

Spanner solves a 'Past Masters' problem with this specially designed model

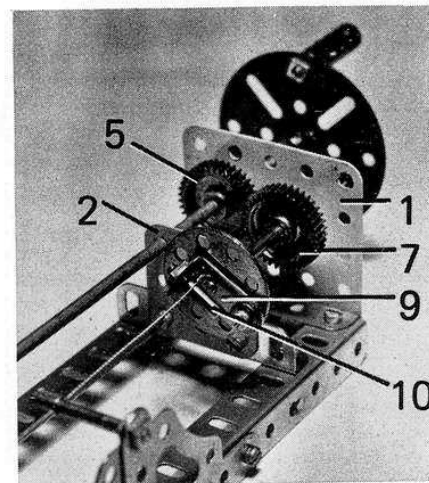
# HEALD~MAKING MACHINE

BEING A TRUE working model, the Meccano Loom featured on the two previous pages makes use of healds to carry and manipulate the warp threads during weaving. The healds are vital components, but unfortunately, since the model was first published twenty years ago, the purpose-made Meccano Heald (Part No. 101) which was included in the system has been discontinued. Lesser magazines might be discouraged by this, but not so the MMQ; if it isn't made, make it, we say, and the machine described here is designed to do just that!

Making your own healds sounds a daunting prospect, but in fact it is remarkably easy and the machine required for the job is simple, as can be seen from the illustration above. A solid frame work is produced from two 9½" Angle Girders, connected together at each end by a 2½" Angle Girder, the securing Bolts in each case also fixing a 2½" x 2½" Flat Plate 1 in position. Two more 2½" Angle Girders are bolted between the 9½" Girders, one through the third holes in from each end, and bolted to each of these is a 1½" x 1½" Flat Plate 2. Centrally fixed to one of the 9½" Girders are two Corner Gussets 3, overlapped as shown, a Long Threaded Pin 4 being tightly locked in the apex holes of the Gusset.

Journalled in one set of upper corner holes of Flat Plate 2 and in

Close-up of one Bush Wheel assembly



the corresponding holes in Flat Plate 1 is an 11½" Rod, held in place by a Collar and a 1" Gear Wheel 5 at one end and by a ½" Pinion 6 at the other end. Gear 5 meshes with a second 1" Gear 7 on a 3" Rod journalled in the remaining upper corner hole of nearby Plate 2 and in the corresponding hole in Plate 1. This Rod is free to move approximately a quarter-inch in its bearings, but it is held in tension by the action of a Compression Spring positioned on the Rod between the back of Plate 1 and a Collar 8. Mounted on the inner end of the Rod is an 8-hole Bush Wheel, to the face of which a 1" x ½" Angle Bracket 9 is fixed by its long lug, with the end of the Rod just protruding through the inner hole in the lug. A Threaded Pin 10 is fixed to the short lug of the Angle Bracket.

A similar Threaded Pin / Bush Wheel construction is built up and mounted on the inner end of another 3" Rod journalled in corresponding holes in remaining Plates 1 and 2. Again, the Rod is free to slide a short distance in its bearings, being held in tension by a Compression Spring and Collar, but this Rod carries a ½" Pinion 11 instead of the previous 1" Gear. The Pinion meshes with a second ½" Pinion which is free to revolve on a Long Threaded Pin 12, locked in the second row centre hole of Flat Plate 1. The Pinion, which is prevented from sliding on the Pin by a Collar, also meshes with Pinion 6 on the 11½" Rod. As a result, when the 11½" Rod is revolved, the two Threaded Pin/Bush Wheel constructions contra-rotate (revolve in opposite directions in relation to

each other). A winding handle for the long Rod is provided by a Face Plate 13, to which is fixed a Long Threaded Pin carrying a loose Coupling and a Collar to serve as an easy-turn handle, although this, of course, is a non-essential refinement.

With the Machine completed, operation can begin and it should be stressed that the secret of successful heald-making lies in the wire used. We found that No. 24 s.w.g. steel or copper wire gave perfectly good results.

Cut an 11½" length of wire and form it into a loop by twisting the ends together. Extend the loop into a large sausage shape and mount in the machine by hooking the ends over Threaded Pins 10, with Long Threaded Pin 4 projecting through the centre of the loop. Then, turn the winding handle until the two Compression Springs are fully compressed — and you have one completed heald!

It will be found that the original twisted-together ends of the wire will project, but this should not effect the operation of the healds when mounted in the Loom.

## PARTS REQUIRED:

2 - 8a	2 - 31	2 - 74
4 - 9d	21 - 37a	2 - 108
2 - 12b	19 - 37b	1 - 109
1 - 13	4 - 38	2 - 111c
2 - 16a	5 - 59	2 - 115
2 - 24	1 - 63	3 - 115a
3 - 26	2 - 72	2 - 120b

No. 24 s.w.g. Steel or Copper Wire