(No Model.)

3 Sheets—Sheet 1.

J. THOMAS.

SEWING MACHINE.

No. 327,352. Patented Sept. 29, 1885.

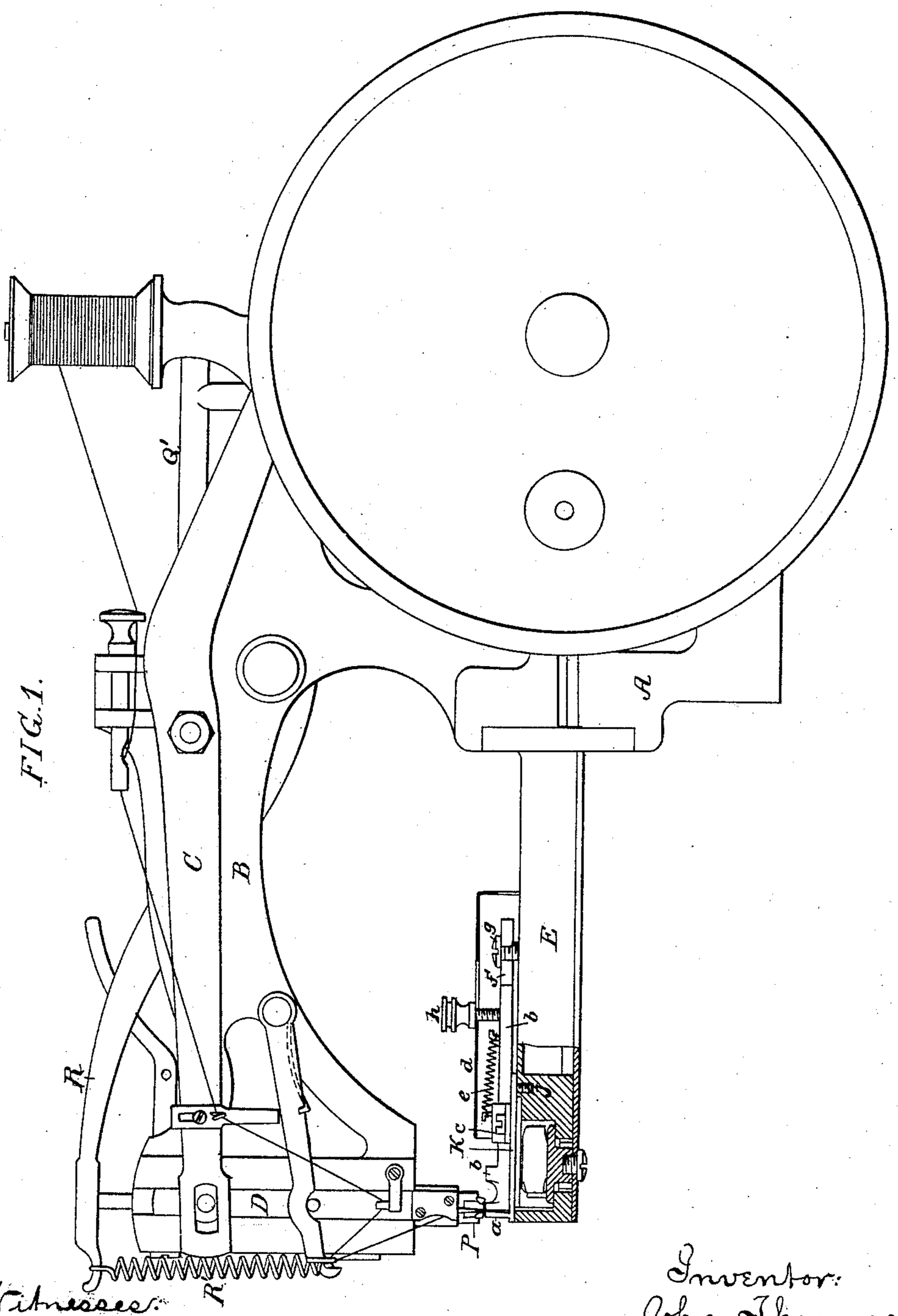

FIG. 1.

Witnesses:
Henry Bossert.
Harry Drury

Inventor:
John Thomas
by his Attorneys
Howson & Sons

(No Model.) 3 Sheets—Sheet 2.

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FIG. 2

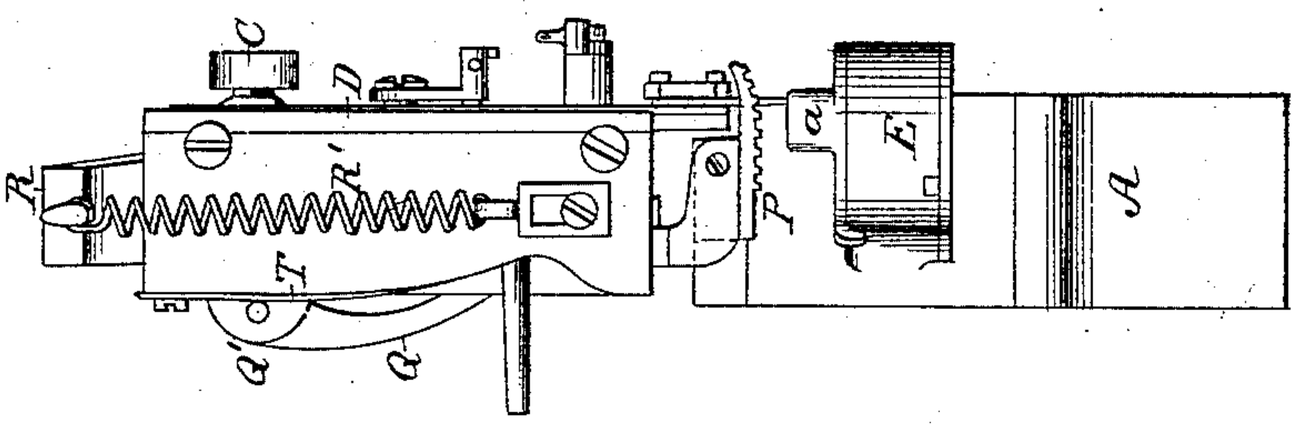


FIG. 4.

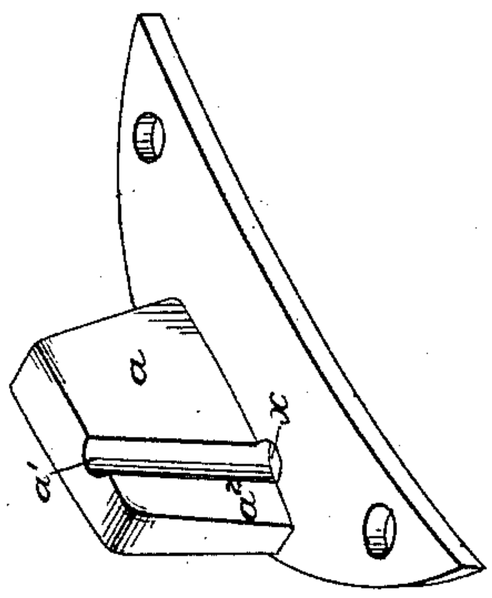


FIG. 9.

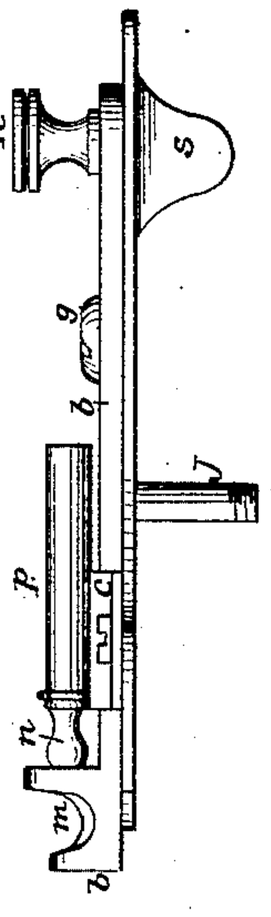


FIG. 3.

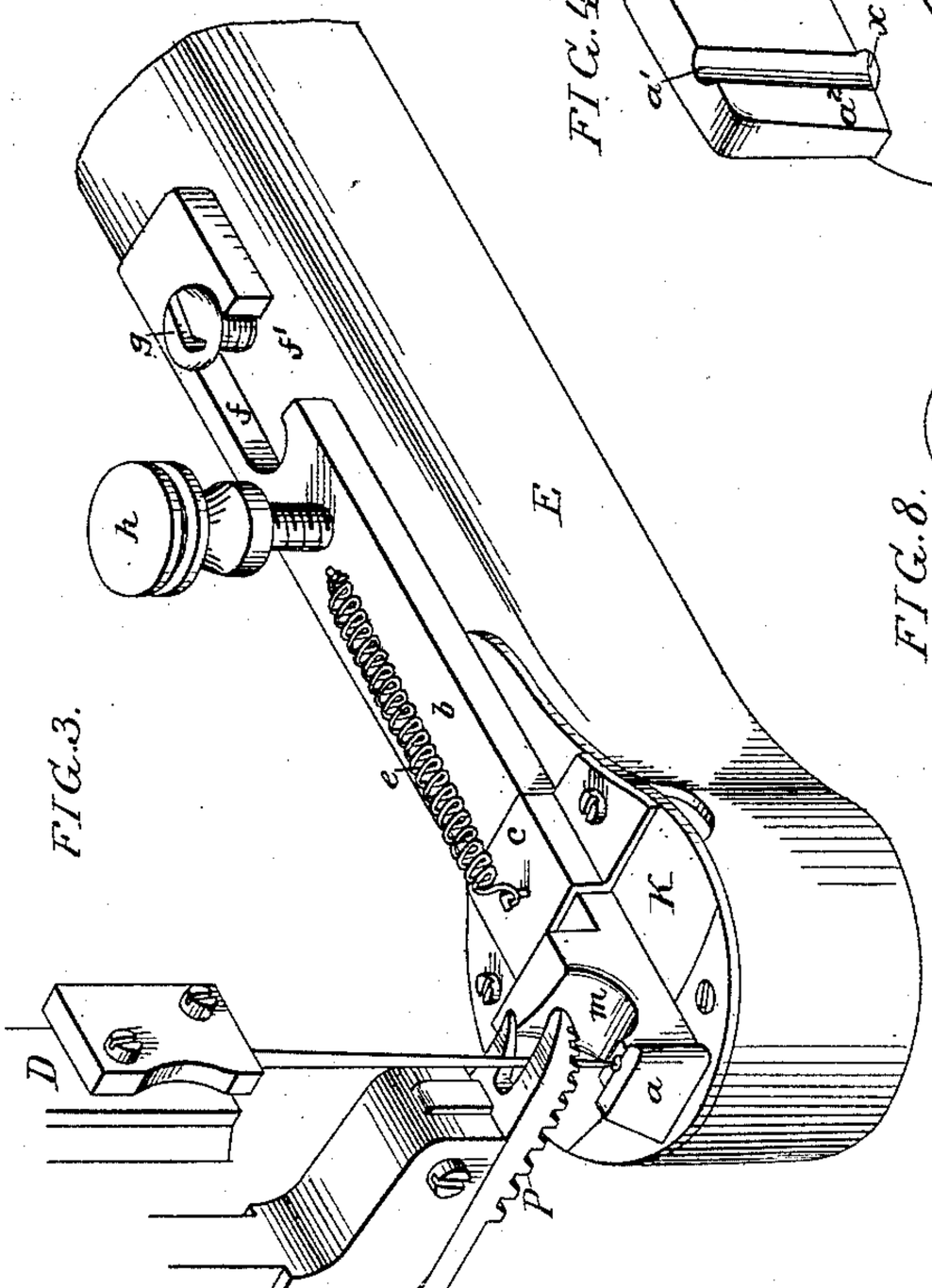


FIG. 8.

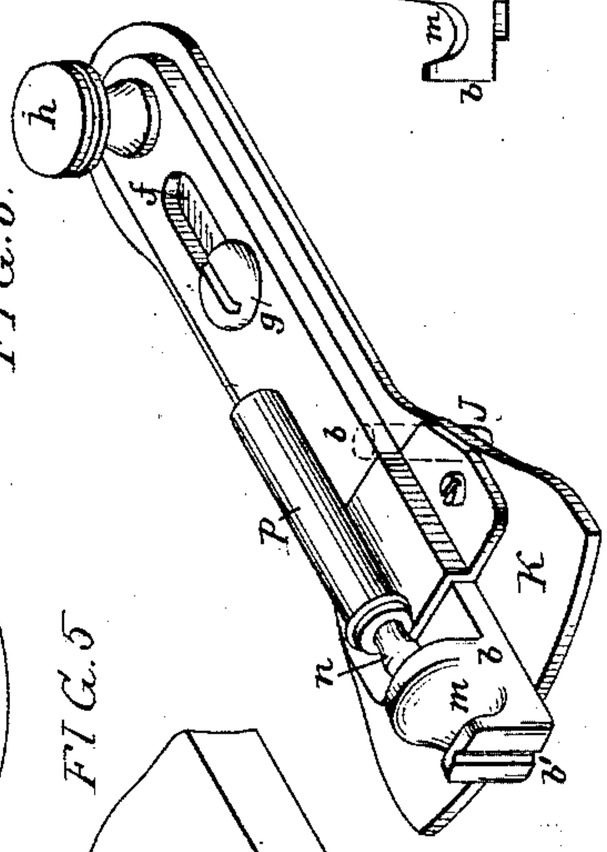
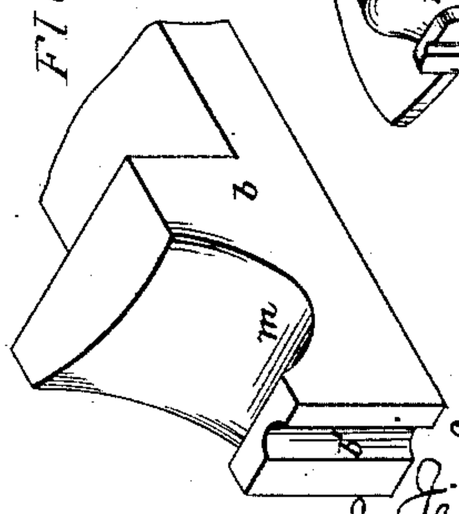


FIG. 5



Witnesses:
Henry Bossert
Harry Drury

Inventor:
J. Thomas
by his Attys:
Howson & Sons

(No Model.)

3 Sheets—Sheet 3.

J. THOMAS.

SEWING MACHINE.

No. 327,352. Patented Sept. 29, 1885.

FIG. 6.

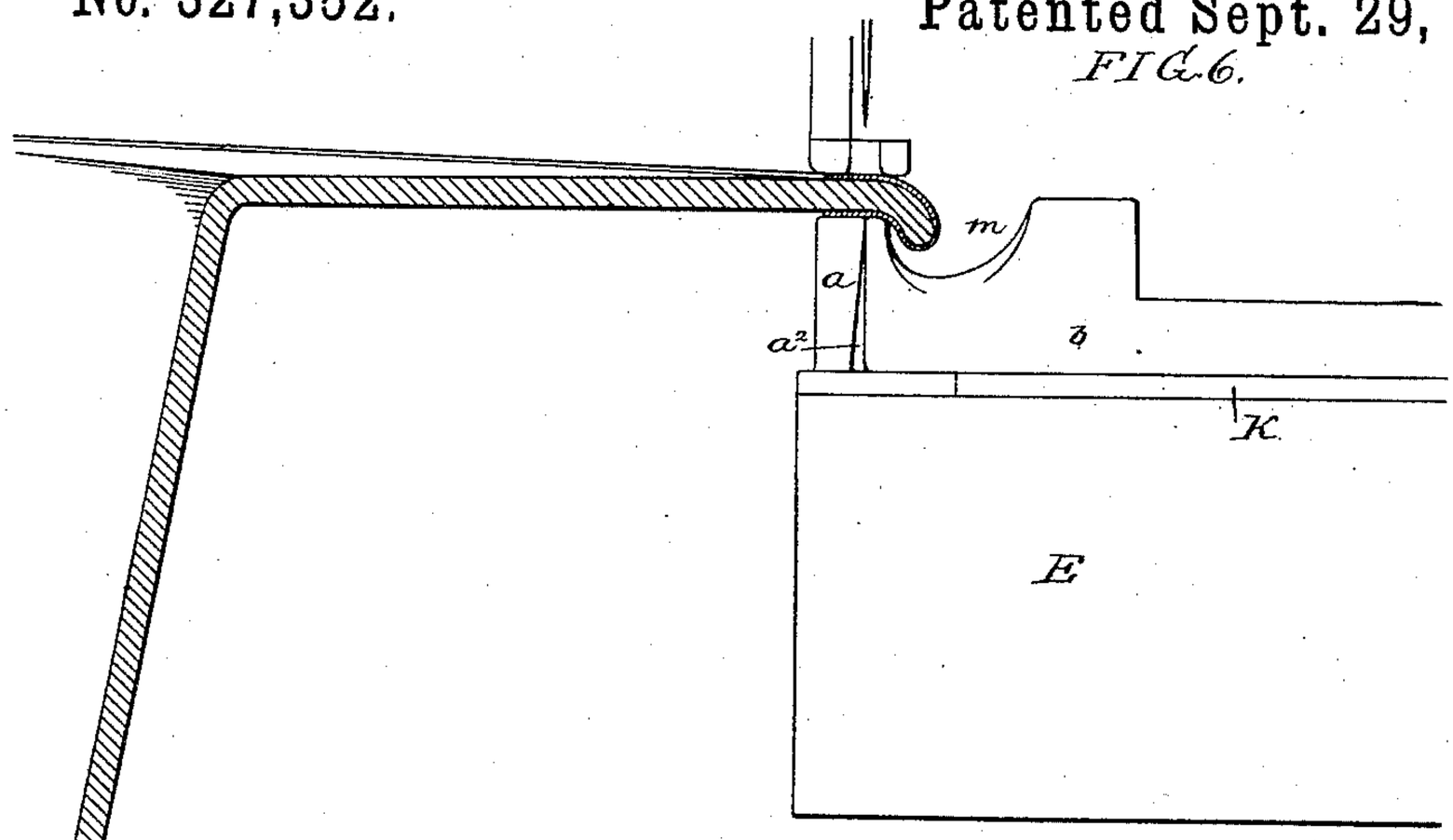
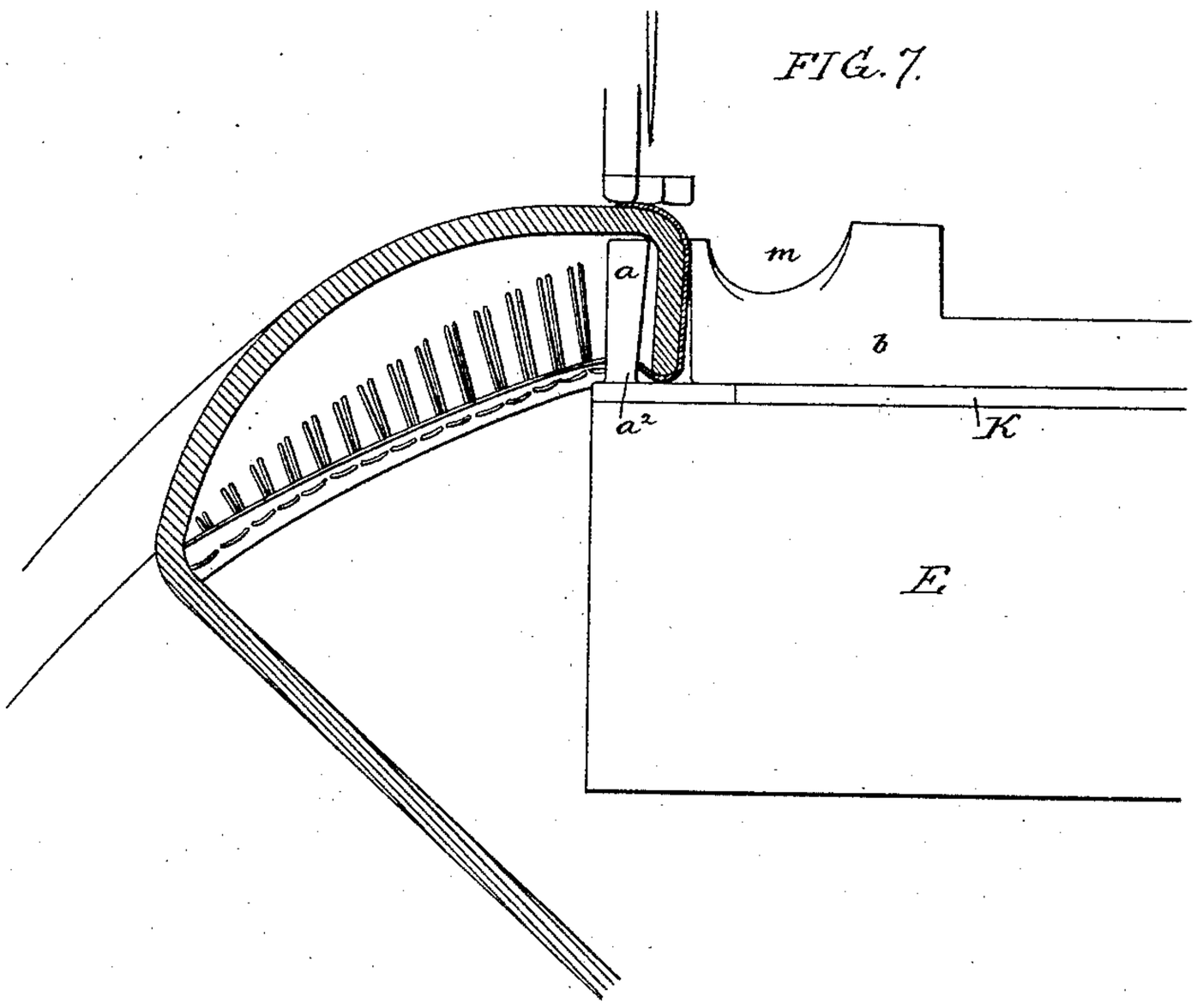


FIG. 7.



Witnesses:

Henry Bossert

Harry Drury

Inventor:

John Thomas

by his Attorneys

Howson & Sons

UNITED STATES PATENT OFFICE.

JOHN THOMAS, OF BRISTOL, ENGLAND, ASSIGNOR TO LEWIS FAIRBURN MARSH, OF SAME PLACE.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 327,352, dated September 29, 1885.

Application filed February 3, 1885. (No model.) Patented in England June 17, 1884, No. 9,074.

To all whom it may concern:

Be it known that I, JOHN THOMAS, a subject of the Queen of Great Britain and Ireland, and a resident of Bristol, England, have invented certain Improvements in Sewing-Machines (for which I have obtained Letters Patent in England dated the 17th day of June, 1884, and numbered 9,074,) of which the following is a specification.

The object of my invention is to provide a machine for sewing the braid or binding material upon the turned or curled brim of a hat or for other similar purposes; and this object I attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a side view, partly in section, of a sewing-machine constructed in accordance with my invention; Fig. 2, an end view of the same; Fig. 3, a perspective view of that part of the machine which forms the subject of my invention; Figs. 4 and 5, perspective views of the parts composing the work-plate of the machine; Figs. 6 and 7, diagrams illustrating the operation of the machine, and Figs. 8 and 9 views showing a modification of part of my invention.

The plan now generally adopted in securing the binding upon the brim of a hat is to first curl the brim and then apply the binding thereto and stitch it on by hand.

The binding is usually of such a width that it will cover the top of the curl and slightly overlap the inner and outer edges of the same, there being an even overlap of the binding at the front and rear edges of the brim. No attempts have been made to sew such a binding with connected stitches, the opposite edges of the binding being simply tacked or basted down by short stitches, formed first on one edge and then on the opposite edge of the binding.

In some hats the binding overlaps more on the top of the brim than on the bottom, at the front and back of the hat, and in this case two rows of stitches are required, one for each edge; but in this case also the stitches are merely tacking or basting stitches made by hand.

Another plan which has been adopted is to secure the binding upon the edge of the brim before the latter is curled, the line of stitches passing directly through the brim and through the opposite edges of the binding, and the stitches being uniform around the entire brim. This plan is objectionable, because it necessitates the use of very wide binding, and because the appearance of this binding is very materially impaired by the subsequent operations incident to the "setting" and "curling" of the brim of the hat.

The object of my invention is to render a sewing-machine available for sewing the binding upon the brim after the same has been curled and either before or after it has received its side "roll" and front and back "set," the sewing being by means of connected stitches instead of by the usual tacking or basting stitches.

I preferably use what is known as an "arm" sewing-machine, in which the stitch-forming mechanism operates near the end of an arm, E, as shown in Fig. 1.

In the drawings I have shown what is known as the "Bradbury" machine, A being the base, B the overhanging arm, C the needle-arm, D the needle-bar, E the work-supporting arm carrying the shuttle and its operating mechanism, and P the presser-foot, which also serves to feed the work, the bar carrying said foot being connected to an arm, Q, on a rock-shaft, Q′, which is vibrated at intervals by a cam on the driving-shaft, a lever, R, acted on by a spring, R′, bearing on the top of the presser-bar in order to depress the same, the said lever being acted on by a cam on the driving-shaft, so as to relieve the bar from pressure when said bar is being moved back to take a fresh hold upon the work. A spring, T, bears upon the presser-bar and performs the twofold duty of elevating the bar when relieved from the pressure of the lever R, and retracting the bar when the rock-shaft Q′ is free from the influence of the cam on the driving-shaft.

It should be understood, however, that I do not limit myself to the use of a machine such as shown, as the details of the stitch-forming

mechanism may be varied in various ways without departing from my invention, the latter relating mainly to the means employed for supporting and holding the brim of the hat while the binding material is being sewed thereupon.

To the usual work-plate of the machine I secure a post, *a*, projecting upward from the same, and in the inner side of said post is a semicircular recess, *a'*, concentric with the needle-opening *x* of the work-plate of the machine and forming an open slot for the guidance of the needle.

The post *a* is of a height sufficient to accommodate the curled or turned portion of the hat-brim, as shown in Fig. 7, and the upper edge of the post is of a width sufficient to properly support the brim when the latter is subjected to the action of the feeding presser-foot P.

To a guide, *c*, on the plate K, which covers the shuttle-race, is adapted a bar, *b*, in the front end of which is formed a semicircular recess, *b'*, which, when the bar is pressed forward and into contact with the post *a*, coincides with the recess *a'* of the latter and forms a needle slot concentric with the opening *x* in the work-plate of the machine.

The bar *b* is guided at the rear end by a screw-stud, *g*, on the arm E, said stud being adapted to a slot, *f*, in the bar, and a spring, *e*, secured at one end to a pin on the guide *c*, and at the opposite end to a pin on the bar, tends to move said bar toward the post *a*, the retraction of the bar being effected, however, when desired, by means of a knob, *h*, adapted to a slot in the casing *d* of the bar.

The cover-plate K is pivoted to the arm E of the machine by the screw-pin J, so that it can be swung to one side in order to expose the shuttle, and the slot *f* of the bar *b* has a a lateral opening, *f'*, so as to permit its release from the control of the pin *g* in order to allow the guided front end of the arm to move laterally with the plate K.

In the top of the bar *b*, adjacent to the front end of the same, is a recess, *m*, for the reception of the slightly-turned edge of the front and rear portions of the brim of the hat during the sewing of the binding material upon these portions, as shown in Fig. 6.

The operation of the machine is as follows: While the binding material is being sewed upon the front or back part of the brim, the bar *b* is moved forward in contact with the post *a*, and the brim is supported upon both the bar and post, the slightly-turned edge of the brim being contained in the recess *m* of the bar, the binding material evenly overlapping the brim, and the stitches formed straight through the latter, as shown in Fig. 6. On approaching the curled or turned portion of the brim at the side of the hat, however, the operator draws back the bar *b* and the brim of the hat is tilted laterally, so that the turned edge of the brim can pass between the front end of said bar and the post *a*, as shown in Fig. 7, the bar acting as a presser-foot to hold the turned edge of the brim close to the post and insure the passage of the needle through the opposite edges of the binding material, a long tie-stitch being thus formed between the upper edge of the braid which overlaps the outer edge of the curl and the lower edge of the braid which overlaps the inner edge of the curl, these long stitches being underneath or on the inside of the curl, so as to be hidden from sight when the hat is finished. When the binding material has been sewed upon the curled portion of the brim, and the latter has been tilted laterally back again to the position shown in Fig. 6, the bar *b* is again permitted to come into contact with the post *a*, and the sewing of the binding upon the flat portion of the brim is proceeded with as before.

It will be seen that it is the post or raised work-plate *a* which permits the taking of the long stitches, whereby the binding material is secured to the curled portion of the brim, the open needle-slot *a'* in the inner side of the post permitting the stitches to escape as the work is fed along. Owing to the open needle-slot *a'*, the post *a* partly embraces the needle and supports the work; but where this is not necessary the slot may be dispensed with.

The opening *x* in the work-plate of the machine at the base of the slot *a'* performs its usual functions of insuring the proper presentation of the needle to the shuttle or looping mechanism for making the stitch.

That portion of the post *a* which is in front of the open needle-slot *a'* may be recessed at and near the bottom, as at a^2, in order to permit such projection of the edge of the binding material beyond the inner edge of the curled brim of the hat as to insure the passage of the needle through said binding material. (See Fig. 7.)

The raised work plate or post *a* is available in itself for use in facilitating the sewing of binding material upon the curled brim of the hat; but the use of the sliding-bar *b*, in connection therewith, is preferred, as it materially assists in the sewing of the braid smoothly upon the flat front and rear portions of the brim, and when the binding material is being sewed upon the curled portions of the brim it insures regularity and evenness in the seam, for it will be observed that while the regular presser-foot P of the machine acts to hold the work in place on the top of the raised work plate or post *a*, the face of the bar *b* acts as a second presser-foot at right angles to the first, and keeps the curl of the hat against the face of the said post *a*.

In Figs. 8 and 9 I have shown a slight modification in the plan of supporting and guiding bar *b*. In this case the cover-plate K of the shuttle-race is extended, and the bar *b* is carried entirely thereby, the projection of the bar being effected by a plunger, *n*, acted on

by a spring in a barrel, *p*, secured to the guide *c*. In this case a lug, *s*, on the plate K serves, by contact with the arm E of the machine, to limit the swing of said plate when the latter is adjusted so as to cover the shuttle-race. The process herein described of sewing the hat, and also the hat itself as a new article of manufacture, form subjects of special applications bearing even date herewith, and numbered, respectively, 154,787 and 154,788.

I claim as my invention—

1. The combination of the stitch-forming mechanism of a sewing-machine, a plate having a throat, *x*, for the entrance of the needle, and a raised work-plate at one side of said needle-throat, the top of said raised work-plate forming a bearing for the work, as set forth.

2. The combination of the plate having a needle-throat, *x*, the raised work-plate having an open needle-slot concentric with said throat, and stitch-forming mechanism having a feed movement transversely across the slotted face of the said raised work-plate, as specified.

3. The combination of the stitch-forming mechanism of a sewing-machine, having a top feed, with a raised work-plate which is located at the side of the needle, but does not surround the same, and serves as a support for that portion of the work upon which the feed is acting, as set forth.

4. The combination of the stitch-forming mechanism, the raised work-plate, the top feed, and the spring-presser bar at the side of the work-plate, as set forth.

5. The combination of the stitch-forming mechanism of a sewing-machine, with a raised work-plate having an open needle-slot in one side, and a spring-presser bar having a bearing upon the slotted side of the work-plate, as set forth.

6. The combination of the contracted and projecting arm E of the machine, stitch-forming mechanism, the needle of which is arranged transversely to the axis of the arm, and a work-plate projecting from the arm at or near the end of the same, as described, whereby the crown of a hat can pass beneath the arm while the brim is supported by the raised work-plate, as set forth.

7. The combination of the stitch-forming mechanism of a sewing-machine, with a raised work-plate having an open needle-slot, and a side presser-bar adjustable from and toward the slotted face of the work-plate, and also having an open needle-slot, as set forth.

8. The combination of the stitch-forming mechanism of a sewing-machine, with a raised work-plate and an adjustable side presser-bar, the latter having a recess for the reception of the turned edge of a hat-brim, as specified.

9. The combination of the stitch-forming mechanism, the raised work-plate, the pivoted shuttle-cover, and the bar *b*, guided upon said cover and free to move laterally therewith, as described.

10. The combination of the stitch-forming mechanism of the machine, the plate having a needle-throat, and the raised work-plate *a* at the side of the needle-throat, said plate *a* having a lateral recess, a^2, in the side adjacent to the needle, as set forth.

In testimony thereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOHN THOMAS.

Witnesses:

W. E. PARRY,

Bristol Chambers, Nicholas Street, Bristol, England, Solicitor of the Supreme Court of Judicature in England.

W. R. PARRY,

Bristol Chambers, aforesaid, Articled Clerk to the said W. E. Parry.