



FORD MOTOR COMPANY OF CANADA, LIMITED, FORD, ONTARIO, CANADA

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33

## CAN YOU ANSWER THESE TEN QUESTIONS?

1. Explain the principle of a three brush generator.
2. How would you test generator fields without dismantling generator?
3. How would you locate armature trouble?
4. What is the most important operation on the piston and connecting rod assembly?
5. Why should new babbitt be installed in main bearings when rebuilding the engine?
6. Why is it necessary to align ream a new camshaft rear bearing?
7. Explain the action of the Ford transmission.
8. What two important operations are usually neglected when overhauling the transmission?
9. What is the purpose of the drive shaft front babbitt bushing?
10. Explain the action of the differential.

You will not only be able to answer these questions, but many others which have an important bearing on repair work, if you attend our Winter Service Course.

*Have You Sent in Your Application?*

## Anti-Freezing Solutions

With the approach of cold weather, it is necessary to give some thought to the question of anti-freezing solutions for the radiator and cooling system.

Dealers should caution owners against attempting to get along without an anti-freezing solution and explain that even if the water is drained after every trip, there is a possibility of the radiator becoming frozen. In very cold weather, or when driving against a cold wind it is possible to freeze the radiator after circulation starts. Also, if one or more tubes are blocked up with dirt the water will not drain off.

The ideal anti-freezing compound is, first, one that will prevent freezing of the radiator liquid without injuring either engine or radiator; second, that will not lose its non-freezing properties after continued use and third, that does not materially change the boiling point of water when dissolved in it.

Kerosene has a lower freezing point and a higher boiling point than water but the inflammability of its vapor makes it dangerous to use, and its high and uncertain boiling point might lead to the serious overheating of the engine, or even to the melting of the solder in the radiator. It has marked solvent action on rubber parts. These facts clearly indicate that kerosene should not be used as a non-freezing solution.

Most of the anti-freezing solutions sold under trade names have a calcium chloride base. The calcium chloride compounds exert a greater corrosive action than water on the engine jacket and on the solder in the radiator. Tests have shown that calcium chloride solutions will completely remove solder from copper and brass. Another troublesome effect with calcium chloride solutions is experienced if small leaks occur in the radiator, and the solution comes in contact with the spark plugs and ignition wires, as a short circuit is liable to result. Calcium chloride compounds should be used with caution if used at all, on account of their corrosive action.

The alcohol solutions do not exert a greater corrosive action than water alone. Solutions

made from either wood or grain alcohol seem to be the most desirable anti-freezing solutions to use. The table below shows the approximate point at which alcohol solutions freeze:

15° above zero

Alcohol.....	20%
Glycerine.....	10%
Water.....	70%

To 8° below zero

Alcohol.....	30%
Glycerine.....	10%
Water.....	60%

To 30° below zero

Alcohol.....	50%
Glycerine.....	10%
Water.....	40%

The circulating capacity of the Model T engine equipped with the present radiator is 2½ gallons.

The former model contained 2 gallons and 3 pints. It can be readily determined from these figures the amount of solution to be used.

When storing a car for the winter, first drain the circulating system. Then put about a quart of alcohol in the radiator, allowing it to run through. This will prevent the freezing of any water that on account of stoppage in the tubes did not drain out.

As with the car radiator, it is also necessary to put an anti-freezing solution in the radiator of the Fordson Tractor during cold weather. The capacity of the tractor cooling system is 8 4-5 gallons.

Due to the rush of cold air through the air washer, it is necessary to give some attention to that part during extremely cold weather. Some operators run the tractor with the float removed or raised in the air washer. Others have been known to replace the water with kerosene. Water should be used as late in the season as possible draining it at night to prevent freezing. Kerosene, if used at all, should only be put in when the temperature is around zero.

### Light Design Piston

The light design piston now in production may be readily distinguished from the heavy type by referring to the figure on the piston pin bore on the inside of the piston.

The light design has a period mark directly under the figure as shown in Fig. 56. The heavy design has no markings other than the figure.

All light design pistons have a ground finish. This grinding operation is performed on a centerless grinder and gives a smoother and a more accurate surface than the former method.

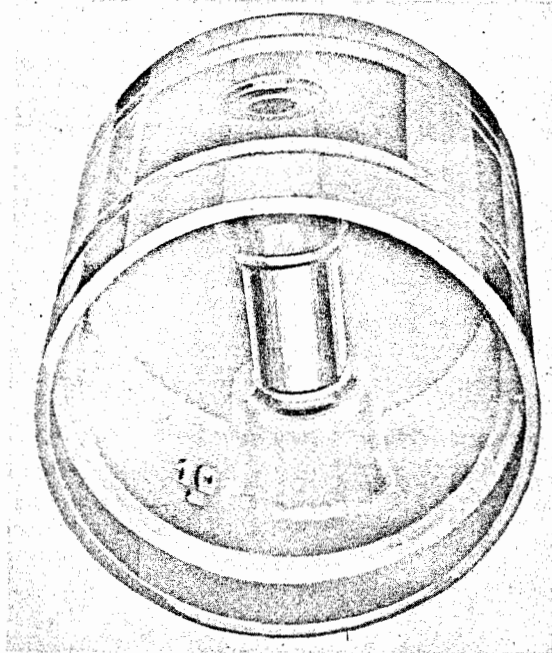


Fig. 56

### Transmission Band Rivetting Machine

Fig. 57 illustrates a new transmission band rivetting machine manufactured by Parmenter & Bulloch Co., Ltd., Gananoque, Ont.

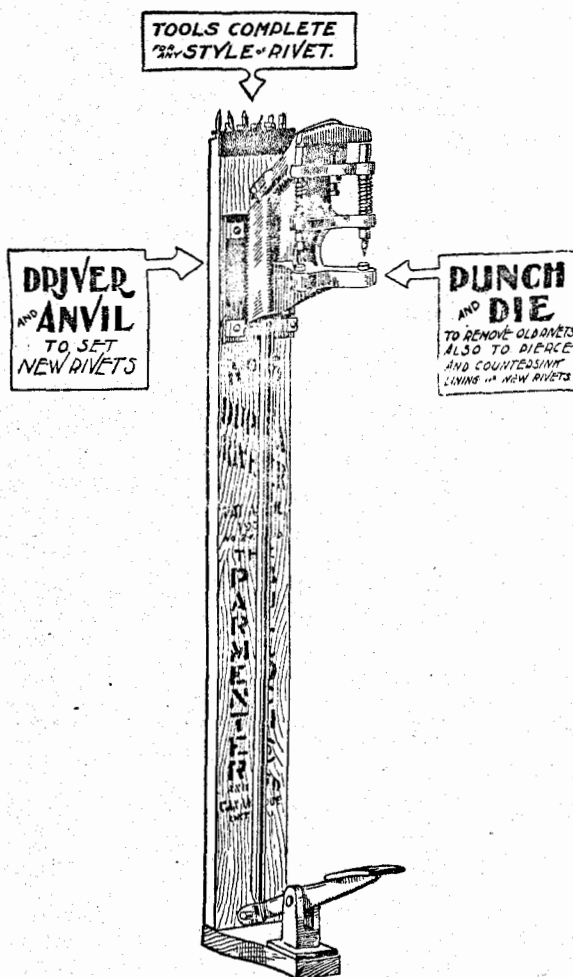
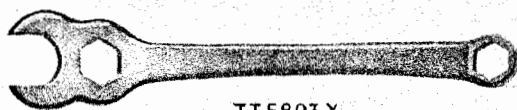


Fig. 57

This machine removes the old rivets as well as installs new ones. Its operation is as follows: To remove old rivets place arbor No. 5-42 in lower left hand holder. Place punch No. 6-20 in upper punch head. Place band over 5-42 rivet head down, press on foot pedal and punch rivet out down through arbor. To install new rivets place arbor No. 5-52 in lower right hand holder. Place punch No. 5-32 in upper punch holder. Place rivet in hole in steel band. Place head of rivet against punch. Hold band against rivet and step on foot pedal. With a little practice these operations can be performed very quickly. This machine may also be used for other rivetting operations by following the instructions furnished by manufacturers.

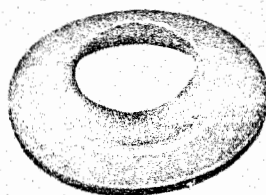


TT 5893X

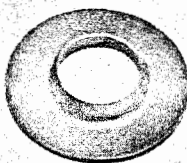
Fig. 58

### New Design Truck Cylinder Head Cap Screw, Spark Plug and Demountable Rim Nut Wrench

Fig. 58 illustrates a new design Cylinder Head Cap Screw, Spark Plug and Demountable Rim Nut Wrench now standard equipment on Ford Trucks. The number of this new wrench is TT 5893X.



1026B



2510C

Fig. 59

### Rear Axle Oil Retainer Washer

We are now installing a Rear Axle Oil Retainer leather washer in Model "T" and "TT" Rear Axles. The numbers of these washers are 2510C Model "T" and 1026B Model "TT". See Fig. 59. These retainers are placed directly behind the roller bearing sleeve which serves to hold it in place.

To install the retainer in either model first remove wheel roller bearing and roller bearing sleeve. Place washer over axle shaft flat side outwards and drive back in place against end of housing tube; replace roller bearing sleeve, roller bearing, wheel, and the installation is complete.

### Wheel Pullers

In their desire to reduce the time on labor operations, dealers sometimes lose sight of the fact that the quickest way is not always the best way of repairing a car. This is evidenced by the type of wheel pullers which we have noticed a few dealers using.

The type we have in mind is one which screws on the axle shaft and when given

a sharp blow with a hammer off. Anyone who is familiar with the operation of a rear axle can read that the axle shaft can be done by pounding the axle shaft. A greater portion of the force is borne by the gear on the end of the axle and the pinions in the differential, which are likely to be damaged if subjected to such blows as are required by the use of a puller of the type mentioned above.

Considering the number of very satisfactory wheel pullers on the market, there is no excuse for resorting to sledge hammer work and we do not consider it advisable to use pullers such as those described above.

### Transmission Clutch Disc Drum Puller

Fig. 60 illustrates a new Transmission Clutch Disc Drum Puller. Manufactured by J. S. Imlach, Ottawa. The two arms are hinged at A and allow the pins B to enter the holes in the disc drum easily.

This tool fills a long felt want as these drums are often very tight and troublesome to remove by any other method.

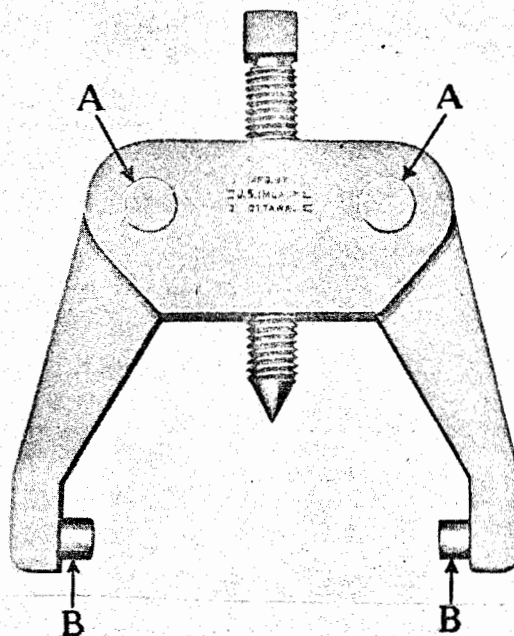
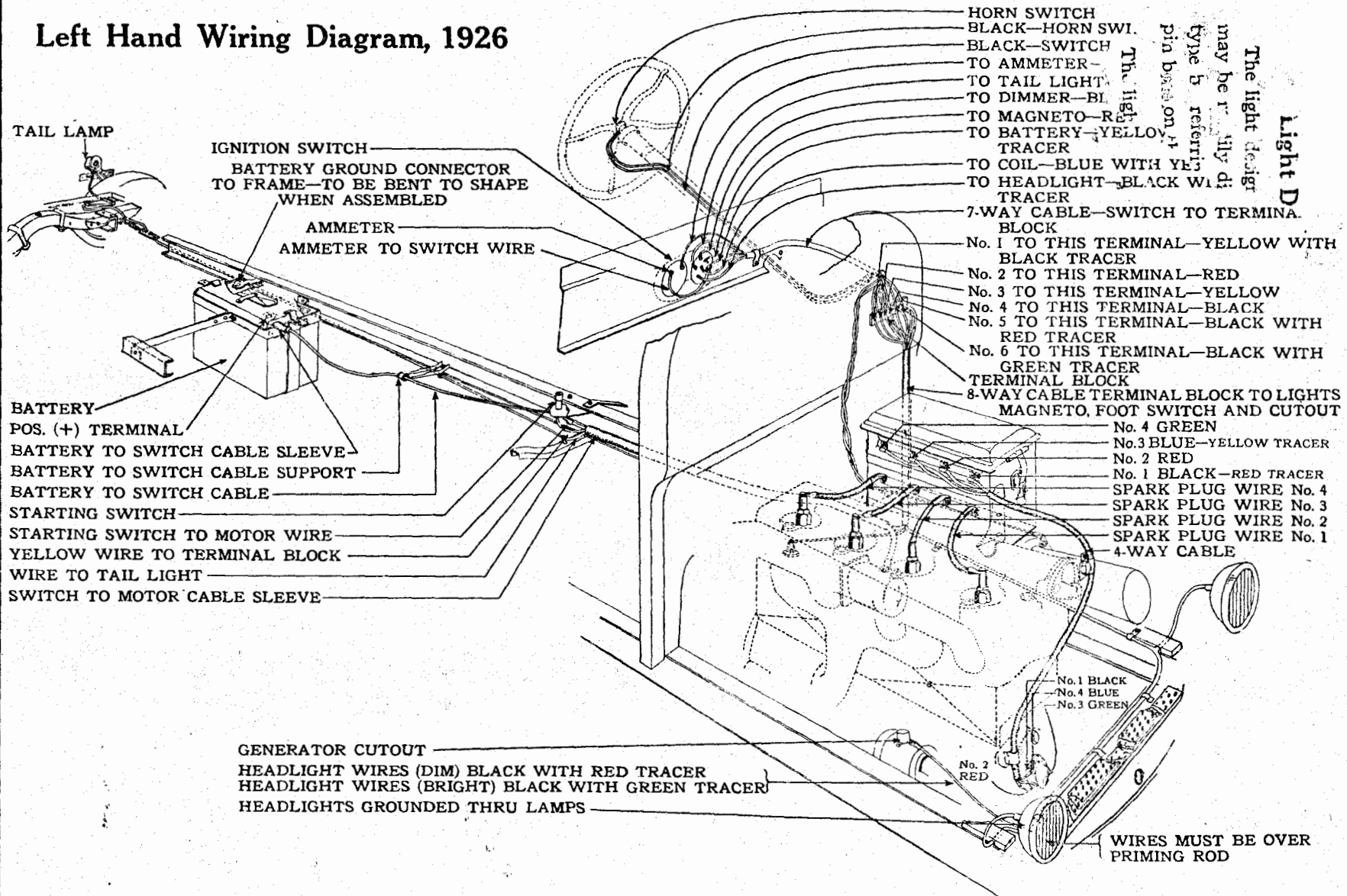


Fig. 60

# Left Hand Wiring Diagram, 1926



## Overalls and Service Coats

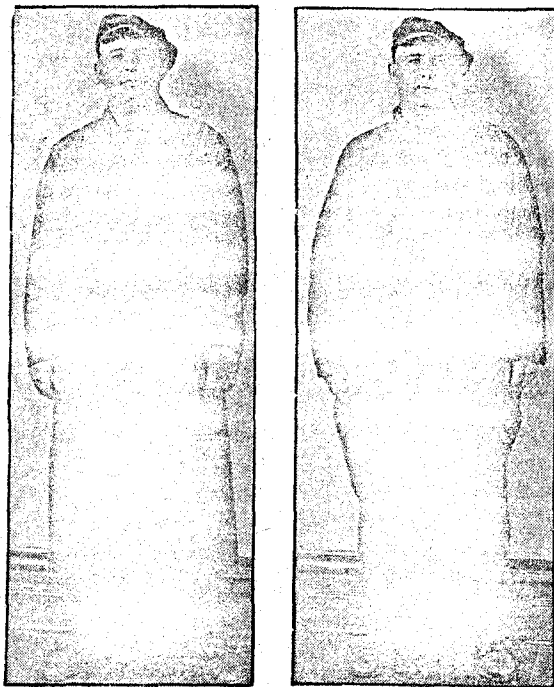


Fig. 61

We have had numerous inquiries from Ford Dealers for information regarding overalls and service coats with the word "Ford Service" printed across the back. We have made arrangements with the Colonial Traders, Ltd., Chatham, Ontario, to specialize on this type of garment for Ford Dealers.

This is a good method of advertising your Service as it quickly reminds your customers that you are specializing in Ford Service and standardize the equipment used among your mechanics giving a neat appearance to the whole Service Department.

There are several methods of lettering the back of such garments. The garments illustrated have the word "Ford Service" printed with a stencil. We find this method is the most satisfactory when everything is taken into consideration. This stencil painted with white paint will give good service if the garment is dry cleaned. It will not stand up under gasoline cleaning.

The Colonial Traders, Ltd., have agreed to furnish a paper stencil with each dozen or larger order free of charge, this to assist in keeping the lettering plain and bright as it will only be necessary to go over them occasionally with white lead paint. These combinations and coats may be purchased in single garments

or in dozen quantities at the following price.

Combinations \$3.35 each delivered P. P.

Coat or duster \$2.75 each delivered P. P.

In dozen lots—Combination—\$3.00 each F. O. B. Chatham.

Coat or duster \$2.50 each F. O. B. Chatham.

Dealers should take advantage of this opportunity and order in dozen quantities as a saving can be effected in transportation in dozen or larger quantities. Be sure to state correct size when ordering.

Place orders with the Colonial Traders, Ltd., Chatham, Ont. By ordering this way, you save money on the garments and standardize on equipment.

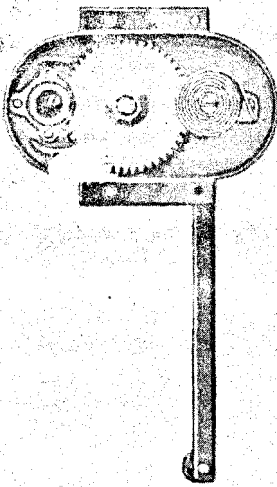


Fig. 62

### Nickle Plated Radiator and Shell

Nickle plated parts, such as Head Lamp Rims and Radiator Shells, which are continually exposed to the weather need considerable care in order to keep them in good condition.

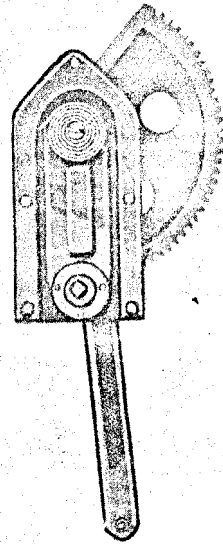
You should instruct your owners to wipe them dry whenever the car is being washed or when they become wet through any cause. It is a good plan to go over them with a rag moistened with a little lubricating oil. It should not be necessary to place sufficient oil on them, however, to cause dust to collect on them to any extent.



17200E  
17201E



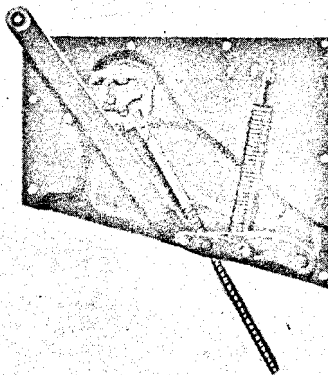
17200DR



17200F  
17201F



17200AR  
17201AR



17595R  
17596R



17200BR  
17201BR

Fig. 63

### Window Regulators

To eliminate the difficulty often experienced in ordering the correct type of Window Regulator for replacement purposes, we have illustrated the various types used to date on closed cars, see Fig. 63.

No. 17200-AR, right, No. 17201-AR, left, No. 17200-BR, right, No. 17201-BR, left and

No. 17200-DR, right and left—these Regulators were used on Coupe and Tudor having composite door. When it is necessary to replace No. 17200-AR, 17201-AR, 17200-BR or 17201-BR, supply or install No. 17200-DR.

No. 17595-R and No. 17596-R were used on all Tudors having composite doors.



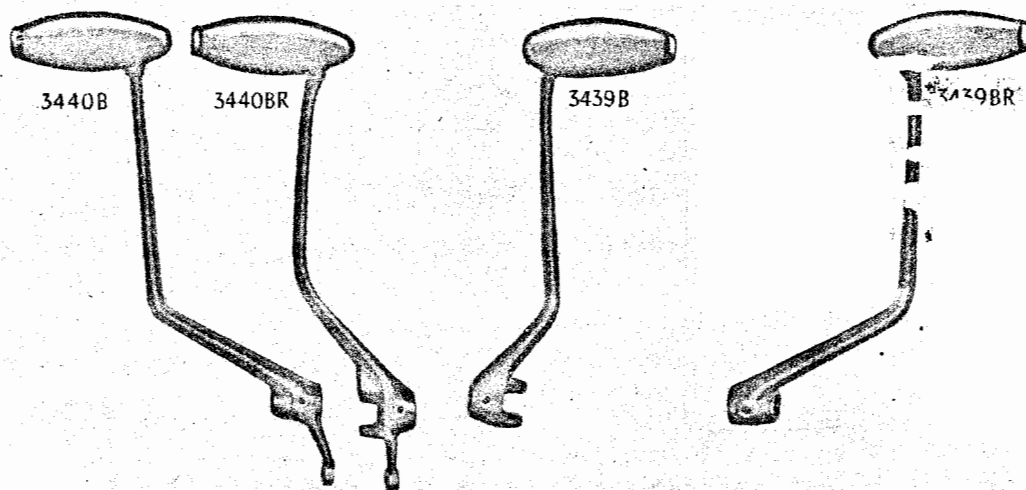


Fig. 64

### New Design Clutch and Brake Pedals

Fig. 64 illustrates the new design Clutch and Brake Pedals, right and left hand control. These parts are carried under the following numbers—

- Brake Pedal, left hand control, 3439-B
- Brake Pedal, right hand control, 3439-BR.
- Clutch Pedal, left hand control, 3440-B.
- Clutch Pedal, right hand control, 3440-BR.

These new pedals are much more convenient than the old type. They are interchangeable with the old type. However, it will be necessary to install new special design floor boards on old models. These floor boards are carried under the following numbers:

- 4200-BRX Floor Board and Plate Ass.  
No. 1—Touring and Roadster.
- 4201-BRX Floor Board and Plate Ass.  
No. 2—Touring and Roadster.
- 9495-BX Floor Board and Plate Ass.  
No. 1—Closed Cars
- 9496-BX Floor Board and Plate Ass.  
No. 1—Closed Cars.

### New Method of Merchandising Parts Bins

(Continued from Page 30 of September, 1925, Service Bulletin)

In September, 1925, Service Bulletin, we gave you a description of the different Parts Bins manufactured by the Dennis Wire &

Iron Works, with the exception of the eight unit system.

This system was drawn up by ourselves and holds approximately a \$3000 stock of parts. This is a very complete set for a medium sized Dealer and sells for \$336.00, set up F. O. B. London. This includes one Gasket Board and Hooks and end irons to hold long material such as Drive Shafts, Drive Shaft Tubing, etc.

### Closed Car Roof Dressing

Several cases have come to our attention where closed roof leather has been ruined through the application of certain preparations of top dressing.

The material which we are now using on our closed car tops is of a superior grade and does not need a dressing of any kind.

Warn your owners not to put dressing on their closed car roofs.

### Rear Radius Rods

We have recently made a change in the method of assembling Rear Radius Rods to the Drive Shaft Tubing.

In place of two No. 2548, Rear Radius Rod Nuts, and two T-82, Cotter Keys, we are using two No. 2549, Radius Rod Lock Nut and two No. 2550, Radius Rod Lock Washer.

This makes a unit in all of four each parts No. 2549 and No. 2550.