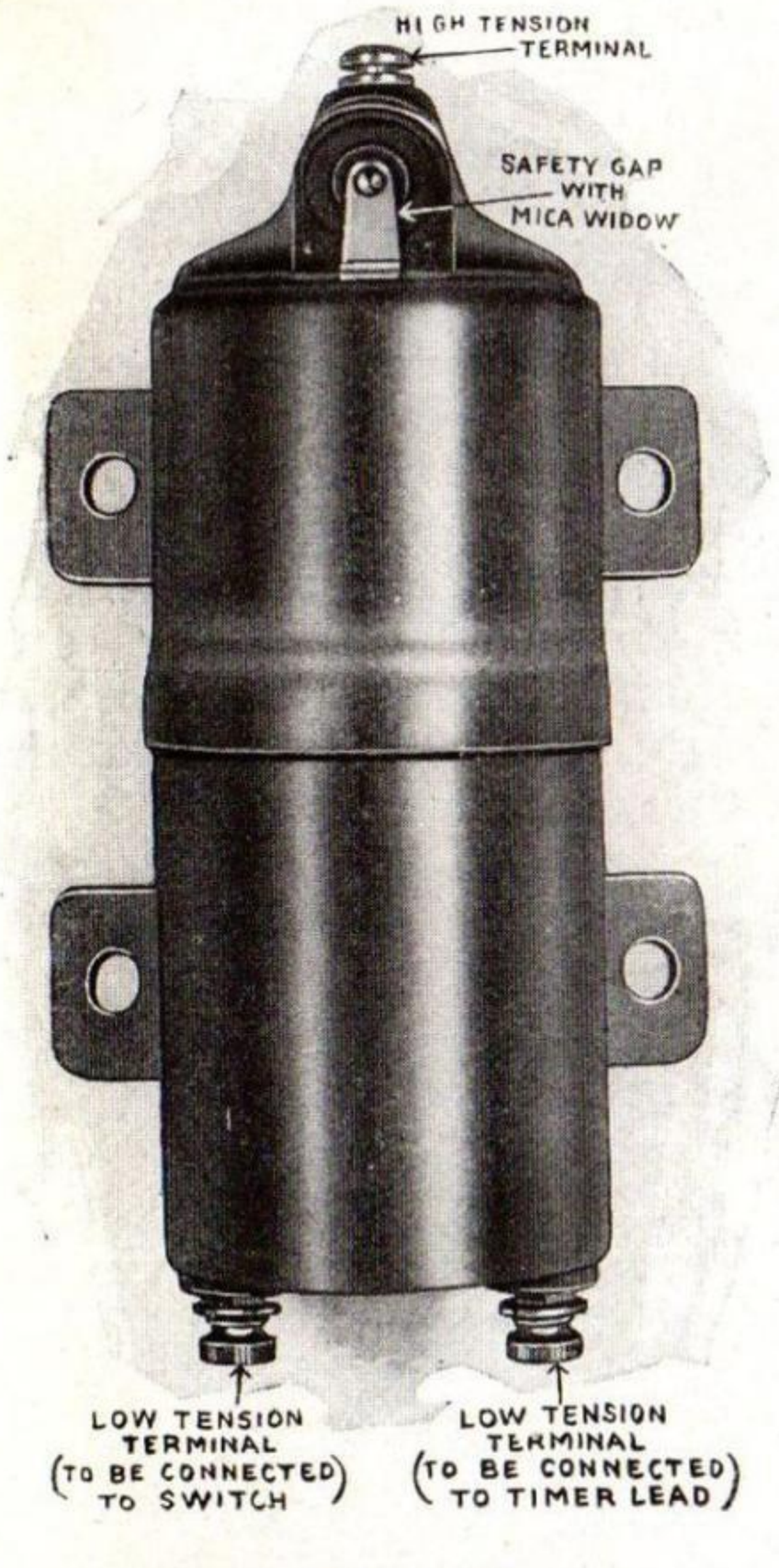


Figure 20

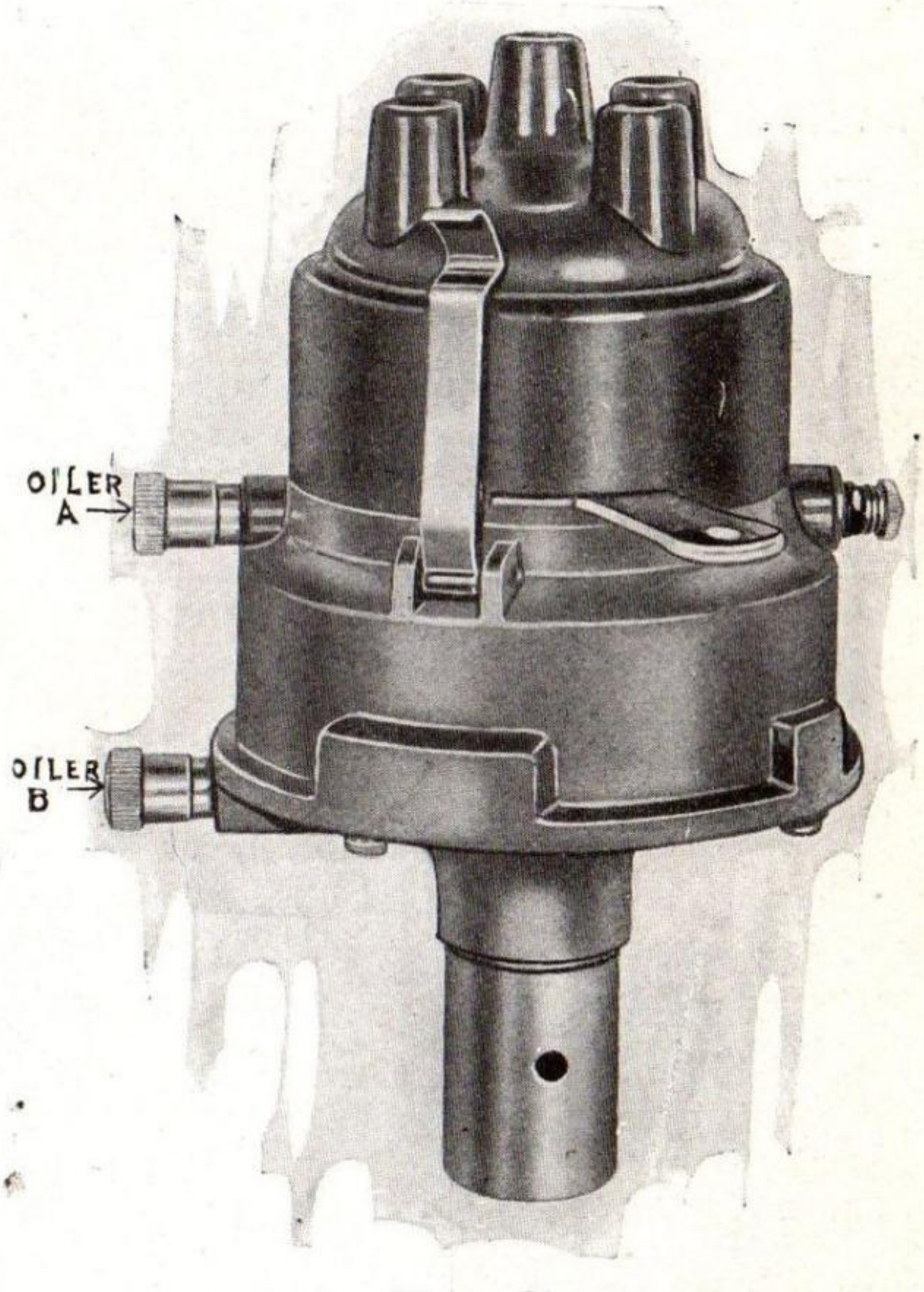


Figure 21

Distributor The timer-distributor (see Fig. 21) is mounted on the right side of the cylinder casting, adjacent to No. 4 cylinder, and is driven by spiral gears from the engine camshaft. The vertical timer shaft runs at one-half crankshaft speed. This shaft carries an automatic advance feature that automatically varies the time of ignition with any variation in engine speed; a cam that operates the timer lever (Fig. 26), and a revolving distributor that distributes the high tension current to the spark plugs.

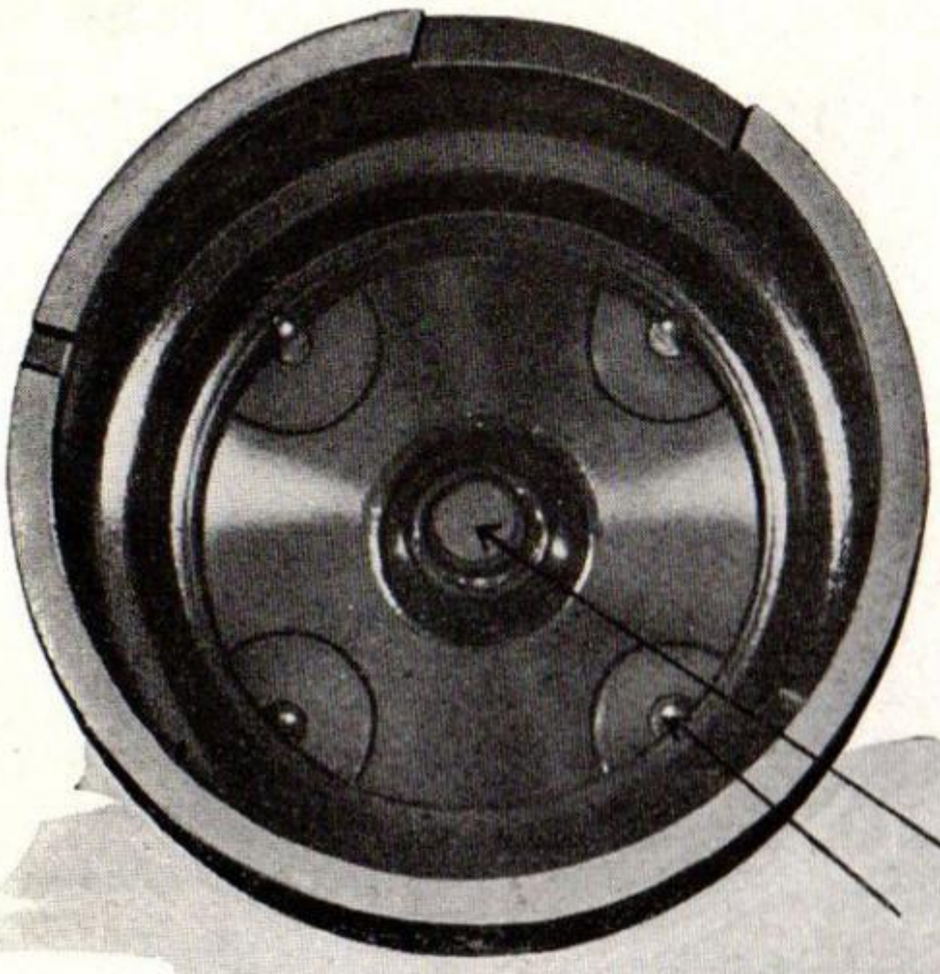


Figure 22

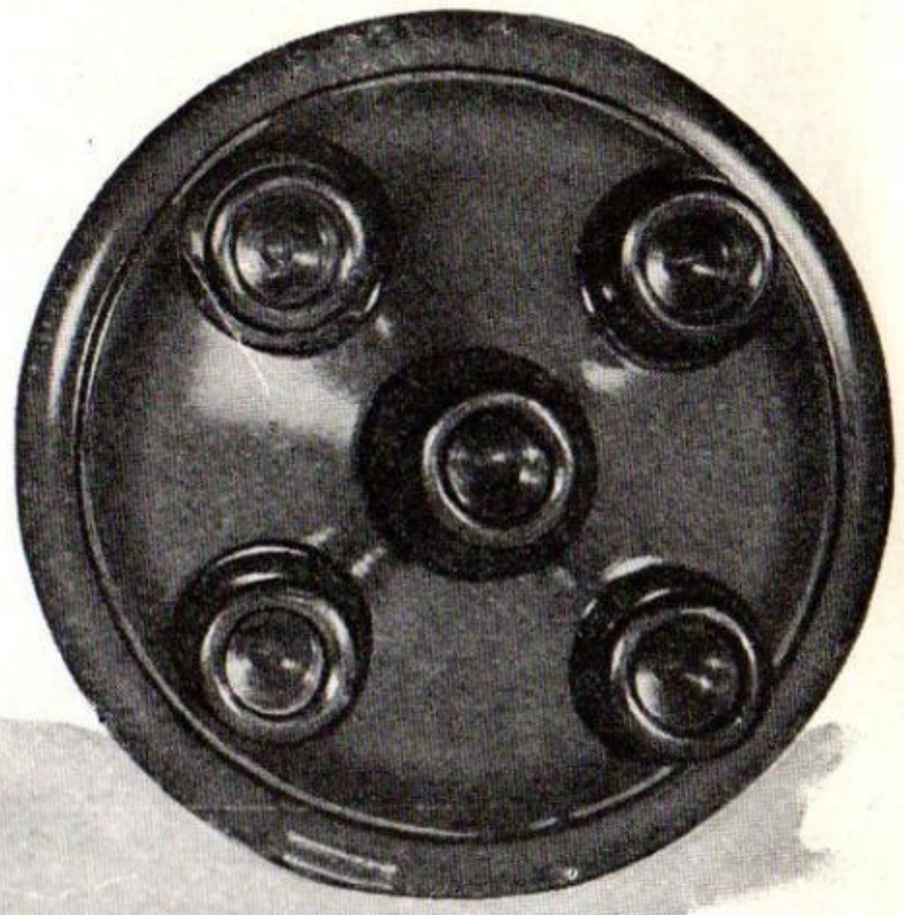


Figure 23

The timing of the ignition current which produces the spark is effected by the interruption of the current in the primary circuit of the system. That is, by the interruption of the current through the contacts. When the contacts are opened by the action of the cam, a high voltage is induced into the secondary winding of the coil. At the instant of break, plate "D" on revolving distributor (Fig. 24) is opposite one of the distributing pins in the distributing head (Fig. 22). The secondary current is led from the distributor head, thence to plate "D" on the revolving distributor, then to the distributor pin nearest the plate, and through the high-tension lead corresponding to that pin to the spark plug where it jumps the gap, igniting the compressed charge in the cylinder. Note that the spark coil case is grounded to provide a return for the secondary current.

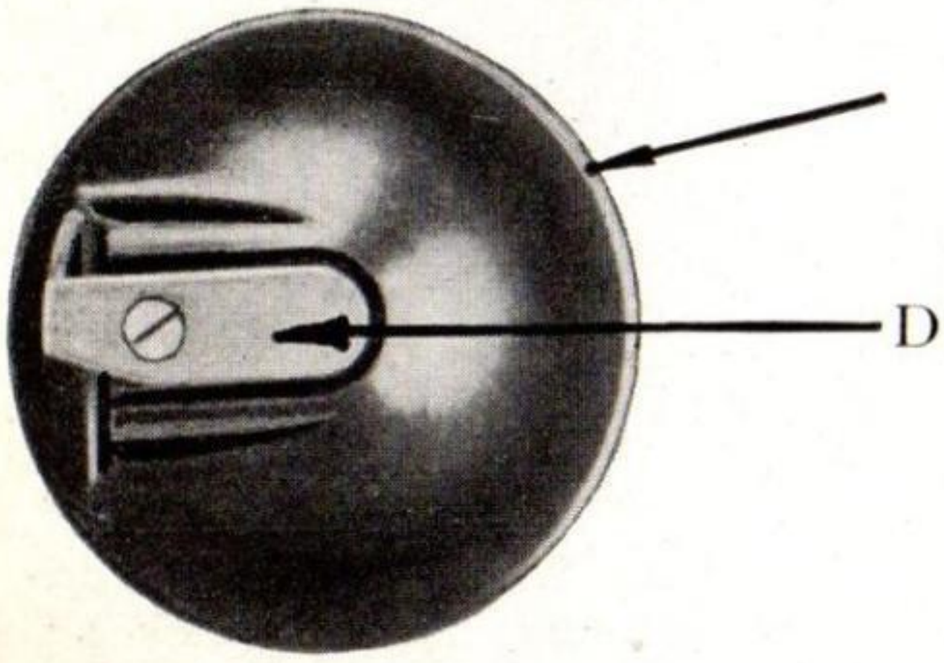


Figure 24

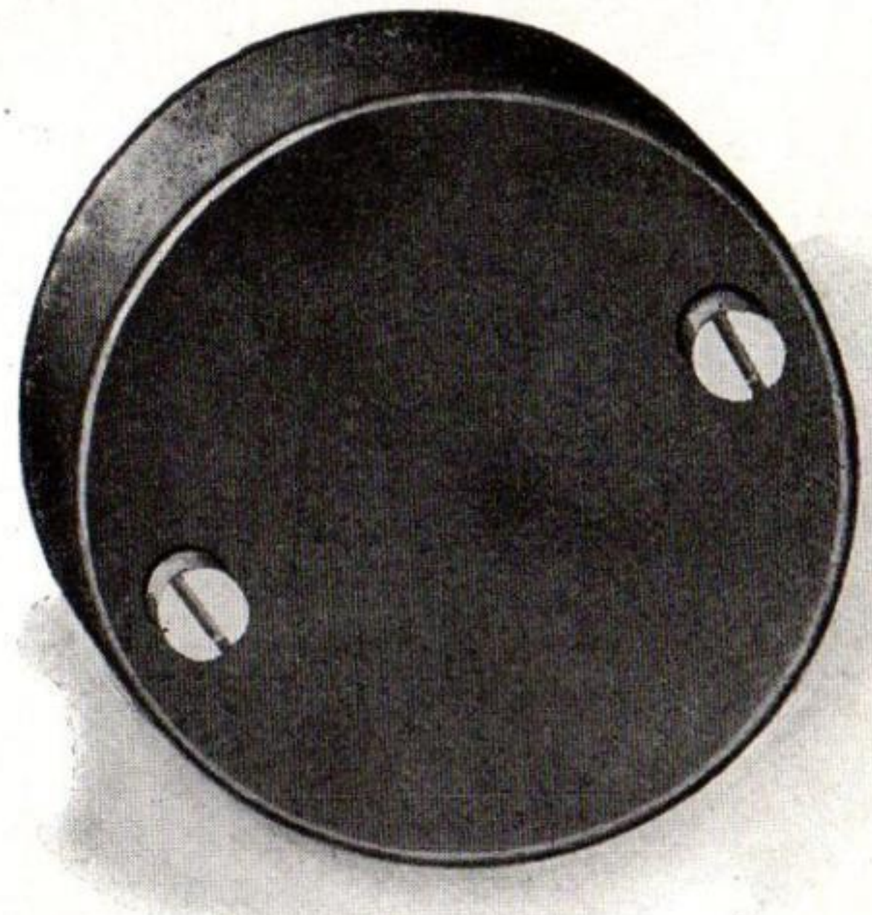


Figure 25

The revolving distributor (Fig. 24) distributes the high-tension current to the various spark plug leads by means of the plate "D." This plate does not make actual contact with the distributing pins (Fig. 22), but passess within about

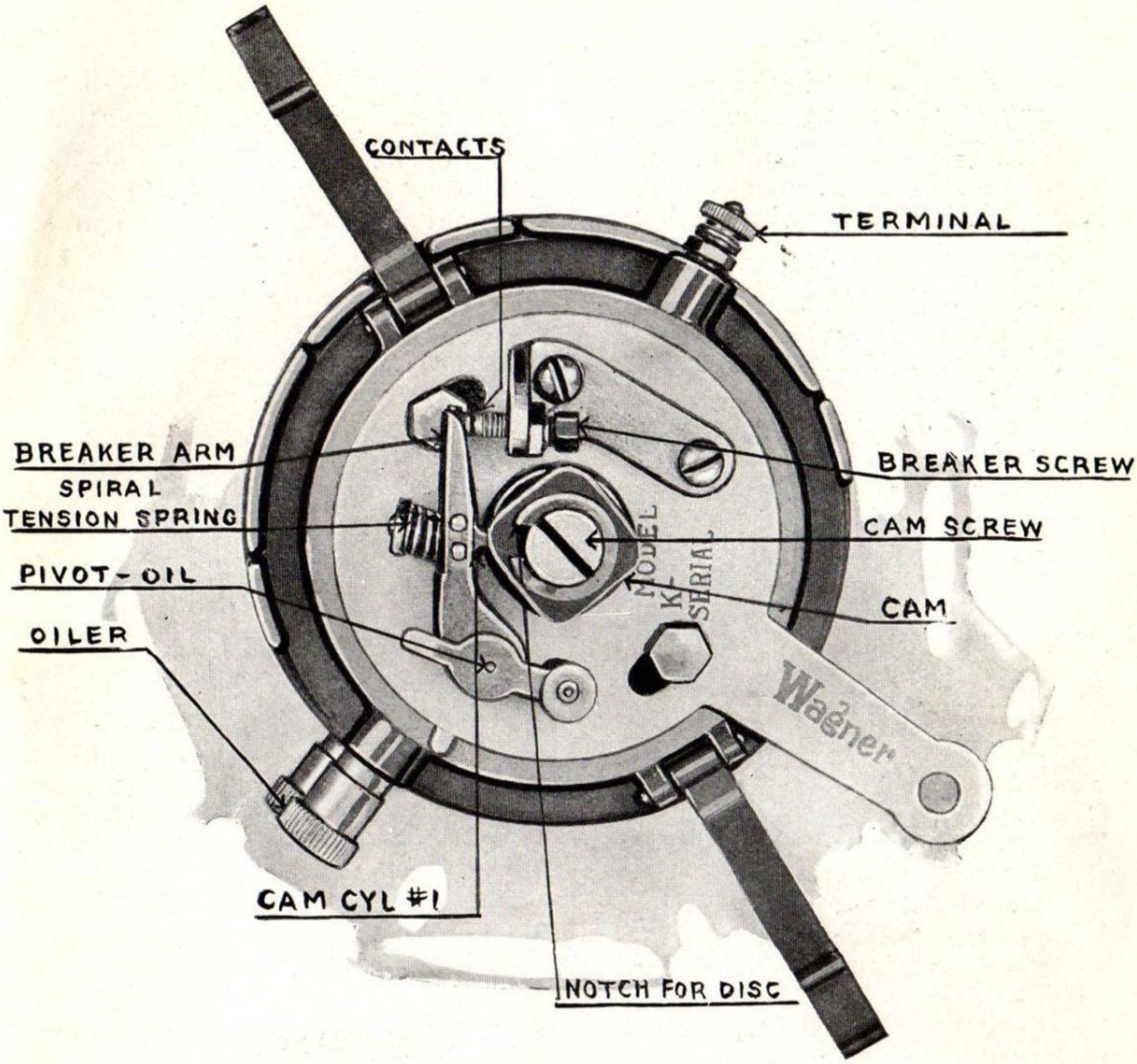


Figure 26

ten thousandths of an inch of them, and therefore does not require to be cleaned, as in types of distributors using sliding or wiping contact.

The timer-distributor is equipped with both manual and automatic control. The manual control is linked up with the spark lever on the steering wheel sector. This is for the purpose of securing proper retard of the ignition for starting and very slow engine speed, and to secure proper retard for maximum power at low speeds, over which the automatic device has no control.

The automatic feature is for the purpose of securing additional advance at high engine speeds to give the most efficient operating conditions of the engine. This feature makes it unnecessary to manipulate the manual control, to give the best conditions at varying engine speeds.

Lubrication The timer-distributor has two bearings. An oiler is provided for each. They should each be liberally lubricated with engine oil every 400 or 500 miles. (Note A and B, Fig. 21.)

The surface of contact between condenser and the distributor bracket, and the fastening screw should be clean and free from paint or grease.

CAUTION! Do not attempt to remove wire or terminal from condenser. This connection is permanent.

CARE AND ADJUSTMENT

Aside from oiling the timer-distributor every 400 or 500 miles, and the occasional cleaning of spark plugs, the ignition system should require but little attention.

Contacts Contacts should have an opening of .020 inch to .025 inch when fully opened by the cam. They need not be bright for best operation. They will operate over a long period of time without adjustment.

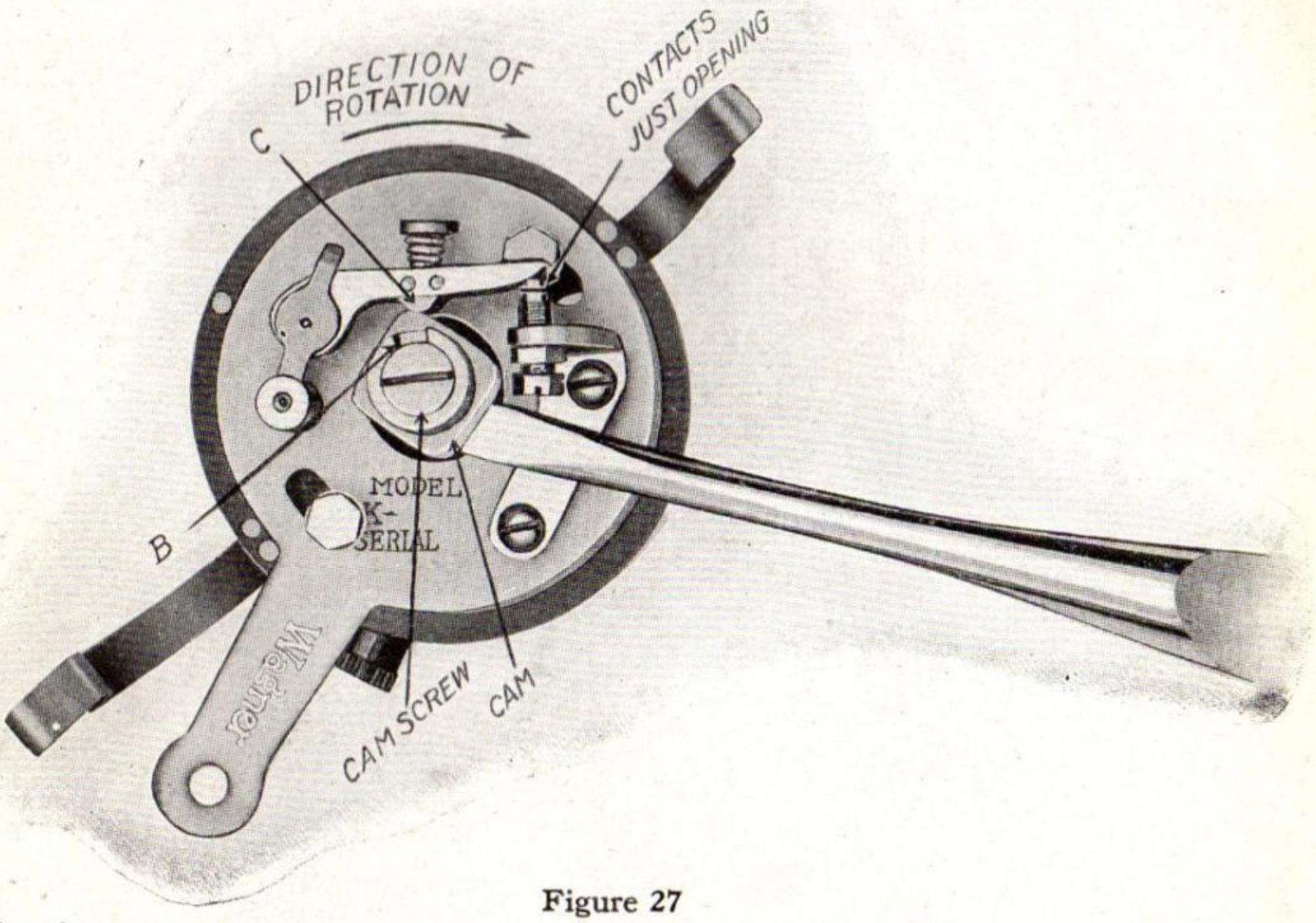


Figure 27

If, after continued use, it becomes necessary to fit new tungsten contacts, replace timer lever and contact screw with new parts.

Adjust contact screw until it is opened by the points of the cam .020 inches to .025 inches and tighten the lock nut.

See if the contacts are square with one another and are touching over their whole surface (Fig. 26).

The contact support plate can then be moved sufficiently to properly line up the contacts.

Be sure to tighten the screws and the lock nut after adjusting.

Timer Lever The timer lever pivot is lubricated by a small wick contained in the hollow pivot underneath the spring clip (Fig. 26). Three drops of oil on this wick will give sufficient lubrication for an entire season's running.

Connections All connections to the spark coil and distributor must be strictly in accordance with the wiring diagram, and the terminals must be clean and tight.

Setting the Ignition If the timing of the ignition has been disturbed, and it is necessary to reset it, this can be easily accomplished by loosening the cam screw, then raising the cam off its taper on the shaft by prying it up with a screwdriver (Fig. 27).

To reset the cam when loosened from the shaft: (1) Set cylinder No. 1 on top dead center of the firing stroke. In this position the flywheel mark

indicating **dead center** cylinder No. 1 will be in view immediately at the center of the inspection hole in the clutch housing. (2) Pull back spark lever to full retard position. (3) Rest cam lightly on taper of shaft and turn it around in the direction in which it rotates, until the slot "B" is opposite the timer lever "C" and the points of the cam in line with the slot, as just opening the contacts. (4) Tap the top of the cam lightly with the butt of screwdriver. This will hold it in position while the cam screw is being replaced.

NOTE—Be sure to make the cam screw tight and see that you do not change the cam setting in so doing.

The Wagner Ignition System will operate perfectly over a wide range of battery voltage, and a satisfactory spark for starting can be obtained even when the battery is too low to crank the engine by the starting motor, and hand cranking must be resorted to.

Any failure of the ignition system which is apparent only in one cylinder is most likely to be caused by a defective spark plug. To remedy this the spark plugs should be carefully examined, and any which are cracked or defective should be rejected and replaced.

Any defect of the ignition system which is apparent only in one cylinder is most likely to be caused by a defective spark plug. The gap between spark plug electrodes should be between .025 and .030 inches. (A well worn dime can be used as a gauge.)

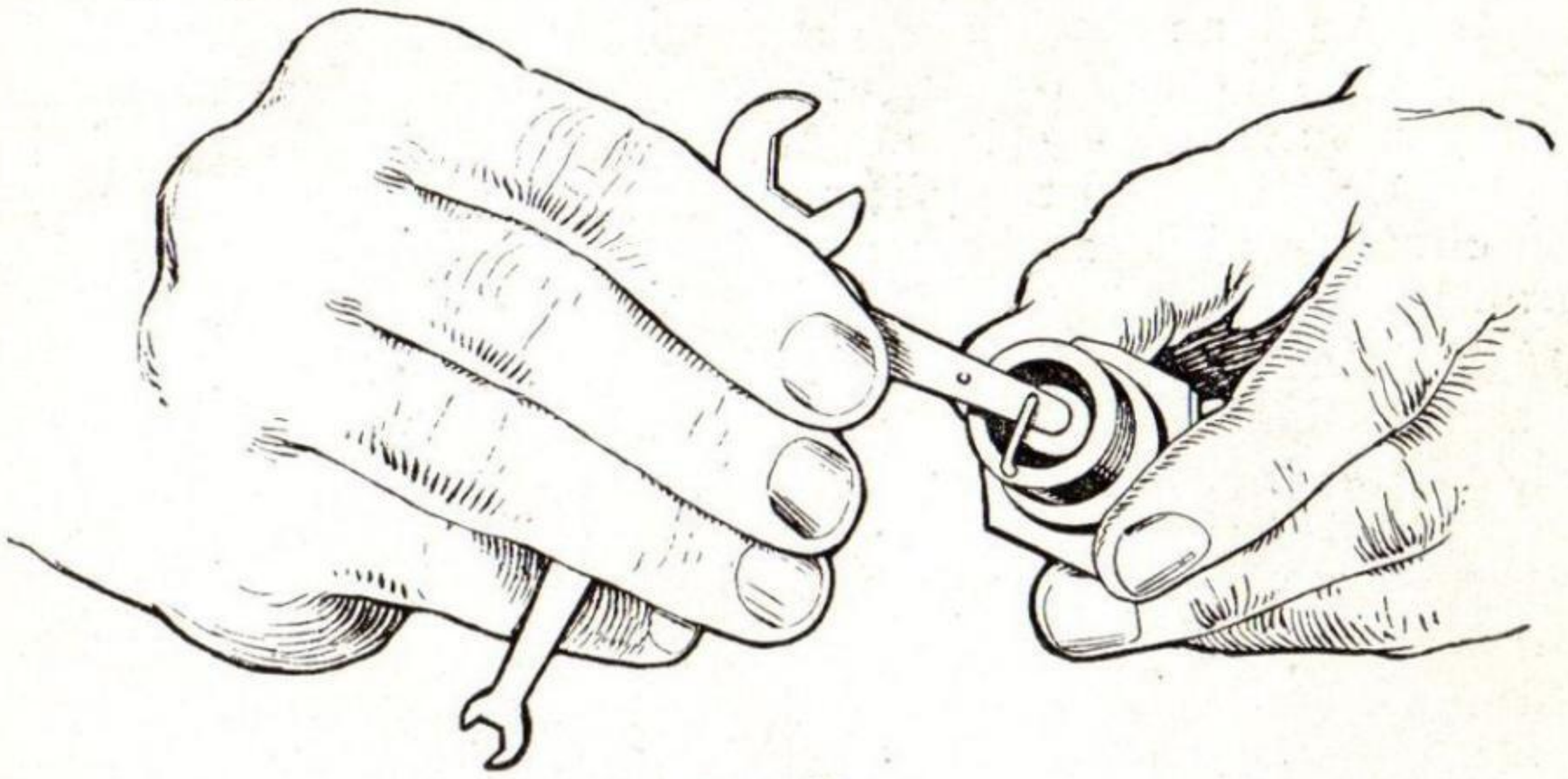


Figure 28

Spark Plugs Spark plugs identical with those furnished with the car should be used. Plugs having exposed or peculiarly formed electrodes will prove unsatisfactory. Frequent inspection of the spark gap is necessary to insure the most effective ignition. A method of adjusting spark plug gaps is illustrated in Fig. 28.

LOCATING TROUBLE

When a car refuses to start under repeated cranking, or stops on the road, the average man alternates between, "Well, it is the carburetor adjustment" and "Well, it is the ignition." First he fumbles with the carburetor adjustment and then with the spark plug wires.

Go at the job in a systematic manner.

(1) See if your ignition switch is ON.

(2) If it is, see if you have gasoline in the tank. If so, are you getting proper flow to the carburetor? Maybe the float is stuck.

(3) To TEST THE IGNITION remove several spark plugs and with their distributor leads attached, lay them out on the cylinder block. With your

ignition switch ON, turn the engine over and observe if the spark plugs spark regularly. If they do, your trouble probably is not ignition. However, to make the test conclusive, open up one of the spark plug gaps to ¼″ and note if it sparks regularly upon cranking the engine. If it does, your trouble is NOT ignition, and no doubt lies some place in the gasoline supply system, tank, pipe line, or carburetor.

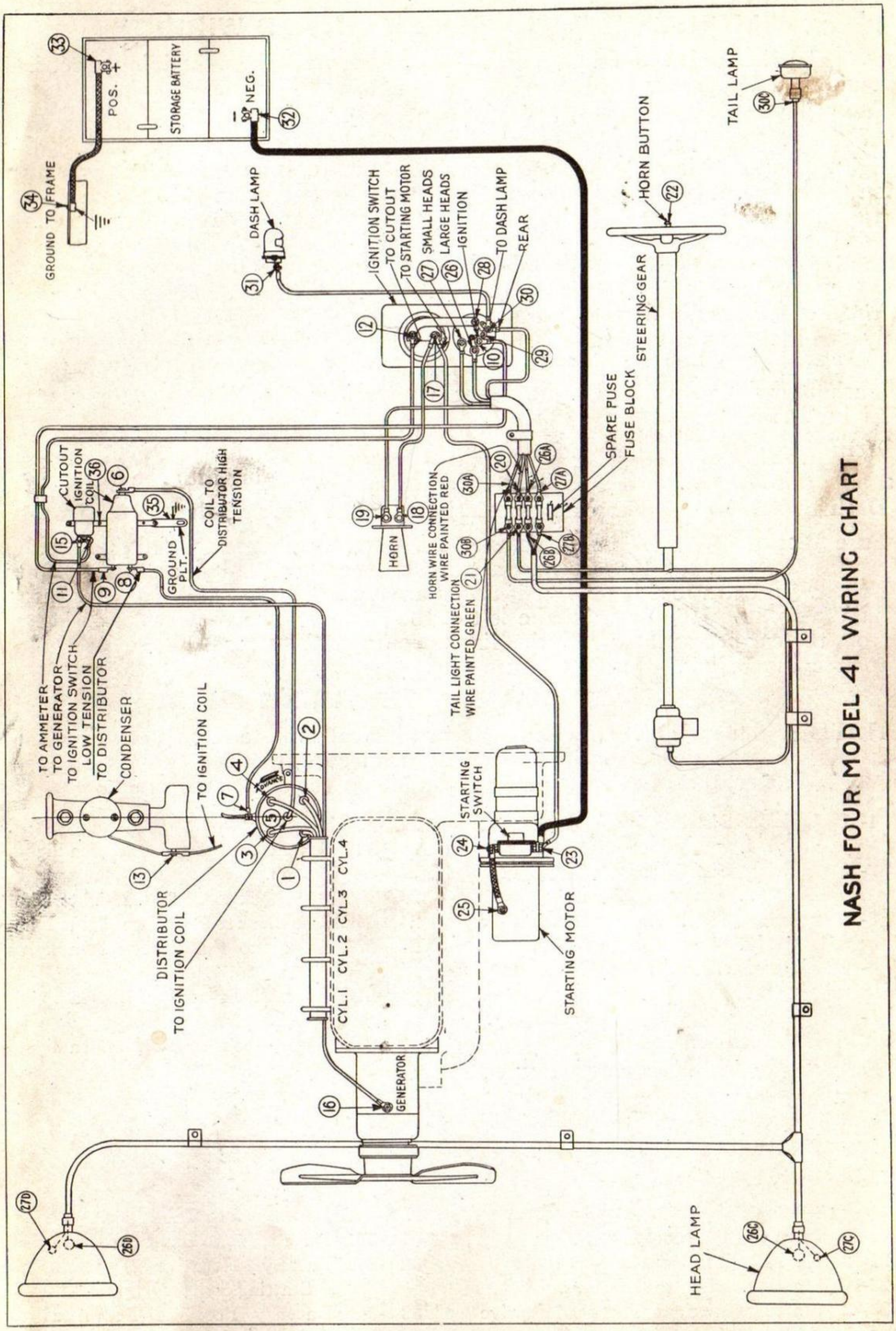
(4) If a VERY WEAK SPARK is obtained in the previous tests, proceed as follows: Remove the distributor head. Turn the engine switch ON. When the timer contacts are closed the ammeter on the dash should register a small discharge current. Turn the engine over slowly until the timer contacts open. With the contacts in this position, the ammeter should show no current. For this test be sure that your LIGHT SWITCH is OFF. If the AMMETER SHOWS CURRENT WHEN THE CONTACTS ARE OPEN, there is a short circuit somewhere in the ignition system. Proceed to trace this down by starting at the timer and working back towards the battery. First, disconnect the timer lead and see if this removes the short. Second, remove the lead from switch to coil and see if this removes the trouble.

(5) If there is NO SPARK AT THE SPARK PLUGS, observe the action of the ammeter as in Par. 4 and see if the primary circuit is acting properly. If this discloses nothing, inspect the contacts to see if they have the proper opening and that the contact screw is not loose. If the contacts are operating properly and there is no spark, and the ammeter discloses no short circuit, the trouble may be in the coil or condenser. However, do not suspect either of these until you have exhausted all other possibilities. If the AMMETER SHOWS NO CURRENT in the primary circuit with the contacts closed, there is an open circuit, which can be traced down by inspection. See the connection diagrams.

(6) If only one or two PLUGS SPARK WEAKLY, or the engine misses in one or more cylinders, the trouble is very likely due to bad spark plugs, disconnected or loose distributor leads. A spark plug may show a good spark in the open air, but when enclosed in the cylinder may fail to spark at all. A spark plug that is suspected of being bad, should be replaced by a new one at least long enough to obtain a comparison.

(7) Do not be too quick to dismantle and go into the inside of your ignition outfit. Satisfy yourself that all connections are clean and tight. High-tension leads that are wet or that have cracked rubber coverings will be the cause of a great deal of trouble. Nine times out of ten, trouble will be due to dirty spark plugs or a cracked porcelain. Always keep one or more extra plugs that you know are good, to be substituted for plugs you suspect of being bad. If the new plug does not correct your trouble, you can be reasonably sure that the old one was not at fault.

(8) MAKE A STUDY of the connection diagrams in the back of this book. They will aid you in locating trouble.



NASH FOUR MODEL 41 WIRING CHART

LIGHTS, HORN, DASH SWITCH, AND WIRING

This division of the instruction book covers all the remaining electrical equipment of your car.

Lights In replacing light bulbs, use bulbs of the same voltage and candle power. Bulbs of higher voltage will give little if any light. Bulbs of lower voltage will give out quickly, if not as soon as you turn on the switch. If you get bulbs of higher candle power than your old ones, you are throwing your electrical system out of balance, because higher candle power usually means the bulb takes a greater current. The generator on your car is regulated to give enough current to keep the battery properly charged, when standard equipment is used. Where extra lights are added, or lights of higher demands for current are substituted for the standard equipment, the system is thrown out of balance.

The following light bulbs should be used: Headlights Bright, 15 c. p.; Dash Light, 2 c. p.; Headlight Dimmers, 4 c. p.; Tail Light, 2 c. p; Dome Light, 2 c. p.

Horn The horn should give no trouble. If trouble is experienced look at the horn fuse before going into the horn.

Dash Switch Keep all connections on the back of the panel tight.

Fuse Block A fuse block holding four fuses is inserted in the circuits of the Horn, Tail Light, Headlights Dim, and Headlights Bright. An extra fuse is provided for replacement. The fuse block is mounted on the front of the dash on the left of the engine. The removal of the body from the car necessitates only the disconnecting of the wires from the fuse block to free the wiring. Use 20 Ampere Fuse.

REFERENCE NUMBERS ON WIRING CHART

NOTE—Numbers identical or in sequence indicate the terminals of individual wires. Circuits may be tested by connecting to these terminals. The Battery Positive Terminal is grounded on the Wagner System.

1- 1 Ignition Distributor to Spark Plug Cyl. 1.
2- 2 Ignition Distributor to Spark Plug Cyl. 2.
3- 3 Ignition Distributor to Spark Plug Cyl. 3.
4- 4 Ignition Distributor to Spark Plug Cyl. 4.
5- 6 Ignition Distributor to Coil Height Tension Terminal.
7- 8 Ignition Distributor to Coil.
9-10 Coil to Switch Terminal.
11-12 Relay to Ammeter Switch Terminal.
13- 7 Distributor to Condenser.
15-16 Relay to Generator.
17-18 Ammeter to Horn.
19-20 Horn to Fuse Block.
21-22 Fuse Block to Horn Button.
23-17 Starting Switch to Ammeter.
23-32 Starting Switch to Battery Negative Terminal.
24 -25 Starting Switch to Starting Motor.
26 -26A Switch to Fuse Block Headlights Dim.
26B-26C Fuse Block to L. H. Headlights Dim.
26B-26D Fuse Block to R. H. Headlights Dim.
27 -27A Switch to Fuse Block Headlights Bright.
27B-27C Fuse Block to L. H. Headlights Bright.
27B-27D Fuse Block to R. H. Headlights Bright.
28 -12 Ammeter to Switch Connecting Strap.
29 -28 Connecting Strap on Switch.
30 -30A Switch Tail Light Terminal to Fuse Block.
30B-30C Fuse Block to Tail Light.
31 -30 Dash Light to Light Switch.
32 -23 Battery Negative Terminal to Starting Switch.
33 -34 Battery Positive Terminal to Ground Cable.

TOURING DATA

Touring with a Nash Car is an unusual pleasure. Nash Distributors and dealers with convenient and adequate service stations are keenly interested in the tourist and a cordial reception will be given any Nash owner who visits their stations.

Any of the following list of Distributors will be pleased to give you information regarding Roads, Routes, and other items of interest in their respective territories.

NASH DISTRIBUTORS

ATLANTA, GA	Southern Nash Motor Co	541 Peachtree St.
BOSTON, MASS	C. P. Rockwell, Inc	640 Commonwealth Ave.
BUFFALO, N. Y	Nash-Buffalo Corporation	Main and Northampton Sts.
CHARLOTTE, N. C	Carolinas Nash Motor Co	224 North Tryon St.
CHICAGO, ILL	Nash Sales Company	2000 So. Michigan Ave.
CINCINNATI, OHIO	Nash-Cincinnati Motor Co	804 Sycamore St.
CLEVELAND, OHIO	Nash-Ohio Company	6611 Euclid Ave.
DALLAS, TEXAS	Nash-McLarty Motor Co	2021 Commerce St.
DENVER, COLO	Southwest Nash Motor Co	1134 Broadway
DETROIT, MICH	Nash Distributing Co	7351 Woodward Ave.
EASTON, MD	Del-Mar-Va-Nash Motor Co.	
EL PASO, TEXAS	Nash-El Paso Motor Co	West San Antonio and Duringo Sts.
GRAND RAPIDS, MICH	McKay-Nash Motor Co	Island and Commerce Sts.
HOUSTON, TEXAS	Nash-Houston Motor Co	2301-5 Main St.
INDIANAPOLIS, IND	Losey-Nash Motor Co	400 North Capitol Ave.
KANSAS CITY, MO	Nash Sales Company	27th and McGee Traffic Way
KENOSHA, WIS	Greiner Nash Company	266 Wisconsin St.
LOS ANGELES, CAL	Troy Motor Sales Co	1058 South Figueroa St.
LOUISVILLE, KY	Prince Wells Co	718 Fourth Ave.
MEMPHIS, TENN	Memphis-Nash Motor Co	282-284 Monroe Ave.
MILWAUKEE, WIS	Nash Sales Company	Broadway and Oneida St.
MINNEAPOLIS, MINN	Nash Sales Company	1008-14 Nicollet Ave.
NEWBURGH, N. Y	John A. Staples	Balmville Road
NEW YORK CITY, N. Y	Warren-Nash Motor Corp	229-245 West 64th St.
OKLAHOMA CITY, OKLA	Southwest Nash Motor Co	3-5 West Main St.
OMAHA, NEB	Nash Sales Company	Howard and 10th Sts.
PHILADELPHIA, PA	Philadelphia-Nash Motor Co	342-4 North Broad St.
PITTSBURGH, PA	Pittsburgh-Nash Motor Co	430 North Craig St.
SALISBURY, MD	Del-Mar-Va-Nash Motor Co	
SALT LAKE CITY, UTAH	Pacific Nash Motor Co	46-60 South 2d East
SAN ANTONIO, TEXAS	Nash South Texas Motors Co	Romana and Oakland Sts.
SAN FRANCISCO, CAL	Pacific Nash Motor Co	1529 Van Ness Ave.
SEATTLE, WASH	Chilcott-Nash Motor Co	921 East Pike St.
ST. LOUIS, MO	Southwest Nash Motor Co	3205 Locust St.
TORONTO, ONT	Nash Motor Sales, Ltd	145 Bay St.

The Nash Warranty

THE passenger cars furnished by The Nash Motors Company are warranted to be free from any defects in material and workmanship under normal use and service; the manufacturer's obligation under the guarantee being limited to replacing or repairing at the factory of The Nash Motors Company, Kenosha, Wisconsin, or Milwaukee, Wisconsin, any part or parts thereof, which shall within ninety days after delivery of the automobile to the original purchaser, be returned to The Nash Motors Company, Kenosha, Wisconsin, with transportation charges prepaid, and which The Nash Motors Company's examination shall disclose to its satisfaction to be not up to specifications. The time, labor and other expenditures incurred are in all cases to be borne by the purchaser. This guarantee being expressly in lieu of all guarantees, express or implied, and of all other obligations or liabilities on the part of the manufacturer, and the manufacturer neither assumes nor authorizes any person to assume for it any liability in connection with Nash automobiles, or the sale thereof, or any other matter.

This guarantee shall not apply to any automobile which shall have been repaired or altered outside of the factory of The Nash Motors Company, Kenosha, Wisconsin, or Milwaukee, Wisconsin, in any way that, in the judgment of The Nash Motors Company, acting as referee, would affect its stability or reliability, or which has been subject to misuse, neglect or accident.

The manufacturer makes no guarantee whatever in respect to Tires, Rims, Ignition Apparatus, Horns, or other Signaling Devices, Starting Devices, Batteries, Speedometers or other trade accessories.

The Nash Motors Company reserves the right to make changes in design or add any improvements on Nash cars at any time without incurring any obligations to install same on cars previously purchased.

THE NASH MOTORS COMPANY

Manufacturers of

Passenger Cars and Trucks

KENOSHA, WIS.

POOLE BROS., CHICAGO
10M—3-21