

(No Model.)

2 Sheets—Sheet 1.

C. E. WAKEMAN.

DEVICE FOR CENTERING KNITTING MACHINE CYLINDERS.

No. 479,862.

Patented Aug. 2, 1892.

Fig. 1.

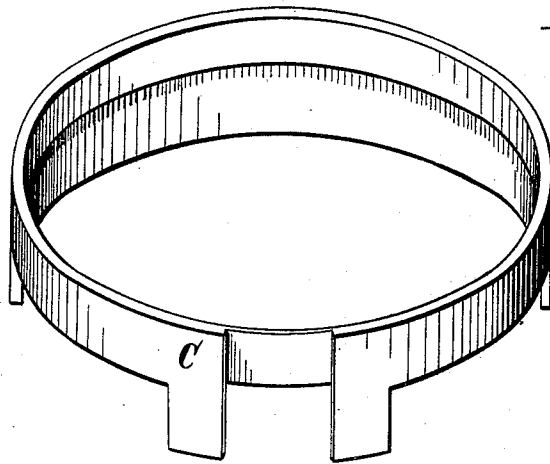
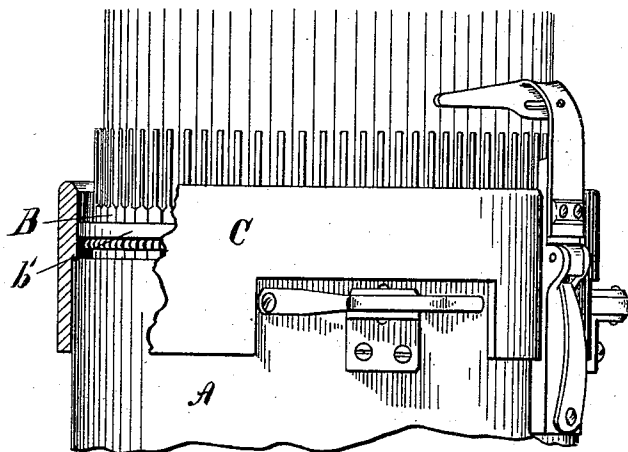


Fig. 2.



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his Attorneys.

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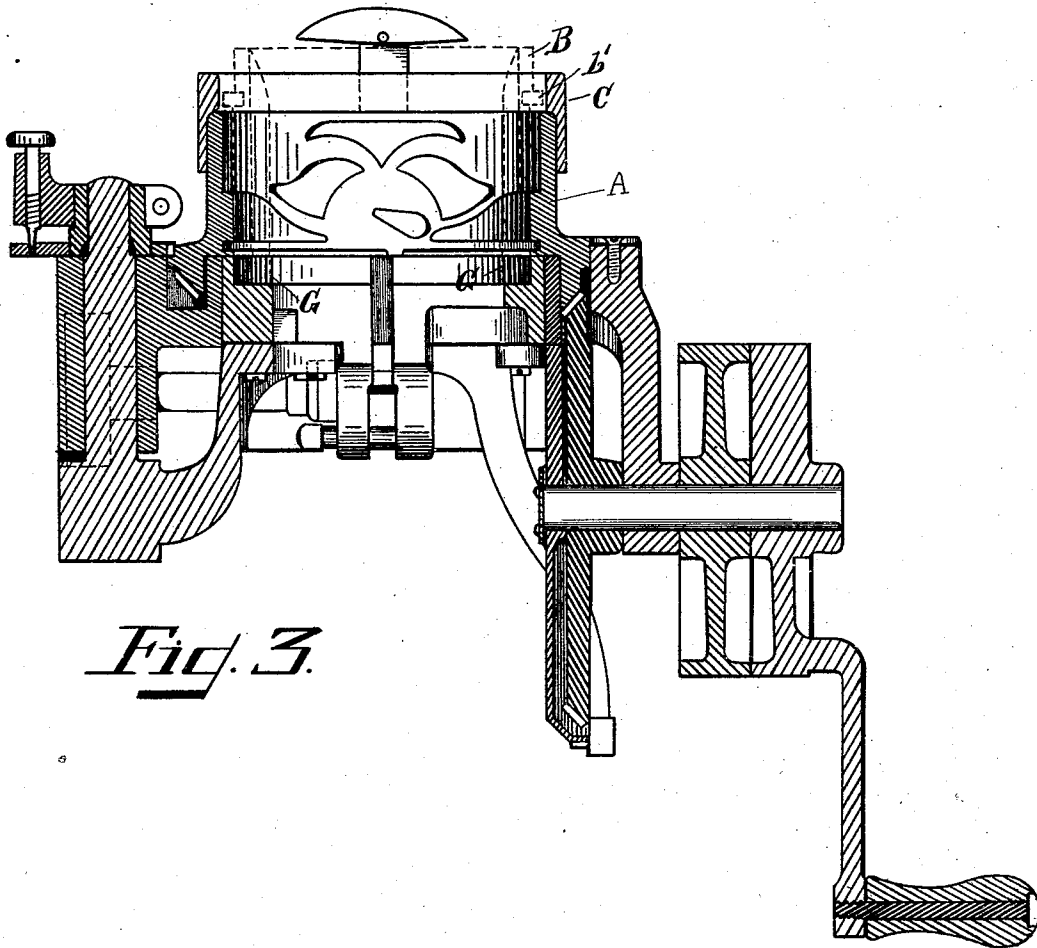


Fig. 3.

WITNESSES

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UNITED STATES PATENT OFFICE.

CHARLES E. WAKEMAN, OF PONTIAC, MICHIGAN.

DEVICE FOR CENTERING KNITTING-MACHINE CYLINDERS.

SPECIFICATION forming part of Letters Patent No. 479,862, dated August 2, 1892.

Application filed January 25, 1892. Serial No. 419,101. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. WAKEMAN, a citizen of the United States, residing at Pontiac, county of Oakland, State of Michigan, have invented a certain new and useful Improvement in Devices for Centering Knitting-Machine Cylinders; and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to knitting-machines employing a needle-cylinder which, when the machine is in operation, is situated within a cam-cylinder carrying the cams which operate the needles, the same being known as "circular-knitting machines," and one being shown in the patent to J. C. Egly, No. 357,472, February 8, 1887; and it consists in combining, with the cam-cylinder, means for centering the needle-cylinder when placed in position, so that it cannot be inadvertently locked by the locking devices in a position slightly eccentric to a central one. This in the practical operation of the machine when so locked in a slightly-eccentric position results in a varying length of stitch around the article manufactured upon it and in other respects causes the machine to work imperfectly.

It is found in practice, especially in the use of a large number of power-machines in large factories, that the employes are not careful enough to see that the needle-cylinder is brought to an exact bearing when returned to the cam-cylinder before locking. Therefore the locking devices do not positively secure the needle-cylinder in an exact central position with reference to the cam-cylinder at all times, and this is more especially so when the bearing-surfaces become worn, and the consequence is that work which thus is unevenly and imperfectly knitted has to be raveled, resulting in great loss and expense.

The object of my invention, therefore, is to provide means whereby on the replacing of the needle-cylinder it must at all times be guided and come to a center with reference to the cam-cylinder, no matter how careless or hasty the operator may be when returning it.

In the drawings, Figure 1 represents the special device which I employ for that purpose. Fig. 2 illustrates the parts in position. Fig. 3 is a sectional elevation of a machine constructed according to the said patent of J. C. Egly, and showing the locking devices described therein adapted to grip and hold the bottom end of the needle-cylinder, and showing the needle-cylinder in position in dotted lines.

Similar letters refer to similar parts.

Inasmuch as these knitting-machines are well-known devices, I do not deem it necessary to illustrate the features further than I have done so in the drawings.

In said drawings, A represents the cam-cylinder, B the needle-cylinder, and C the collar or ring properly recessed to fit over or around and accommodate the attachments on the cam-cylinder and which slips over the cam-cylinder, being properly turned for that purpose. On some needle-cylinders like the one illustrated there is a circumferential ring *b'*, which holds the needles in their slots. On others there is a coil of wire, and there are still other forms. The ring or collar C which I provide rises above the cam-cylinder, as is shown in Fig. 2, and the inner surface is turned to form a loose bearing for that part of the needle-cylinder or ring or coil of wire surrounding it which lies outside of the needles. The collar C therefore forms a bearing for the needle-cylinder in addition to the bearing G, adapted to grip and hold the bottom end of said needle-cylinder, as in the patent to Egly, and afforded at the bottom or at the locking-point, as shown at G G in Fig. 3. This bearing compels the needle-cylinder, when placed in position, to take a position concentric with that of the cam-cylinder, no matter how hastily or carelessly it may be placed in position. The collar C is not rigidly attached to the cam-cylinder, but slips over it with a tight fit, and may be removed at any time when desired. It, however, turns with it, there being play enough between it and the part of the needle-cylinder against which it bears to prevent any friction between the inner surface of the collar or lugs and the bearing, but not enough to prevent the collar centering the needle-cylinder in the manner specified.

It is evident that virtually the collar might be cut into sections and removably attached in the form of lugs or spurs to the cam-cylinder, which, by projecting upwardly and being
5 properly adjusted, would also serve the purpose of centering the needle-cylinder in substantially the same manner. The collar, however, is far more convenient to manufacture, and is more easily adjusted, as it requires no
10 screws or other means of attaching it to the cam-cylinder. I do not, therefore, desire to limit myself to the exact form shown, but prefer the collar as described.

What I desire to secure by Letters Patent
15 is—

1. In a circular-knitting machine, the combination of a needle-cylinder, a cam-cylinder, and means attached thereto for centering the needle-cylinder, substantially as described.

2. In a circular-knitting machine, the combination of the needle-cylinder B, the cam-cylinder A, and the collar C for centering the needle-cylinder within the cam-cylinder, substantially as described.

3. In a circular-knitting machine, the combination of a needle-cylinder, a bearing adapted to grip and hold the bottom end of said needle-cylinder, and a guiding-collar adapted to center and hold in place the upper end of said needle-cylinder, substantially
25 as and for the purposes described. 30

In testimony whereof I sign this specification in the presence of two witnesses.

CHARLES E. WAKEMAN.

Witnesses:

C. F. BURTON,
MARION A. REEVE.