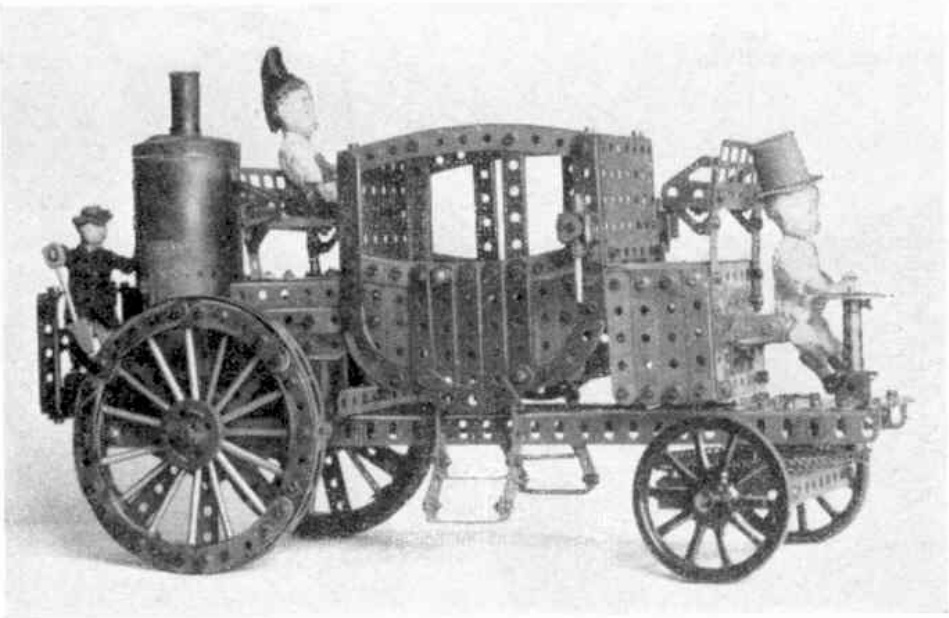

A reminder of a world that has vanished is provided by this realistic and attractive model of an old-time steam-driven carriage. It was designed and built by Lt.-Comm. J. D. Richard, R.N., Derby.

Huddersfield. His mechanism is shown in Fig. 1, and it gives a speed ratio of 2 : 1 between the input and output shafts.

Two Flat Trunnions are bolted to the ends of a $3\frac{1}{2}'' \times 2\frac{1}{2}''$ Flanged Plate. Then two reversed angle brackets, each assembled from two Angle Brackets, are attached to the Flat Trunnions and in them are journalled a 4″ Rod 1 and a $3\frac{1}{2}''$ Rod 2. The 4″ Rod is fitted with a $\frac{3}{4}''$ Contrate Wheel and a 1″ Pulley, and the $3\frac{1}{2}''$ Rod carries a $1\frac{1}{2}''$ Contrate Wheel and a 1″ Pulley, both the Rods being held in place by Collars. The inner ends of these Rods project into the longitudinal bore of a Coupling, through the centre transverse hole of which a 2″ Rod is passed. This Rod is journalled in a Trunnion bolted to the Flanged Plate. The Contrates mesh with one of two 25-tooth Pinions fixed on the 2″ Rod as shown.

Reader's Suggestion for a Clutch Mechanism

In my correspondence recently was a letter from A. Wenbourne, Rochester, the gist of which was as follows: "Being one of the many Meccano enthusiasts who take a great interest in building motor vehicles, I have constructed many transmission systems, with the help of the *Meccano Magazine*. However, I have always had difficulty with clutches owing to end thrust on the bearings, due to the spring pressure. This spring pressure slows the power unit down considerably, and although this may not matter greatly in the case of a vehicle, it may be a disadvantage when used in other models. In any case this difficulty encouraged me to try to design a clutch that would eliminate this trouble and I finally succeeded in doing so by means of the arrangement shown in the accompanying sketches" (reproduced as Fig. 2). In the arrangement I have made, the clutch tends to stay in the disengaged position. If this is undesirable a spring can be placed in the linkage to return it to the engaged position, and a stop so that it does not bear on the clutch.

The construction of the clutch is as follows: To the four outer holes of a $2\frac{1}{2}''$ dia. Gear Wheel 1, Threaded Bosses 2 are bolted, two opposite (*Continued on page 266*)

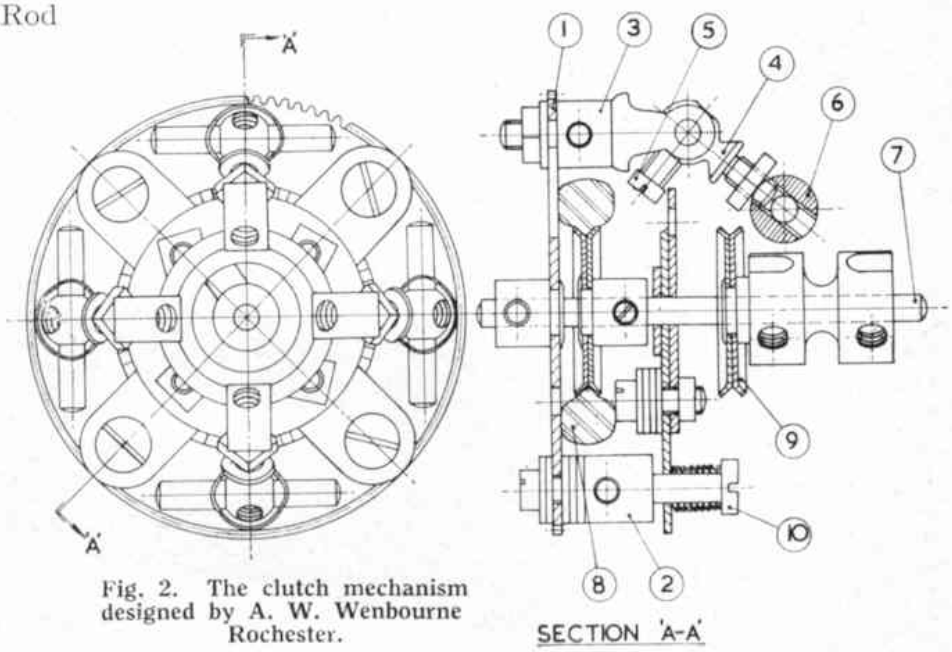

Fig. 2. The clutch mechanism designed by A. W. Wenbourne Rochester.