REFER TO THIS LETTER BY NUMBER

TO BE NOTED AND INITIALED BY	

PACKARD MOTOR CAR COMPANY

DETROIT · MICHIGAN

November 3, 1923

TO PACKARD DISTRIBUTERS

Subject, Single-Six and Single-Eight Gasoline Gauge Equipment.

Gentlemen:

The attached pamphlets cover the gasoline gauge equipment on Single-Six and Single-Eight models. The model "E" gauge is used on the Single-Six and the model "D" gauge is used on the Single-Eight.

The pamphlets illustrate and describe the gauge and its operating mechanism very thoroughly and should prove of valuable assistance to you at times when you find it necessary to make adjustments on the gauge equipment.

It has been our experience that in the majority of cases where adjustments have been necessary that the instrument end of the transmission wire has been the direct cause of the trouble.

If this end of the wire has a kink or a bend in it the gauge will register the first few gallons correctly.

However, when the tank is filled enough to pull the kinked part of the wire into the transmission tube, inaccurate reading will result because of the wire sticking in the transmission tube.

We would suggest that inspection of the instrument end of the transmission wire should always be the first operation in connection with work on the gauge equipment.

NOTE: In order to test the freeness of the operation of the transmission wire its entire operating distance, it is necessary to drain the gasoline tank.

We will carry the gauge parts, other than small parts such as conduit clips, brackets, screws, etc., in two assembly units only—namely, instrument board gasoline gauge and gasoline tank gauge float and cable assembly.

Defective units should be returned to us as assemblies, since replacements will be made in the same manner.

Yours very truly,

PACKARD MOTOR CAR COMPANY.

H. N. Davock.

H. N. DAVOCK,
Mgr. Technical Service Dept.

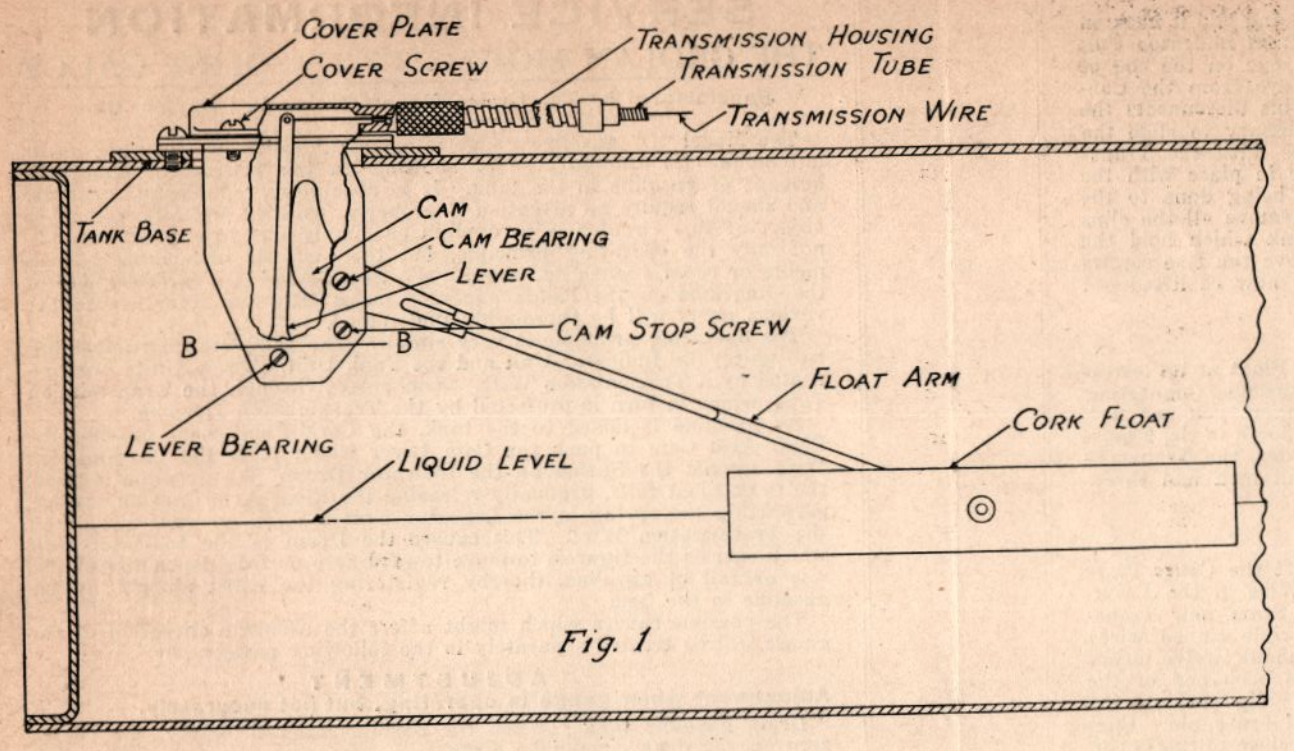


Fig. 1

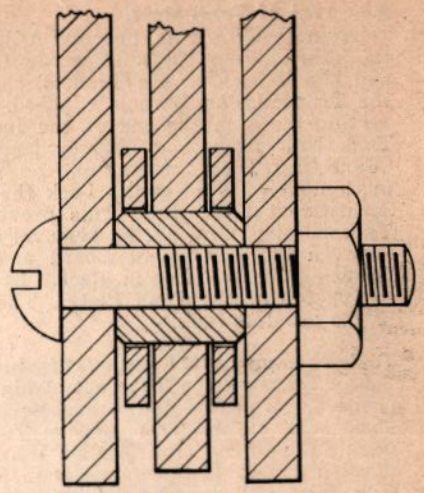


Fig. 3
SECTION THROUGH CAM & LEVER BEARING

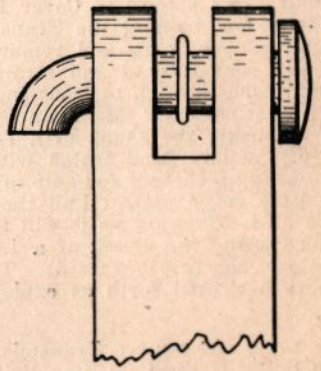


Fig. 4
VIEW SHOWING ASSEMBLY OF PIN IN LEVER TO HOLD TRANSMISSION WIRE

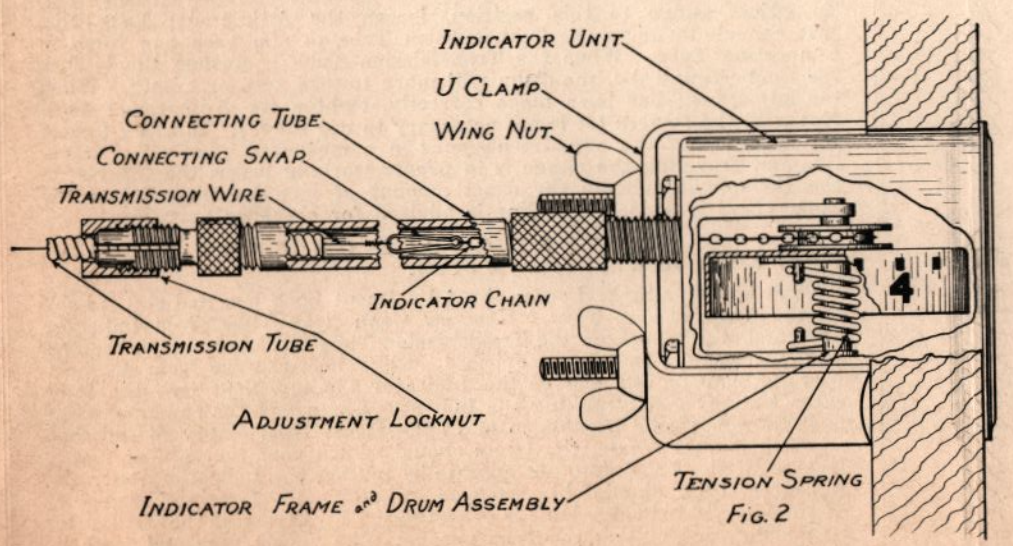
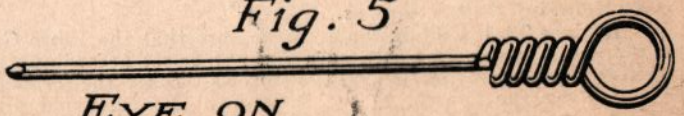


Fig. 2

Fig. 5



EYE ON TRANSMISSION WIRE

Manufactured by

The Grolan Manufacturing Company, Dayton, Ohio

Removal of Tank Unit.

Drain gasoline tank, unscrew Adjustment Lock Nut and slip it back on the Transmission Tube. Unscrew Connecting Tube from Indicator Unit and slip it back on the Transmission Tube until the eye on the end of the Transmission Wire is exposed. Disconnect the eye from the Connecting Snap on the end of the Indicator Chain. This disconnects the Tank Unit from the Indicator Unit. It is now necessary to slide the Connecting Tube forward on the Transmission Tube until the Transmission Wire is covered. Lock the Connecting Tube in place with the Adjustment Lock Nut. This prevents any damage being done to the Transmission Wire during removal of Tank Unit. Remove all the clips between the Instrument Board and the gasoline tank which hold the Transmission Housing in place. Drop tank and remove the five screws in the top of the Tank Plate. The Tank Unit may now be lifted out of the gasoline tank.

To test gauge after removal from car.

Lay Transmission Tube out straight with the Cork Float at its lowest position. Unloosen the Adjustment Lock Nut and slip the Connecting Tube back on the Transmission Tube. With the fingers you can now push and pull the Transmission Wire gently back and forth in the Transmission Tube. If the gauge is in proper working order, the Transmission Wire will operate freely a distance of about an inch and three-quarters.

To Replace Transmission Wire.

Remove the four brass screws in Cover Plate. Lift the Cover Plate up and snip off the pin holding the Transmission Wire in the Lever. Cut eye off Transmission Wire and remove wire. Start new Transmission Wire (.012 heat treated and straightened triple tinned wire) from back end and push through to front end. Have about twelve inches of surplus wire at front end. Make an eye on the back end of the Transmission Wire, using the shank of a 1/32 drill. Slip eye into the slot at the top of the lever and fasten with a small brass pin. Care must be taken to bend up the pin and snip off the end close to the Lever. See Fig. 4. Replace cover plate. Pull the wire out of the front end until the lever is as far forward as it will travel. Make an eye on the Transmission Wire, using the shank of a 1/16 drill, 2 inches from end of the Transmission Tube (see Figure 5). Test operation by sliding the Transmission Wire back and forth as explained previously.

Tight Lever.

Remove cover plate, disconnect Transmission Wire from lever, and loosen Cam Stop Bolt. If the Cam Stop Bolt is too tight it pulls in the sides of the sheath and binds the Lever on its bearings. If loosening the Cam Stop Bolt does not eliminate the trouble, remove bolt holding lever in place and take out lever. File the sides of the lever at base until loose fit is obtained. Reassemble. (See Figure 3.)

Bent Lever.

Remove lever, straighten and reassemble.

To Reinstall Gauge on Car.

Replace Tank Unit in tank. Make sure that the Fibre Gasket is under the plate. Holes in Gasket are staggered, set accordingly. Screw Tank Unit down by means of the five screws. Start the Transmission Housing along the chassis to the Instrument Board, avoid all sharp bends and curves in Transmission Housing. Replace tank on car. Replace all the clips which hold the Transmission Housing in place. Connect eye on Transmission Wire to Connecting Snap on Indicator Chain and screw Connecting Tube into Indicator. Set the Indicator to zero and lock in position with the Adjustment Lock Nut. Test with a measured quantity of gasoline.

The Grolan Manufacturing Co., Dayton, Ohio.

SERVICE INFORMATION

THE GROLAN MODEL "D" GASOLINE GAUGE

Manufactured by The Grolan Manufacturing Co., Dayton, Ohio.

The Model "D" gasoline gauge is a mechanical device installed on an automobile for the purpose of showing on the instrument board the amount of gasoline in the tank. It is absolutely reliable and accurate and should require no attention if properly installed and adjusted. The object of this circular is to explain as simply and briefly as possible, not only the operating principle, but the methods of making adjustments or repairs when necessary. We would suggest a careful study of the diagrams on the inside pages in order that our reference to the various parts will be thoroughly understood.

The operating principle is very simple. The complete instrument has two units; the Indicator Unit and the Tank Unit. These Units are connected by a Transmission Wire, which passes through the Transmission Tube, which in turn is protected by the Transmission Housing.

As gasoline is added to the tank, the Cork Float rises causing the Float Arm Cam to push the Cam Lever which pulls the Transmission Wire against the Spring on the Indicator Drum. As gasoline is used, the Cork Float falls, gradually releasing the Float Arm Cam and Lever, permitting the spring in the Indicator Unit to keep an even tension on the Transmission Wire. This causes the Drum in the Indicator Unit which carries the figures, to move toward zero or full, depending on the rise or fall of gasoline, thereby registering the exact amount of the gasoline in the tank.

The possible causes which might affect the accurate operation of the gauge will be treated separately in the following paragraphs:

ADJUSTMENT

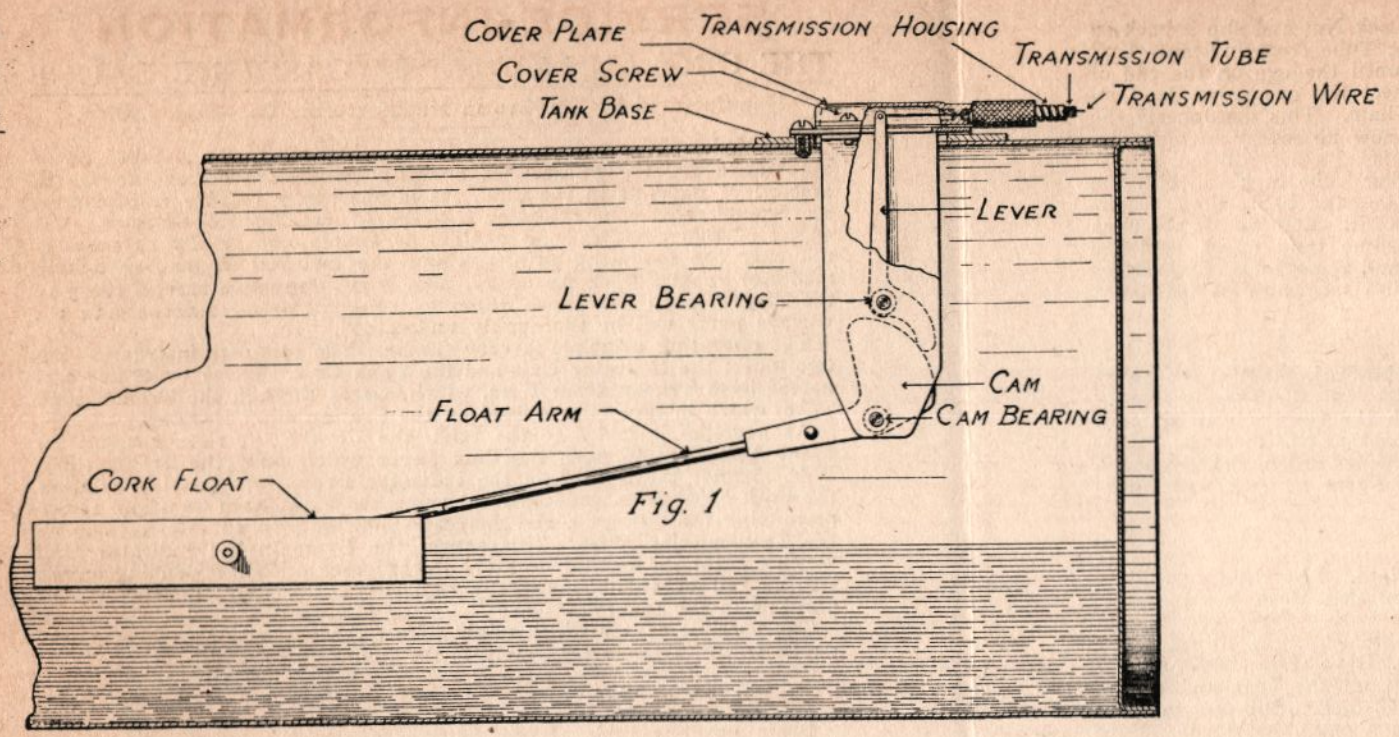
Adjustment when gauge is operating, but not accurately.

Drain gasoline tank. When the gasoline tank is empty, the figure zero on the drum should be directly under the pointer on the dial. To adjust gauge to this position, loosen the Adjustment Lock Nut just enough to allow the Transmission Tube to slip back and forth in Connecting Tube. When the Transmission Tube is pushed slowly into the Connecting Tube, the drum will move toward zero or empty. When the adjustment has been made correctly, tighten the Adjustment Lock Nut with the fingers (It is not necessary to use pliers). In order to test the accuracy of the adjustment, pour in a measured quantity of gasoline and providing the gauge is in proper working order, the figures on the Drum will indicate the exact amount of gasoline poured into the tank. Five gallons of gasoline is advised for checking purposes.

TO TEST GAUGE ON CAR

When gauge does not operate at all.

Drain gasoline tank. Loosen the Adjustment Lock Nut and slip it back on the Transmission Tube. Unscrew Connecting Tube from Indicator Unit and slip it back on the Transmission Tube until the eye on the end of the Transmission Wire is exposed. Disconnect the eye from the Connecting Snap on the end of the Indicator Chain. Next test the Indicator Unit by gently pulling the Indicator Chain. If the Indicator Unit is O K., you should be able to move the Drum from empty to full, and on releasing the Chain, the Drum should return past the zero or empty figure. If the Drum does not operate by pulling the Indicator Chain, the Indicator Unit should be removed in order to determine cause of of trouble. If Indicator Unit is operating O. K., then test the Tank Unit by pushing and pulling the Transmission Wire gently back and forth in the Transmission Tube. If the wire is not broken or buckled, you should be able to move it back and forth a distance of about an inch and three-quarters. If unable to move the Transmission Wire, it will then be necessary to drop the gasoline tank in order to examine the Tank Unit.



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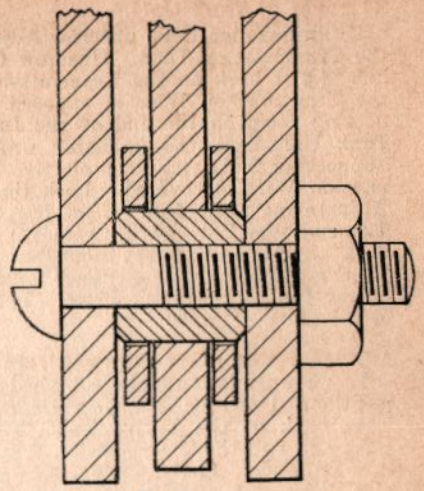

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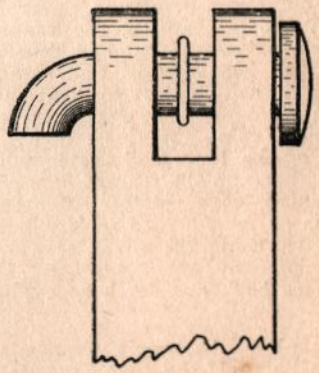

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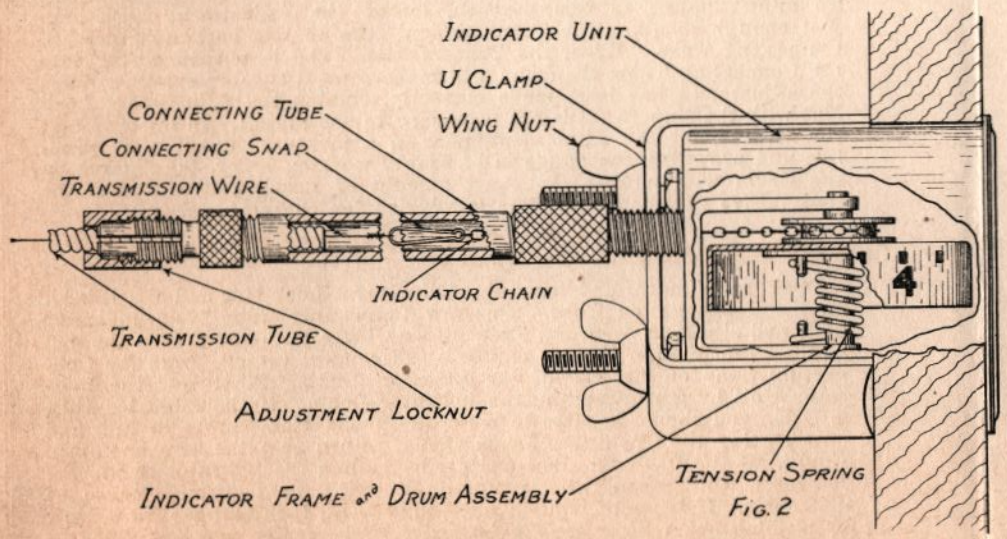

Fig. 2

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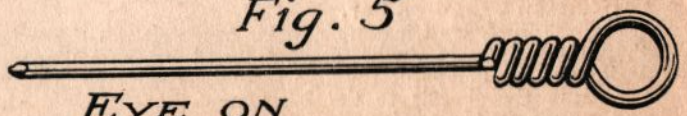

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