

# Among the Model-Builders

By "Spanner"

## A Four-Wheel Steering Mechanism

In answer to many recent enquiries I am illustrating in Fig. 1 a simple type of four-wheel steering gear suitable for model vehicles of medium size. Many young model-builders are interested in four-wheel steering, and although this particular design

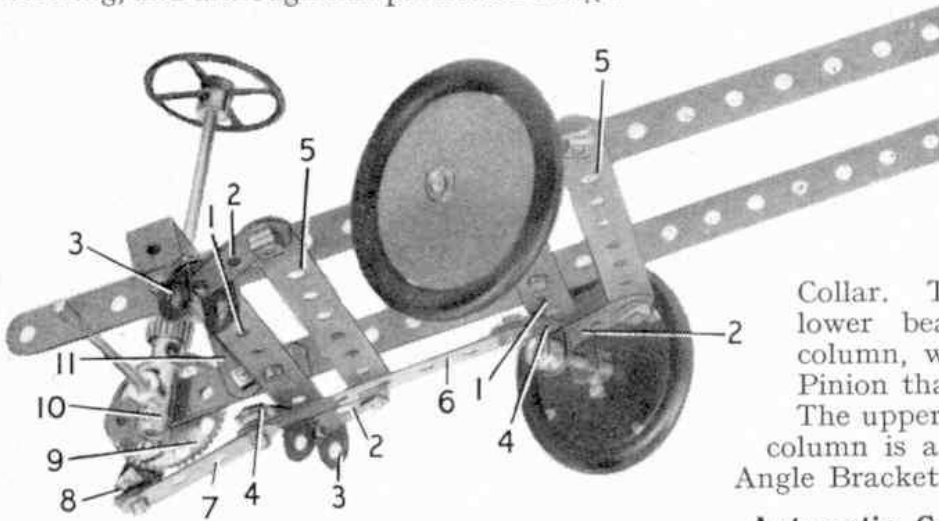


Fig. 1. One of the many simple types of four-wheel steering mechanisms that can be built from Meccano. This example is specially suitable for medium-size models.

appeared in the *Meccano Magazine* some years ago this repeat description is sure to be of interest to younger model-builders who did not see the original.

The steering assemblies for the two sets of wheels are similar in construction, and in each case the axle beam consists of a  $4\frac{1}{2}$ " Strip 1 bolted to a Double Angle Strip fixed across the chassis. A  $\frac{3}{8}$ " Bolt is passed through a  $1\frac{1}{2}$ " Strip 2 and a Double Bracket 3, and these parts are clamped tightly together by a nut. The Bolt is then passed through the axle beam and is fitted with lock-nuts so that it pivots freely. A similar assembly is fitted to the other end of the axle beam, but at this end a second  $1\frac{1}{2}$ " Strip 4 is held tightly on the  $\frac{3}{8}$ " Bolt, at right-angles to the first  $1\frac{1}{2}$ " Strip. The free ends of the Strips 2 are lock-nutted to a Strip 5.

The ends of Strips 4 are linked by a  $3\frac{1}{2}$ " Strip 6, which is attached by lock-nutted bolts. A  $\frac{3}{8}$ " Bolt is used at the front end of Strip 6, and a 2" Strip 7 is also pivoted on this Bolt. The Strip 7 is lock-nutted to an Angle Bracket 8, which in turn is lock-nutted to a Fishplate bolted tightly to a  $1\frac{1}{2}$ " Contrate 9.

The Contrate 9 is fixed on a Rod mounted across the chassis, and a Coupling 10 is slipped on it and held in place by a Collar. The Coupling forms the lower bearing for the steering column, which is fitted with a  $\frac{1}{2}$ " Pinion that engages the Contrate. The upper bearing for the steering column is a Fishplate bolted to an Angle Bracket fixed to a  $1\frac{1}{2}$ " Strip 11.

## Automatic Gear Change Device

The mechanism shown in Fig. 2 is an Automatic Gear Change Device which operates when the input shaft changes its direction of rotation. It was devised by Mr. Ronald Wild, Wyke Regis, Weymouth,

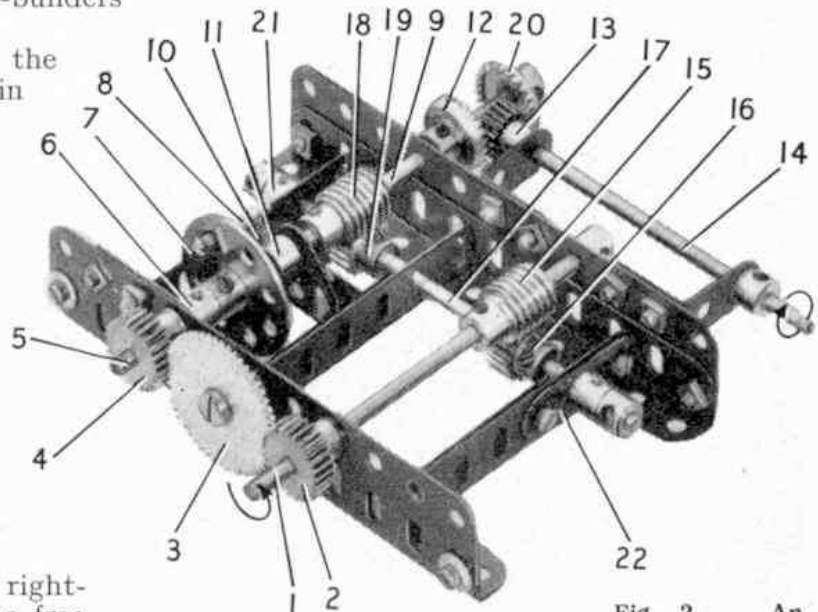


Fig. 2. An automatic gear change device designed by Mr. Ronald Wild, Wyke Regis, Weymouth.