

# BUILD YOUR OWN ELEVATED CRANE

A No. 4 Meccano  
Outfit model  
by Spanner

This Elevated Crane built from a No. 4 Meccano Outfit, reproduces all the movements of its full-size counterparts.

THE POSSIBILITIES of Meccano as a miniature engineering system are limitless. Almost anything mechanical can be reproduced in Meccano but, at the same time, it is true to say that some full-sized machines lend themselves more readily to reproduction than others. Cranes are a typical example and, for this reason, cranes have been a mainstay of Meccano builders since the invention of the system. It's only right therefore, that a crane should be featured in the first issue of the new M.M., and so a crane we offer. The example illustrated is an Elevated Crane and can be built with Meccano Outfit No. 4.

Construction is quite straightforward. A base is built up from a  $5\frac{1}{2} \times 2\frac{1}{2}$  in Flanged Plate, to each side flange of which a  $5\frac{1}{2} \times 2\frac{1}{2}$  in Flexible Plate 1 is bolted. The side and upper edges of the Plate are overlaid by two  $2\frac{1}{2}$  in and one  $5\frac{1}{2}$  in Strip, respectively, the upper securing Bolts also holding two  $5\frac{1}{2}$  in Strips 2 and two  $2\frac{1}{2}$  in Stepped Curved Strips 3 in place. In addition, the same Bolts fix two  $2\frac{1}{2} \times \frac{1}{2}$  in Double Angle Strips 4 between the Flexible Plates to hold the sides together.

Strips 2 are now brought together at the top and are bolted, along with Curved Strips 3, to a Flanged Sector Plate. The Flanged Sector Plates at each side are then joined by another  $2\frac{1}{2} \times \frac{1}{2}$  in Double Angle Strip 5 and by a 3 in Pulley 6, attached to the Plates by Angle Brackets.

## Cab and Jib

It is best to complete the cab separately and fit it to the base when finished. Bolted to each flange of a  $2\frac{1}{2} \times 1\frac{1}{2}$  in Flanged Plate 7 is a  $2\frac{1}{2} \times 1\frac{1}{2}$  in Triangular Flexible Plate 8, extended rearwards by a  $4\frac{1}{2} \times 2\frac{1}{2}$  in Flat Plate 9. A  $4\frac{1}{2} \times 2\frac{1}{2}$  in Flexible Plate 10 is then curved to shape and fixed to the Flat Plates at each side, the upper securing Bolts holding a  $2\frac{1}{2} \times$

$\frac{1}{2}$  in Double Angle Strip between the sides, and the lower securing Bolts holding Angle Brackets, to which a Semi-circular Plate is fixed. Another Semi-circular Plate 11 is bolted, along with a  $2\frac{1}{2} \times 2\frac{1}{2}$  in Flexible Plate 12 edged by a  $2\frac{1}{2}$  in Strip, to the Double Angle Strip. Plate 12 is attached to the sides by Angle Brackets.

Now bolted to each side of the cab, as shown, are a  $3\frac{1}{2}$  in Strip 13 and a  $5\frac{1}{2}$  in Strip 14. These are both brought together at the top and are bent inwards slightly to provide bearings for a 2 in Rod, held in place by Spring Clips and carrying a loose 1 in Pulley with boss 15 together with two 1 in Pulleys without boss 16 and 17.

The jib is easily built up from four  $12\frac{1}{2}$  in Strips arranged in pairs. The Strips in each pair are bolted together at their ends, but are spaced apart at their centres by a Double Bracket 18. The pairs, themselves, are joined at one end by a  $1\frac{1}{2} \times \frac{1}{2}$  in Double Angle Strip 19 and, at their other end, by two Angle Brackets connected by a  $\frac{3}{8}$  in Bolt carrying a  $\frac{1}{2}$  in loose Pulley 20. The finished jib is mounted on a  $3\frac{1}{2}$  in Rod held by Spring Clips in Flanged Plate 7.

Returning to the cab, a  $3\frac{1}{2}$  in Crank Handle 21 is journalled in Flat Plates 9, being held by a 1 in fixed Pulley and a Cord Anchoring Spring. A  $\frac{1}{2}$  in Bolt in the boss of the Pulley engages with a Bolt, held by a Nut in Plate 9, to act as a brake. The Crank Handle must therefore be allowed to slide a little in its bearings to enable the Bolts to disengage. A length of Cord carrying a Hook is tied to the Crank Handle after being passed over Pulleys 20 and 16.

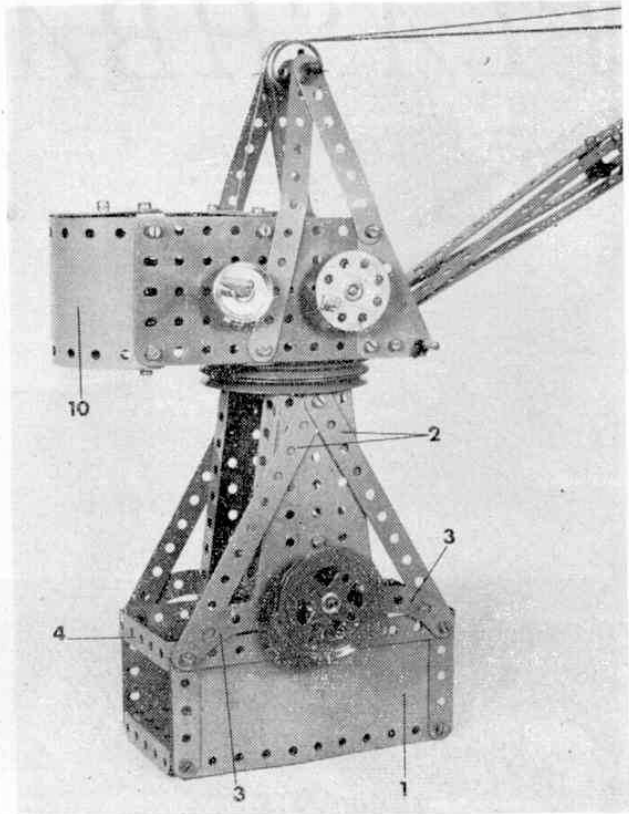
Also journalled in Flat Plates 9 is a  $3\frac{1}{2}$  in Rod 22 held in place by a Spring Clip and an 8-hole Bush Wheel. A  $\frac{3}{8}$  in Bolt held by a Nut in this Bush Wheel acts as a handle, while a brake is provided as in the case of Crank Handle 21. Two identical lengths of Cord are now tied to the end of the jib,

are passed over Pulleys 15 and 17 and are finally tied to Rod 22.

The two sections of the model can now be joined. A 3 in Pulley 23 is bolted to Flanged Plate 7 and to a  $2\frac{1}{2} \times \frac{1}{2}$  in Double Angle Strip 24, fixed between Flat Plates 9. A 4 in Rod 25 is secured in the boss of the Pulley and is then journalled, free, in the boss of the Pulley 6 and Double Angle Strip 5. A 1 in. Pulley with Motor Tyre 26, fixed on the end of the Rod, makes contact with another 1 in Pulley with Motor Tyre 27 on another 4 in Rod, journalled in the Flanged Sector Plates. Mounted on the end of the Rod is a 2 in Pulley 28 which controls the swivelling movement of the Crane.

### PARTS REQUIRED

|         |         |
|---------|---------|
| 4— 1    | 48— 37b |
| 8— 2    | 7— 38   |
| 2— 3    | 1— 40   |
| 5— 5    | 1— 48   |
| 2— 11   | 5— 48a  |
| 8— 12   | 1— 52   |
| 2— 15b  | 2— 53a  |
| 2— 16   | 2— 54   |
| 1— 17   | 1— 57c  |
| 2— 19b  | 4— 90a  |
| 1— 19g  | 6— 111c |
| 1— 20a  | 2— 142c |
| 4— 22   | 1— 176  |
| 2— 22a  | 1— 190  |
| 1— 23   | 1— 191  |
| 1— 24   | 2— 192  |
| 8— 35   | 2— 214  |
| 53— 37a | 2— 221  |



Construction of the Base is clearly shown in this view of the Crane.

Two close-up views showing the construction and winding gear arrangement, looking into the cab.

