

# Among the Model-Builders

By "Spanner"

## A Hacksaw for The Model-Builders Workshop

Useful tools, built entirely of Meccano parts, have previously been dealt with from time to time in these pages. Yet another instance of the practical uses of Meccano is the Hacksaw Frame shown in Fig. 1. This is built up from two  $9\frac{1}{2}$ " Strips, outside which are two  $7\frac{1}{2}$ " Strips. Curved Strips are bolted at the ends of the  $9\frac{1}{2}$ " Strips, and Washers are placed between them to make them rigid.

At the outer ends of the Curved Strips 2" Strips are bolted, and each pair of the latter carries a Coupling that is fixed by bolts inserted through the Strips and screwed into the tapped bores. A Rod is passed through the Coupling at one end and carries a Wood Roller fitted between two 1" Pulley Wheels to form a handle. A Strip Coupling is carried on the inner end of the Rod to hold one end of the hacksaw blade, the other end of which is held in another Strip Coupling secured to a Screwed Rod.

### Steering Column Gear Change (Fig. 2)

Two Cranks 1 and 2 are each bolted to a 1" Triangular Plate by  $\frac{3}{8}$ " Bolts 3 and 4. The Bolts hold four Washers on their shanks between the bolt head and the Triangular Plate. A second  $\frac{3}{8}$ " Bolt 5 is fixed similarly

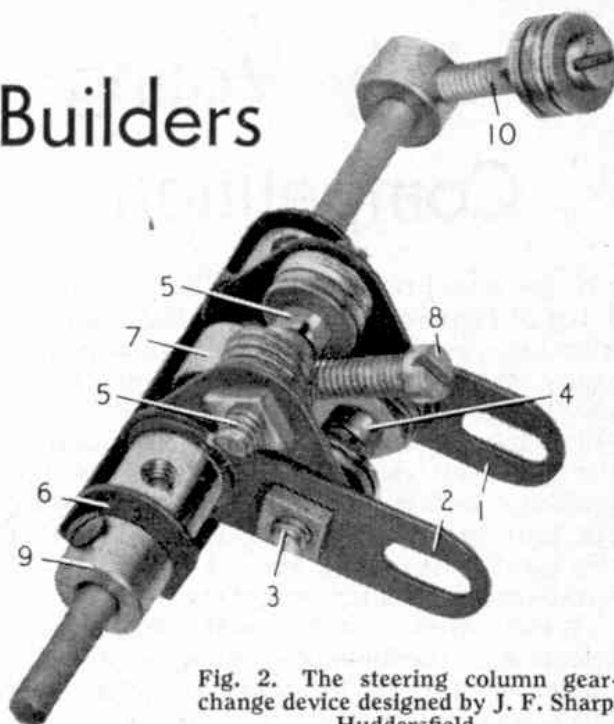


Fig. 2. The steering column gear-change device designed by J. F. Sharp, Huddersfield.

Crank 2 and finally through the second lug of the  $1\frac{1}{2} \times \frac{1}{2}$ " Double Angle Strip. All these parts, except the Collar 7, are free to rotate on the Rod, but the Collar is fixed to the Rod by a  $\frac{3}{4}$ " Bolt 8. The other parts are prevented from sliding off the Rod by a Collar 9. The gear change lever is a  $\frac{3}{4}$ " Bolt 10 to which are fixed four Washers.

Four positions can be obtained with this gear change. When in use in a model the Cranks 1 and 2 are connected to the selectors of the gear-box. When the gear change lever is pulled upwards the Bolt 8 engages between the upper  $\frac{3}{8}$ " Bolts and Washers and by turning the lever in either direction two positions are obtainable. Similarly, if the Bolt 8 is pushed down and sideways two more positions can be obtained.

### Silent Free Wheel Mechanism

The mechanism shown in Fig. 3 is designed primarily as a silent free wheel mechanism, but it operates also as a one way drive device, disconnecting the drive if its direction is reversed.

The driving shaft is a Screwed Rod 1

mounted in suitable bearings and held in place by Collars. A Threaded Boss 2, fixed in a Socket Coupling, is screwed on to Rod 1, and a 1" Pulley fitted with a Motor Tyre is locked in the other end of the Socket Coupling.

The driven shaft 3 is a Rod mounted in

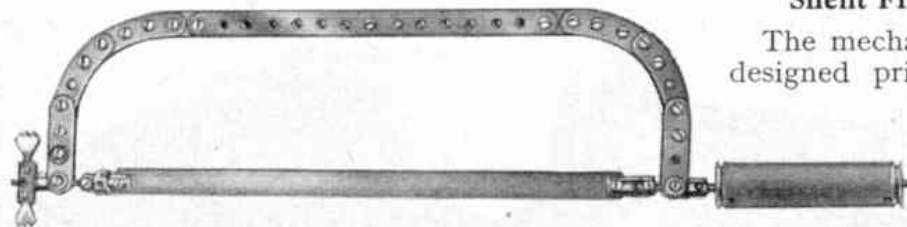


Fig. 1. A useful Hacksaw Frame, built from Meccano parts.

in one of the other holes in each of the 1" Triangular Plates.

A Rod of suitable length is passed through the hole in one of the lugs of a  $1\frac{1}{2} \times \frac{1}{2}$ " Double Angle Strip 6, then through the Boss of the Crank 1 and a 1" Triangular Plate, and then through the Collar 7, the