

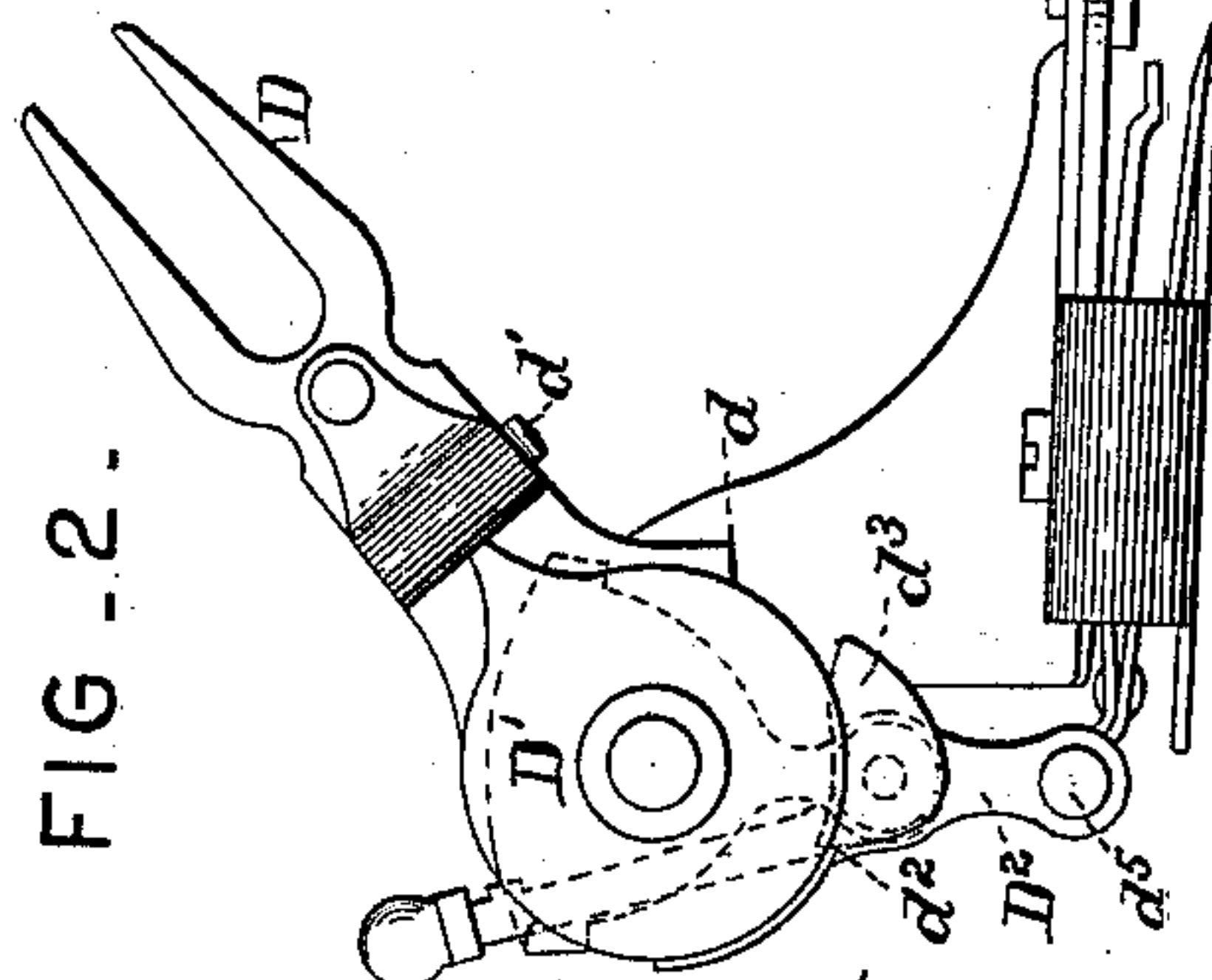
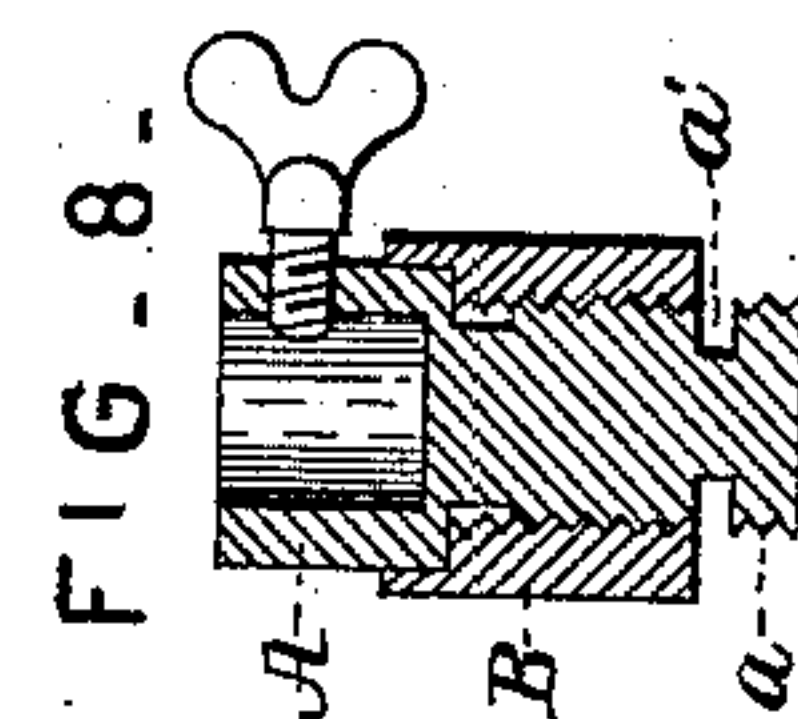
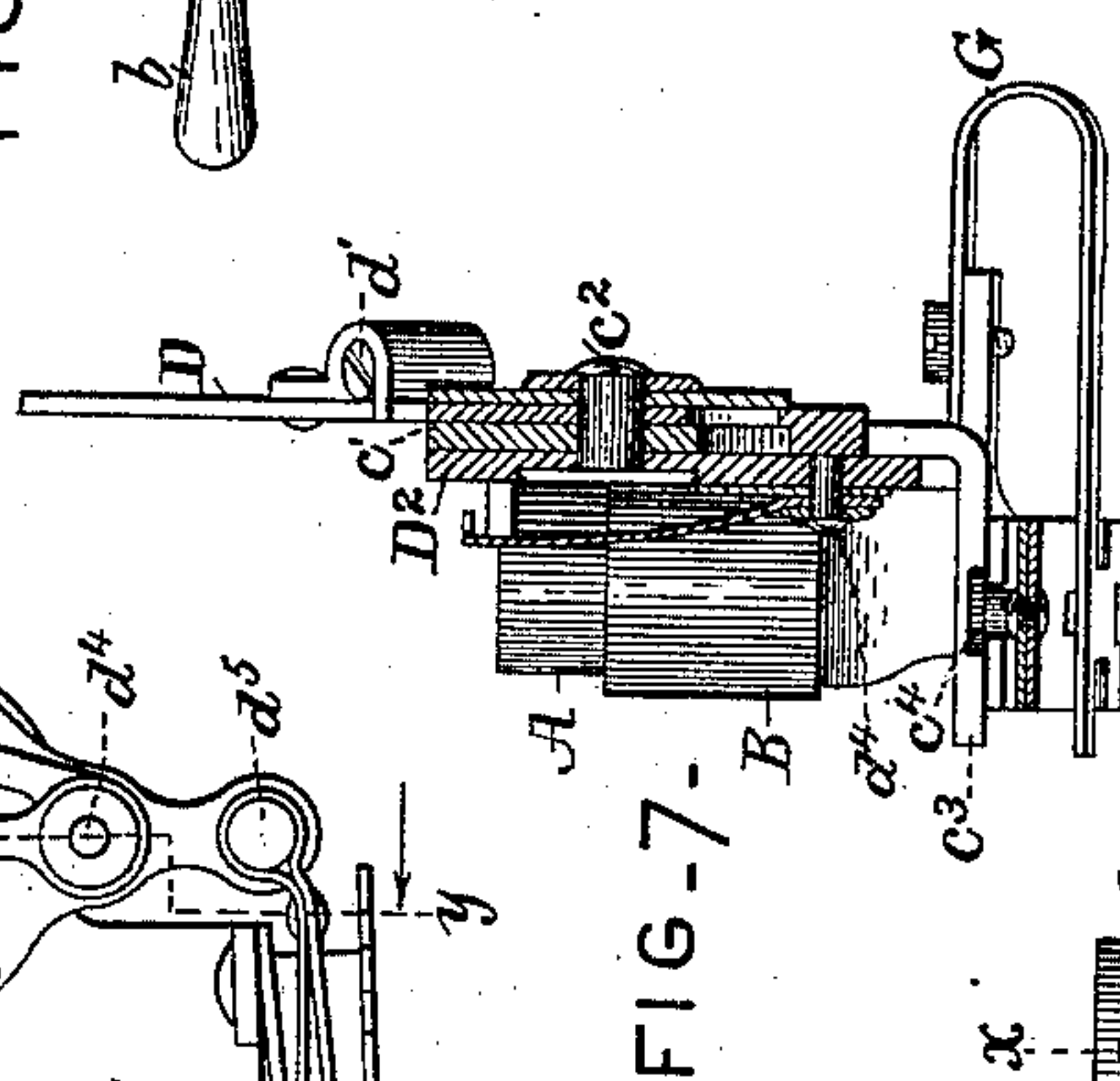
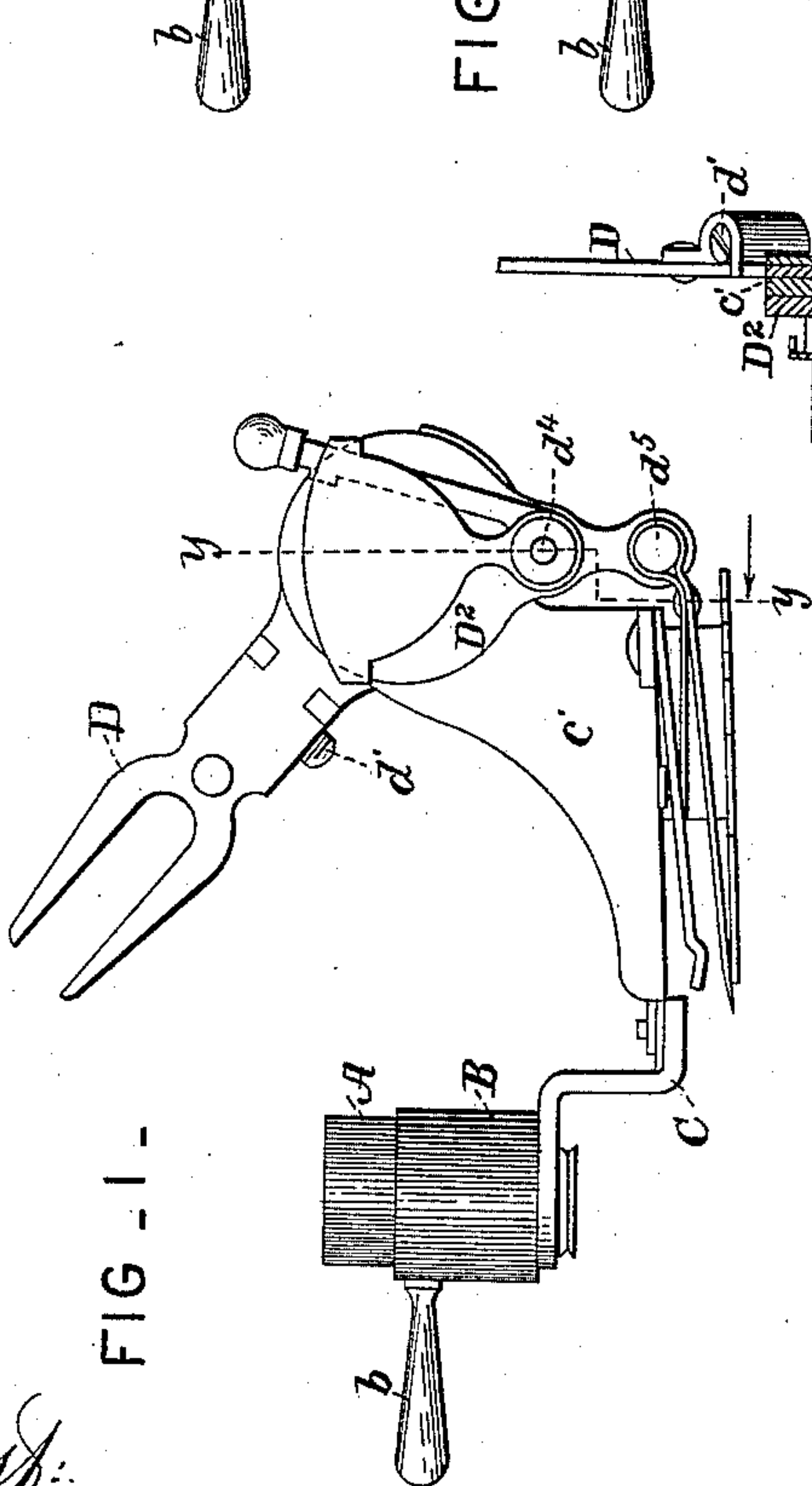
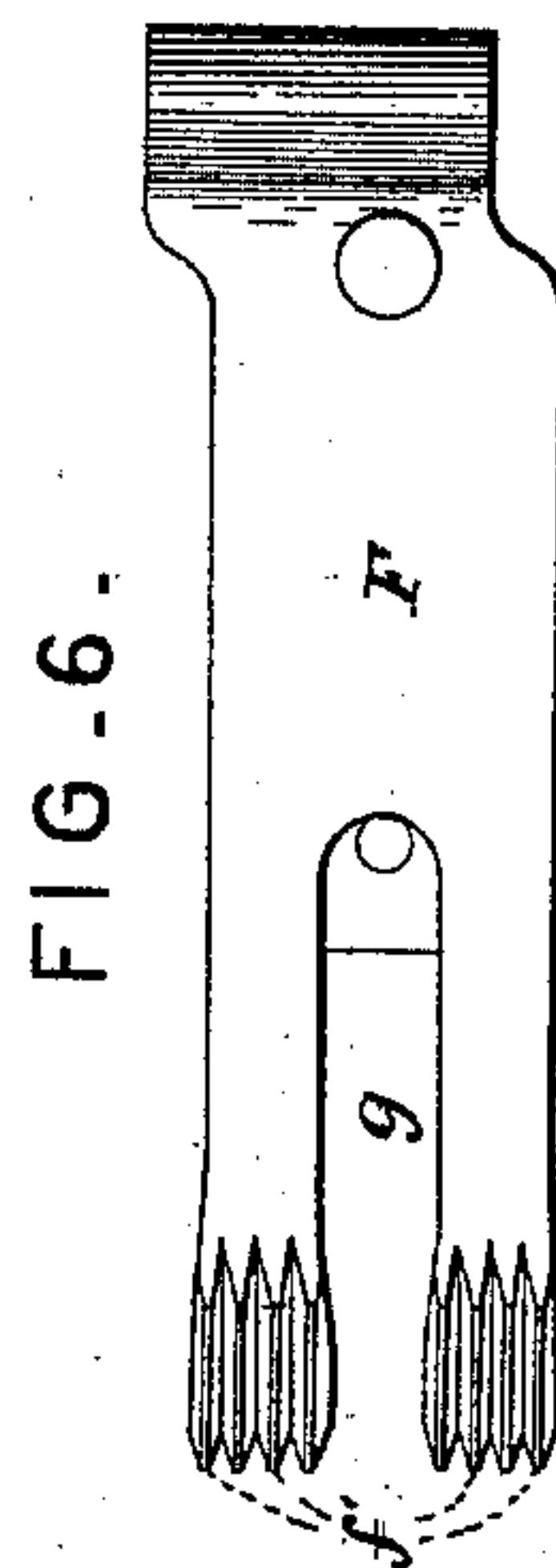
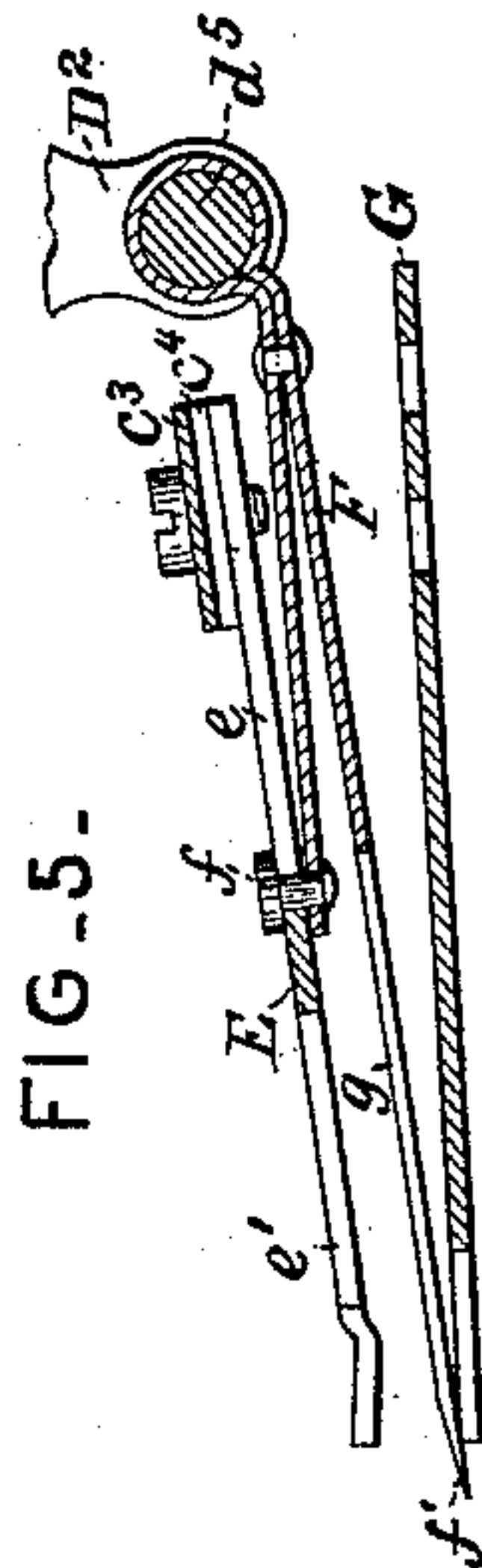
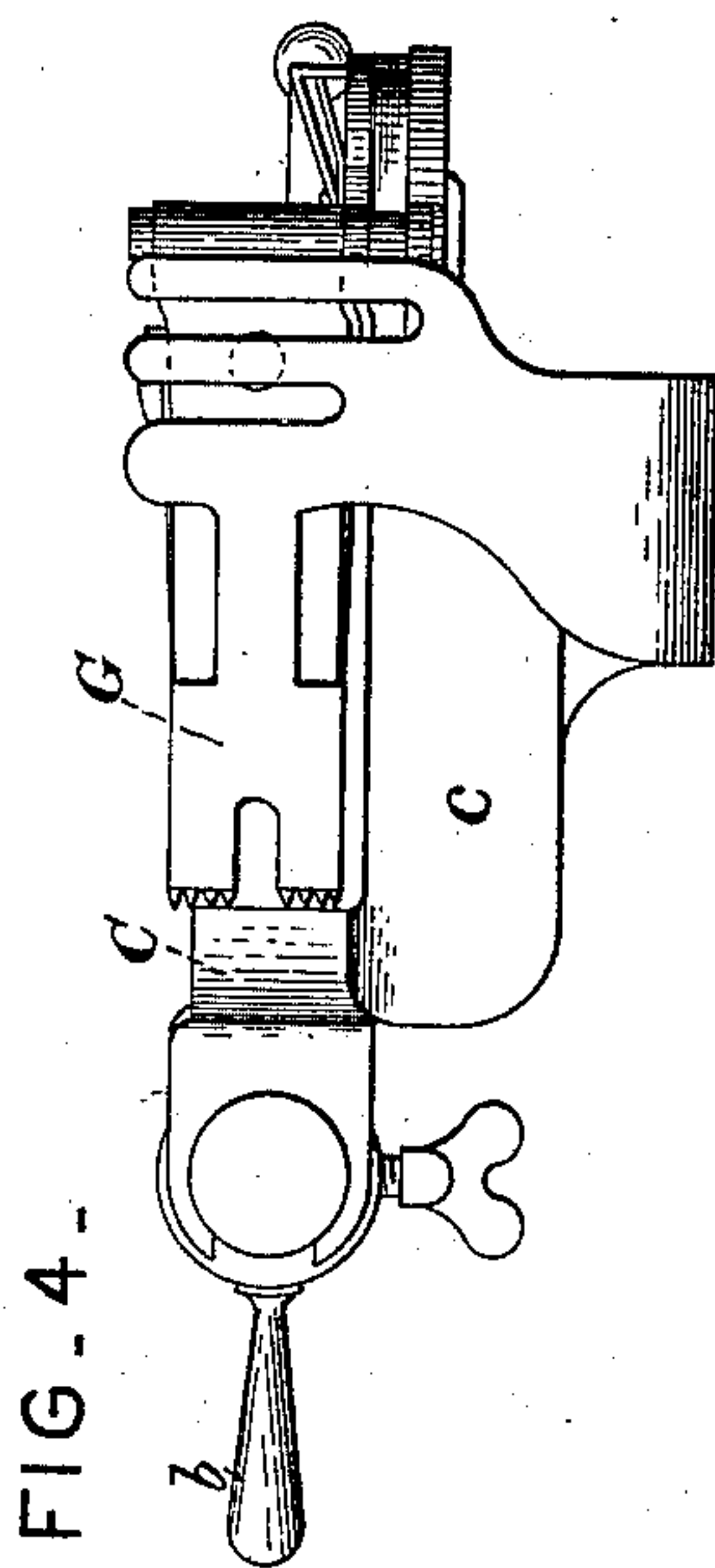
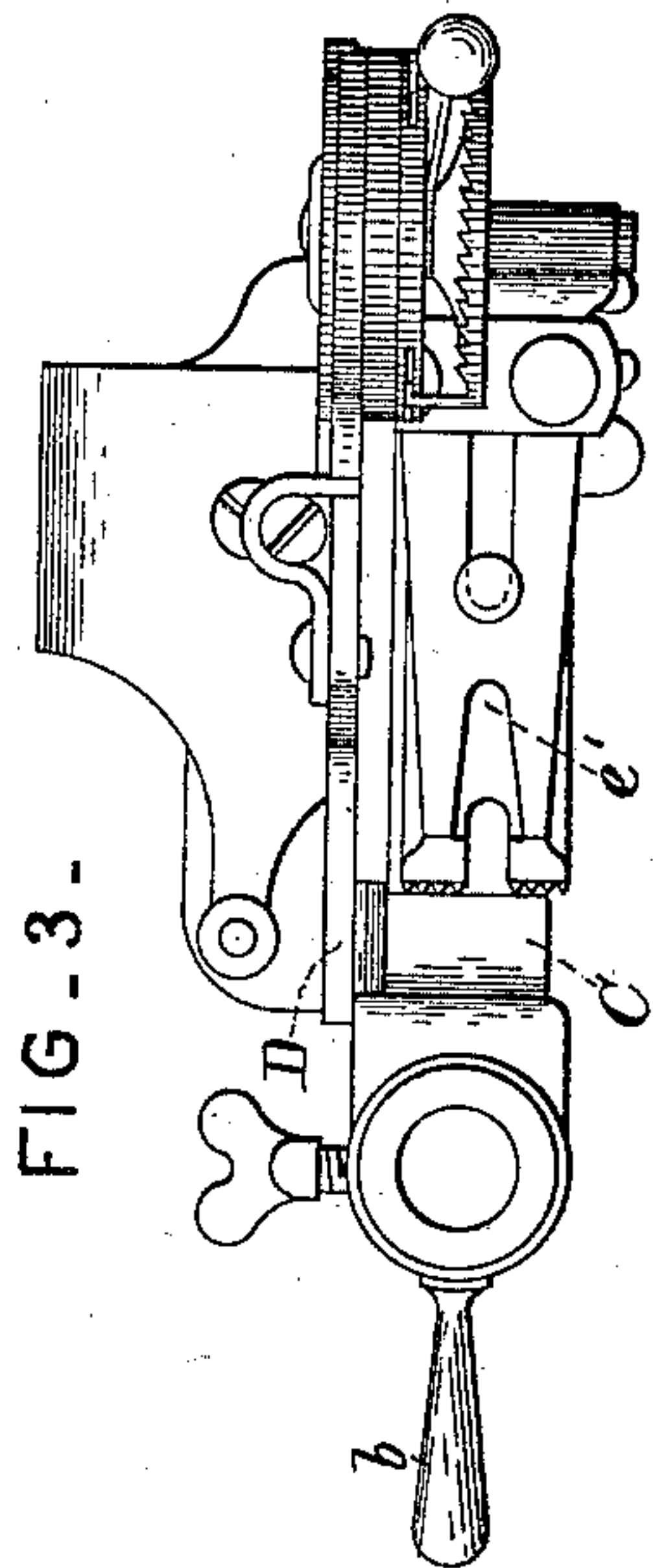
(No Model.)

A. JOHNSTON.

RUFFLING ATTACHMENT FOR SEWING MACHINES.

No. 392,035.

Patented Oct. 30, 1888.



Attest:
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UNITED STATES PATENT OFFICE.

ALLEN JOHNSTON, OF OTTUMWA, IOWA.

RUFFLING ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 392,035, dated October 30, 1888.

Application filed February 29, 1888. Serial No. 265,718. (No model.)

To all whom it may concern:

Be it known that I, ALLEN JOHNSTON, of Ottumwa, in the county of Wapello and State of Iowa, have invented new and useful Improvements in Ruffling Attachments for Sewing-Machines; and I do hereby declare the following to be a full, clear, and exact description of said invention, reference being had to the accompanying drawings, and to the letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in ruffling attachments for sewing-machines; and the objects of my invention are to provide the gathering-blade with needle-points to facilitate the accurate gathering or ruffling of the fabric operated upon; also to provide the spring-presser and the gathering-blade with open spaces to allow the parts thereof on each side of the needle to separately adjust themselves to inequalities of the feed-surface of the sewing-machine, and which open spaces also enable the operator to see the gathers as they are being formed, and also to provide further improvements, as hereinafter described; and to this end my invention consists in the construction and combination of parts, as hereinafter described, and then pointed out in the claims.

In the accompanying drawings, which form part of this specification, Figure 1 is a side elevation of the attachment. Fig. 2 is a side elevation taken from the side opposite to that shown in Fig. 1, and having a portion of the sleeve broken out to show the screw-threaded portion of the socket-piece. Fig. 3 is a plan view. Fig. 4 is a plan of the under side of the attachment. Fig. 5 is an enlarged sectional detail view of the spring-presser, gathering-blade, and separator. Fig. 6 is an enlarged view of the under side of the gathering-blade. Fig. 7 is a sectional view taken on the line *yy* of Fig. 1, looking in the direction of the arrow; and Fig. 8 is a sectional view taken on line *xx* of Fig. 2.

The device for connecting the foot C and frame of the attachment to the presser-bar of a sewing-machine consists of the socket-piece A and sleeve B. This piece A is provided at its upper end with a socket to receive the lower end of the presser-bar and the usual thumb-screw for securing it thereto. The lower por-

tion of this piece A is screw-threaded, as shown in Figs. 2 and 8 at *a*, and is cut away at *a'* to provide two recesses on opposite sides thereof to receive the bifurcated end of the foot-piece C, as shown. The sleeve B is interiorly screw-threaded to fit the screw *a*, and is provided with a handle, *b*. Upon slipping the bifurcated end of the foot-piece into the recesses *a'* and screwing the sleeve B downward when the parts are in the position shown in Fig. 2, the sleeve will secure the foot-piece firmly in connection with the socket-piece. Before so screwing the sleeve downward the foot-piece may be accurately adjusted within the limits of the bifurcation, and by having a slightly greater space between the horns of the bifurcation than the distance from one recess *a'* to the other the foot-piece may be swung or adjusted laterally and secured in such adjustment by the sleeve.

The attachment holder or device above described, consisting of the socket-piece and sleeve, although particularly described, are not claimed herein, the same being made the subject of a separate application for patent filed July 10, 1888, Serial No. 279,543.

The foot C has an extension, *c*, and from such extension projects an upright, *c'*, which supports the working parts of the ruffler. In the upright *c'* is a pivot-pin, *c''*, to which the lever D, which receives motion from the needle-bar of the sewing-machine, is pivoted.

The lever D is provided with a shoulder, *d*, and has adjustably connected to it, by means of pivot-pin *c''* and an adjusting-screw, *d'*, the abutment-plate D', provided with a stop, *d''*. The construction of this lever D and abutment-plate D' and screw *d'*, not being claimed in this application, is not shown in detail, it being understood that any other suitable adjusting means may be substituted therefor. The shoulder *d* and abutment *d''* in operation strike alternately on the periphery of the cam *d'''*, adjustably pivoted to the lever D² at the point *d⁴*, the said cam being provided with an extension, which engages with a suitable ratchet-plate secured to the lever D². The lever D² is hung upon the pivot-pin *c''*, and at its lower end is provided with a stud, *d⁵*. Around this stud the gathering-blade F is bent, and the two parts of such blade are united a short distance from the stud by means of a rivet.

This allows of a ready removal of the blade from its stud for purposes of sharpening, as hereinafter described. The blade by being bent back upon itself, as explained, is given additional elasticity, and is rendered durable and simple. The end of the upper portion of the gathering-blade is provided with a headed pin, *f*, which moves freely in a slot, *e*, in the spring-presser *E*. The head of the pin *f* rides above the spring-presser *E*, and in order to allow of the ready removal of the blade *F* a passage-way for the head of pin *f* is made in the under side of the arm *c*³, which projects horizontally from the upright *c*¹ and supports the spring-presser. The said passage-way is shown at *c*⁴ in Figs. 5 and 7.

The lower portion of the gathering-blade—or, in other words, the gathering-blade proper—has at its end sharp needle-points, as shown at *f*¹ in Figs. 5 and 6, resulting from forming grooves in the side next to the cloth to be ruffled or gathered and grinding or beveling the upper side thereof. These grooves extend sufficiently far back from the end of the blade to admit of the blade being ground several times on its upper side, whereby the “needle-points” can be kept very sharp. These are termed “needle-points” to distinguish them from chisel-edged points, the common construction. The needle-points, being at the side of the spring-blade next the cloth, are capable of doing the best work possible in a ruffler, and this construction is a most important feature of my invention. The preferable manner of forming this blade is to first groove the blade on the side next the cloth to be gathered, then temper it to a proper hardness, and, lastly, grind the spring-blade on the opposite side from the grooved side at such an angle as to form points of the shape shown in the drawings.

The spring-presser *E* is split or cut away at *e*¹ from the center of its edge to a point sufficiently far toward its other end to permit the ready inspection by the operator of the gathering operation, no matter what may be the extent of reciprocation of the gathering-blade, and the gathering-blade *G* is similarly split or cut away at *g* for the same purpose. By this construction of the spring-presser and gathering-blade a further advantage is gained, which is that the portions on each side of the needle will separately adjust themselves to inequalities of the feed or other surface upon which they rest.

The advantage and use of a presser-foot composed of a solid part and a spring part are fully set forth in the patent granted to Allen Johnston August 23, 1887, No. 368,923, upon which this is an improvement.

Having now fully described my said invention, what I claim is—

1. In a ruffling or gathering attachment for sewing-machines, the combination, with a presser, of a gathering-blade formed of one piece of metal bent upon itself, one end of the blade being arranged to take hold of the cloth

to be gathered and the other end resting against said presser, whereby the combined elasticity of the two parts of the blade will give a pressure upon the goods to be gathered, substantially as described.

2. In a ruffling or gathering attachment for sewing-machines, the combination, with a slotted spring-presser, of a ruffling-blade located beneath the presser and having a projection on its upper side, said projection engaging the slot in the spring-presser, whereby said projection during the reciprocations of the blade will not interfere with the formation of the gathers, substantially as set forth.

3. In a ruffling or gathering attachment for sewing-machines, the combination, with a presser, of an elastic gathering-blade formed of one piece of metal bent upon itself, one end of the blade resting against the presser and the other end being split or cut away from the center of its operating-edge to a point about midway of its length, as set forth.

4. In a ruffling or gathering attachment for sewing-machines, a reciprocating gathering-blade, in combination with an elastic spring-presser attached to the frame of the ruffler in front of the needle, said blade being formed of one piece of metal bent upon itself, one end of the blade resting against the presser and the other end of the blade and the spring-presser being cut away in front of the needle, to enable the operator to see the full extent of the gathers as they are being formed.

5. In a ruffling or gathering attachment for sewing-machines, an elastic gathering-blade split back about one-half its length from the point of contact with the cloth, whereby the parts of the blade on each side of the needle may separately adjust themselves to the inequalities of the feed-surface of the sewing-machine, in combination with a spring-presser to form the gather against, which spring-presser is also split back from the point of contact with the cloth to be gathered, to allow each part to separately adjust itself to the feed of the machine or surface upon which it bears, substantially as described.

6. In combination with a ruffling or gathering attachment for sewing-machines, a spring-presser split back about one-half its length from the point of contact with the cloth, whereby the parts thereof on each side of the needle may separately adjust themselves to the inequalities of the feed or other surface upon which they rest, said presser being attached to the frame of the ruffler in front of the needle, substantially as described.

7. In a ruffling or gathering attachment for sewing-machines, a spring-presser split back about one-half its length from the point of contact with the cloth, whereby the parts thereof on each side of the needle may separately adjust themselves to the inequalities of the feed or other surface upon which they rest, which presser is attached to the frame of the ruffler in front of the needle, said spring-presser hav-

ing a guide for the gathering-blade, in combination with said gathering-blade, substantially as and for the purpose described.

8. In a ruffling or gathering attachment for
5 sewing-machines, a gathering-blade having grooves extending part of the way through the blade on the side next to the cloth to be gathered, and cut or formed on the opposite side at a suitable angle, whereby the points to take
10 hold of the goods to be gathered are formed, substantially as described.

9. In a ruffling attachment for sewing-machines, a reciprocating gathering-blade bent longitudinally upon itself and removably connected with its carrier and guide, in combina-

tion with said carrier and guide and a presser-foot and spring-presser, substantially as described.

10. In a ruffling attachment, the combination, with the frame thereof, of the arm c^3 , having the groove c^4 , the presser E, having slot e , and the gathering-blade F, having projection f fitted in said slot e , substantially as described.

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

ALLEN JOHNSTON.

Witnesses:

J. T. HACKWORTH,
GEO. F. HALL.