

(No Model.)

W. AIKEN.

TRANSFERRING DEVICE FOR KNITTING MACHINES.

No. 324,797.

Patented Aug. 25, 1885.

Fig:1.

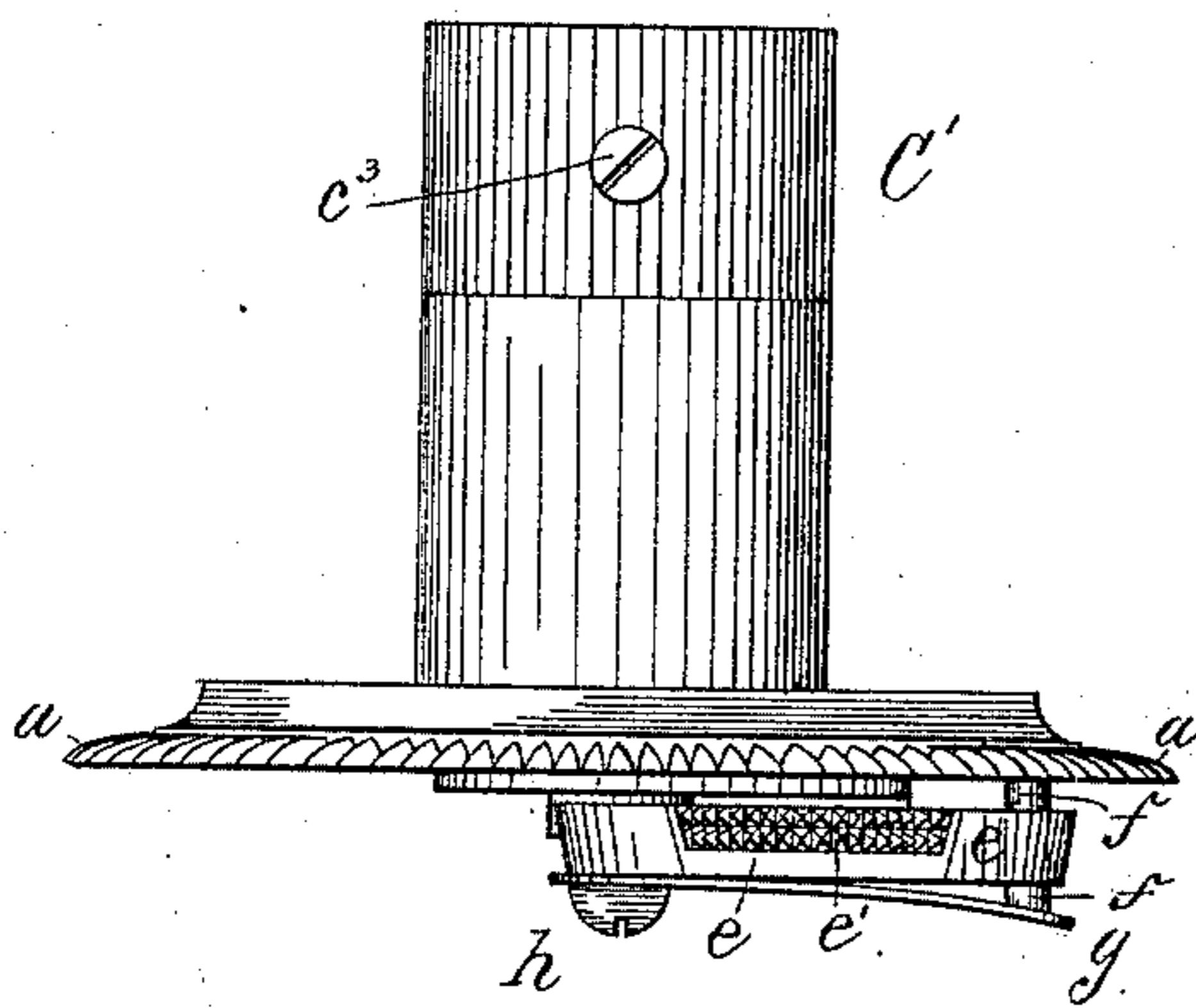


Fig:2.

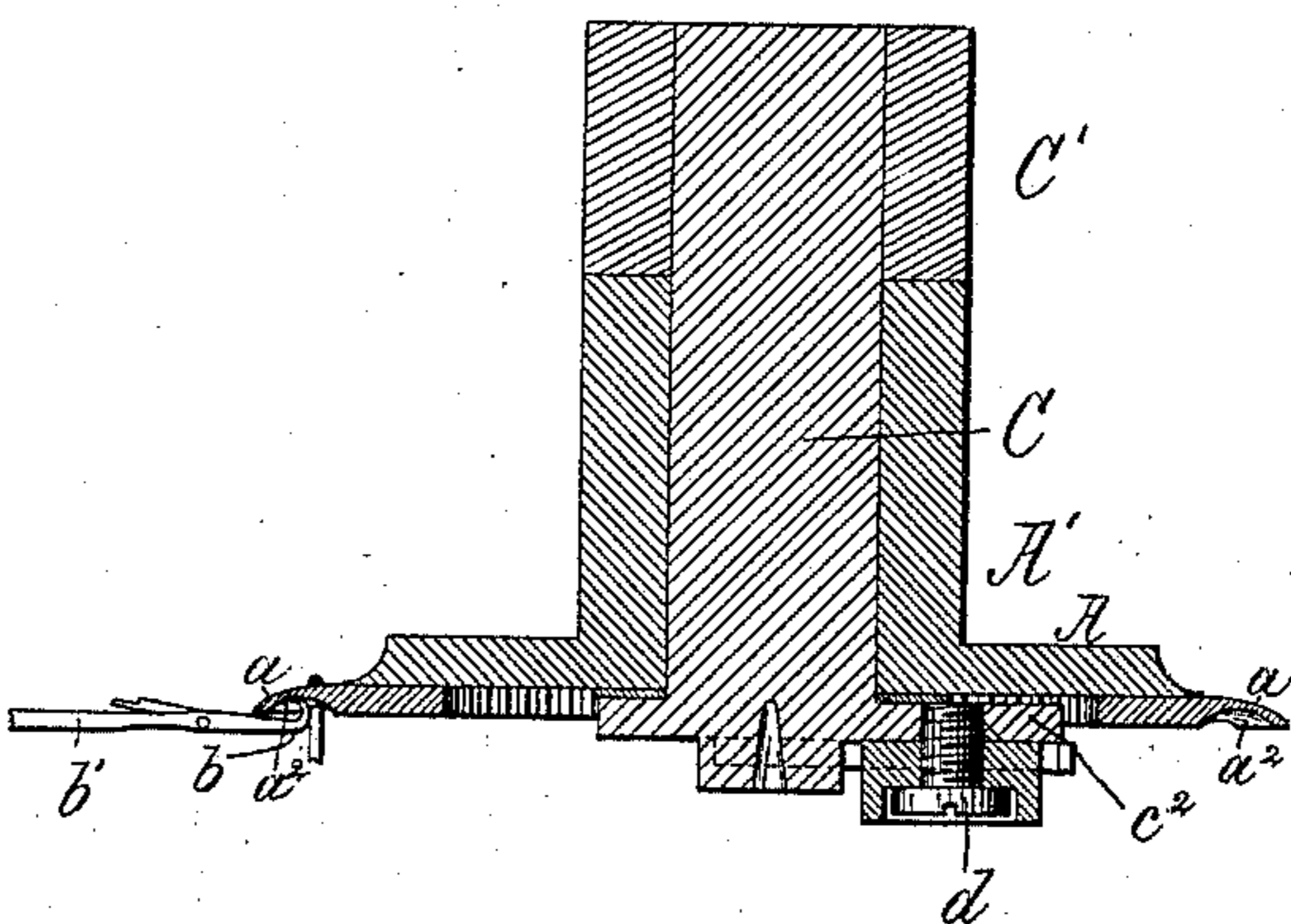
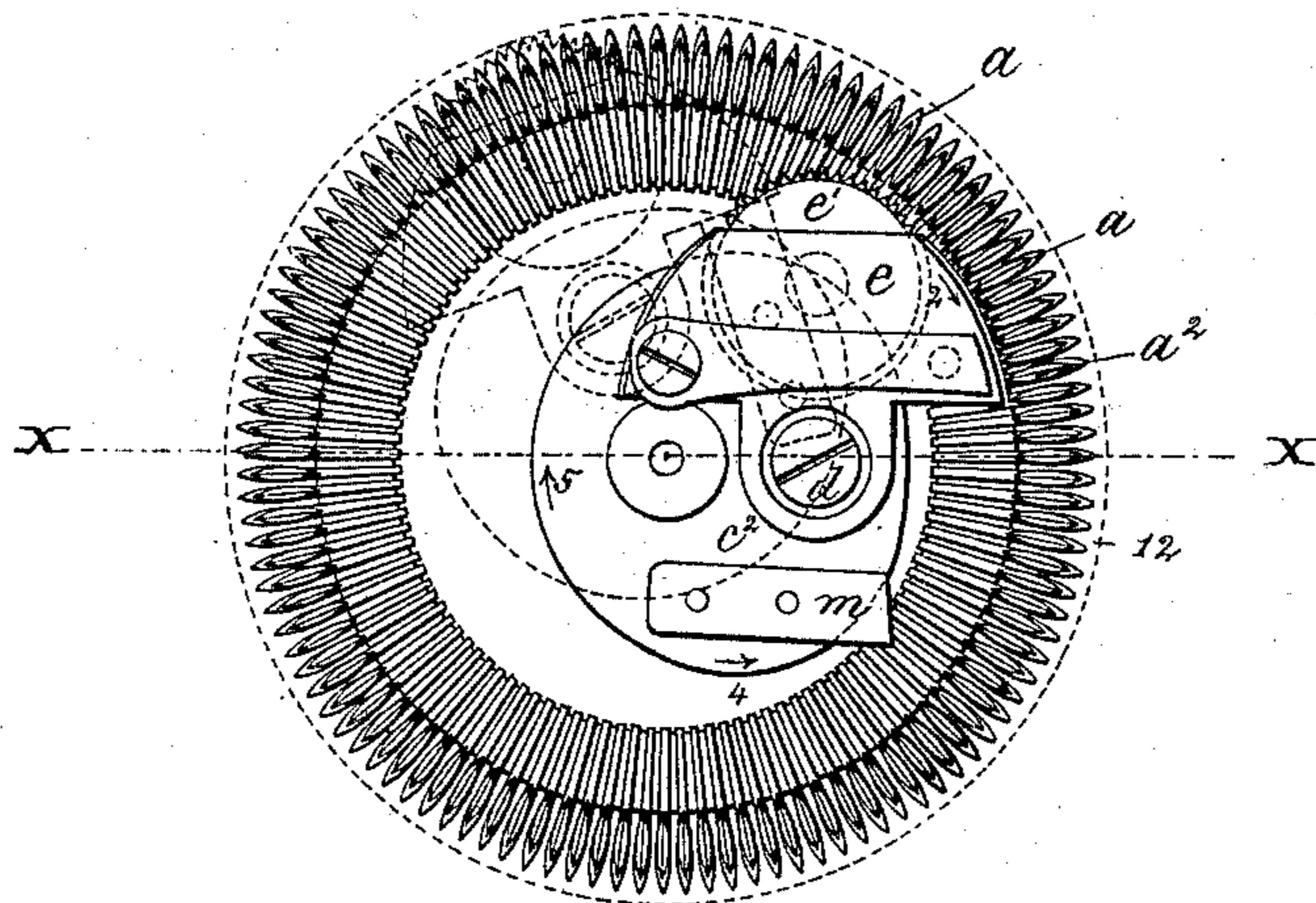


Fig:3.



Witnesses.

*Arthur Lippert.*

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# UNITED STATES PATENT OFFICE.

WALTER AIKEN, OF FRANKLIN, NEW HAMPSHIRE.

## TRANSFERRING DEVICE FOR KNITTING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 324,797, dated August 25, 1885.

Application filed April 23, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, WALTER AIKEN, of Franklin, county of Merrimac, State of New Hampshire, have invented an Improvement in Transferring Devices for Knitting-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

10 This invention has for its object the production of a novel device by which to readily transfer the loops of a top or cuff to the needles of a knitting-machine.

My invention consists in the combination of 15 a plate having an attached series of quills with a knocking-off device to act upon and transfer the loops from the quills to the needles, substantially as will be hereinafter described.

Figure 1, in side elevation, represents one of 20 my improved transferring devices; Fig. 2, a vertical section thereof; and Fig. 3, an underside view, the dotted line *xx* showing the line of section for Fig. 2.

The plate A, shown as a disk with a hollow 25 hub, A', has attached to it, by solder or brazing, a series of quills, *a*, composed of steel, each concaved at its under side, as at *a*<sup>2</sup>, to receive the hooks *b* of a series of hooked needles, *b*', supposed to be held in the grooved needle- 30 holding bed of a knitting-machine having a circular series of needles, all the needles, when the loops of the knitted cuff or rib top held on the quills are to be transferred from the quill upon the said needles, being thrown in so that 35 their points occupy a circle a little smaller than the diameter of the transferer taken through and from end to end of the quills. The plate A is provided at its center with a short shaft, C, provided at its lower end with a head, *c*<sup>2</sup>, and 40 at its upper end with a milled collar attached to the shaft by a screw, *c*<sup>3</sup>, the said collar thus serving not only as a hand-piece by which to turn the shaft in the hub A', but also to retain the shaft therein. The head *c*<sup>2</sup> has an attached 45 crank-pin or screw, *d*, which serves to connect with it the knocking-off device *e*, having preferably a serrated or toothed wheel, *e*', at that part of it which comes directly in contact with the loops of the fabric suspended from the 50 quills, a wheel reducing the friction and dis-

turbing the yarn of the said loops less than were it omitted and the edge of the knocking-off device were extended to occupy the curve occupied by the edge of the said wheel, as may be done, but which is not preferred. The knock- 55 ing-off device is provided with a detent, *f*, shown as a piece of leather, the upper end of which bears against the under side of the shanks of the quill where they are soldered to the plate A, the under side of the said detent being 60 acted upon by a spring, *g*, attached to the knocking-off device by a screw, *h*. When the head *c*<sup>2</sup> is turned in the direction of the arrow 5, Fig. 3, the detent *f* clings to the under side of the plate outside the pin *d*, and the knock- 65 ing-off device is caused to turn on the said pin and assume the full-line position, Fig. 3, wherein it will be seen that the knocking-off device is retracted and the wheel *e*' is drawn in be- 70 yond the edge of the plate A, which is the condition that the parts will occupy when the loops of the rib top or cuff, usually a seamless tubular web having a proper slack course, are picked upon the quills, one of such loops being shown at the left of Fig. 2 in dotted lines on 75 one of the quills *a*. When the head *c*<sup>2</sup> is moved in the direction of the arrow 4 thereon, the pin *d* acts on the presser and pushes it in along; but the detent *f*, by its action against the plate, 80 holds the forward free end of the presser back until the projection *m*, attached to the head *c*<sup>2</sup>, strikes the presser, as shown in dotted lines Fig. 3, in which position the acting edge of the presser and the wheel *e*' is thrown outward 85 to occupy a position beyond the circle occupied by the ends of the quill, and in the rotation of the shaft C will then travel about the quills, but in the dotted circle 12, (see Fig. 3,) such movement knocking off from the quills the 90 loops thereon, transferring them to the needles laid under the quills, as shown in Fig. 2.

I claim—

1. The plate and its attached quills, combined with the knocking-off device and with the head and shaft to rotate the same to remove 95 or transfer the loops from the ends of the quills, substantially as described.

2. The plate A, provided with the series of quills *a* and the shaft, and the knocking-off device pivoted thereon provided with the fric- 100

tion device or detent and with a projection to hold the knocking-off device in its extended position with its acting surface beyond the points of the quills, substantially as described.

- 5 3. The plate A, provided with the series of quills, and the shaft having the knocking-off device pivoted thereon and provided with the wheel and detent and with a projection to hold the knocking-off device in its extended  
10 position, substantially as described, to trans-

fer the loops from the quills upon the needles, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WALTER AIKEN.

Witnesses:

FRANK PROCTOR,  
JAMES E. BARNARD.