

# THE MECCANO LOOM

## FOR REAL WEAVING

### INSTRUCTIONS FOR BUILDING THIS REMARKABLE MODEL

*In this instalment we conclude the article on building the Meccano Loom, commenced in our July issue. This model illustrates the wonderful genius of the Meccano system, for every technical operation in the process of weaving is perfectly carried out, exactly as in actual manufacture. Hat-bands, ties and other similar fabrics may be woven with the Meccano Loom; and the skill and artistic abilities of the model-builder are expressed in the resulting patterns and combinations of colours.*

(Continued).

#### Heald Motion

THIS is brought out in Fig. J. On the far end of the rod 8 is a crank 25 (two cranks butted together), the outer end of which is connected to  $9\frac{1}{2}$ " and  $5\frac{1}{2}$ " angle girders, overlapped 9 holes, forming a connection 26, the top of which is coupled to an extended crank 27 fixed to a rod 28. The element 27 is made up of a  $2\frac{1}{2}$ " strip the end hole being on the rod 28, and with 2 cranks reversed and bolted through the strip.

On the other end of the rod 28 are secured 2 bush wheels 29, which are fastened together by  $\frac{3}{4}$ " bolts. A  $2\frac{1}{2}$ " strip 30 and 3" strip 31 are bolted to the bush wheels, and hooks are connected to the outer ends of these 2 strips. The chains 32 and 33 are passed over 1" sprocket wheels 34 on the rod 35 and are connected to the heald frames 36.

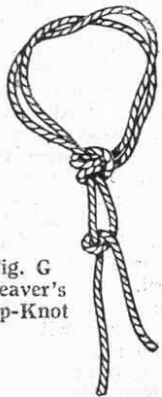
#### Slay

The construction of the slay 40A is shown in Fig. I, the reed consisting of a number of  $2\frac{1}{2}$ " strips (spaced with washers) 40, mounted on upper and lower rods and carried on the angle girders 41 pivoted on the rod 42. The slay is rocked to and fro from a rod 43, Fig. C\*, which is driven from the gear wheel 6, a  $\frac{3}{4}$ " pinion 44 on the rod 43 meshing with the gear wheel 6.

On both ends of the rod 43 are fixed cranks 45 which are connected to the cranked bent strips 46, Fig. F, on the slay by means of  $4\frac{1}{2}$ " strips 47. In Fig. B the rear strip is shown hanging down disconnected.

The sides of the slay consist of  $5\frac{1}{2}$ " flat girders 48, and the pulley wheels 49 round which the picking cords run are carried as shown in illustration, Fig. I.

Fig. G Weaver's Slip-Knot



\* Illustrated in the July "M.M."

The shuttle moves along the "slay," which supports and guides it as it is jerked from one side of the loom to the other by means of the "picking stick," suspended from above. Attached to the

on its outer hole by a hook coupled to a spring 56. The spring 56 therefore rocks the upper rod rearwardly, and takes up the slacking formed by the shedding action of the healds.

The beam 50 is braked by means of cords 57 passing over 2" pulleys 58 and secured to the frame of the loom, the other ends being connected to hooks 59, engaging a hole in the strip 60 pivoted at 61, weights 62 on the outer ends of the strip 60 putting the required frictional resistance on the beam 50.

#### Preparing to Weave

In preparing to weave, the first thing to be done is to pass the ends of the warp from the beam (situated at the back of the loom) through the mails of the healds and then through the reed. One or more threads are passed through each division of the reed, and attached to the taking-off roller.

By turning the crank, the shuttle is jerked across the loom and passes over the threads held down by the lower heald and beneath those raised by the upper heald, at the same time leaving in its wake a loose thread of weft. The slay then moves forward and brings up the reed, which drives before it this thread or "first pick" of the weft. By continuing to turn the handle, the same process is repeated, the shuttle being again jerked back and across the loom, this time from the other side. The reed again moves forward and presses up the second pick against the first. The taking-off roller in the meantime slowly rotates, and as the weaving proceeds it rolls around itself the woven fabric.

A suitable material for use in this model is No. 8 Star

Fig. H Shuttle

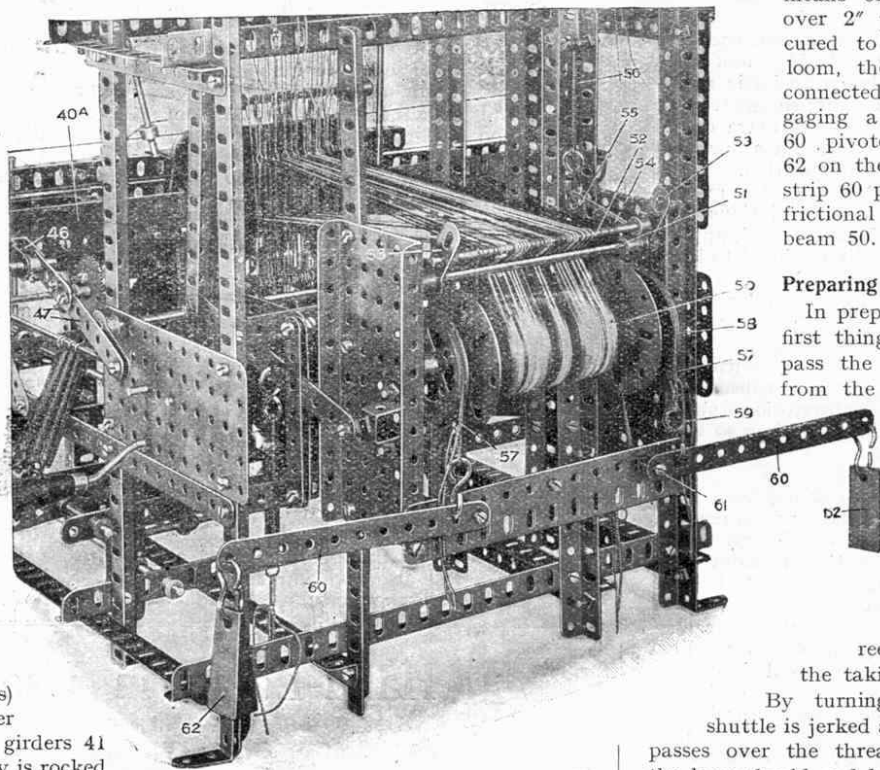


Fig. F

slay is the "reed," which moves forward with the slay, after every crossing of the warp by the weft.

#### Warp Thread Tension Mechanism

In order to compensate for the slacking of the warp threads which develops when the shed is formed by the motion of the healds, the warps are passed from the beam 50, Fig. F, under the rod 51 and over another rod 52 and thence through the eyes of the healds to the reed.

The rod 52 is given a continuous rearward tensional movement as follows: it is carried on cranks 53 fixed on the lower rod 51; another crank 54 to which is connected a  $2\frac{1}{2}$ " strip 55, the end hole being threaded on the rod 51, is connected