AMONG THE MODEL BUILDERS

with Spanner

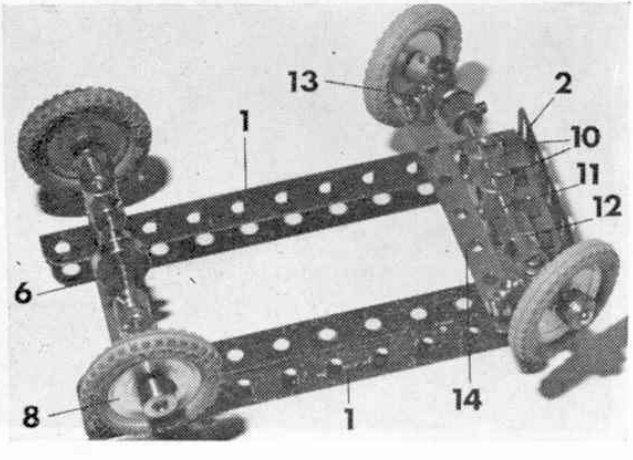
Light-duty Clutch

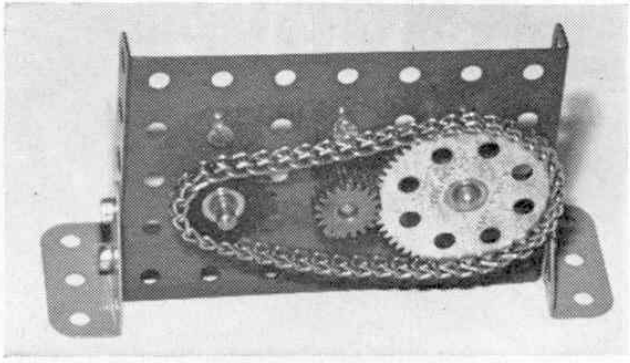
WE BEGIN this month with Clutch from Norman Tudor of Prenton, Birkenhead and is one of the best light examples of this type of mechanism I have seen produced in Meccano. As illustrated, the unit is built up from a $5\frac{1}{2} \times 2\frac{1}{2}$ in. Flanged Plate to which two $1 \times \frac{1}{2}$ in. Double Brackets 1 and 2 are bolted. Double Bracket 1 provides the bearings for the input shaft 3 on the inside end of which a 57-teeth Gear Wheel 4 is mounted. Collars hold the Rod in place.

In the case of the output shaft 5 (held by Collars in Double Bracket 2) this is fixed half-way into the longitudinal bore of a Coupling 6, in the other half of which a $1\frac{1}{2}$ in. Rod is *loosely* mounted. This Rod carries, in turn, a Compression Spring 7 and two 1 in. Fixed Pulleys 8 and 9, the latter fitted with a Rubber Ring and positioned on the end of the Rod. The action of the Compression Spring on Pulley 8 should force the Rod outwards so that the Rubber Ring on Pulley 9 is held tight against the face of Gear Wheel 4. Guides controlling movement of the Rod are provided by two Fishplates 10 mounted on Bolts which pass through the circular holes of the Fishplate and are screwed tight into the tapped bores of Pulley 8. Inserted through the elongated holes of the Fishplates are further Bolts, each carrying a Washer, which are screwed into the end transverse tapped bores of Coupling 6, Nuts on the Bolts preventing them from fouling the $1\frac{1}{2}$ in. Rod.

Any suitable clutch lever can be incorporated, but, for demonstration purposes, I added the rather cumbersome example featured in the illustrations. Two $2\frac{1}{2}$ in. Strips 11 are connected by a $2\frac{1}{2} \times \frac{1}{2}$ in. Double Angle Strip 12, the securing Bolts also fixing a Crank 13 in place in each case. The Strips are then locknutted one to each flange of the Flanged Plate. Two $1\frac{1}{2}$ in. Rods held in the bosses of the Cranks locate between Pulleys 8 and 9.

Just before moving on, I should like to add that a Bush Wheel or a 50-teeth Gear could be substituted for the 57-teeth Gear if particular circumstances require it.





PARTS REQUIRED			
2—5	1—18a	10—37b	3—59
2—10	2—22a	2—38	2—62
2—11a	1—27a	1—48a	1—63
2—16	10—37a	1—52	1—120b
			1—155

Gear-to-Sprocket Drive

Our second offering is a Gear-to-Sprocket Drive system, this was supplied by R. G. Edwards of Sandbach, Cheshire who describes it as ". . . . a compact method of transmitting a gear drive onto a Chain/Sprocket Wheel system." You will see from the accompanying illustration that the mechanism is highly simple being little more than a 57-teeth Gear Wheel coupled direct to a $\frac{3}{4}$ in. Sprocket Wheel. I know this is not standard engineering practice, but I must confess that, in this case, it does work extremely well and so I see no reason why the idea should not be used.

The unit as illustrated was built purely for demonstration, but, as the layout of the important parts, when the idea was applied to a model, would depend entirely on the construction of the individual model, there is no point in describing construction of the demonstration mechanism here. Suffice it to say that, under operating conditions, the 57-teeth Gear 1 would be the final output-drive Gear of the specific gearbox in use, the Gear, itself being driven by $\frac{1}{2}$ in. Pinion 2. Rod 3 would then be required to transfer the drive to elsewhere in the model, therefore $\frac{3}{4}$ in. Sprocket Wheel 4 is connected by Sprocket Chain direct to the Gear Wheel 1. As I say, it certainly works.

You will probably be wondering, however, why we should not follow normal Meccano procedure and mount another Sprocket Wheel on the Rod carrying Gear Wheel 1. Mr. Edwards himself answers this

A simple, but extremely effective suspension system, using Flexible Coupling Units, supplied by James Grady of Dundee, Scotland.