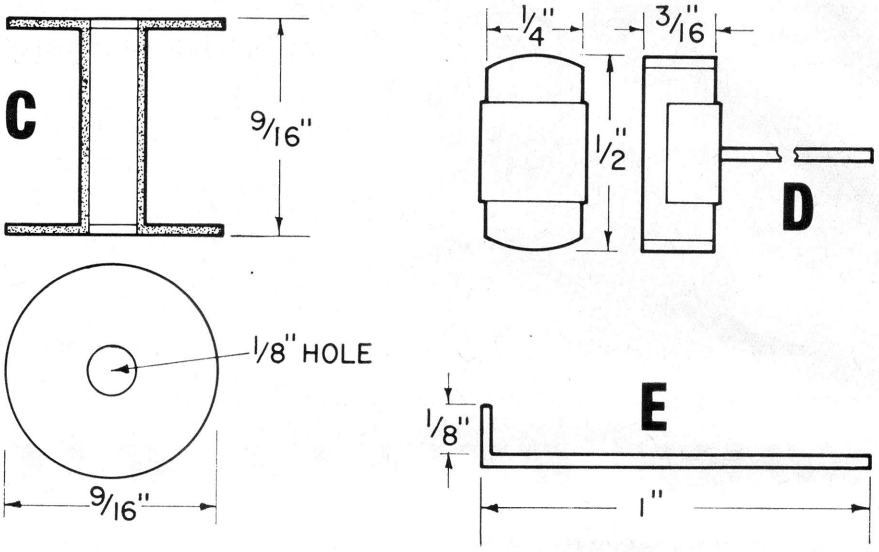

Drawing twice full size

left with a disc 1 in. in diameter. The hole in the brass bush must be a good fit for the steel shaft E.

Item B – 2 required.

From an old transformer lamination cut out two pole pieces to the measurements given in B and clean off all scale and varnish along the shaded edge so the pole pieces can be securely soldered to the brass disc later. Bore $\frac{1}{8}$ in. hole through each piece.

Item C

Make a bobbin to the given dimensions. The end discs can be made from two pieces of paxolin and the centre by rolling a piece of paper around a $\frac{1}{8}$ in. diameter rod. After slipping the end discs over the paper tube, the whole can be coated with Araldite and set aside to harden. A bobbin from some of the earlier R.E.P. relays is also a satisfactory size, although the centre hole is slightly larger.

Item D

The magnet is obtained from a cheap Japanese motor of the type which has a small magnet on either side of the armature. These appear to be made of Alnico and being very hard, must be ground to the required size on an emery wheel. The magnet has a diameter of $\frac{1}{2}$ in.

Item E

The shaft is made from steel wire about 1/32 in. in diameter.

Item F

The clip is made from thin brass and fitted around the magnet. The steel shaft is passed through the hole in the brass clip and soldered, then secured to the magnet with Araldite. Make sure the shaft is perpendicular to the centre of the magnet.

Fill the bobbin almost to the edge with 38 gauge enamel wire and securely fix two lead out wires of thin flex to the coil with some adhesive tape.

Bolt the two pole pieces to the coil with a steel bolt and carefully curve them around a piece of rod 9/16 in. in diameter to the shape shown in G.

Now solder the pole pieces to the brass disc, fitting them over the shaded areas as shown in A. Let the shorter arms touch the scribed line LM and use the circular scribed lines to make sure they are correctly centred. Use Baker's fluid as a flux for this and clean it off thoroughly after the job is finished.

Remove the coil and magnet and push two brass pins through the holes X and Y from the side opposite the scribed lines, then solder them in place. The pins must be a tight fit in the holes. Cut the pins off about $\frac{1}{4}$ in. long.

Now assemble the actuator, making sure the magnet moves freely and does not touch the pole pieces.

If on passing a current through the coil (4.8 volt DEAC) the magnet hits stop X and does not return to the rest position against Y, bend stop X slightly away from the pole piece nearest to it. If the magnet does not move when the current is first turned on, try reversing the connections to the battery.

Once working correctly, a few turns of copper wire and a spot of solder will prevent the shaft moving endways in the bush. The steel shaft may be connected to the torque rod in the plane by means of a small spring obtained from an old ball point pen.

This actuator is suitable for Flipper R.C.M.&E., March 1965 or Pumkin Seed R.C.M.&E., March 1964.

It will be necessary to drill two holes in the brass disc so that the actuator can be screwed into the model.

Drawing twice full size