



Fig. 1. A general view of the new Meccanograph. This fine machine produces hundreds of fascinating designs, examples of which are shown at the foot of this page.

A New Meccanograph

Fascinating Designs Produced Automatically

THE Meccanograph continues to be one of the most popular among the limitless number of models that can be built from Meccano. For the benefit of new readers we may explain that a Meccanograph is a designing machine by means of which it is possible to produce hundreds of fascinating and beautiful symmetrical patterns such as those shown at the foot of this page, which are actual productions of the Meccanograph described in this article. Several different forms of Meccanograph have been described in the "M.M." in the past, and this month we are able to give details of yet another that possesses several unique features and is capable of producing an even greater variety of beautiful patterns than any of the machines dealt with previously.

The model is built entirely from Meccano parts and is constructed as follows. The frame consists of four $18\frac{1}{2}$ " Angle Girders bolted to the corners of five $5\frac{1}{2}$ " \times $2\frac{1}{2}$ " Flanged Plates which are spaced in the frame as shown. Another $5\frac{1}{2}$ " \times $2\frac{1}{2}$ " Flanged Plate 1, Fig. 2, is bolted at the upper side of the frame to provide bearings for the Rods of the operating heads. A $5\frac{1}{2}$ " Angle Girder 2 serves a similar purpose for the lower ends of these Rods.

The spindle of the drawing table 6 is journaled in Double Bent Strips

bolted to $2\frac{1}{2}$ " Strips, which in turn are fixed to the two $5\frac{1}{2}$ " \times $2\frac{1}{2}$ " Flanged Plates at the front end of the model. Four $2\frac{1}{2}$ " Triangular Plates bolted to the lower $18\frac{1}{2}$ " Angle Girders of the frame serve as legs.

Two $5\frac{1}{2}$ " Angle Girders 3 and 4 are bolted at each side of the frame

in the positions shown, and at their upper ends are bridged by two $9\frac{1}{2}$ " Angle Girders that form running rails for the travelling carriage 5.

The drives to the table 6 and the crown heads 7 and 8, which operate the carriage 5 and pen arm 9, are arranged as follows. Referring to Fig. 2 a compound rod 10 which runs the full length of the model carries a 57-teeth Gear, a 50-teeth Gear, $1\frac{1}{2}$ " Gear, $\frac{3}{4}$ " Pinion and $\frac{1}{2}$ " Pinion in that order. These are arranged to mesh with the following gears on a Rod 11, which are arranged in the following order, commencing from the rear end of the model; $\frac{1}{2}$ " Pinion, $\frac{3}{4}$ " Pinion, $1\frac{1}{2}$ " Gear, 50-teeth Gear and 57-teeth Gear. Outside the frame of the model Rod 11 is fitted with a Sprocket 12, and on its inner end is a $\frac{1}{2}$ " Pinion 13 that engages either of two $1\frac{1}{2}$ " Con- trates 14 fixed on a shaft 15. Rod 15 carries also above the Flanged Plate a $\frac{1}{2}$ " Pinion, a 57-teeth Gear and a $2\frac{1}{2}$ " Gear in that order. The Rods of Crown heads 7 and 8 each carry a $\frac{1}{2}$ " Pinion 16, a 57-teeth Gear 17 and a $2\frac{1}{2}$ " Gear 18. These gears are all fixed on their Rods, but those on the centre Rod 15 are normally free, only one of them being fixed as desired, when operating the model. The Rod 10 drives the drawing table through a Worm 19, Fig. 1, which engages a 57-teeth Gear fixed on the shaft of the table.

The travelling carriage and the pen arm are constructed as follows. The framework of the carriage consists of two $3\frac{1}{2}$ " \times $2\frac{1}{2}$ " Flanged Plates to which two $5\frac{1}{2}$ " \times $3\frac{1}{2}$ " Flat Plates are bolted. The axles are journaled in Double Angle Strips fixed to the lower $5\frac{1}{2}$ " \times $3\frac{1}{2}$ "



