ADAPTING THE J. D. ROBERTS ODOMETER TO FORD CARS
USED IN TRAVERSE WORK.*

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The Accompanying drawing illustrates the manner in which the odometer has been adapted to the accurate measurement of short as well as long distances when used on a Ford car. This model has been tested out in actual traverse work for the Bureau of Soils, and has proven to be entirely satisfactory. On the following page is given a full description of the parts required in adapting the odometer to the Ford car.

*This device was briefly described at the Chicago Conference and upon the request of the Secretary, Mr. Schoenmann has prepared the drawing and description, in which we believe all soil survey men will be interested. Additional copies of these pages and also of Mr. Bushnell's design may be secured free.

PARTS REQUIRED IN ADAPTING THE ODOMETER TO FORD CARS

Thirty-five tooth road gear wheel. Attached by three round head wood screws to the inside of right fore wheel.

Stewart Speedometer drive shaft, (flexible chain) complete with $2\frac{1}{2}$ to 1 reduction swivel. Swivel has 16 tooth fibre pinion wheel which is held in place to mesh with and be driven by the road gear wheel by means of a clamp attached to the right hand steering arm.

Wood and iron odometer support bolted together with stove bolts. Upper end of odometer support held in place by Ford body bolt under cowl, lower end fastened to floor (free of foot board) by $\frac{1}{4}$ inch heavy wood screw. Odometer is fastened to odometer support by an ordinary axle clamp. Odometer is set tipped back with dial turned at right angle to line of vision from driver's seat.

Finished Brass Bevel Gears (Catalogue No. B. 127, Chicago Stock Gear Works, 16-20 S. Wells St., Chicago, Ill.) These gears have a ratio of 6 to 1. The larger one fits the odometer shaft and replaces the odometer star wheel. Have set screw to prevent it revolving on odometer shaft. The smaller gear is rigidly attached to a

Round Brass Rod, diameter $\frac{3}{16}$ inch, length 6 inches. The opposite end of this rod has a slot $\frac{3}{32}$ inch wide and $\frac{1}{4}$ inch deep which rests over, and is driven by, the tongue at the upper end of the flexible drive shaft. The rod is held in position against the wood part of the odometer support by two Brass Journal Boxes, $\frac{1}{2} \times \frac{1}{2} \times 1$ inches, $\frac{3}{16}$ hole, (Chicago Model Works, 166-172 W. Madison St., Chicago, Ill. will equip the larger brass bevel gear with set screw, furnish round brass rod, attach small brass bevel gear to rod, cut slot in rod, and furnish brass journal boxes)

The speedometer end of the flexible drive shaft is held in place against the wood part of the odometer support by two nails and a spring coil, (about $\frac{1}{8}$ inch in diameter) This spring allows the required freedom of movement to prevent breaking flexible chain.

Keep a new tire inflated about 55 pounds pressure; a worn tire is about 60 pounds pressure. This should give 498-499 counts of the red odometer hand on a level straight away mile. Keep odometer and working parts well oiled.