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JACQUARD PATTERN CYLINDER

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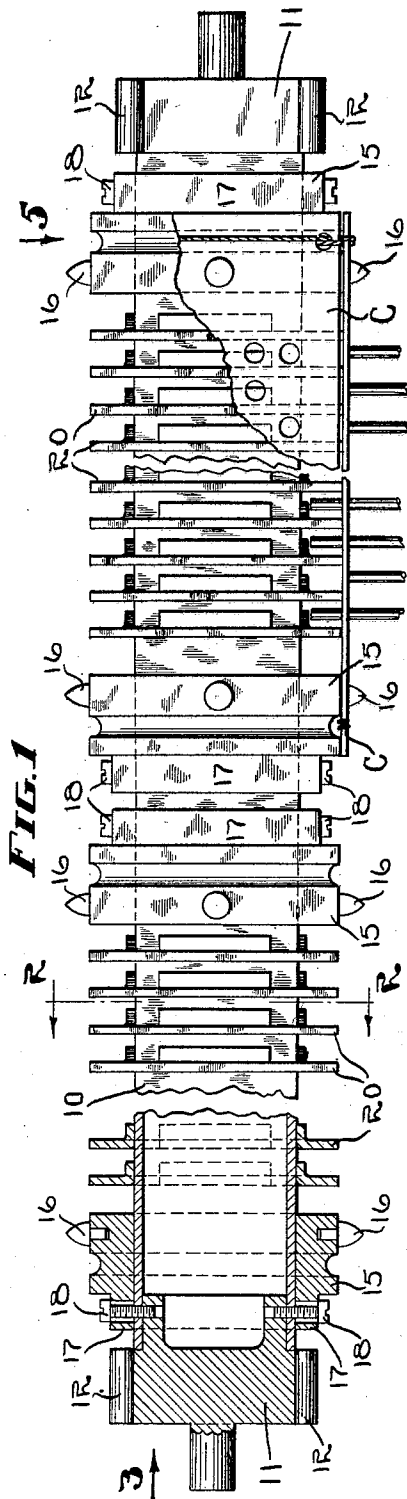


FIG. 1

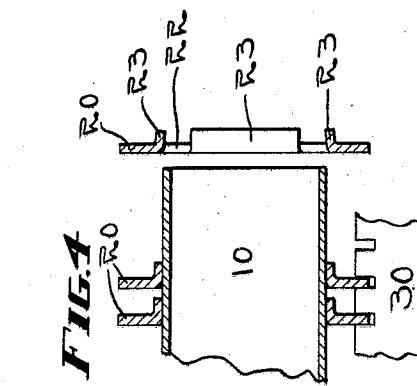


FIG. 4

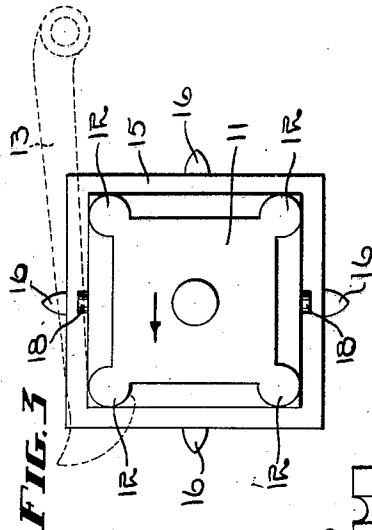


FIG. 3

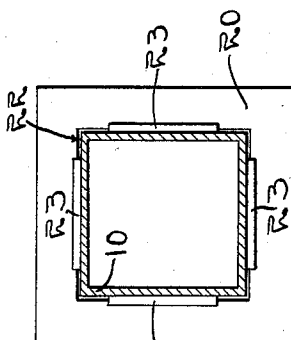


FIG. 2

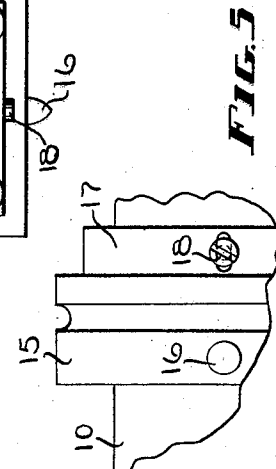


FIG. 5

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## JACQUARD PATTERN CYLINDER

Application filed December 19, 1930. Serial No. 503,504.

This invention relates to a cylinder for supporting pattern cards in a Jacquard loom. Such cylinders are usually rectangular or polyangular in cross section, and each flat side or face of the cylinder must be so constructed that the jacquard needles may pass freely through the perforations in the pattern cards. It is also necessary that the cards be firmly supported closely adjacent the paths of the needles, so that they may firmly resist the pressure of the needles where no perforations occur.

It is the general object of my invention to provide an improved construction for such a pattern cylinder, permitting the cylinder to be economically manufactured, and giving it the necessary accuracy for use with closely adjacent needles.

In the preferred form, my improved cylinder comprises a plurality of metal plates or partitions mounted on a non-circular supporting member and secured thereon in accurately spaced relation.

My invention further relates to arrangements and combinations of parts which will be hereinafter described and more particularly pointed out in the appended claims.

A preferred form of the invention is shown in the drawings, in which

Fig. 1 is a side elevation, partly in section, of my improved pattern cylinder;

Fig. 2 is a sectional end view, taken along the line 2—2 in Fig. 1;

Fig. 3 is an end view, looking in the direction of the arrow 3 in Fig. 1;

Fig. 4 is a detail sectional elevation, showing the manner in which the plates or partitions are assembled; and

Fig. 5 is an enlarged detail view, looking in the direction of the arrow 5 in Fig. 1.

Referring to the drawings, my improved pattern cylinder comprises a tubular supporting member 10, shown herein as a metal tube of rectangular cross section. Bearing heads 11 are fitted into the ends of the supporting member 10 and are provided with the corner projections 12 for engagement by the usual feed pawl 13 (Fig. 3).

Card engaging members 15 are slidable on the member 10 and support the side edges

of the pattern cards C. These members 15 are provided with conical studs 16 which enter enlarged perforations along the side edges of the cards and accurately position the cards on the cylinder. The members 15 are provided with hub portions 17, slotted to receive binding screws 18 by which the members 15 may be secured on the supporting member 10 in axially adjusted position.

A plurality of partition members 20 are mounted between each pair of card-engaging members 15 and support the pattern cards closely adjacent to the perforations therein and to the paths of movement of the jacquard needles. Each partition member 20 has a rectangular opening 22 therein and is also provided with flanges 23 at the sides of said opening.

These flanges 23 are preferably formed integral with the members 20 by bending outward portions of stock projecting into the openings 22. The flanges 23 are so spaced apart that they fit snugly on the supporting member 10 when assembled therewith. It will be noted, however, that the flanges are of less height than the distance between adjacent faces of the partition members when assembled.

In assembling the partition members on the supporting member or tube 10, I preferably proceed as follows:

I first provide the outer surface of the rectangular tube 10 with a coating of tin or of a low melting alloy or solder, and I similarly coat the partition members 20 and particularly the parts thereof adjacent the central openings 22. I then assemble the partition members on the tube 10 and accurately position them in their desired axial spacing, as by the use of a slotted gauge bar or index (Fig. 4).

When the parts are thus assembled, I heat the partition members 20 and tube 10 in some convenient manner, as by directing heated air or gas through the tube 10, until the temperature of the parts is raised sufficiently to melt the tin or solder coating between the engaging parts of the tube 10 and members 20. After the tin or solder is melted, the parts are allowed to cool while still retained

in accurate spacing. Upon cooling, the parts are found to be firmly secured together and in the exact desired positions. The gauge 30 may if desired be removed after the partitions are assembled, and before the heating operation. In this case, the partitions will be held in assembled relation by friction on the tube 10.

By making the flanges 23 of less height than the spacing between the members 20, and by positioning all of the members by reference to a standard gauge bar as 30 instead of by gauging each partition member from its adjacent member, I avoid any accumulation of errors and produce a pattern cylinder in which all of the partitions are accurately located. This is of great importance, as the needles in fine jacquards are very closely spaced and a variation of a thirty-second of an inch in the position of a partition member may render the whole mechanism inoperative.

The provision of the slotted hubs of the card-engaging members 15 and the adjusting screws 18 is also of importance, as it permits accurate adjustment of the card-engaging members with reference to the cards and also with reference to the partition members 20.

Having thus described my invention and the advantages thereof, I do not wish to be limited to the details herein disclosed, otherwise than as set forth in the claims, but what I claim is:—

1. A jacquard pattern cylinder comprising a non-circular supporting member, and a plurality of sheet metal partition members mounted thereon and firmly secured thereto in accurately spaced relation, said partition members having non-circular central openings and having portions of material adjacent said openings offset to form flanges snugly engaging said supporting member, said flanges being of less height than the distance between adjacent partition members when assembled.

2. The method of forming a jacquard pattern cylinder which consists in coating a non-circular tube with a low melting metal, providing a plurality of partition members having flanged central openings snugly fitting said tube, coating said partition members adjacent said flanged central openings with a low melting metal, placing said partition members on said tube, accurately spacing said partition members axially along said tube, and applying heat to said tube and assembled members sufficient to melt the metal coatings and in thereafter cooling said parts while thus positioned, thereby securing said members in accurately spaced assembled relation.

3. The method of forming a jacquard pattern cylinder which consists in providing a supporting core member, providing a plurality of partition members each having a central opening from which extends a flange,

placing said partition members on the core with the flanges extending along and in frictional contact with the core, accurately positioning the members longitudinally of the core while maintaining them out of contact with each other, and subsequently securing the members to the core while in frictional contact therewith.

4. A jacquard pattern cylinder comprising a supporting member, and a plurality of partition members having flanged bearing portions snugly fitting over said supporting member, said partition members being permanently secured to said supporting member in accurately spaced relation, and the flanged bearing portions of said partition members being spaced and out of contact with each other when in assembled relation on said supporting member.

In testimony whereof I have hereunto affixed my signature.

ELBRIDGE R. HOLMES.