

R. D. LEECH..

Cams for Knitting-Machines.

No.150,964.

Patented May 19, 1874.

Fig. 1

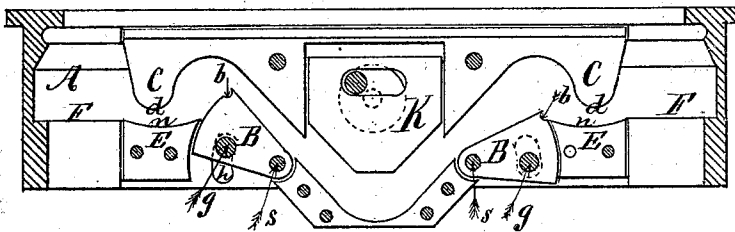
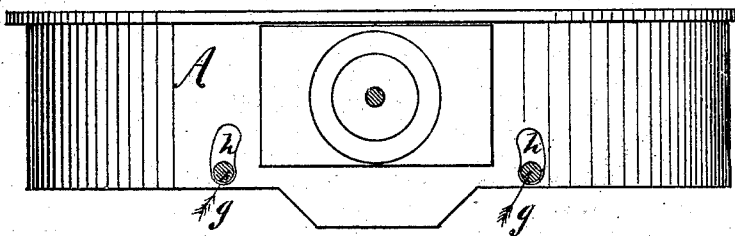


Fig. 2.



Witnesses.
Franklin Barritt,
Richard Gerner.

Inventor.
Robert D. Leech.
Per.
Henry Gerner.
atty.

UNITED STATES PATENT OFFICE.

ROBERT D. LEECH, OF NEW YORK, N. Y.

IMPROVEMENT IN CAMS FOR KNITTING-MACHINES.

Specification forming part of Letters Patent No. **150,964**, dated May 19, 1874; application filed April 28, 1874.

To all whom it may concern:

Be it known that I, ROBERT D. LEECH, of New York city, county and State of New York, have invented certain Improvements in Knitting-Machines, of which the following is a specification:

The object of my invention is to provide an improved cam, worked automatically by the needles, and applied to the interior of the revolving cylinder, by the aid of which the machine may be worked in either direction.

My invention consists of pivoted side cams, having a nick or indentation in the upper part of their side faces, in connection with stationary upper cams, having their points extended so far down that the butts of the needles are brought below the level of the needle-shelf into depressions in stationary side connections. These connections are so shaped that the needles receive a slight upward movement before coming in contact with the indentations in the side faces of the pivoted side cams, whereby these cams are raised as high as stops applied to their lower backs will admit, when, the angle of the indentations being altered, the butt of the needle will be allowed to slip off and be drawn down by means of the stitch-cam. When the machine is reversed the needle will depress one side cam and raise the opposite one. Thus, by revolving the machine in either direction, the pivoted side cams will alternately be raised and lowered auto-

matically, by means of the needle-butt being brought in contact with the indentations therein.

In order to more fully describe my invention I refer to the accompanying drawing, forming a part of this specification.

Figure I is a side view, showing the interior of the cam-cylinder. Fig. II is a side view of the exterior of the same.

A is the cam-cylinder. B B are the side cams, pivoted at S to the cylinder A, and each provided with an indentation, *b*. C C are the stationary upper cams, each having a point, *d*, which is nearly in line with the upper part of cam B. E E are the stationary side connections, having depressions *n*. F is the needle-shelf; K, the stitch-cam; and *g*, stops riveted to the lower part and back of the cams B, and operating in the slots *h*.

Having thus described my invention, I desire to claim—

The side cams B, provided with the indentations *b*, in combination with the cams C, having the points *d*, the side connections E, having the depressions *n*, the stitch-cam K, needle-shelf F, stops *g*, slots *h*, and cam-cylinder A, substantially as and for the purpose hereinbefore set forth.

ROBT. D. LEECH.

Witnesses:

ANTON C. CRONDAL,
FRANKLIN BARRITT.