

No. 621,038.

Patented Mar. 14, 1899.

G. H. W. CURTIS.
SEWING MACHINE LAP SEAM FELLER.

(Application filed Dec. 31, 1897.)

(Model.)

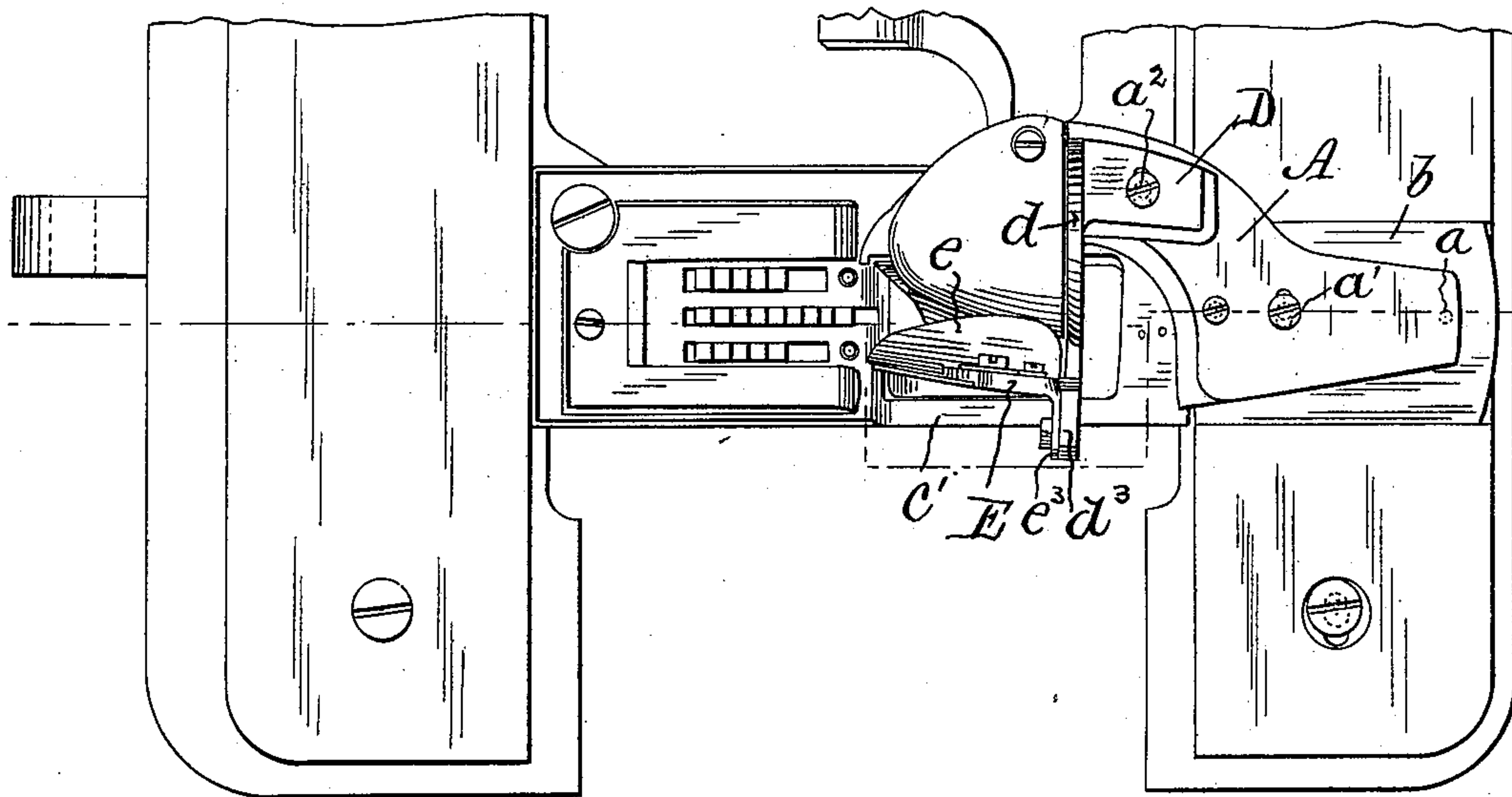


Fig. 1.

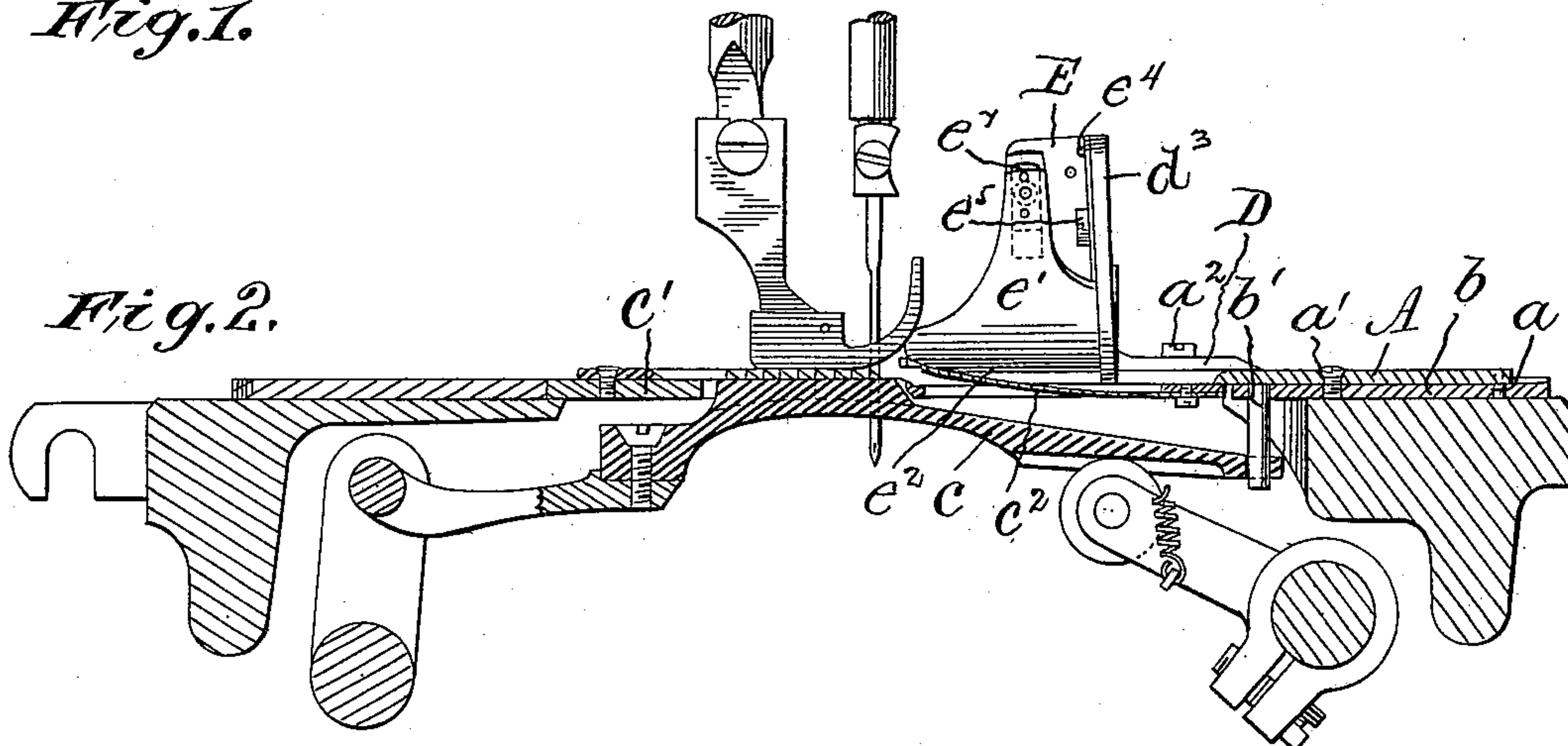


Fig. 2.

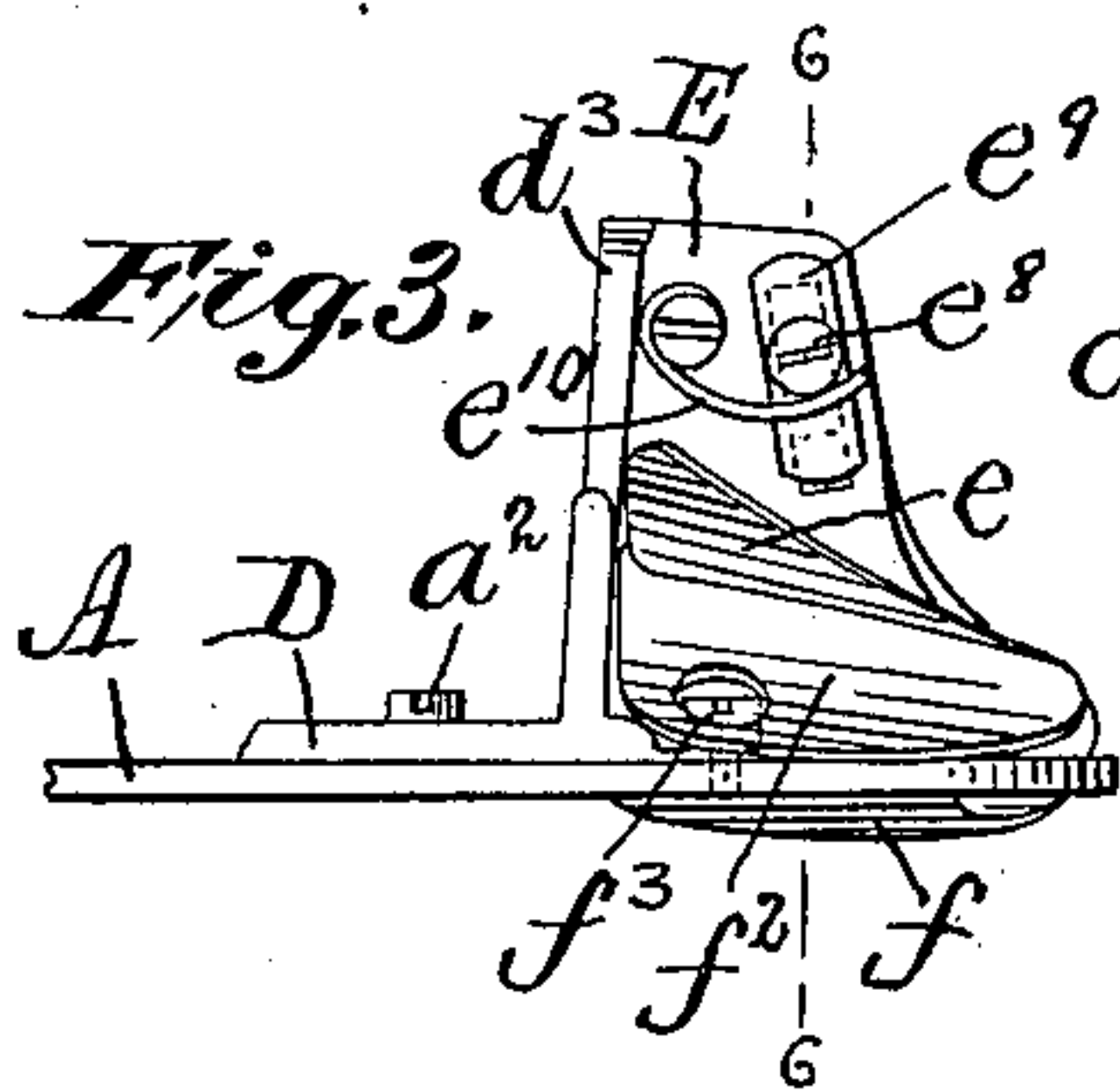


Fig. 3.

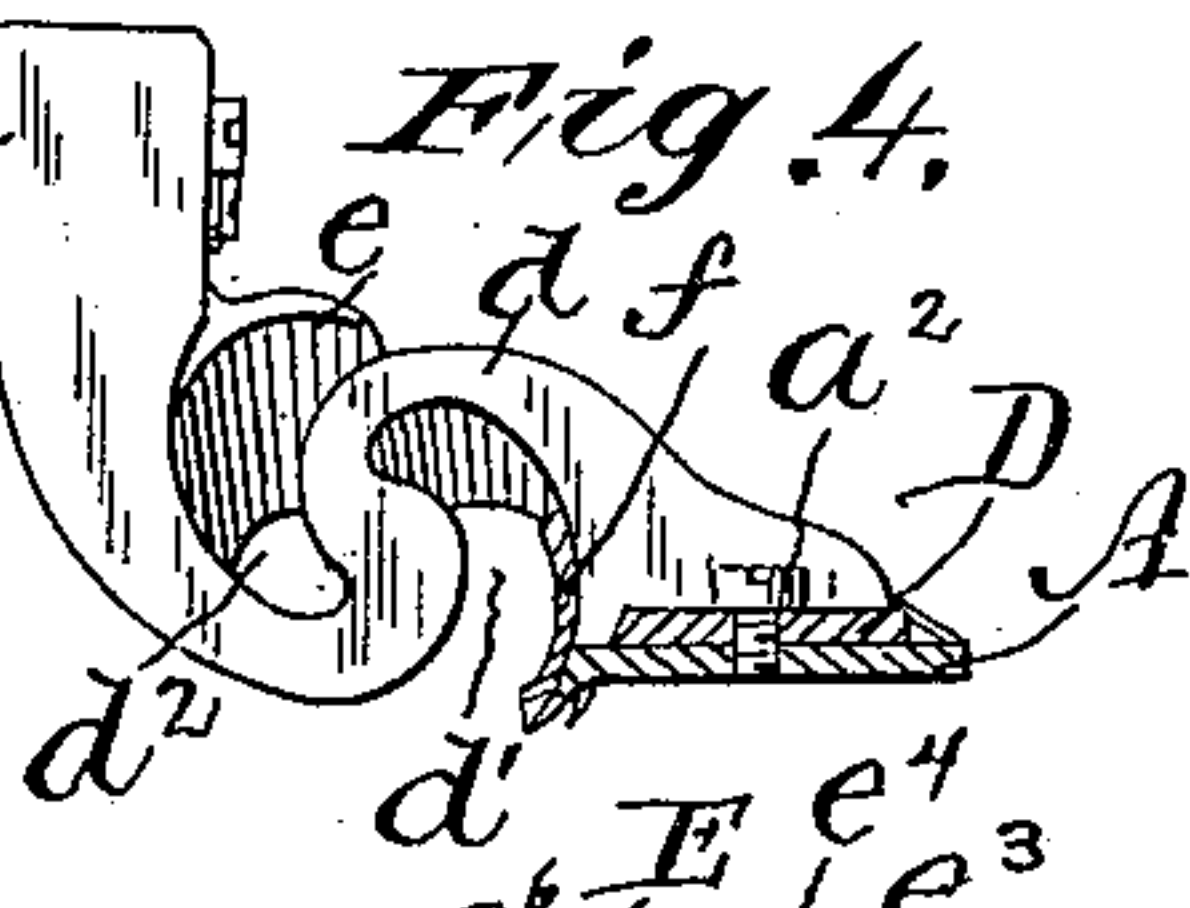


Fig. 4.

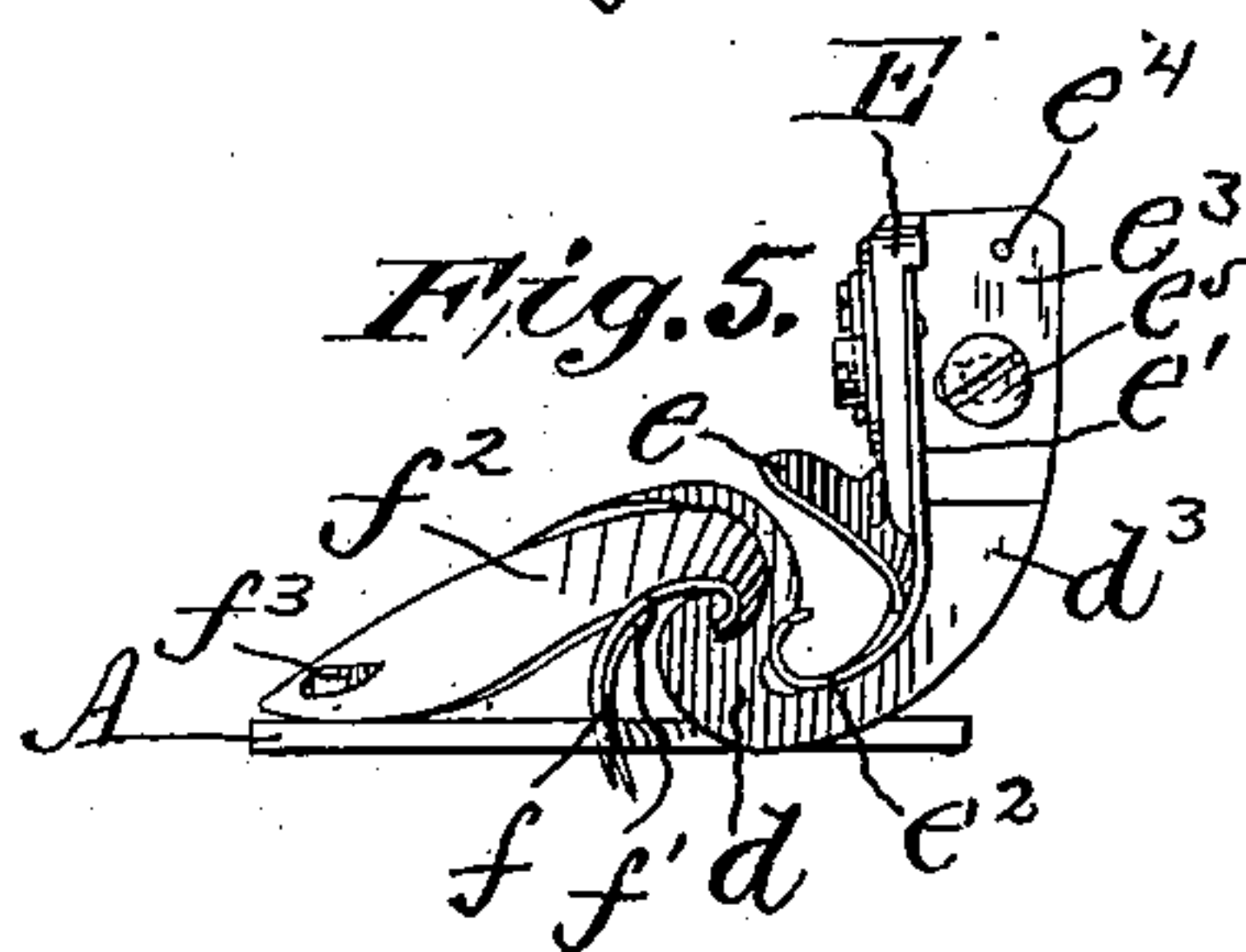


Fig. 5.

WITNESSES:

C. W. Benjamin
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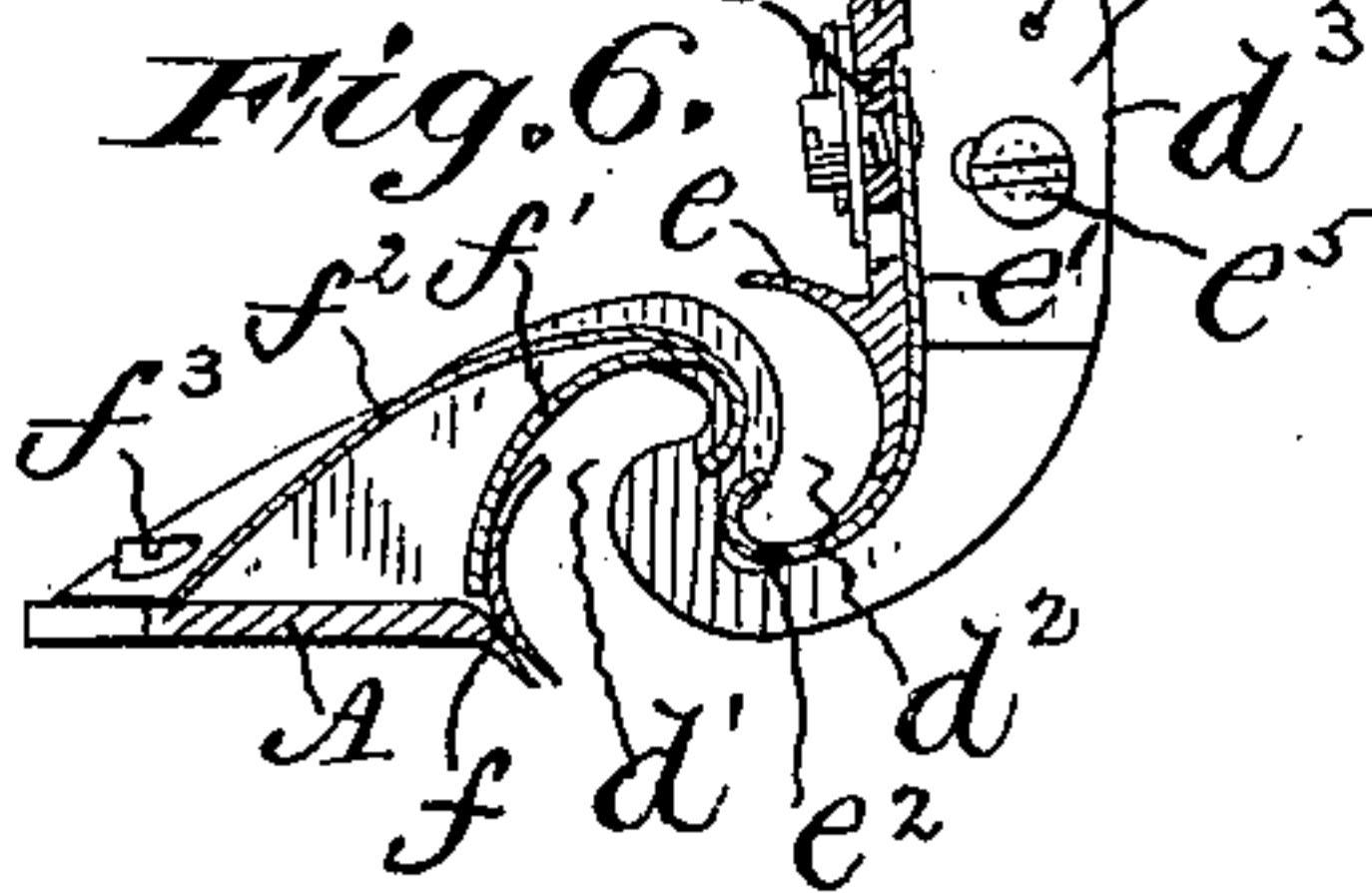


Fig. 6.

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SEWING-MACHINE LAP-SEAM FELLER.

SPECIFICATION forming part of Letters Patent No. 621,038, dated March 14, 1899.

Application filed December 31, 1897. Serial No. 664,979. (Model.)

To all whom it may concern:

Be it known that I, GEORGE H. W. CURTIS, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Sewing-Machine Lap-Seam Fellers, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention has for its object to provide a sewing-machine lap-seam feller adapted for use in connection with fabrics of varying thicknesses and by the use of which lap-seams across lap-seams may be made in heavy goods
15 without danger of clogging or choking the feller when the thick parts of the work at the crossing seams are passing through the feller. To this end the improved feller is preferably mounted on or attached to a sliding plate con-
20 nected with the feed-bar of the machine so as to be moved back and forth horizontally with the latter. Thus the feller, with the work therein, will be moved forward with the feeding device as the latter advances in feeding
25 the work and will be moved backward when the feed-bar is retracted. The feed-bar is so timed as to perform its backward movement mostly or wholly during the intervals of time when the needle or needles are in the work,
30 and thus the feller will be moved or slid backward relative to the stationary work when the latter is held by the needle or needles, and should there be any considerable pull between the feller and work owing to the passage
35 through the feller of thick portions, like crossing seams, this pull will be resisted by the needle or needles of the machine and the clamping action of the presser-foot and work-plate. This will at all times insure a uniform
40 forward movement of the work, (the feller traveling backward positively on the latter,) a result which is not always secured when the feed is depended upon to pull the work through the feller, the resistance being sometimes so
45 great at crossing seams in heavy goods that the pull of the feed fails to overcome it and imperfect work results. To further facilitate the passage of thick parts of the work through the feller, the latter is made in two parts,
50 each of which has an elastic portion which

will yield when any considerable pressure is applied thereto.

In the drawings, Figure 1 is a plan view of the front end of the work-plate of a two-needle sewing-machine equipped with the im-
55 proved feller, and Fig. 2 is a cross-sectional view of the same. Fig. 3 is a side view of the feller with its shank or base-plate partly broken away. Fig. 4 is a front end view of the same with the base-plate in section. Fig. 60
5 is a rear end view of the feller; and Fig. 6, a vertical cross-section of the same on line 6 6, Fig. 3.

A denotes the base-plate of the feller, said base-plate being attached by a lug or dowl-
65 pin a and a screw a' to a sliding plate b , provided with a depending pin b' , which is engaged by the feed-bar c , reciprocated in any suitable or well-known manner, beneath the throat-plate c' . The hole in the plate A,
70 through which the screw a' passes, is somewhat elongated, so that said plate, with the feller thereon, can be adjusted or swung laterally on the lug or pin a as a center to a limited extent to bring the feller into any desired
75 position of adjustment relative to the needle or needles of the machine.

Adjustably attached to the plate A by a screw a^2 is a plate D, having a laterally-extending rigid guard-arm d , provided with two
80 curved slots d' and d^2 , separated from each other by a portion of said arm, and the latter having at its outer end an upright portion or standard d^3 , which supports what may be
85 termed the "upper part" or "upper member" of the feller in that it turns or folds in the edge of the overlying section of fabric, although when the fold is completed this folded
90 or turned-over edge of the upper section comes beneath the edge of the other section of fabric. This upper member of the feller consists of the plate E, having a fixed flange or
95 wing e , forming the upper part of the scroll, and the plate e' , yieldingly mounted on a plate E and having a curved lower part e^2 , which forms the lower part of the scroll. The plate E has a right-angular part or flange e^3 , hung
on a pin e^4 , with which the standard d^3 is provided, a set-screw e^5 , passing through a hole
100 or slot in said flange, serving to rigidly at-

tach said plate E to said standard. The hole in the flange e^3 , through which the screw e^5 passes, is preferably sufficiently large to permit of a limited adjustment of the plate E on the pin e^4 , so as to place the scroll of the upper member of the feller nearer to or farther from the scroll of the other member of the feller, and this limited adjustment may be augmented by the adjustment afforded by the slot-and-screw connection of plate D with the plate A, hereinbefore described.

The plate e' is provided with a steadying-lug e^6 , fitting in a slot e^7 in the plate E, said plate e' being movably connected with or attached to said plate E by a screw e^8 , beneath the head of which is a plate e^9 , slightly wider than said slot e^7 . A small spring e^{10} , pressing against the lower side of the head of the screw e^8 , serves to hold the plate e' in a raised position, but permits said plate to yield when any considerable pressure comes against the lower part e^2 of the scroll carried by said plate e' . Owing to the fact that the plate e' is a thin steel plate and is thus of itself elastic the scroll part e^2 can yield outwardly or laterally, if necessary, as well as downwardly.

What may be termed the "lower member" of the feller is formed by a curved wing f , formed on or rigidly attached to the base-plate A, and a partial scroll f' , carried by a spring-plate f^2 , attached to said base-plate by a screw f^3 . The plate f^2 will yield upwardly when any considerable pressure is applied to the partial scroll f' , thereby rendering the lower member of the feller expansible as well as the upper member.

To permit of a free downward movement of the scroll part e^2 of the upper member of the feller, the base-plate A of the feller is cut away beneath the feller, as is also the throat-plate c' . To hold the work up, however, the throat-plate is provided with an upwardly-pressing tongue or spring-plate c^2 , which while it will hold the fabric up snugly against the scroll part e^2 when a normal thickness of work is passing through the feller will yield downwardly when said scroll part is forced downward by a thick part or lump in the work, such as must pass through the feller at a crossing seam.

Owing to the fact that the rigid guard-arm d , in which the curved entrance-slots d' and d^2 are formed, is of comparatively thick metal it is possible to round off the edges of the walls of said slots so that a thick part of the work, as a passing seam to be crossed by the seam being formed, will not catch on the front of the feller when entering the same. It has heretofore been found difficult to prevent this catching of the work on fellers the thin edges of the plates of which formed the entrances, even when the entrance ends or edges of the plates were flared or bent outward to avoid the difficulty; but this trouble is avoided in the present invention by the transverse arm d , in which the curved entrance-slots are formed and which is located in front of, and

thus serves as a guard for, the scrolls of the feller, the edges of the walls of said entrance-slots being properly rounded, as above described.

From the foregoing it will be apparent that the improved feller consists of two independent parts or members, each of which has a flexible or yielding scroll part, thereby rendering each member expansible, so that there will be no danger of clogging or choking the feller in forming crossing lap-seams, and it will also be apparent that although the two members of the improved feller are connected to or supported by a common base-plate one member is adjustable toward and from the other to adapt the feller to different kinds of work, as on light or heavy goods. It will also be understood that the positive backward movements of the reciprocating feller while the work is held by the needle or needles and the presser-foot will always insure an even feed of the work notwithstanding any resistance which may be offered by thick parts, as passing seams, going through or moving relative to the feller.

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

1. A sewing-machine lap-seam feller comprising a base-plate and two independent scroll parts or elements both of which are connected with and thus supported by said base-plate, one of said parts or elements having a flexible or yielding top portion and the other a flexible or yielding bottom portion.

2. A sewing-machine lap-seam feller comprising a base-plate and two independent scroll parts or elements both of which are connected therewith and one of which is adjustable laterally toward and from the other, one of said parts or elements having a flexible or yielding top portion and the other a flexible or yielding bottom portion.

3. A sewing-machine lap-seam feller comprising longitudinally-extending plates or scroll parts, combined with a transverse rigid guard-arm arranged in front of the said scroll parts and provided with the curved entrance-slots d' and d^2 through which the fabrics pass to the scrolls, said slots being separated from each other by a portion of said arm.

4. A sewing-machine lap-seam feller comprising longitudinally-extending plates or scroll parts, combined with a transverse guard-arm arranged in front of the said scroll parts and provided with the curved entrance-slots d' and d^2 through which the fabrics pass to the scrolls, said feller consisting of two independent parts or elements one of which is supported by an upright or standard, with which said transverse guard-plate is provided, and the other of which is directly supported by or attached to the base-plate of the feller.

5. A lap-seam feller having a base-plate which is cut away beneath the feller-scrolls, combined with a sewing-machine work-plate

or throat-plate which is also cut away or recessed beneath the feller-scrolls, and an upwardly-pressing spring plate or tongue placed beneath said scrolls, and serving to hold the work up against the latter but adapted to yield when necessary.

6. The combination with a lap-seam feller comprising scroll portions one of which has an elastic or downwardly-yielding part, of an upwardly-pressing spring-plate or tongue arranged beneath said scroll portion and serving to hold up the material, but adapted to yield when the said elastic part is forced downward by a thick portion of the work.

7. The combination with a reciprocating sewing-machine feed-bar, of a sliding plate connected with said feed-bar to reciprocate therewith, a lap-seam feller having a base-plate attached to said sliding plate, said feller consisting of two independent scroll parts or elements one of which is laterally adjustable relative to the other.

8. The combination with a reciprocating sewing-machine feed-bar, of a sliding plate connected with said feed-bar to reciprocate therewith, a lap-seam feller having a base-plate attached to said sliding plate, said feller

consisting of two independent scroll parts or elements one of which is laterally adjustable relative to the other, and one of said scroll parts having an elastic or flexible top and the other thereof having an elastic or flexible bottom.

9. In a lap-seam feller, the combination with the base-plate A, of the plate E having the fixed flange or wing *e*, the plate *e'* yieldingly mounted on said plate E and having the curved scroll part *e*², the curved wing *f* fixed relative to said base-plate and the spring-plate *f*² provided with the scroll part *f'*.

10. In a lap-seam feller, the combination with the base-plate A, of the plate E having the fixed flange or wing *e*, the plate *e'* yieldingly mounted on said plate E and having the curved scroll part *e*², the curved wing *f* fixed relative to said base-plate, the spring-plate *f*² provided with the scroll part *f'*, and the transverse arm D having the curved slots *d'* and *d*².

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE H. W. CURTIS.

Witnesses:

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HAROLD W. BROWN.