
APPENDIX II

EVERY 2,000 MILES OR WEEKLY

The Numbers of the Operations correspond with those in Chapter II.

1. Accumulators.

Do not wait till the accumulators “give out” ; test them occasionally with a voltmeter ; each element should record not less than two volts. A cell will work as low as 1.8 per element, but they should not be allowed to run lower than 1.9 volts per element. A test to be fair one should be made immediately after the engine has been running for at least a minute.

Before unscrewing the terminals, note how the wires are connected up. Clean the bottom of the battery box on car.

Batteries should be charged about once a month *whether used or not.*

See special instructions in Appendix on “Care of Accumulators.” - p. 80, et seq.

2. Sparking Plugs.

In removing sparking plugs *always* use the special box spanner provided.

Examine each plug for faults ;-

(1) The points should not be coated with oil (clean them in petrol).

(2) The insulation should not be wet, cracked or coated with carbon.

(3) There should not be any beads formed by molten metal on the stem, or any sharp corners or “burrs” on inside end of the plug ; these becoming incandescent would cause pre-ignitions (Figs. 33 and 34, p. 35).

(4) The gap at the points should be correct ; these should be set to .02” for magneto and .03” for battery. A special gauge is provided to ensure accurate setting.

(6) It should be noted that the battery plugs should be situated over the inlet valves, and the magneto plugs either over the exhaust valves, or in later types in the “intermediate” position provided.

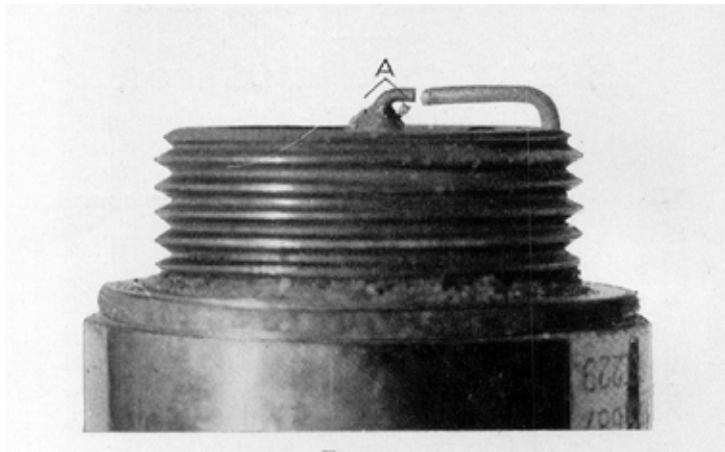


Fig. 33
“BARNACLED” PLUG

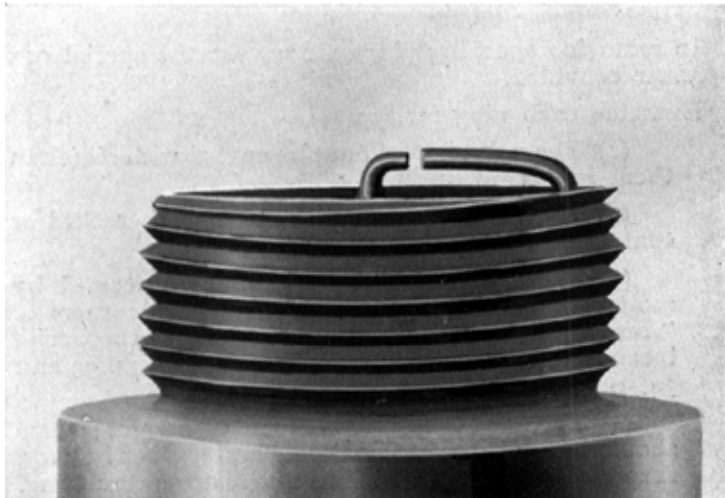


Fig. 34
“CLEAN “ PLUG

3. Oil-Well and Filter.

Unscrew with spanner the drain plug fixed in the centre of the cover of the oil-well A (Fig. 35) and let oil out of the engine well or “sump” ; then take down and clean the cover A, the filter B and suction pipe C.

Then replace filter in the well with gauze facing downward, and refix the well, taking care to make a good joint (with good stout paper) on to the crank chamber ; see also that the unions of the oil pipes are screwed up tight, then refill the well with a *fresh* charge of engine oil from the side tank up to the overflow level.

Whenever the oil-well, pipes, or pump are taken down for any purpose and put back again, special care should be taken when first starting the engine up (after refilling) to see that the pressure gauge reads correctly, for an “air lock” may form in the pump, which will prevent the flow of oil. Should this occur, the pipes should be “primed”, by unscrewing one of the crankshaft, and injecting oil therein by means of the oil-syringe. The unions can then be refixed and the engines started up again.

4. Oil-Well and Filter.

The drain tap for the water system is shown at E, in Fig. 35.

After the water has ceased to flow (the car being level) close this tap *i.e.* vertical position.

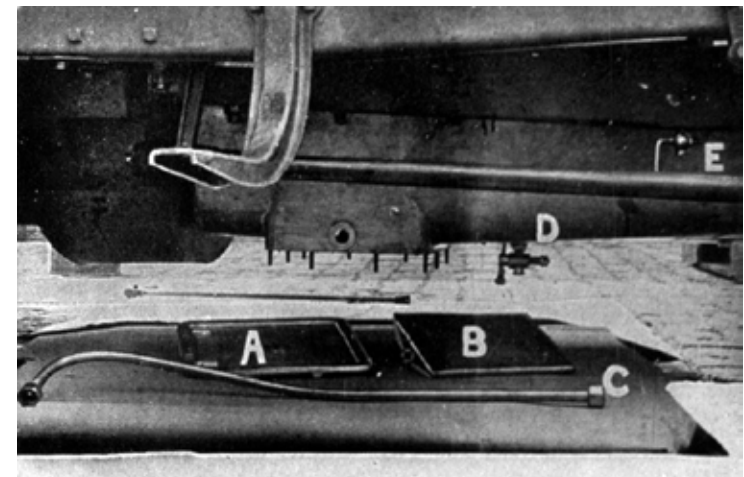


Fig. 35.
SHOWING OIL-WELL AND FILTER.

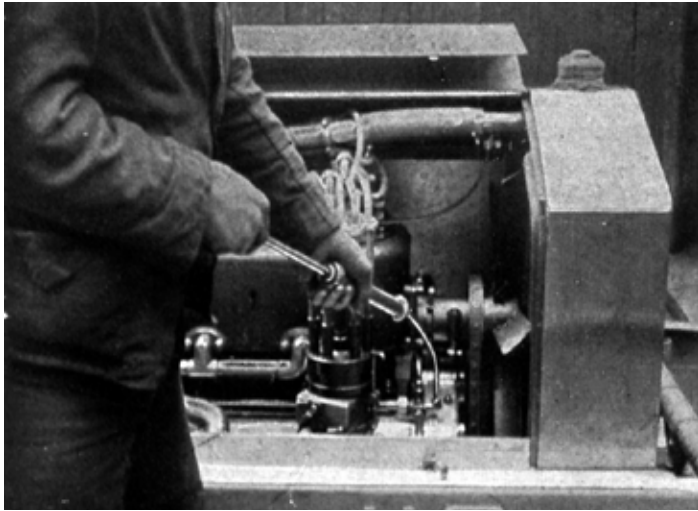


Fig. 35.

“PRIMING” THE OIL PIPES AFTER REFILLING.

Re-fill with clean *soft* water (such as pure rain water), always using a strainer.

The radiator should not be filled higher than two inches above the tops of the tubes, neither should the level be allowed to get much below this. The white line in Fig 37 shows the correct level.

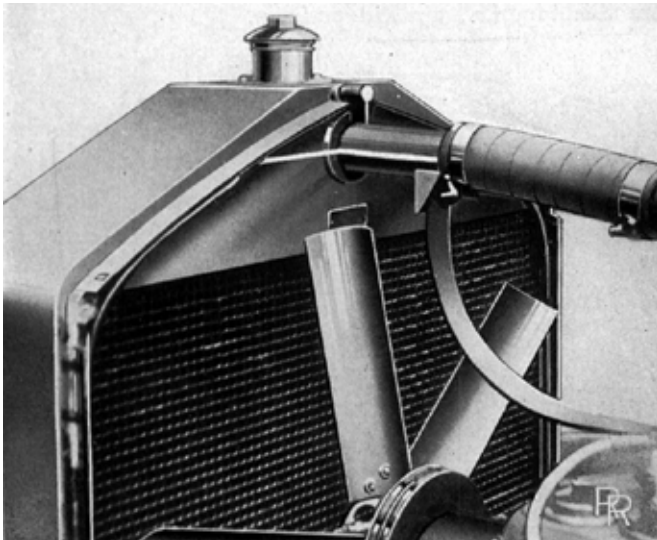


Fig.37.

WHITE LINE SHOWS CORRECT WATER LEVEL

6 and 7. Side Brakes.

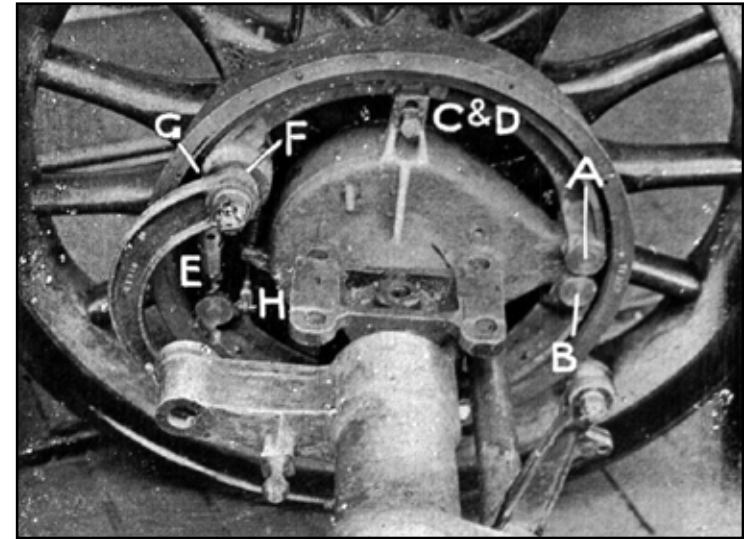


Fig. 38

REAR BRAKES WITH COVER REMOVED

8. Fan Belt..

If this feels too slack, it can be tightened by loosening the clamping bolt “ B ” (Fig. 18), and turning the bracket which is mounted eccentrically by means of pin “ C ”, then *relocking*. Should the lever reach the end of the slot, the belt should be shortened about one inch.

The “ V ” belt does not require to be really tight.

9. Engine Supports. (See Fig. 39)

10. Road Springs.

The best method of lubricating the faces of the spring-leaves is to take out the bolt in spring clip “ A ” (Fig. 40), then jack up the chassis *frame* (see Fig. 41) and separate the leaves of the spring with the special tool supplied. Graphite grease can then be worked in between each leaf with a knife blade.

It is essential that the surfaces of the spring leaves in contact be kept well lubricated, as this affects vitally the easy riding of the chassis.

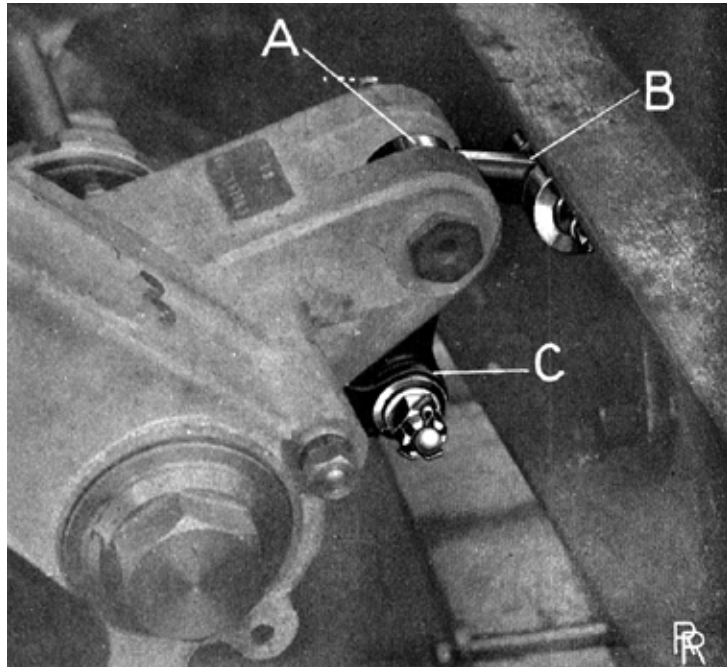


Fig. 39.
ENGINE SUPPORTING BRACKETS. (SAME ON "OFF" SIDE)

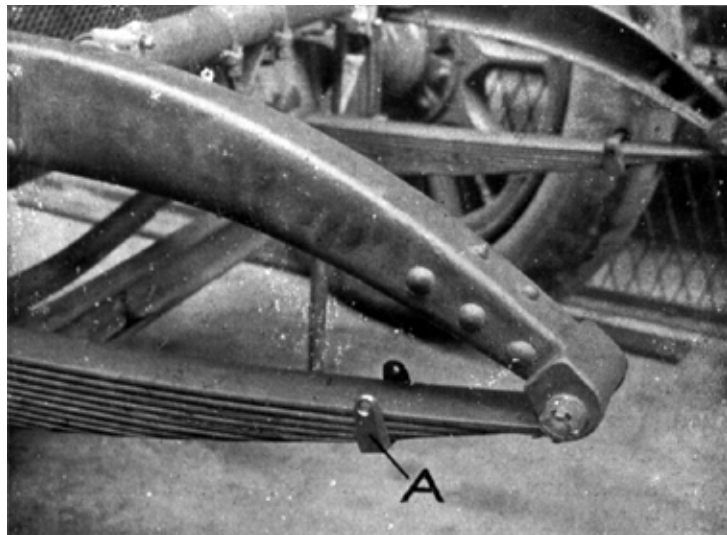


Fig. 40.
FRONT SPRING CLAMP.

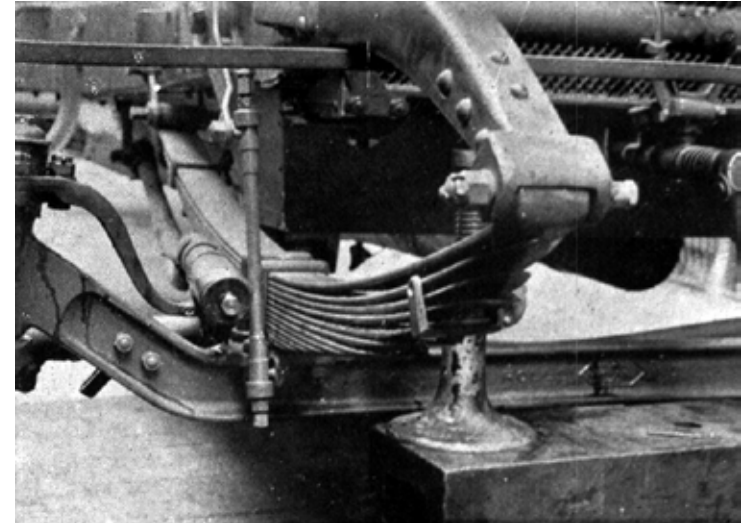


Fig. 41
FRAME JACKED UP SHOWING SPRING LEAVES SEPARATED

11. Air Valve

This can be removed by unscrewing the milled ring and lifting off cap with spring attached (Fig. 42).

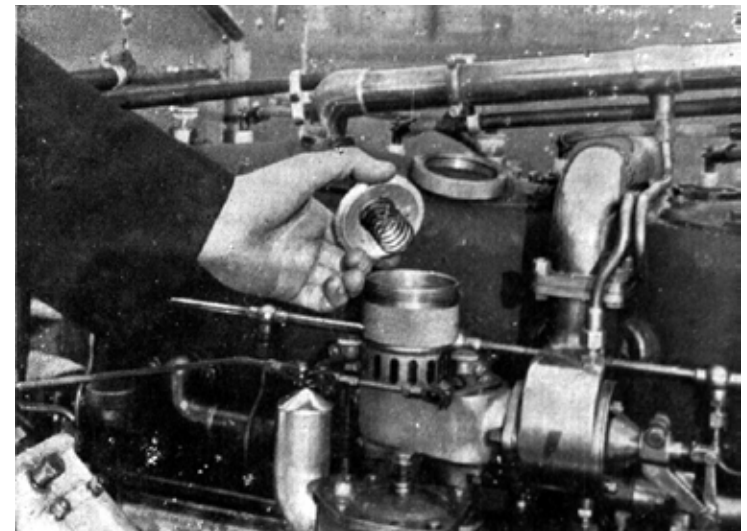


Fig. 42.
CARBURETTOR WITH MILLED RING AND CAP REMOVED.

The air valve should be drawn out slowly and carefully so as not to distort same or bend central spindle.

It should be carefully wiped out with a clean cloth, free from fluff ; avoid any form of lubrication.

The gap carrying the spring should make an air-tight joint with dash pot.

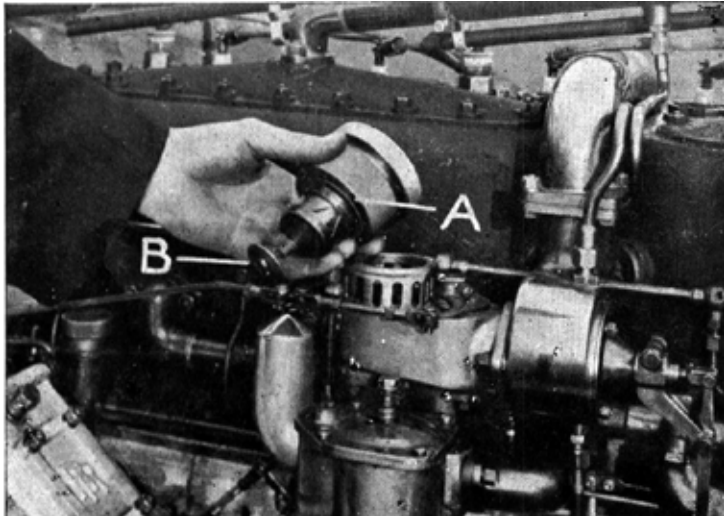


Fig. 43.

AIR VALVE AND DASH POT REMOVED COMPLETELY.

12. Low-Tension Contact Breaker on Magneto.

The low-tension contact maker on the magneto should be cleaned and examined carefully (Fig. 21) to see that the small lever carrying the platinum point is working *freely*, and that the platinum points are in good order and correctly set . (The small round cap must, of course, be slipped off first.) This setting is correct when the maximum break is such that the special magneto spanner (shown in Fig. 21) will just go in. It is good practice to carry a spare contact breaker for the magneto.

N.B.- By pulling off the "advance" portion with the fingers, any correction of this adjustment can be made with the spanner ; the two little rollers which come off with this portion should also thus be examined and felt to see if they revolve freely ; use thin clock oil for these.

A defect with the low-tension contact breaker is generally manifest by miss-fires.

13. Low-Tension Contact Breaker (Battery Ignition).

To get at this for periodical cleaning, proceed thus :- Remove the high tension distributor parts as described on page 32, and remove side cover "E" (Fig. 31)



Fig. 44

LOW-TENSION CONTACT BREAKER.

The low-tension breaker for the battery (of the battery ignition) is very rarely found to be out of order, but the following examinations can be made. Having satisfied yourself that the platinum points "A" and "B" (Fig. 44) are clean, flat and true, and that the blade is tightened so that the platinum-pointed screw is opposite the platinum on the blade, and that the blade has sufficient set upon it to push the platinum points into firm contact when the screw is correctly advanced, proceed to set the contacts in the following manner :- The high-tension distributor cover "B" (Fig. 31) and low-tension side cover "E" (Fig. 31) being removed, turn the engine round until the arrow marked on the distributing rotor is exactly opposite the arrow on the distributing ring "C" (Fig. 31). Then with the platinum points screwed well apart, proceed to advance the platinum screw slowly until the trembler of the induction coil, by buzzing, indicates that the platinum screw has just come into contact with the platinum on the blade, then check up the small screw on the side which secures it.

If the trembler is kept lightly set and in good order, this low-tension contact ought not to require any attention for a whole season.

When replacing the wires on to the distributor, see that the number marked on the ebonite of each terminal corresponds with the figure marked at each hole.

14. High-Tension Distributor on Magneto.

Fig. 45 shows the cover of the magneto distributor removed for cleaning purposes. Electrical leakage in the high-tension distributor of either the battery ignition or magneto causes pre-ignitions, and can generally be cured by careful cleaning with a dry rag.

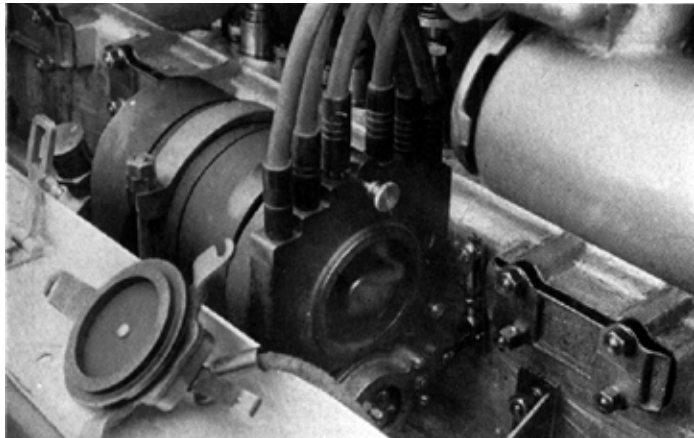


Fig. 45.

MAGNETO DISTRIBUTOR WITH COVER REMOVED.

Any defect with the distributor is generally manifest by pre-ignition, whereas if the defect is in the low-tension contact breaker, it is manifest in miss-fires. When replacing the wires on the distributor of the magneto, see that the number of rings cut in the ebonite of each terminal corresponds with the figure beside each hole.

15. Trembler of Coil.

The coil and trembler should be cleaned and *examined*, but if there is anything wrong with the running of the engine, they *should not be touched until you are sure that everything else in the ignition system is right*, as in doing so the trouble is often made worse. To get the tremblers into the best working condition is a delicate operation, and, therefore, they should not be unnecessarily disturbed.

N.B.- In any case, do not pull the trembler to pieces until you have opened it with your finger and have seen that the points are really in bad contact or out of adjustment.

The coil should give a spark 5/16 in. long with engine stationary, and the trembler should not be touched unless the coil fails to do this.

The length of the spark can be determined as follows:- Insert a steel split pin in the terminal end of the *centre* H.T. wire (the one that connects to the centre of the H.T. distributor cover), turn the engine until contact is made in the high-tension distributor and bring the centre H.T. wire with split pin inserted to within the necessary distance from the cylinder walls to obtain a spark.

If one of the platinum points is deeply pitted, and the other point has assumed the shape of a cone to fit into the pit, both points should be filed with a very fine file until they are flat. In order to adjust a trembler, follow carefully the printed instructions inside the lid of the coil-box.

To adjust the platinum points, switch on the battery current, turn the screw backward until the points are well apart, screw downwards again slowly, until the coil will *just* "buzz", then give the screw a further quarter turn which will ensure good contact and the correct amount of play for the iron armature, viz. 1/100 of an inch.

Dirt and dust should be kept out of the coil-box, and the ebonite and fittings carefully dusted occasionally.

16. Re-installing Accumulator.

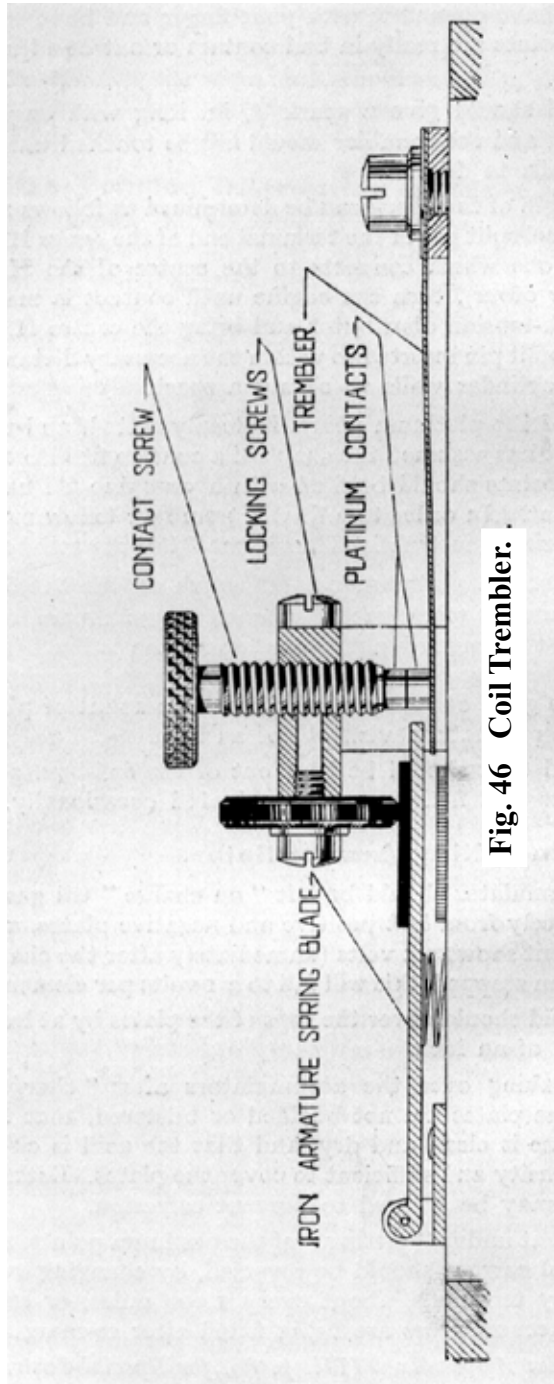
An accumulator should be left "on charge" till gas is emitted freely from both positive and negative plates, and each element shows 2.5 volts (immediately after the charging has been stopped, this will fall to 2.1 volts per element).

The liquid should cover the tops of the plates by at least one-eighth of an inch.

When taking over the accumulator after "charge", see that the plates are not buckled or blistered, that the battery case is clean and dry, and that the acid is clear, of right density and sufficient to cover the plates. Battery terminals may be greased to prevent corrosion.

To prevent undue "pitting" of the platinum points, the direction of current should be reversed, by changing over the battery terminals, about every 1,000 miles, or each time the accumulators are being fitted after re-charging.

N.B. - See Appendix VIII., p. 80, for *Special Instructions on the Care of Accumulators*.



17. Propeller Shaft.

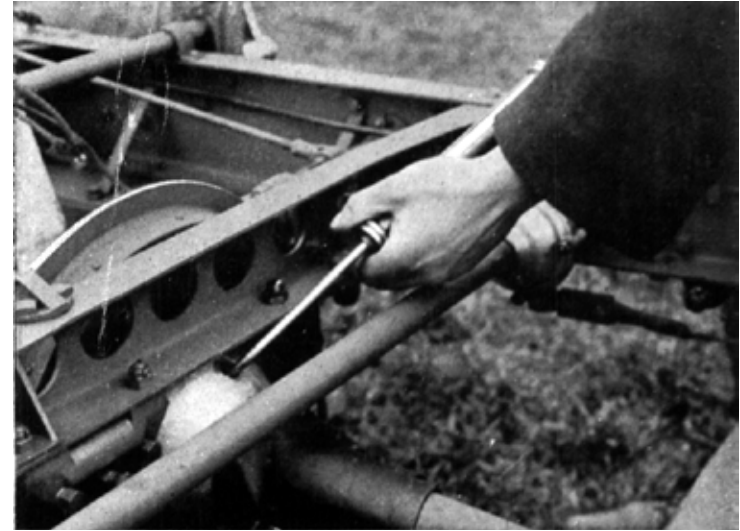


Fig. 47

FRONT UNIVERSAL JOINT ON PROPELLER SHAFT

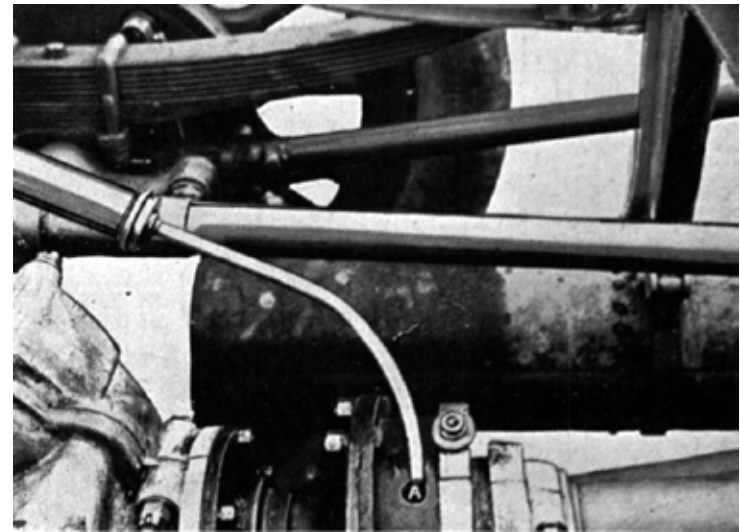


Fig. 48

REAR UNIVERSAL JOINT ON PROPELLER SHAFT

Particular care must be taken with the lubrication of these joints ; if they are neglected they will very rapidly wear.

19. Extra Oil Filter.

The extra oil filter is on the front face of the dashboard, and can be cleaned by disconnecting the pipe "A" (Fig. 49) and unscrewing bottom nut "B" (FIG. 49); this nut carries the gauze which forms the filter, which can then be conveniently cleaned. When replacing filter, make sure that the spring "H" which holds the oil valve "F" to its seat is in position.

The nipples fitted to the threaded unions which are screwed into cylinder walls should be removed and cleaned, and the pipes blown through.

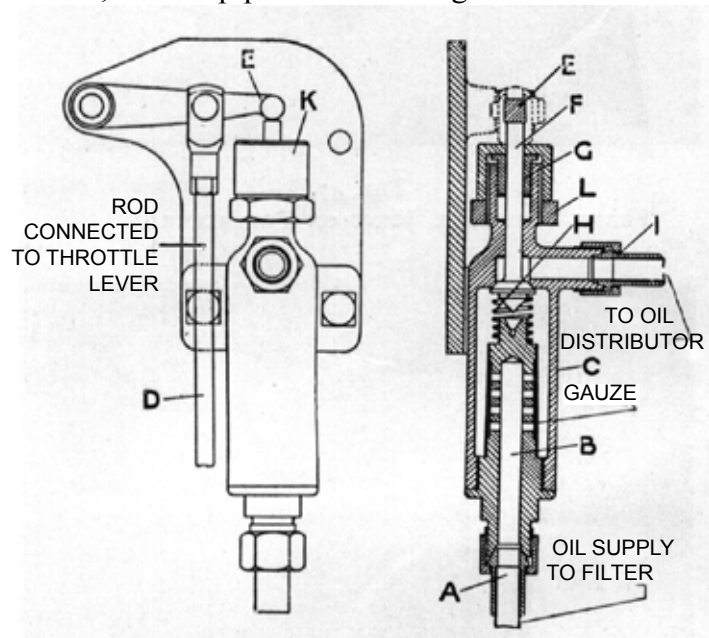


Fig. 49.
EXTRA OIL FILTER

If oil leaks past the valve stem "F", the nut "K" should be screwed down slightly. Take care that it is not tightened sufficiently to hold the valve stem and prevent the spring from operating it.

The valve should be set to open, when the accelerator pedal is depressed 2/3 of its full travel.