No. 764,578. PATENTED JULY 12, 1904.

R. W. GORMLY.

THREAD GUIDE FOR CIRCULAR KNITTING MACHINES.

APPLICATION FILED JUNE 30, 1902.

NO MODEL.

FIG 1

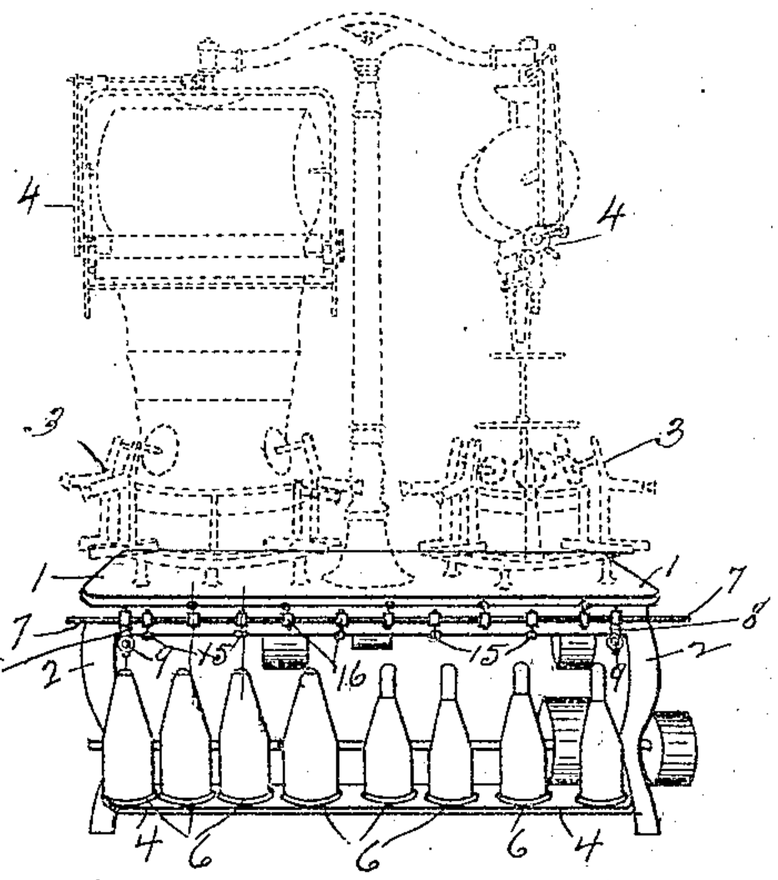


FIG 4

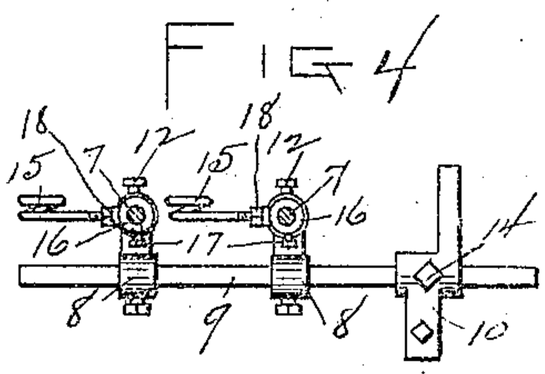


FIG 3

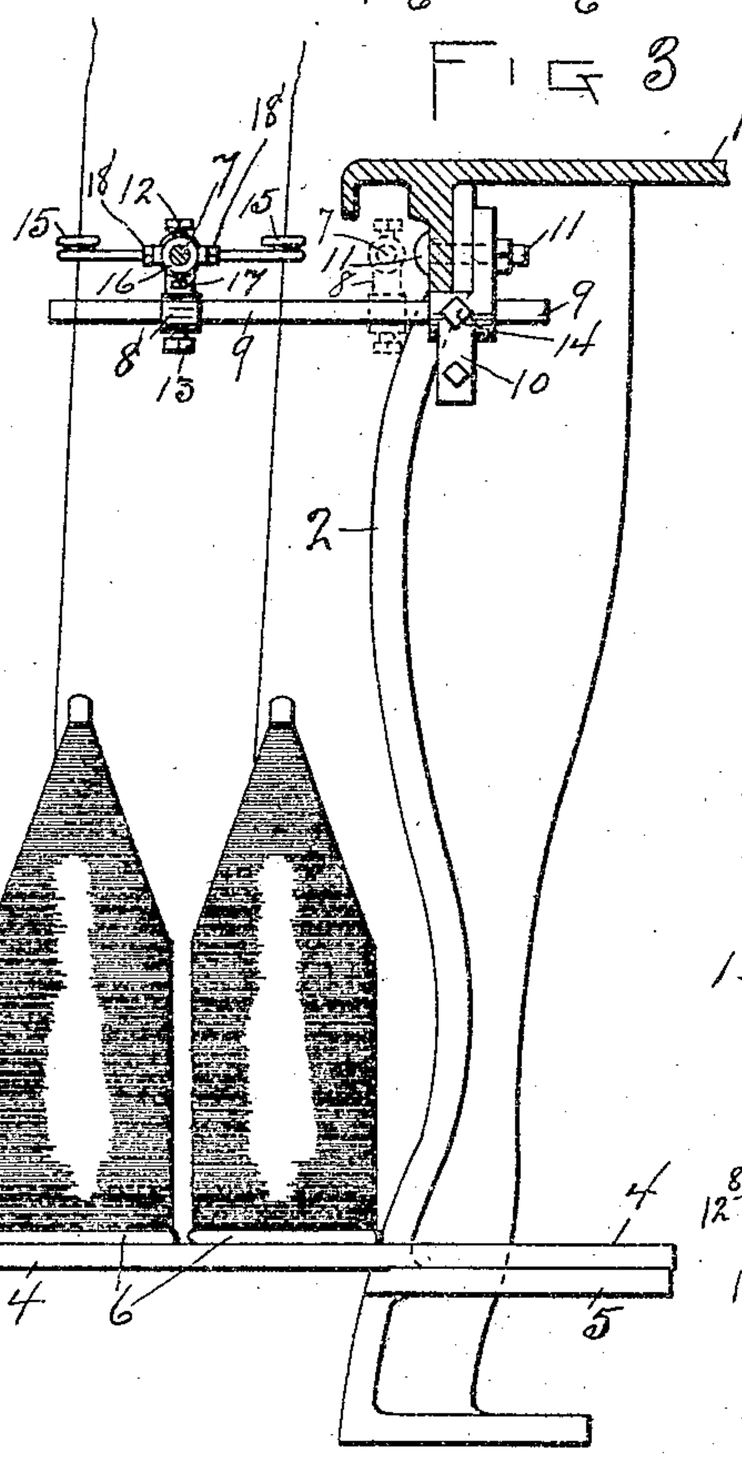
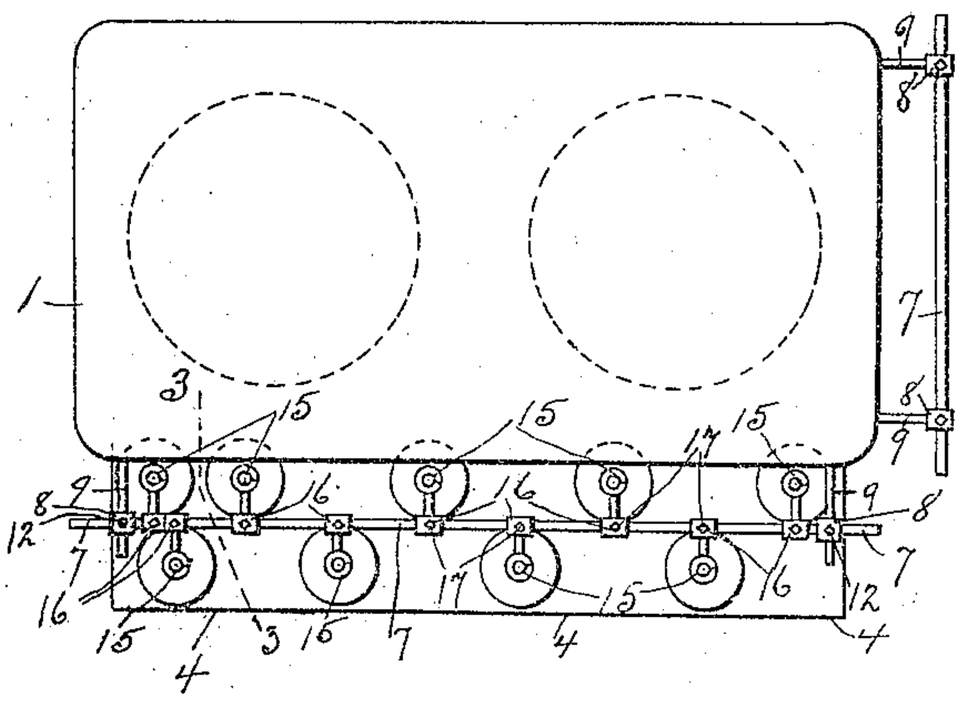


FIG 2



WITNESSES

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UNITED STATES PATENT OFFICE.

ROBERT W. GORMLY, OF TROY, NEW YORK.

THREAD-GUIDE FOR CIRCULAR-KNITTING MACHINES.

SPECIFICATION forming part of Letters Patent No. 764,578, dated July 12, 1904.

Application filed June 30, 1902. Serial No. 113,723. (No model.)

To all whom it may concern:

Be it known that I, ROBERT W. GORMLY, a citizen of the United States, residing at Troy, county of Rensselaer, and State of New York, have invented certain new and useful Improvements in Thread-Guides for Circular-Knitting Machines, of which the following is a specification.

The invention relates to such improvements; and it consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

Reference may be had to the accompanying drawings, and the reference characters marked thereon, which form a part of this specification.

Similar characters refer to similar parts in the several figures.

Figure 1 of the drawings is a view in perspective of a two-cylinder table for circular-knitting machines provided with my improved thread-guide supports, indicating by dotted lines the position of various parts of the knitting mechanism, which form no part of the present invention. Fig. 2 is a top plan view of the table in outline only, the position of the cylinders being indicated by dotted lines. Fig. 3 is a vertical cross-section of the same, taken on the broken line 3 3 in Fig. 2. Fig. 4 is a view similar to Fig. 3, showing a modification of the invention, the table being omitted.

The object of the invention is to facilitate the adjustment of thread-guides for the transmission of the thread or yarn from the bobbins to the stitch-forming mechanism.

I have shown the invention applied to the table of a circular spring-needle knitting machine of a well-known type having two cylinders.

Referring to the drawings, the table 1 is of general rectangular form in plan, having the supporting-legs 2, upon which the stitch-forming mechanisms 3 and take-up mechanisms 4 are mounted in the usual manner. The stitch forming and taking-up mechanisms may be of any known form and form no part of the present invention, and for convenience of illustration they are represented only by dotted lines in the drawings.

Extending along one or more sides of the machine is a bobbin-support comprising a platform 4, fixed upon and supported by lugs 5 on the legs of the table near their lower ends. This platform is provided with seats 6, each adapted to receive and support in upright position a bobbin in the usual manner. In the transmission of the thread or yarn from the bobbins to the various feeding devices of the knitting mechanism apertured guides are employed to change the direction of the thread at various points and prevent contact thereof with the table and other parts of the machine, by contact with which the thread might be soiled, frayed, broken, or subjected to undue strain. To facilitate the unwinding of the thread from the bobbins, it is of great importance that the first thread-guide through which the thread passes after leaving a bobbin should be accurately located, the most suitable position for the same being above and in vertical line with the axis of the bobbin. In machines of this class the number of feeds and number and location of bobbins vary for different styles of work. To facilitate the adjustment of the thread-guides, I provide along one or more sides of the machine a rail or rod 7, extending practically the whole length of said side and adjustably connected near each end with the table by means of the bracket 8, mounted upon the slide-rod 9, reciprocatory in bracket 10, fixed to the table by means of the bolt 11, whereby a leg 2 is also secured to the top of the table. The rod 7 is secured in the bracket 8 by means of the screw-bolt 12, and said bracket is adjustably fixed to the slide-rod 9 by a similar bolt 13, which permits adjustment of the bracket upon the slide-rod, if desired. The slide-rod is locked in adjusted position in the bracket 10 by means of a similar bolt 14. By loosening the bolts 14 the slide-rod 9 can be reciprocated in the brackets 10 to locate the rail 7 at any desired distance from the side of the table, and when it is not desired to use the rail 7 it may be located in its extreme position of inward adjustment beneath the overhanging edge of the table, as indicated by dotted lines in Fig. 3. Mounted upon the rails 7 are the desired number of thread-guides, each having a loop or eye 15 and a sleeve 16, adapted to receive

and slide upon the rod 7, as well as to rotate thereupon, and adapted to be secured in different positions of adjustment by means of the screw-bolt 17. The eye or loop 15 is preferably formed by bending a piece of wire to the desired shape, the shank end of the wire being screwed into the sleeve 16 and secured by a lock-nut 18. The guides can thus be made to assume any desired position along the rod 7, as well as any desired angular position thereupon. It is thus possible to locate each guide directly in line with the axis of the bobbin from which it receives thread, the distance from the side of the machine being regulated by adjustment of the bracket 8 upon the slide-rod 9 or of the slide-rod 9 upon the bracket 10 and the position of each guide longitudinally of the rod 7 being regulated by adjustment of the sleeve 16 upon said rod. The other guides may be adjusted upon the rod 7, so as to project outwardly therefrom, in which case the thread is guided outside the rod 7, or they may project inwardly therefrom, in which case the thread passes between said rod and the side of the table. This feature of adjustment is important in certain cases where two kinds of yarn are employed, as in making plushwork, the construction shown permitting one bobbin to be placed directly back of another and the thread therefrom to be properly guided by two of said guides in close proximity to each other, one projecting inwardly and the other outwardly from the rod 7, the size of the guides being such that the distance between the eyes 15 of two guides so arranged is approximately the diameter of a bobbin, permitting two bobbins to be arranged one directly back of the other with the axis of each approximately in line with the eye 15 of its guide. In like manner thread-guides may be supported on the several sides of the machine, if desired. If desired, a plurality of such rods 7 may be provided along the side of the machine, both, if desired, being mounted upon the same slide-rods 9, as shown in Fig. 4.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a machine of the class described the combination with the rectangular cylinder-supporting table; of a straight horizontal rod; adjustable connections between said table and rod whereby the rod can be secured in adjusted position at different distances from the table; and thread-guides adjustably mounted upon said rod, substantially as described.

2. In a machine of the class described the combination with the table; and a bobbin-support below the table; of a straight horizontal rod; adjustable connections between said table and rod whereby the rod can be located at different distances from the table; means for locking the rod in adjusted position; thread-guides rotatively mounted upon and movable longitudinally of said rod; and means for locking said guides in adjusted positions upon the rod, substantially as described.

3. In a machine of the class described the combination with the table; of a straight rod; rod-supporting brackets adjustable both horizontally and vertically upon said table; means for locking said brackets in adjusted position upon the table; and thread-guides adjustably mounted upon said rod, substantially as described.

4. In a machine of the class described, the combination with the table; and a bobbin-support beneath the table provided with bobbin-supporting seats one in rear of another; of a rod supported adjacent to said table above said bobbin-support; thread-guides rotatively mounted upon said rod and adjustable longitudinally thereupon; and means for locking said guides in adjusted position upon said rod, substantially as described.

In testimony whereof I have hereunto set my hand this 21st day of June, 1902.

ROBERT W. GORMLY.

Witnesses:

GEO. A. MOSHER,

E. M. O'REILLY.