

(No Model.)

2 Sheets—Sheet 1.

D. H. HILL.
CIRCULAR KNITTING MACHINE.

No. 475,058.

Patented May 17, 1892.

Fig. 1.

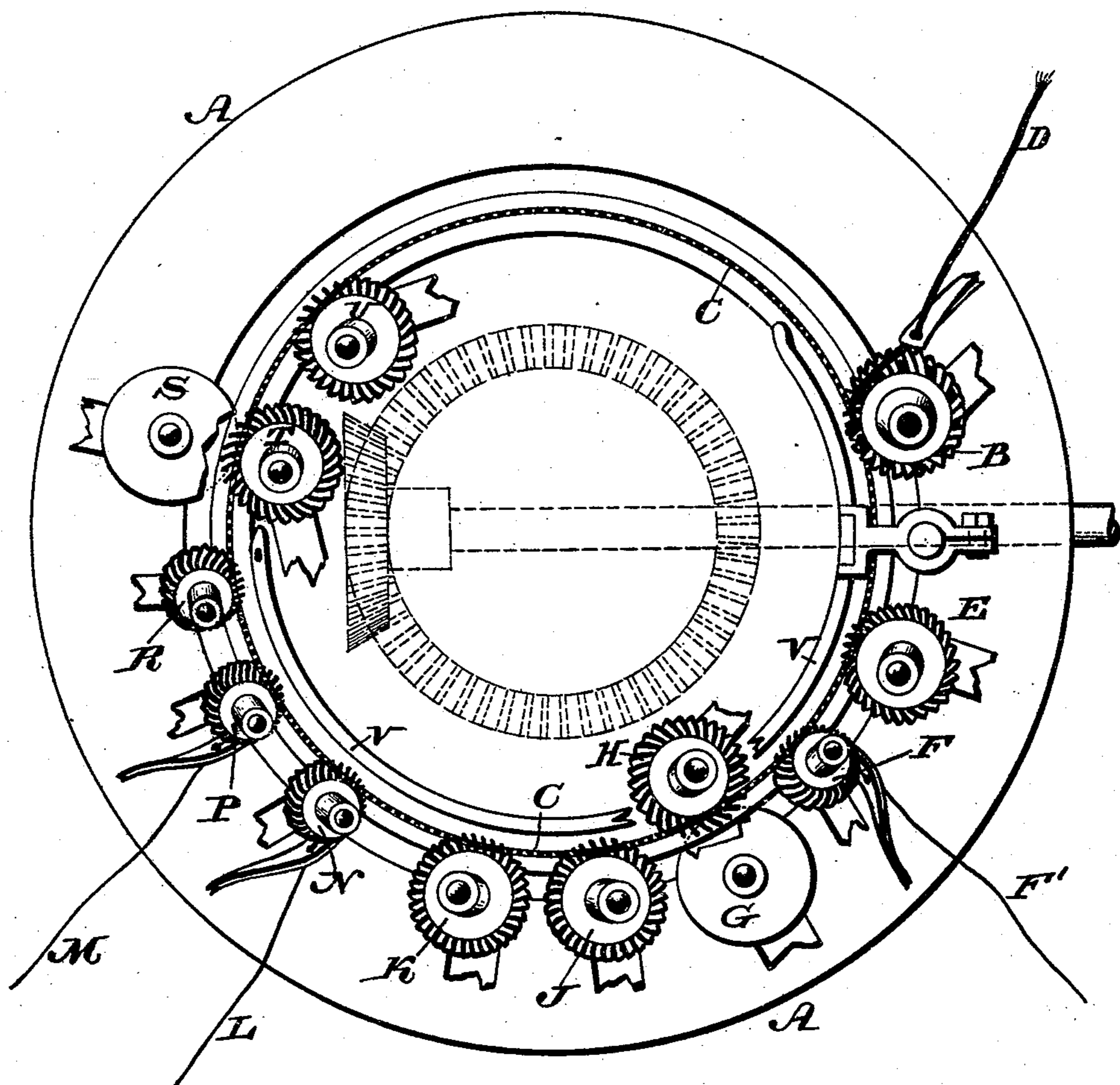


Fig. 3.



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(No Model.)

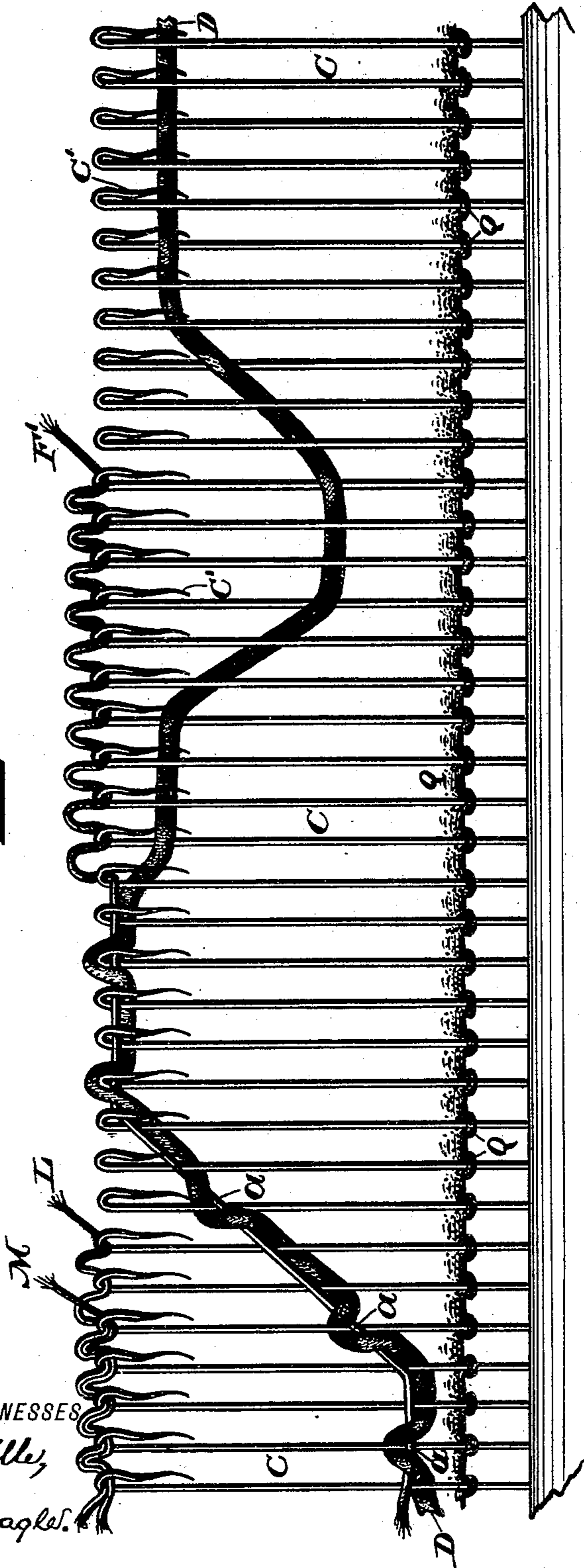
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Fig. 2.



WITNESSES

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DAVID HASTINGS HILL, OF PHILADELPHIA, PENNSYLVANIA.

CIRCULAR-KNITTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 475,058, dated May 17, 1892.

Application filed December 30, 1891. Serial No. 416,585. (No model.)

To all whom it may concern:

Be it known that I, DAVID HASTINGS HILL, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Circular-Knitting Machines, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to improvements in circular-knitting machines designed for making stockinette cloth; and it consists of a knitting-machine having extra knocking-over and clearing wheels, substantially as described, whereby a backing-thread is secured to the fabric knit thereon by a tying-thread without the latter being exposed on the face of said fabric.

Figure 1 represents a plan view of a circular-knitting machine, partly broken away, embodying my invention. Fig. 2 represents, as on a plane surface, a view showing the position of the needles and threads during the tying-in of the backing-thread. Fig. 3 represents a side view of a detail portion of the machine.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A designates a circular-knitting machine adapted to make thereon stockinette cloth.

B designates a backing-wheel adapted to depress a portion of the needles C, so that the backing-thread D fed to the machine is in front of some of the needles and behind the others.

E designates a clearing-wheel, which lowers the backing-thread D on the needles away from the beards C' of the latter. The loop-wheel F forms loops on the light thread F' fed to the needles and under the beards C' thereof, the press-wheel G holding back the beards, so that the inside landing-wheel H raises the thread D between the needles and outside or above the lower ends of the beards.

The parts so far described are old and well known and are not claimed *per se*.

J designates a knocking-over wheel of usual form adapted for raising the portion of the backing-thread D which is in front of a needle over and behind the same and over the

tying-in thread, and K designates a clearing-wheel of usual construction for lowering the thread, so that the entire thread D is placed behind the needles but in front of the tying-in thread F', which latter is in front of the said needles, so that as the other threads L and M are fed to the needles by the loop-wheels N and P and united with the stitches Q, already on the needles, by means of the operation of the dividing-wheel R, presser-wheel S, and landing and knocking-over wheels T and U, the said backing-thread D forms a backing for the cloth, the tying-in thread F' not being exposed on the face thereof. The pushback V has a bridge or arched portion W above the landing-wheel H, so as to permit the approach of the latter to the needles. Without the wheels J and K the tying-in thread would appear at intervals or at the points where the backing-thread would be in front of the needles, as at a, so that the face of the fabric would not present a uniform appearance.

The mechanism, with the exception of the said wheels J and K, is old and is not claimed *per se*.

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

1. A circular-knitting machine for the purpose described, having the extra knocking-over wheel J on the outside of the needle-cylinder and the adjacent clearing-wheel K, said parts being combined substantially as and for the purpose set forth.

2. In a circular-knitting machine, the combination of a rotary needle-cylinder with needles thereon, mechanism, substantially as described, consisting of backing, clearing, loop-presser, and inside landing wheels for placing a backing-thread behind some of said needles and in front of the others, and for placing a tying-in thread under the beards of said needles, an outside knocking-over wheel for lifting the portion of the backing-thread in front of the needle over the same and the tying-in thread, and a clearing-wheel for lowering said threads on the said needles, said parts being combined substantially as described.

3. A circular-knitting machine having a
needle-cylinder with needles thereon, the back-
ing-wheel B, the clearing-wheel E, the loop-
wheel F, the presser-wheel G, the inside land-
5 ing-wheel H, the knocking-over wheel J, out-
side of said needle-cylinder, the clearing-
wheel K, the loop-wheels N and P, the divid-
ing-wheel R, the presser-wheel S, and the in-

sidelanding-wheel T and knocking-over wheel
U, said parts being combined substantially as
described. 10

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Witnesses:

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