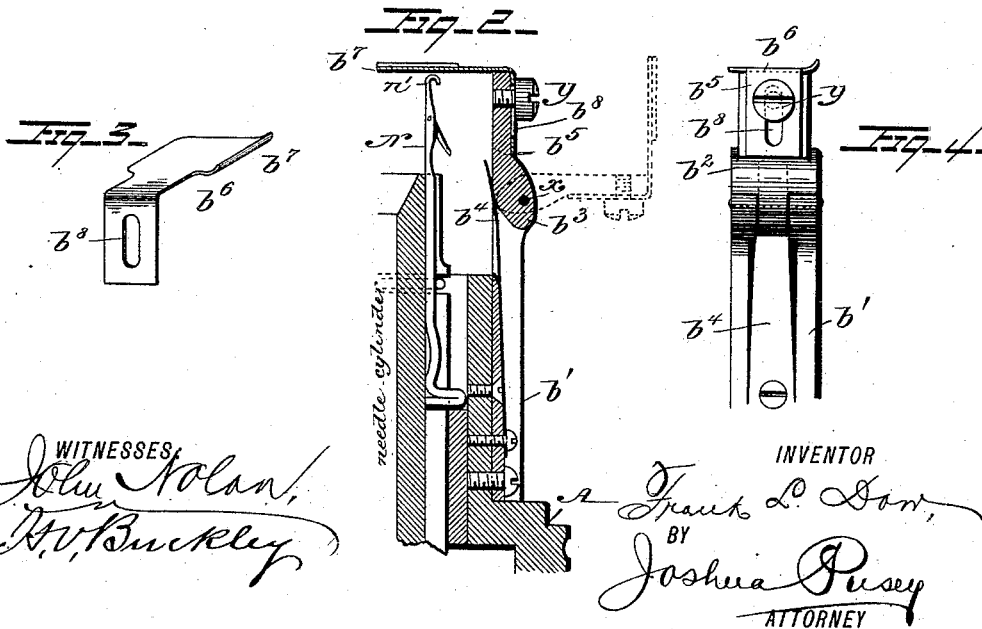
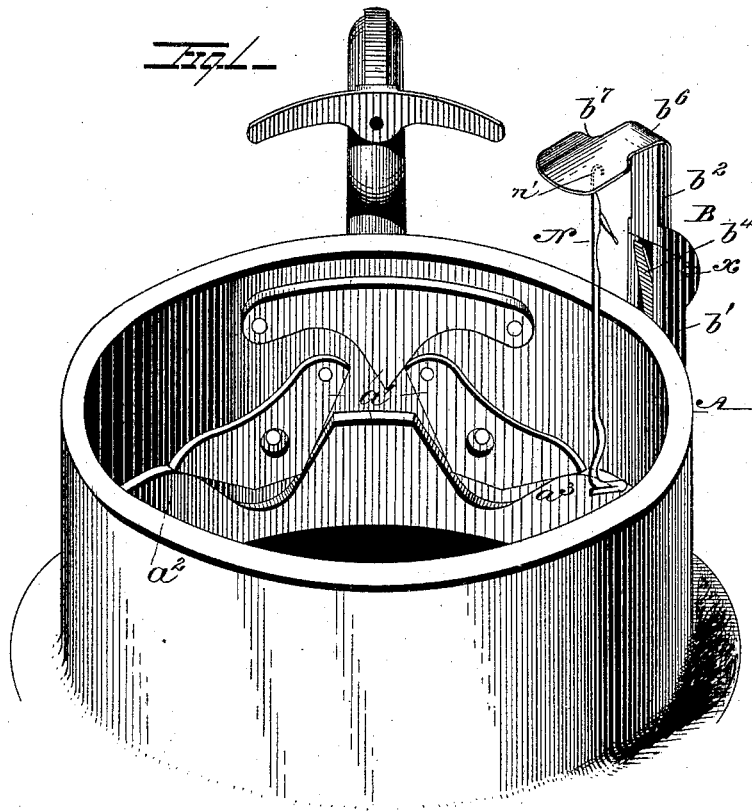


(No Model.)

F. L. DOW.
CIRCULAR KNITTING MACHINE.

No. 421,915.

Patented Feb. 25, 1890.



UNITED STATES PATENT OFFICE.

FRANK L. DOW, OF ROCHESTER, NEW YORK, ASSIGNOR TO JAMES L. BRANSON, OF PHILADELPHIA, PENNSYLVANIA.

CIRCULAR-KNITTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 421,915, dated February 25, 1890.

Application filed January 21, 1889. Serial No. 297,008. (No model.)

To all whom it may concern:

Be it known that I, FRANK L. DOW, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Circular-Knitting Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, of which—

Figure 1 is a perspective view of a portion of a knitting-machine cam-cylinder to which my device is applied. Fig. 2 is a vertical section through said device and the adjacent sides of the cam and needle cylinders. Fig. 3 is a perspective view of the check-plate detached. Fig. 4 is an end view thereof and of its supporting-arms.

The object of this invention is to provide a means whereby to limit the upward throw or movement of knitting-machine needles upon their disengagement from the actuating-cams when the stitch is completed.

The invention consists in the combination, with the cam-cylinder, of an inwardly-projecting arm or plate of novel construction secured to said cylinder with such relation to the cams therein that the needle-hooks will strike against the under side of said arm or plate, and the needles be thereby checked in their upward movement should they be thrown unduly high from the cams upon the completion of the stitch.

It consists, also, in means whereby said arm or plate may be readily thrown from the path of the needles to enable the latter, or a portion thereof, to be raised or moved out of action with the cams during the operation of forming the heel and toe parts of a stocking, &c.

It consists, also, in making said arm or plate adjustable vertically, whereby it may be arranged to accommodate needles of various lengths, or for other purposes, as occasion may require.

It consists, also, in details which will be hereinafter pointed out.

Referring to the annexed drawings, A represents the cam-cylinder of a knitting-machine, a' being the cams therein, and a^2 the needle-rest.

B represents the jump-check attachment,

whose construction and operation are as follows: b' is a vertical arm or post, which is secured by screws or other means to the exterior of the cylinder A, adjacent to the summit of the lower cam-incline a^3 . To the upper end of this arm or post at x is pivoted an arm b^2 , against whose lower end b^3 , which is cam-shaped, as seen, bears a flat spring b^4 , for a purpose hereinafter explained. To the upper end of arm b^2 is secured, by a screw y or other device, one limb b^5 of an angular plate b^6 , the other or horizontal limb b^7 thereof extending over the edge of the cam-cylinder at a point slightly above the hooks n' of the needles N when the latter are in contact with the needle-rest.

From the foregoing-described construction it will be seen that as the cam-cylinder rapidly rotates if the needles be thrown unduly high from the cams upon completion of the stitch the needle-hooks n' will strike against the under side of the limb b^7 and the needles be thereby checked in their upward movement. The arm b^2 , to which the limb b^5 is secured, being pivoted to the post b' , as described, may be readily thrown out of the path of the needles when a portion of the latter are raised out of action with the cams during the operation of forming the heel and toe parts of the stocking, &c., and the spring b^4 bearing against the cam-shaped end of said arm tends to hold the latter in its idle and active positions, as more clearly shown in Fig. 2. The screw-hole b^8 in the limb b^5 is elongated, whereby the plate may be adjusted vertically when required to suit needles of different lengths or for other purposes. The edge of the plate b^6 adjacent to the cams is turned up as seen, in order to deflect the needles downward if they shall happen to strike against said edge.

Having thus described my invention, I claim as new and wish to secure by Letters Patent—

1. In a knitting-machine, the combination, with the cam-cylinder, of the check-plate connected therewith with such relation to the needle-actuating cams as to extend over and above the needle-hooks when the needles are thrown from the cams upon completion of the stitch, substantially as described.

2. In a knitting-machine, the combination, with the cam-cylinder, of the check-plate connected therewith with such relation to the needle-actuating cams as to extend over and
5 above the needle-hooks when the needles are thrown from the cams upon completion of the stitch, and provided with the inclined or upturned edge, substantially as described.

3. The combination, with a knitting-machine cam-cylinder, of the vertical post attached thereto and the check-plate connected with said post with such relation to the needle-actuating cams as to extend over and
10 above the needle-hooks when the needles are thrown from the cams upon completion of the stitch, substantially as described.

4. In a knitting-machine, the combination,

with the cam-cylinder, of the post b' , the pivoted arm b^2 , the check-plate on the upper end of said arm, and the spring, substantially as
20 described.

5. The combination, with a knitting-machine cam-cylinder, of the post b' , the pivoted arm b^2 , the angular plate b^7 , provided with the screw-slot b^8 , its screw y , and the
25 spring, substantially as described.

In testimony whereof I have hereunto affixed my signature this 31st day of December, A. D. 1888.

FRANK L. DOW.

Witnesses:

G. W. OSBURN,
W. H. ALMY.