(No Model.)

2 Sheets—Sheet 1.

E. E. RANDALL.

KNITTING MACHINE.

No. 480,938. Patented Aug. 16, 1892.

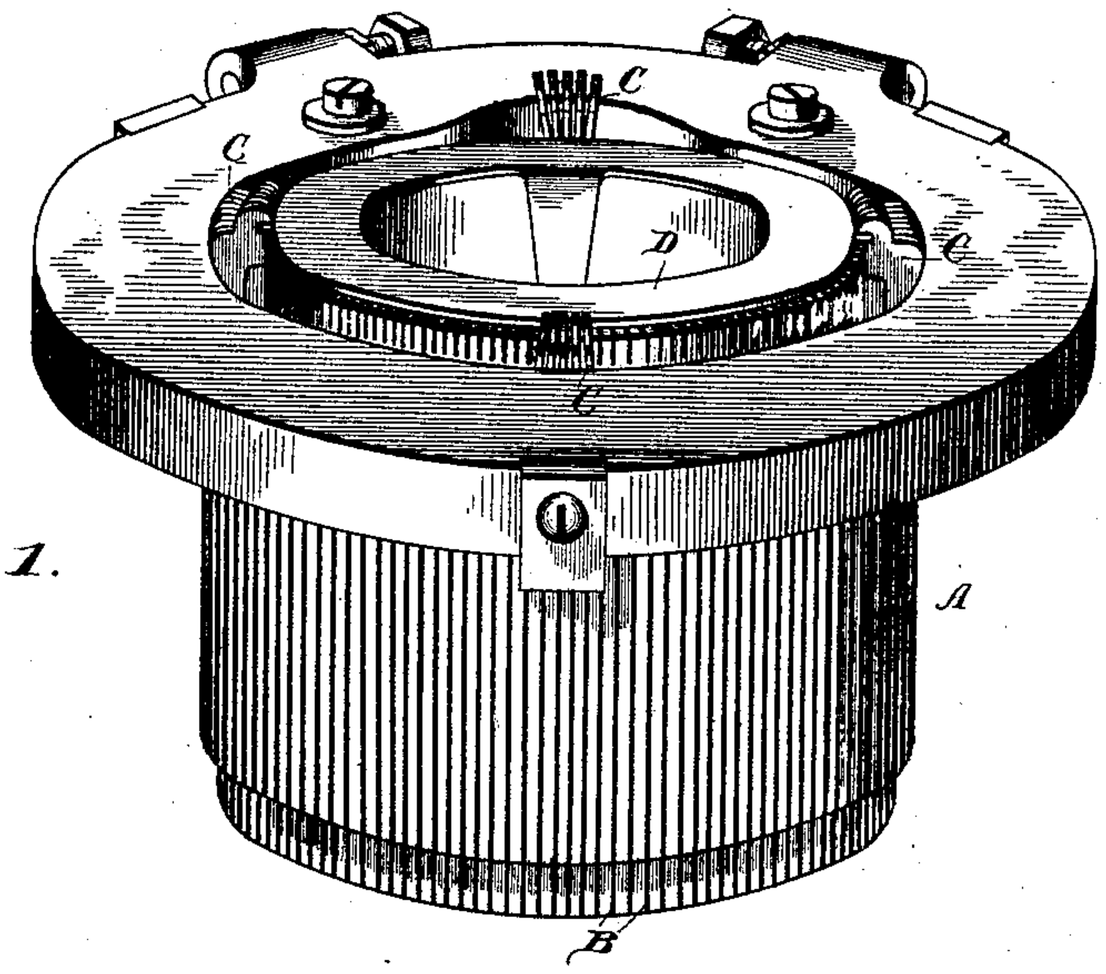
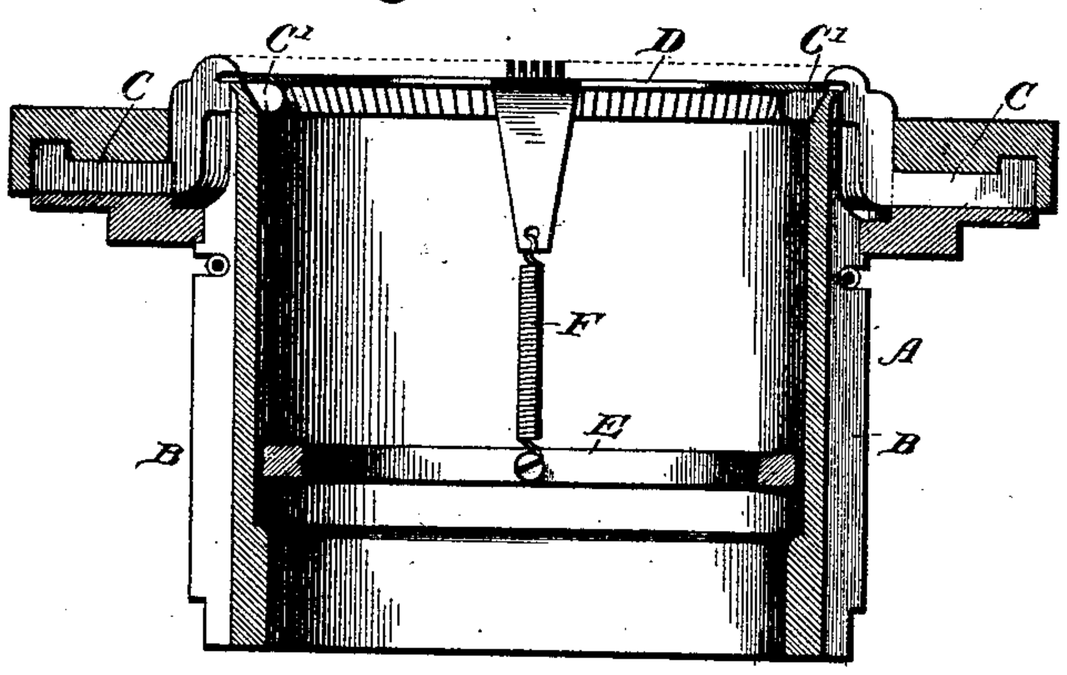


Fig. 1.

Fig. 2.



Witnesses;

J. M. Wilkerson.

Chas. S. Hyer.

Inventor,

Edison E. Randall,

By his Attorneys,

Church & Co.

(No Model.)

2 Sheets—Sheet 2.

E. E. RANDALL.

KNITTING MACHINE.

No. 480,938. Patented Aug. 16, 1892.

Fig. 3.

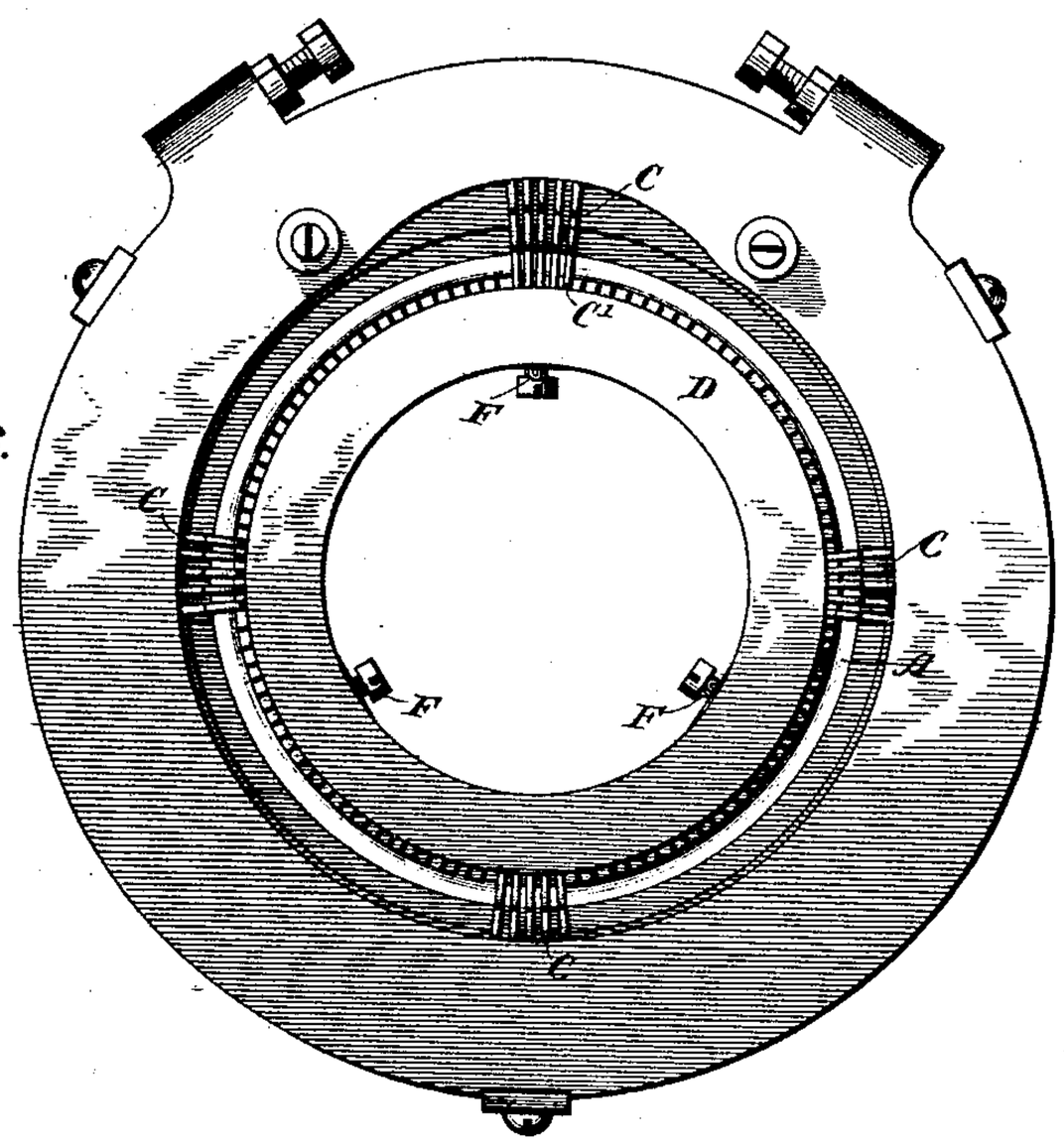
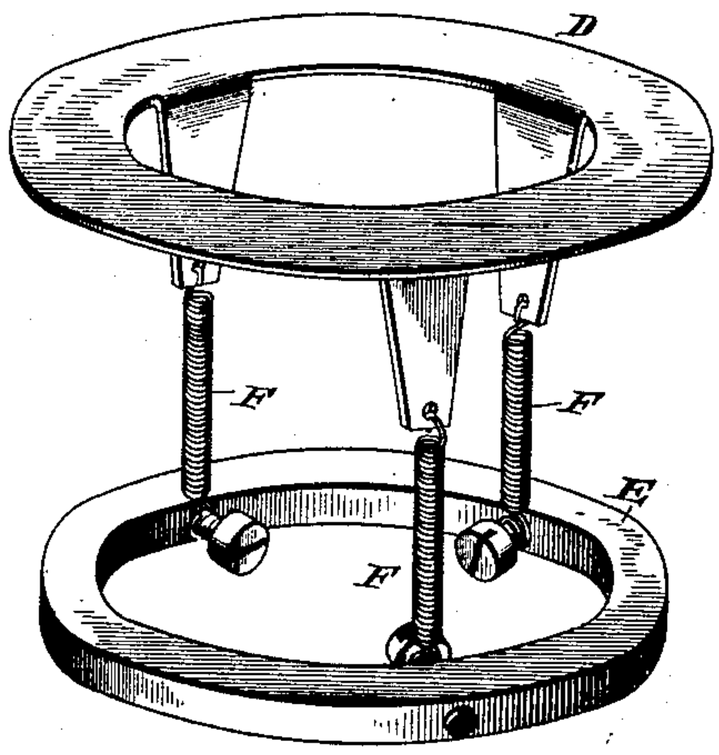


Fig. 4.



Witnesses;

J. M. Wilkerson

Inventor,

Edison E. Randall,

By his Attorneys,

Chas. S. Hyer Co.

UNITED STATES PATENT OFFICE.

EDISON ELSWORTH RANDALL, OF WEST WINSTED, CONNECTICUT.

KNITTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 480,938, dated August 16, 1892.

Application filed March 19, 1892. Serial No. 425,613. (No model.)

To all whom it may concern:

Be it known that I, EDISON ELSWORTH RANDALL, a citizen of the United States, residing at West Winsted, in the county of Litchfield and State of Connecticut, have invented a new and useful Knitting-Machine, of which the following is a specification.

This invention relates to certain new and useful improvements in knitting-machines, and has special reference to circular-knitting machines provided with means for preventing the jack-sinkers or loop-holders from wearing or raising out of their proper position.

The object of the invention is to cause the stitches or loops to retain their proper places on the needles, and thereby prevent imperfect work or dropped stitches.

To this end the invention consists of the construction and arrangement of parts, as will be more fully hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a perspective view of a circular-knitting-machine cylinder with the jack-sinkers in position thereon, the cam-cylinder being removed and the needle-cylinder alone illustrated. Fig. 2 is a transverse vertical section of the parts represented by Fig. 1. Fig. 3 is a top plan view of the same. Fig. 4 is a detail perspective view of the improved attachment shown disconnected.

Referring to the drawings, A designates the needle-cylinder with needle-grooves B and having jack-sinkers or loop-holders C mounted in the upper portion thereof in a suitable frame, as is usual in this class of devices, said jack-sinkers or loop-holders C being provided with arms C′, projecting radially into the said needle-cylinder, all of which is of well-known construction and arrangement.

The present improvement comprises an annular disk or ring D, which is normally located on the arms C′ of the jack-sinkers or loop-holders C. In connection with the cylinder A is a rib or ring E, to which are secured springs F, attached at their upper ends to said ring or disk D. When this rib or ring E is made separable from the cylinder, it may be secured to cylinders now in use, together with the remaining portion of the attachment, and it will be understood that the number of springs F, connecting the ring or disk D with the said rib or ring E, may vary, as found desirable and practicable, without materially affecting the operation of the improved attachment. The springs connecting the ring or disk D with the rib or ring E are made detachable from said ring or disk D in order that the latter may be removed from its position on the arms C′ of the jack-sinkers or loop-holders C and permit the latter to be removed or raised, if desired. While the said ring or disk D is in position on the said arms C′, the said jack-sinkers or loop-holders are held in their proper positions and prevented from having movement other than the movement thereof inward and outward from the cylinder in a horizontal plane, as is usual. The wear on the said jack-sinkers or loop-holders is materially reduced, and by the use of the improved attachment the stitches or loops as formed are kept in their proper places on the needles, thereby avoiding imperfect work or drop-stitches, as hereinbefore set forth.

The advantage and utility of the improved attachment heretofore set forth are readily apparent to those skilled in the art, and owing to the simplicity of the construction and arrangement of the parts it may be readily made and applied without materially increasing the cost of knitting-machines of this class or changing the structure thereof in the least.

The use of the device heretofore explained in connection with the sinkers and cylinder does not in the least retard the usual function of the sinkers in connection with cylinders of this class or the formation of the fabric, as the location of the device is such as not to interfere with the movement of the sinkers or of the proper feeding away of the fabric formed and downward movement thereof through the cylinder by means of the usual attached weight. The advantage gained by the use of the ring or disk is that the fabric is sustained a greater length of time in a horizontal position to cause the loops to be more perfectly formed.

Having thus described my invention, what I claim as new is—

1. In a circular-knitting machine, the combination of a cylinder having jack-sinkers or loop-holders thereon and a disk or ring bear-

ing on parts of said jack-sinkers or loop-holders and located over the opening through said cylinder, substantially as described.

2. The combination of a knitting-machine cylinder having jack-sinkers or loop-holders in connection therewith and a ring or disk loosely and removably engaging said jack-sinkers or loop-holders, substantially as described.

3. In a circular-knitting machine, the combination of a cylinder having jack-sinkers or loop-holders thereon, a disk or ring loosely bearing on parts of said jack-sinkers or loop-holders, and springs for holding said disk or ring in proper position, substantially as described.

4. In a circular-knitting machine, the combination of a needle-cylinder having jack-sinkers or loop-holders thereon, a disk or ring loosely and removably engaging said jack-sinkers or loop-holders, a rib or ring within the said cylinder, and springs connecting said disk or ring with said rib or ring, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

EDISON ELSWORTH RANDALL.

Witnesses:
L. E. WHITING,
CHARLES B. HOLMES.