

No. 765,385.

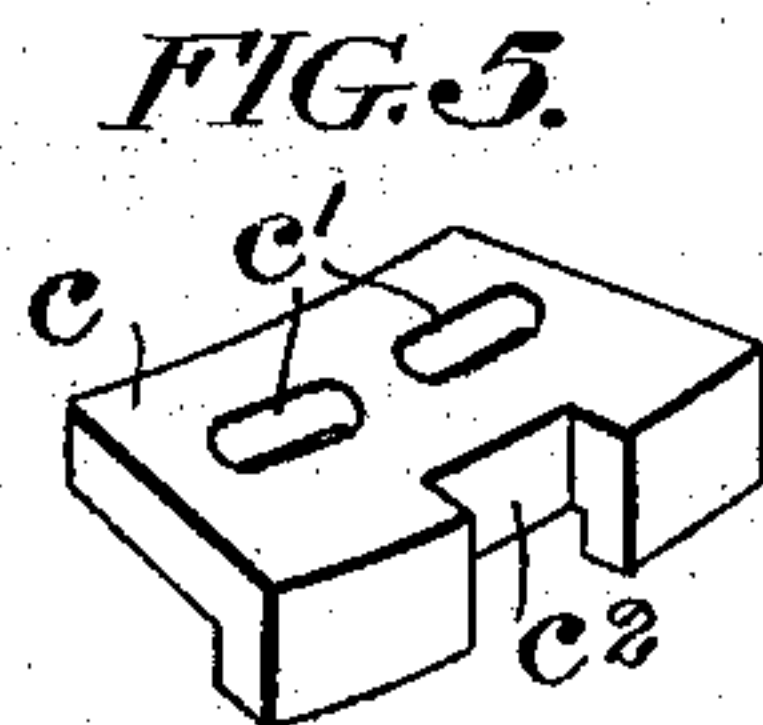
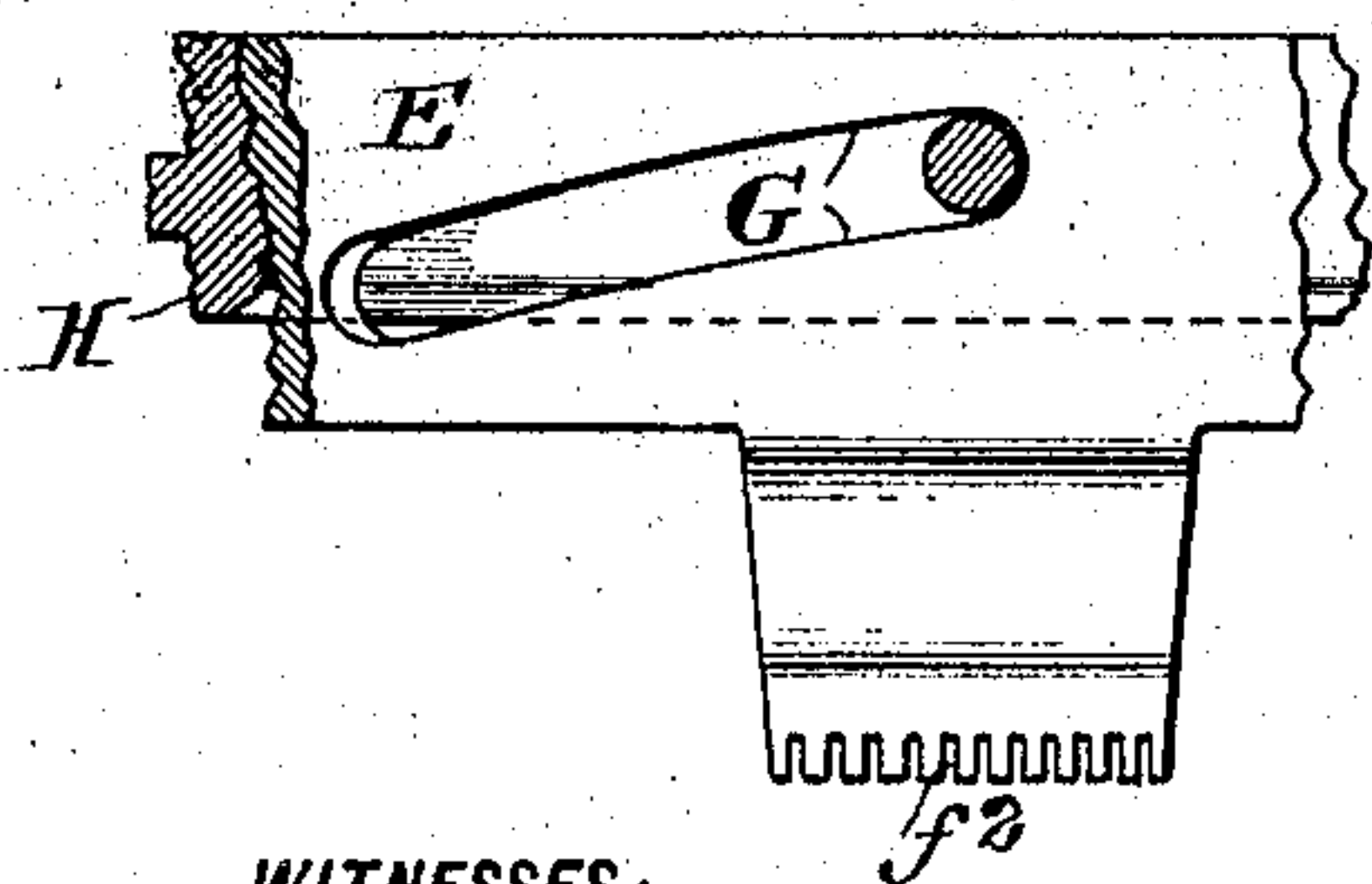
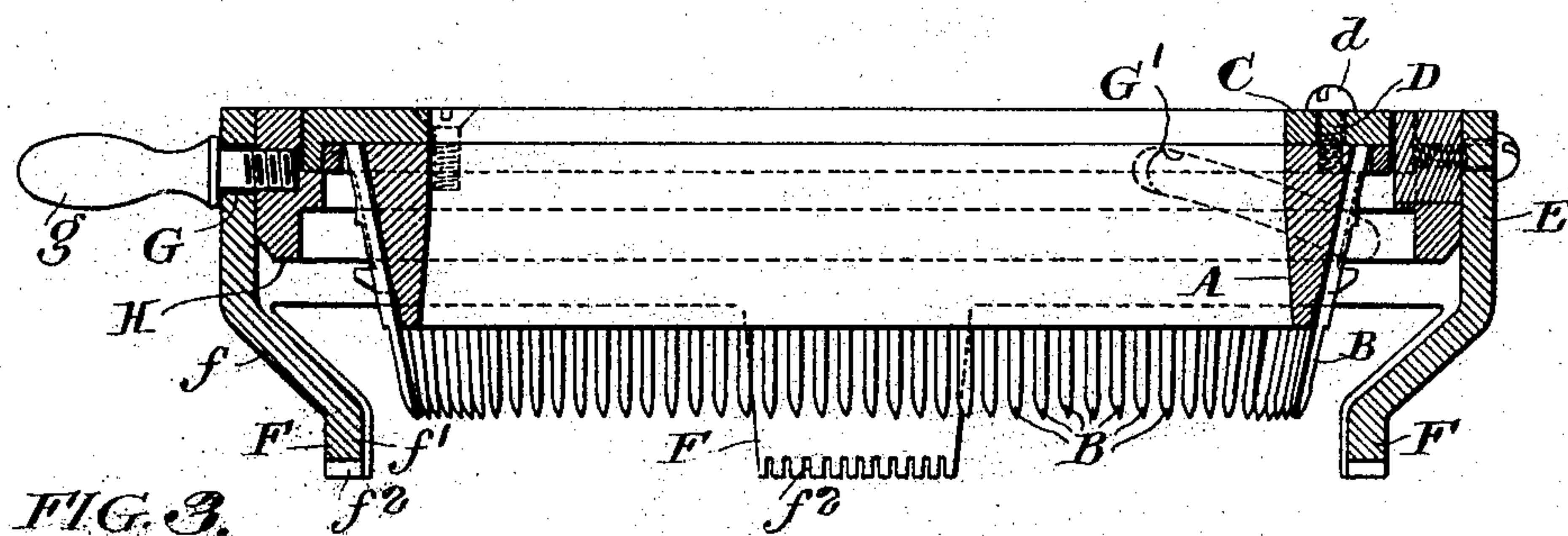
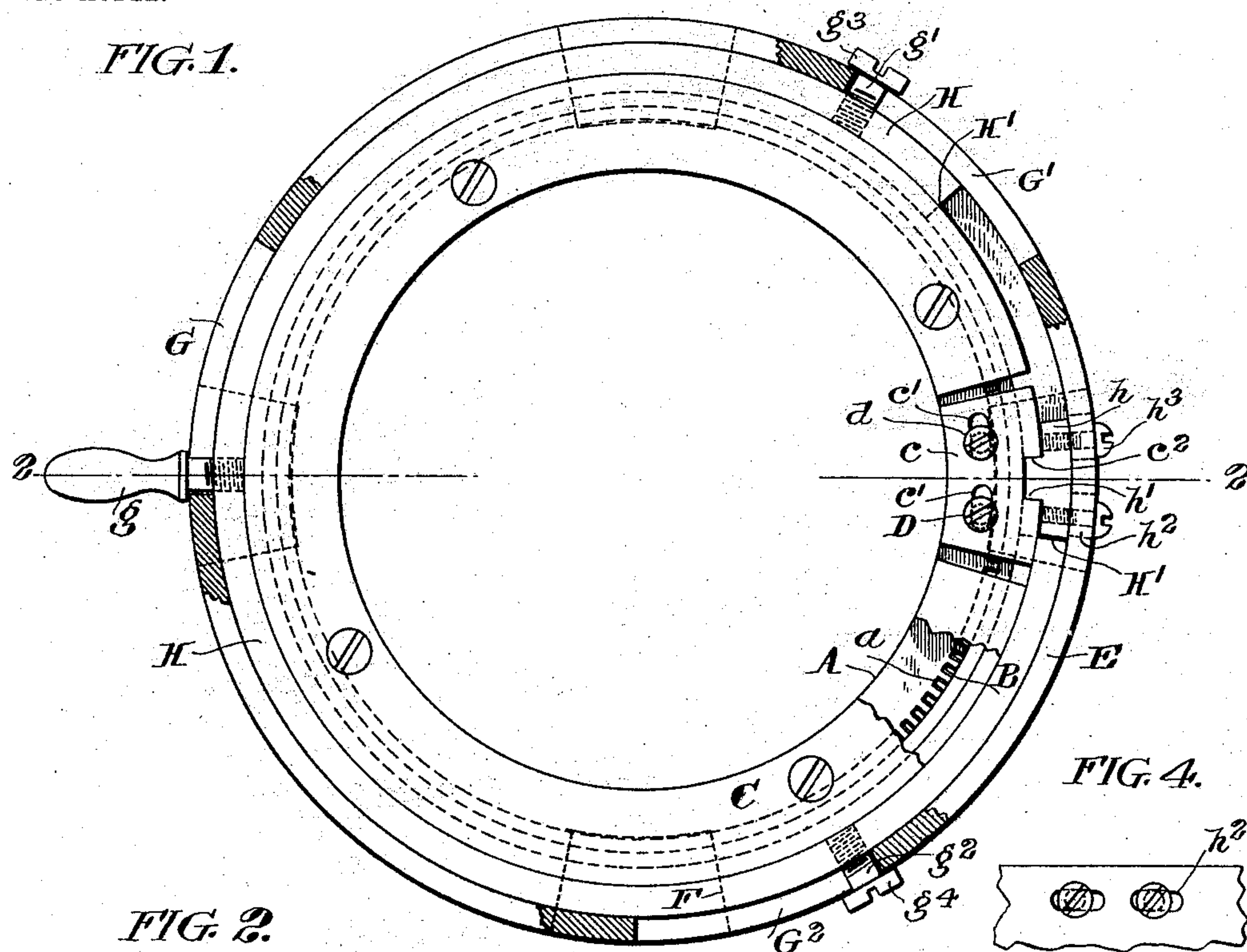
PATENTED JULY 19, 1904.

H. A. HOUSEMAN.

DEVICE FOR ENGAGING TRANSFER QUILLS AND NEEDLES OF CIRCULAR
KNITTING MACHINES.

APPLICATION FILED JUNE 29, 1903.

NO MODEL.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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DEVICE FOR ENGAGING TRANSFER QUILLS AND NEEDLES OF CIRCULAR-KNITTING MACHINES.

SPECIFICATION forming part of Letters Patent No. 765,385, dated July 19, 1904.

Application filed June 29, 1903. Serial No. 163,517. (No model.)

To all whom it may concern:

Be it known that I, HARRY A. HOUSEMAN, a citizen of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Devices for Engaging Transfer Quills and Needles of Circular-Knitting Machines, of which the following is a full, clear, and exact description, reference being
10 had to the accompanying drawings, which form a part of this specification.

In the transfer device now in use the adjustment of the transfer-quills upon the needles depends upon the skill of the operator.

15 My invention has for its object the production of a device which will enable the operator readily and without special skill to adjust the quills upon the needles.

My device can be best understood by reference to the embodiment of the same in the accompanying drawings, in which—

25 Figure 1 is a plan view, partly in section, of the transfer device. Fig. 2 is a vertical section on line 2 2, Fig. 1. Fig. 3 is an elevation of a portion, showing one of the inclined slots. Fig. 4 is an elevation of a portion, showing adjusting-slots. Fig. 5 is a perspective view of one of the adjustable pieces. Fig. 6 is a perspective view of the
30 corresponding adjustable piece.

A is the cylinder of the transfer-quill holder, having the grooves a corresponding in number to the transfer-quills B.

35 C is a ring for securing the quills B in the grooves a . A portion of the ring C is cut away, and in this cut-away portion rests a piece c of size less than the extent of the cut-away portion. This piece c is adjustable along the transfer-ring C by means of the elongated
40 slots c' c' . The heads d of screws D, which enter the ring C, overlap the upper surface of the piece c at these slots, so that by releasing the screws the positions of this piece may be adjusted. The outer face of this piece c has
45 the notch or detent c^2 .

The device for engaging the transfer-quills

with the needles consists of the following: E is a ring having at four equidistant points the feet F. These feet consist of the inwardly and downwardly inclined portion f , the vertical portion
50 f' having the serrations f^2 on the bottom thereof. Through the walls of this ring E are the inclined slots G, G', and G². H is a ring resting with a slidable fit within the ring E at two points upon the ring H corresponding to the
55 slots G' and G². The screws g' g^2 are secured to the ring H, the heads g^3 g^4 of said screws being larger than the width of the slots. Through the slot G a pin g , acting as a handle, secured to the ring H, passes. A portion
60 of the ring at H' is partially cut away, and in such cut-away portion a piece h , having the projecting portion h' , corresponding to the notch or detent c^2 , is secured to the ring E. This piece h is adjustable upon the ring E by
65 means of the slots h^2 in the ring E and piece h , through which the holding-screws h^3 pass. As may readily be seen, by moving the pins g the ring H is moved up or down.

In practice the transfer-quill-engaging device and transfer-quill holder are first initially
70 adjusted with reference to each other and the machine as follows: The transfer-engaging device is placed upon the cylinder of a circular-knitting machine—say of the type shown and
75 described in my Patent No. 484,738—so that the feet F rest between the needle-cylinder and sinker-head, the sinkers entering the serrations f^2 . The transfer-quill holder is then entered into the ring E, so that the ring C
80 rests upon the ring H. The ring C is turned so that the projection h' of piece h enters the detent c^2 in the piece c . If when in such position the quills B do not aline with the needles, either the piece h or piece c , or both,
85 are adjusted until they do. When the parts are so adjusted for any given transfer-holder and needle-engaging device, no further adjustment is necessary. The ring H initially is in the position shown in Fig. 2 and when the
90 handle g is then moved downward in the slot G, which carries the ring C and quills down-

ward, brings them into engagement with the needles.

Having now fully described my invention, what I claim, and desire to protect by Letters Patent, is—

1. A device, for causing engagement of transfer quills and the needles of a knitting-machine, comprising an outer ring, an inner ring adapted to support a transfer - quill holder, there being a downwardly - inclined slot in the outer ring, and a projection connected to the inner ring passing through said slot.

2. A device for causing engagement of the transfer quills and needles of a knitting-machine provided with an outer ring, an inner ring adapted to support a transfer - quill holder, there being a downwardly - inclined slot in the outer ring and a handle connected to said inner ring and projecting through said slot.

3. A device, for causing engagement of transfer quills and the needles of a knitting-machine, comprising an outer ring, an inner ring adapted to support a transfer - quill holder, there being inclined guiding-slots in said outer ring and guiding-pins secured to said inner ring and projecting through said guiding-slots.

4. A device for causing engagement of the transfer quills and needles of a knitting-machine provided with an outer ring, an inner ring adapted to support a transfer - quill holder, there being a downwardly - inclined slot in the outer ring and a handle connected to said inner ring and projecting through said slot, there being inclined guiding-slots in said outer ring and guiding-pins secured to said inner ring and projecting through said guiding-slots.

5. A device for causing engagement of the transfer quills and needles of a knitting-machine provided with an outer ring, an inner ring adapted to support a transfer - quill holder, there being a downwardly - inclined slot in the outer ring and a handle connected to said inner ring and projecting through said slot, there being inclined guiding-slots in said outer ring and guiding-pins secured to said inner ring and projecting through said guiding-slots, said pins having heads of width greater than the width of the slots.

6. A device, for causing engagement of transfer quills and the needles of a knitting-machine, comprising a ring having downwardly-projecting portion or portions, provided with serrations, an inner ring adapted to support a transfer-quill holder, there being a downwardly - inclined slot in the outer ring and a projection connected to said inner ring and passing through said slot.

7. A device for causing engagement of the transfer quills and needles provided with a ring having downwardly-projecting feet, pro-

vided with serrations, an inner ring adapted to support a transfer-quill holder, there being a downwardly - inclined slot in the outer ring and a handle connected to said inner ring and projecting through said slot.

8. A device for causing engagement of the transfer quills and needles, provided with a ring having feet projecting downwardly therefrom, said feet having an inwardly - inclined portion terminating in a vertical serrated portion, an inner ring adapted to support a transfer-quill holder, there being a downwardly - inclined slot in the outer ring and a handle connected to said inner ring and projecting through said slot.

9. A device for causing engagement of the transfer quills and needles provided with a ring having downwardly-projecting feet, provided with serrations, an inner ring adapted to support a transfer-quill holder, there being a downwardly - inclined slot in the outer ring and a handle connected to said inner ring and projecting through said slot, there being inclined guiding-slots in said outer ring and guiding-pins secured to said inner ring and projecting through said guiding-slots.

10. A device for causing engagement of the transfer quills and needles, provided with a ring having feet projecting downwardly therefrom, said feet having an inwardly - inclined portion terminating in a vertical serrated portion, an inner ring adapted to support a transfer-quill holder, there being a downwardly - inclined slot in the outer ring and a handle connected to said inner ring and projecting through said slot, there being inclined guiding-slots in said outer ring and guiding-pins secured to said inner ring and projecting through said guiding-slots.

11. A device for causing engagement of transfer quills and needles, having a fixed ring and piece projecting therefrom, said projecting piece being laterally adjustable.

12. A transfer-quill holder having a piece projecting therefrom, said projecting piece being laterally adjustable.

13. In combination, a device for causing engagement of transfer quills and needles having a fixed ring and piece projecting therefrom, and a transfer-quill holder, transfer-quills therein, a piece projecting from said transfer-quill holder, one of said projecting pieces having a detent, the other a tongue adapted to enter said detent, the projecting piece upon the engaging device being laterally adjustable.

14. In combination, a device for causing engagement of transfer quills and needles comprising in combination a fixed ring and piece projecting therefrom, having a transfer-quill holder, transfer-quills therein, a piece projecting from said transfer-quill holder, one of said projecting pieces having a detent, the other a tongue adapted to enter said detent,

the projecting piece upon the quill-holder device being laterally adjustable.

15. In combination, a device for causing engagement of transfer quills and needles comprising a fixed ring, a vertically-movable ring therein, said fixed ring having serrated feet and a projecting piece, a transfer-quill holder having a ring adapted to rest on the vertically-movable ring and a projecting piece adapted
10 to interlock with the projecting portion of

the engaging device, one or both of said projecting pieces being adjustable around its corresponding ring.

In testimony of which invention I have hereunto set my hand, at Philadelphia, on this 23d 15 day of June, 1903.

HARRY A. HOUSEMAN.

Witnesses:

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M. M. HAMILTON.