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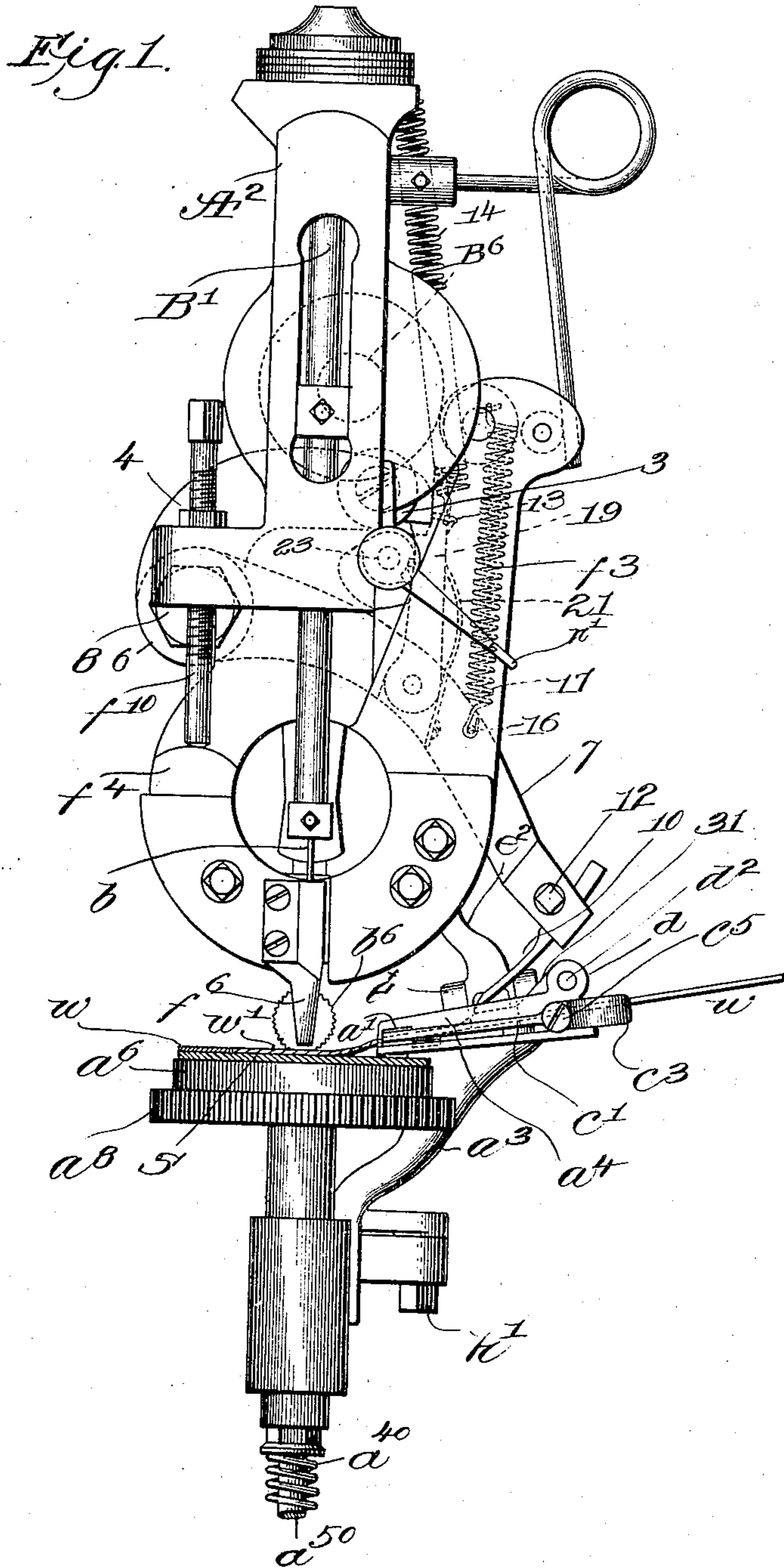
G. GODDU.

PATENTED AUG. 18, 1908.

WELT ATTACHING APPARATUS.

APPLICATION FILED MAY 20, 1904.

3 SHEETS—SHEET 1.



Witnesses.
W. C. Linsford.
Thomas Drummond.

Inventor,
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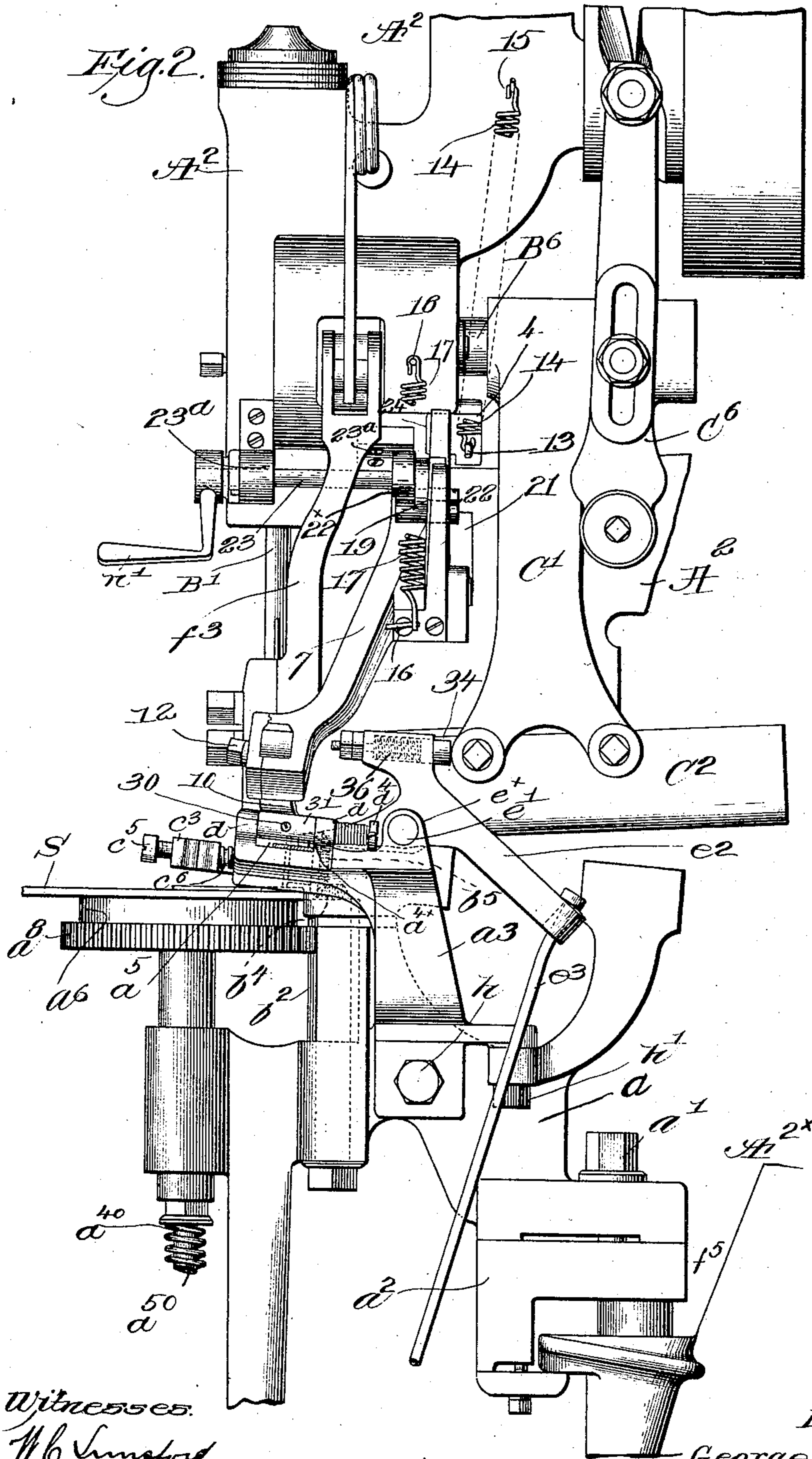
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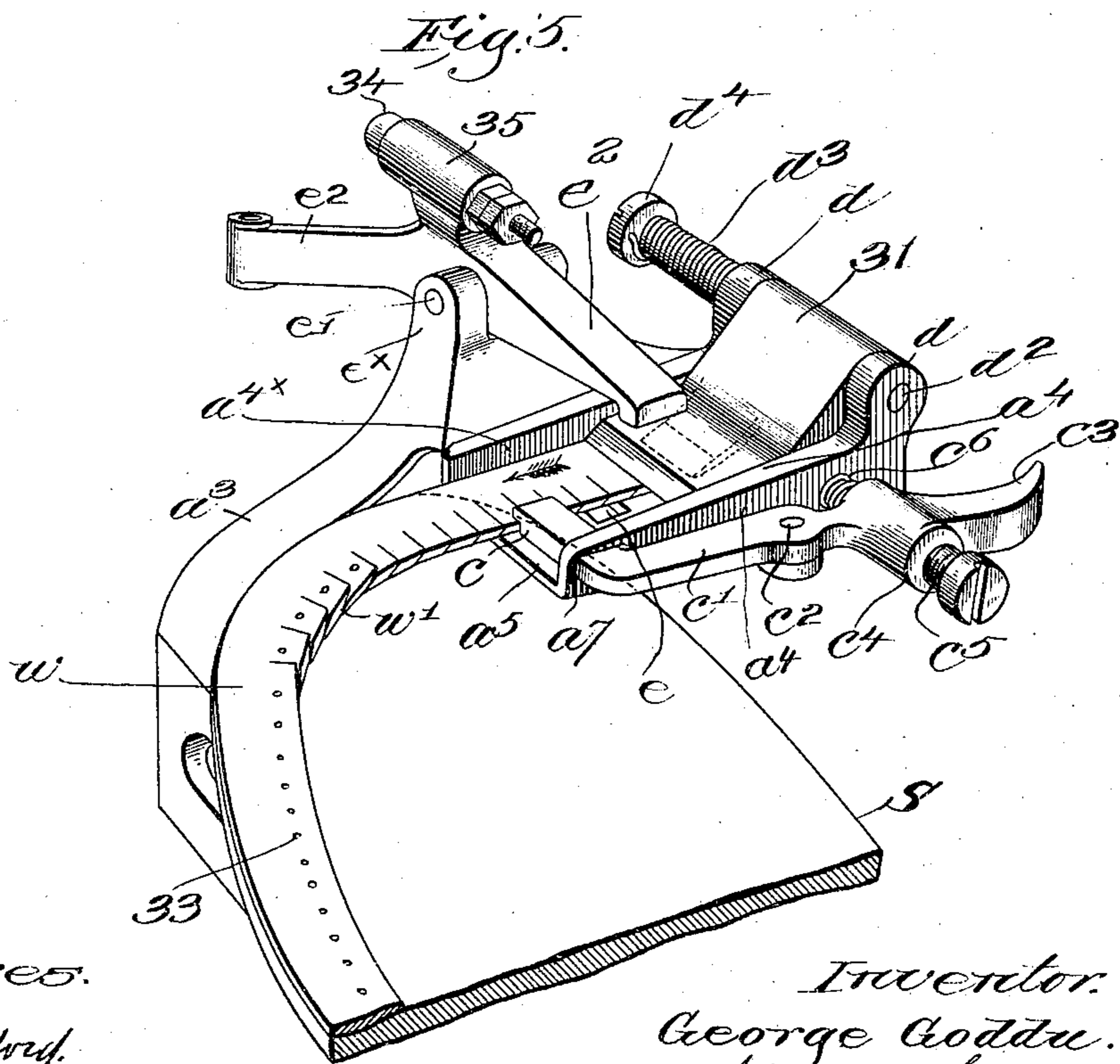
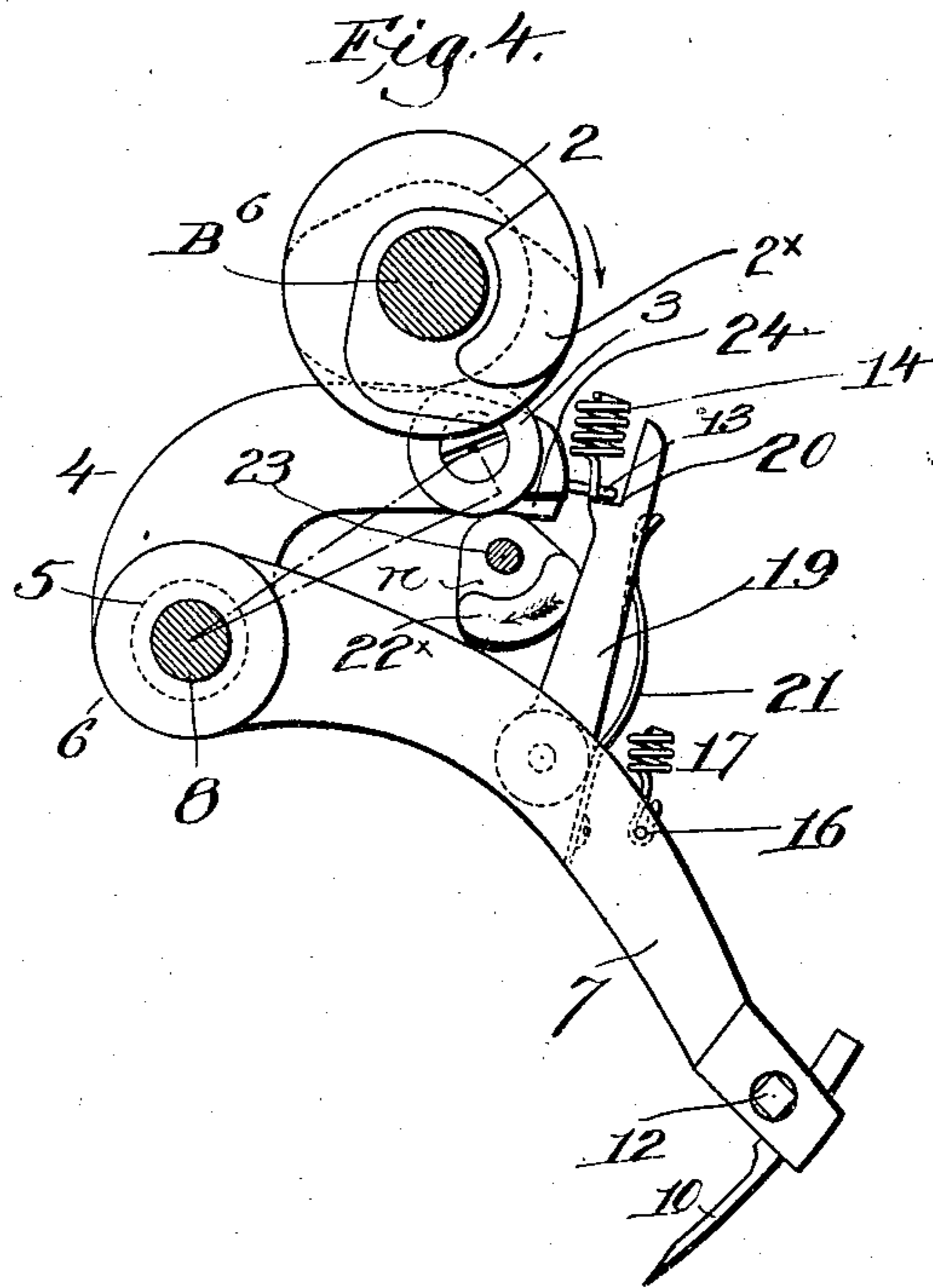
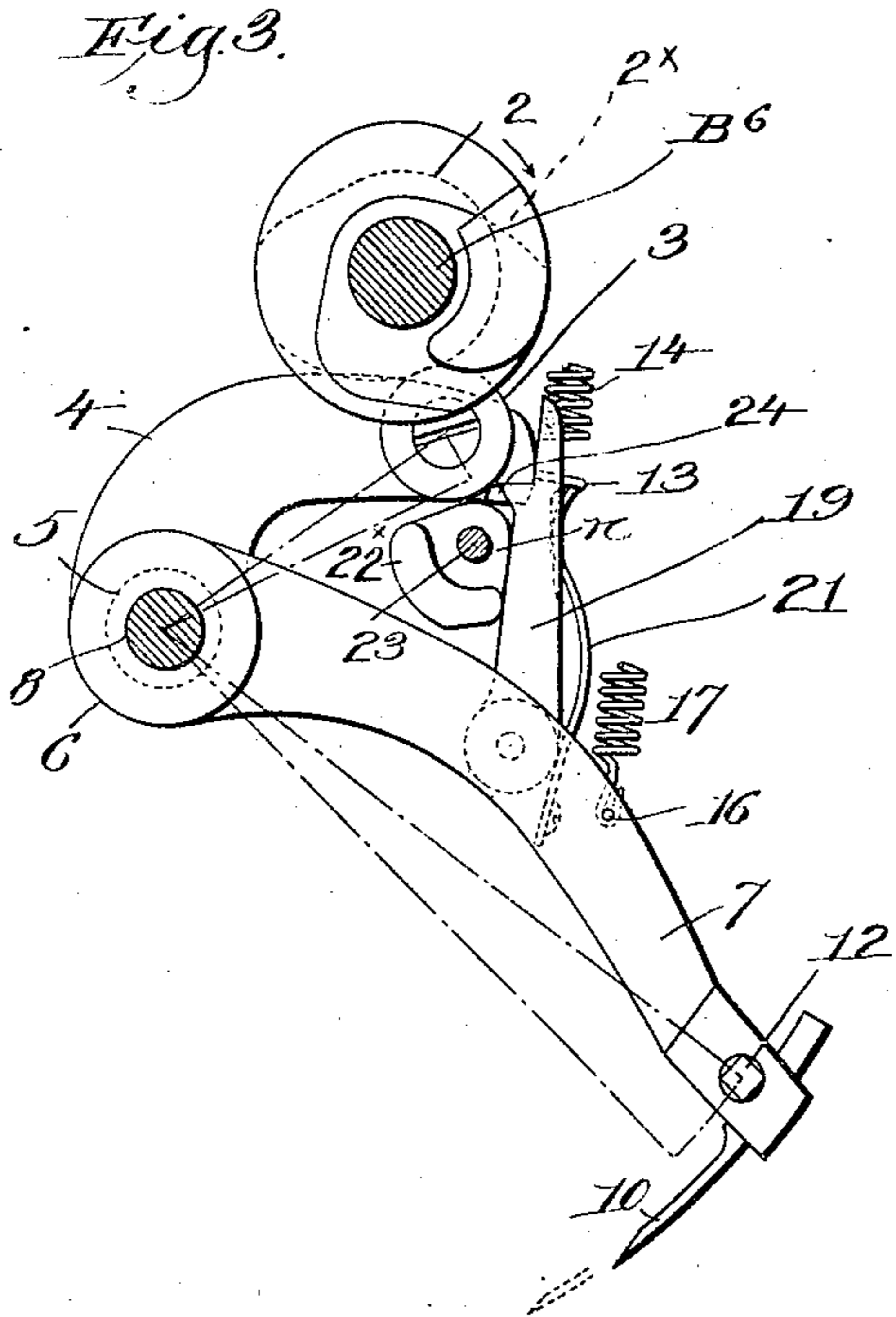
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WELT ATTACHING APPARATUS.

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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

GEORGE GODDU, OF WINCHESTER, MASSACHUSETTS, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

WELT-ATTACHING APPARATUS.

No. 896,293.

Specification of Letters Patent.

Patented Aug. 18, 1908.

Application filed May 20, 1904. Serial No. 208,876.

To all whom it may concern:

Be it known that I, GEORGE GODDU, a citizen of the United States, residing at Winchester, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Welt-Attaching Apparatus, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to machines for securing a welt or a rand to stock, and has for its object to provide means for slitting a welt or rand as it is being secured to the stock. The slits are formed to prevent it from puckering where it is curved to conform to the outline of the stock to which it is being secured.

Another object of my invention is to provide means for rendering the slitting means inoperative without affecting the operation of the securing means so that the slitting of the welt may be confined to such portions as it is desirable to slit for proper attachment, and still another object is to provide a clamping device for holding the welt or rand immovable while it is being operated on.

In the construction herein shown, which represents the preferred form of my invention, the means for securing the welt or rand to the stock comprises a fastening-inserting machine, and the means for slitting the welt or rand comprises a reciprocating cutter with which said machine is provided. Also, in the preferred form of my invention, the means for rendering the slitting means inoperative is under the control of the workman.

Figure 1 is a partial front elevation of a fastening inserting machine provided with means for slitting a welt or rand as it is being secured to stock; Fig. 2 is a partial side elevation thereof; Fig. 3 is a detail showing the cutter carrying lever and its actuating cam; Fig. 4 is a like view showing the same parts but with the cutter lever occupying its inoperative position; Fig. 5 is a perspective detail showing part of a shoe sole and a welt applied thereto, and the means for guiding the welt while being laid on a curved part of the sole, the cutter being omitted.

The fastening-inserting machine which I have herein illustrated is of well-known construction and is shown in United States Patent No. 490,625, dated January 24, 1893, and in Patent No. 611,405, dated September 27,

1898, said machine being designed to drive fastenings cut successively from a nail strip into a welt or rand to secure the same, respectively, to a sole or a heel. The arm C' having the hub C² for sustaining a rotary nail strip carrier, not shown, the lever G⁶ for sliding the hub C² forwardly and backwardly, the driver bar B' having a nail driver b, the nose f⁶, lever f³ carrying the movable cutter of the nail cutting mechanism, the opposed cutter f⁴ made adjustable by a screw f¹⁰, and the main shaft B⁶ having at its front end a hub having a projection 2^x shaped to raise the driver bar and driver against its usual actuating spring, are substantially as shown and described in said Letters Patent, said parts being actuated as therein provided for. The machine is also provided with a circular work supporting table a⁶ yieldingly sustained by a spring a⁴⁰ surrounding a rod a⁵⁰ which is connected at its upper end to the table and at its lower end to a foot treadle, not shown, the depression of the treadle operating to lower the table. The table has teeth a⁸ that are engaged by a long pinion b² having at its upper end bevel teeth b⁴ that are in engagement with bevel teeth b⁵ rigidly connected to a feeding wheel b⁶ that acts on the upper side of the welt or rand in contact with the sole or heel sustained on the table a⁶. The feeding wheel b⁶ in practice will be carried by a shaft sustained in a bearing a having its foot connected by a screw a' with a block a² secured to the column A^{2x} partially shown in Fig. 2.

I will now describe the slitting mechanism with which the machine previously described has been provided.

The hub at the front end of the shaft B⁶ is provided with a cam 2 that acts upon a roller stud 3 carried by a lever 4 loosely mounted on a sleeve 5 extended from the hub 6 of the cutter carrying lever 7, mounted loosely on a stud 8 sustained in a part of the framework A² of the head of the machine, the stud being shown in section in Figs. 3 and 4, the head of the stud being represented in Fig. 1. The lever 7 is provided at its end with a cutter 10 held in adjusted position by means of a clamp or set screw 12. The end of the lever 4 has a stud 13 over which is hooked one end of a spring 14 that at its upper end is connected with a stud 15 sustained by the head. The lever 7 has a stud 16 with which is engaged one end of a spring 17, that at its upper end engages a stud 18

secured to the head, as shown in Fig. 2. The spring 14 acts normally to keep the roller stud 3 against the cam 2, and the spring 17 acts to return the lever 7 into its starting position after each operation thereof. The lever 7 has pivoted upon it a dog 19 having at its upper end a shoulder 20, and a spring 21 bearing against one side of said dog acts normally to keep said dog in contact with a disengaging device shown as a cam projection 22, see Fig. 2, extended from the right hand side of a web n extended from a rock-shaft 23 mounted in bearings 23^a carried by a stationary part of the head and having at one end a handle n' . The web also has a projection 22^x extending from the left hand side thereof, viewing Fig. 2, which constitutes a stop to limit the upward movement of lever 7 under the influence of spring 17 and also insures the proper engagement of the dog 19 with lug 24.

The operator will turn the rock-shaft 23 from the position Fig. 3 into the position Fig. 4 whenever the operation of the cutter 10 is to be suspended. Whenever shaft 23 and its cam projection occupy the position shown in Fig. 3, the spring 21 turns the dog 19 and causes the shoulder 20 thereof to contact with an ear 24 extending from the lever 4, and at such times the depression of said lever acting through said dog depresses the lever 7 on which the dog is mounted, and the cutter is operated, but whenever the shaft is turned into the position shown in Fig. 4, the projection 22, called the disengaging device acts against the dog 19 and turns the same to release the lever 4, and thereafter the shaft B⁶ and its cam 2 will rotate and move the lever 4 without however operating the lever 7 and its cutter.

As shown in Fig. 2, the bearing a has connected to it by bolts h and h' a stand a^3 shaped at its upper end to constitute a guideway a^5 with side walls a^4 , a^{4x} , the latter side wall serving as a guide for the outer edge of the welt or rand w as the latter is being fed through the guideway and being secured either to a sole S , or a heel sustained on the table a^6 , the bottom plate or part of the guideway being provided with a space e for the reception of the cutter as the latter acts to slit the welt or rand as shown in Fig. 5. The wall a^4 has a hole a^7 that permits the entrance therethrough of the shouldered end of the edge gage c , shown as a lever c' pivoted at c^2 on an ear projecting from wall a^4 , said gage acting upon one edge of the welt to hold it in engagement with the opposite wall a^{4x} of the guideway. The edge gage lever c' has a tubular portion c^4 threaded for the reception of a screw c^5 and a spring c^6 is interposed between the end of said screw and the side wall a^4 of the guideway, to cause the gage to bear upon the edge of the welt with a yielding pressure. Whenever it is desired to remove

the welt from the guideway, the operator will press upon the end c^3 of the lever to remove the notched end of the gage from the edge of the welt. The side walls a^4 and a^{4x} of the guideway have suitable ears d , d' , to receive a pin d^2 having secured to it by a screw 30, see Fig. 2, a presser 31, the free end of which bears upon the upper side of the welt in its passage through the guideway a^5 . The pin d^2 extends beyond the ear d on the side wall a^{4x} and is surrounded by a spring d^3 , one end of which is connected with the ear d and the other with a head or collar d^4 at one end of said pin, said spring acting to keep the free end of the presser yieldingly in engagement with the welt, and thereby form a clamp which will permit the welt to be fed through in the direction of the arrow in Fig. 5, but will prevent movement in the opposite direction.

It has been found very desirable to hold the welt or rand immovably in position during the time that the fastenings 33 are being driven therein to unite the same to the sole or heel, and also while the cutter 10 acts to slit the welt or rand, and to accomplish this an auxiliary pressing device is provided, said device comprising a lever e^2 mounted on a pivot e' sustained by ears e^x on the upright a^3 , the forward end of the lever extending over the guideway and bearing upon the free end of the presser 31.

The rear end of the lever e^2 has a hole through which is extended a rod e^3 connected to the foot treadle, before referred to, which operates the rod a^{50} for depressing the table a^6 , so that whenever the treadle is depressed to lower the work table, the rod e^3 will operate to turn the lever e^2 and remove it from contact with the welt or rand presser 31.

The auxiliary presser lever e^2 in the operation of the machine is actuated intermittently and automatically by or through the lower end of the arm C' acting upon a yielding pin 34 mounted in a tubular part 35 of said lever e^2 , the shank of said pin being surrounded by a spiral spring 36. Each time the lower end of the arm C' is moved to the left Fig. 2, for feeding the fastening material, the pin 34 is struck and turns the lever e^2 so that its end which projects over the guideway will act upon the free end of the presser 31 to force it down upon the welt or rand to positively clamp it and restrain any movement thereof during the action of the driver in driving fastenings, and of the cutter in slitting the welt. The spring 36 also permits the pin 34 to yield while the lever e^2 is turned by the rod e^3 in order to release the pressure of the lever e^2 on the presser 31 as when a welt is being inserted.

Heretofore a welt having its entire inner edge slitted has been laid upon a sole by hand, and been bent so that the projections w' override each other to prevent puckers

from forming in the welt. In the embodiment of my invention herein shown, when the welt is being attached to the sole at the ball and other comparatively straight portions, the operation of the slitting device is suspended, and it is only when the welt is being attached to the sole at the toe and other curved portions that the edge of the welt is slitted, as shown in Fig. 5, the cutter 10 at such times acting on the inner edge of the welt to slit the same just in advance of the point where the welt is being curved to conform to the edge of the sole. The operator is thus enabled to confine the slitting to such portions of a welt as it is desirable to slit for proper attachment and those portions which, from the place of their attachment, it is better to leave in their original condition, may thus be left unslitted.

The sole or heel to which the welt or rand is being attached is fed over the table as provided for in said Patent #611,405, and is slitted while the table is at rest between successive feeding movements and while a fastening is being driven. The fastening made from the fastening strip, as provided for, is driven into the welt or rand while the latter is held firmly in position by the presser 31, and as the arm C' is moved to the right of Fig. 2, away from the stud 34, the spring 36 is slightly relaxed. This relaxation of the spring also relieves the pressure of the end of the auxiliary presser on the presser 31 so that the only tension to which the welt or rand is subjected while the sole or heel is being fed preparatory to driving another fastening, is the tension derived from the spring d³.

I believe that I am the first to slit the edge of a welt or rand while it is being applied to a sole or heel and being secured in position, and I desire to claim this broadly, the term "welt" as used in the claims being intended to cover a rand also. I believe also that I am the first to provide slitting means which can be operated to slit the welt only at desired points, that is such points in the welt as are to be attached to curved or other portions of the work where it is desirable for proper attachment that the welt should be slitted.

This invention is not limited to the mechanical embodiment herein shown, as it will be obvious that many changes might be made without departing from the scope of my invention as herein described and claimed.

Having described my invention, what I claim and desire to secure by Letters Patent is:—

1. In a machine of the class described, mechanism for securing a welt to stock, means for simultaneously slitting the welt being secured to the stock, and means for rendering the slitting means inoperative

while the welt-securing mechanism continues in operation.

2. In a machine of the class described, mechanism for securing a welt to stock, means for simultaneously slitting a welt as the same is being secured to the stock, and means under the control of the workman for suspending the operation of the welt-slitting means without affecting the operation of the welt-securing mechanism.

3. The combination with welt-attaching means, of controllable welt slitting means located in proximity to the welt-attaching means for slitting the welt at the will of the operator during the attaching operation.

4. The combination with welt-attaching means, of welt-slitting means located closely adjacent the attaching means, and means to actuate said slitting means to slit that portion of the welt lying just beyond the portion being operated upon by the attaching means.

5. The combination with welt-attaching means, of controllable welt-slitting means so located with reference to the attaching means that, upon being actuated at the will of the operator, it is adapted to slit at desired points while it is being attached, a portion of welt of a length suitable for attachment to a single piece of work.

6. In a machine for uniting a welt to stock, a stock support, a welt guide, means for slitting the edge of the welt being applied to the stock, a presser acting on the surface of the welt in the welt guide on its way to the stock, stock feeding means, and intermittently operating means for causing the presser to clamp the welt immovably in the welt guide, as and for the purpose set forth.

7. In a machine for uniting a welt to stock, a stock support, a welt guide, a welt presser acting on the surface of the welt in said guide, an auxiliary presser adapted to act on the welt presser, yielding means for operating said auxiliary presser to firmly clamp the welt, and means to simultaneously lower the stock support and put the auxiliary presser in an inoperative position.

8. In a machine for uniting a welt to stock, a guide to sustain the welt, mechanism for slitting the welt comprising a cutter-carrying lever, another lever, means to actuate said other lever continuously, and a dog mounted on one of the levers and when in operative position adapted to be engaged by the other of said levers to transmit the movement of the continuously operated lever to the cutter carrying lever.

9. In apparatus for uniting a welt to stock, a welt guide to sustain the welt, mechanism for slitting the welt comprising two levers, a cutter connected with one of said levers, means to actuate the other of said levers continuously, and a dog interposed between and sustained by one of said levers, said dog when in its operative position being engaged by

one of said levers to transmit the movement of the continuously operated lever to the cutter carrying lever, and means to put said dog in its inoperative position for suspending the operation of the cutter carrying lever without stopping the movement of said continuously operated lever.

10. In a machine of the class described, a reciprocating cutter, a welt guide having an opening formed in its lower face for receiving said cutter, a presser for bearing upon the upper surface of the welt at one side of the cutter opening, and a yielding gage for acting upon the edge of the welt at the other side of said opening.

11. In a machine of the class described, a welt guide, a spring actuated clamp mounted in said guide and adapted to bear upon the upper surface of the welt, and a yielding gage for acting upon the edge of the welt, said gage having a notched end to overlap the edge of the welt and also having a handle for moving the gage into an inoperative position.

12. In a machine for slitting a welt and for uniting it to stock, a fixed pivot shaft, a cutter-carrying lever and a cam-actuated lever mounted side by side on said pivot shaft to oscillate independently thereon, and means under the control of the operator for connecting and disconnecting said levers.

13. In a machine of the class described, two levers, means for actuating one of said levers continuously, a cutter on the second lever for slitting the welt, means constantly tending to move the cutter-carrying lever backward, and a stop to limit such movement, together with means under the control of the operator for connecting said levers whereby the cutter-carrying lever is moved forward to slit the welt.

14. The combination with means for inserting fastenings in a welt, of feeding means inoperative while the fastenings are being

inserted, and welt slitting means adjacent the welt being operated on by the fastening means, and operating to slit the welt at desired points while the feeding means is inoperative.

15. In a machine for attaching welts, the combination with welt-attaching means comprising a welt guide, of means for slitting the welt in its passage through the welt guide.

16. In a machine for attaching welts, the combination with welt-attaching means comprising a welt guide, of means for slitting the welt in its passage through the welt guide and means for clamping the welt for the operation of the slitting means.

17. In a welt-attaching machine, the combination with welt-attaching means, of means positioning the welt with reference to the attaching means, and means cooperating with said positioning means to slit the welt at desired points during the attaching operation.

18. In a machine of the class described, means to sustain a welt, said means having a throat, welt-feeding means, and mechanism for securing a welt to stock, combined with welt-slitting means to slit the welt lying on said welt-sustaining means, said welt-slitting means entering said throat.

19. The combination with welt-attaching means, of means closely adjacent the attaching means and cooperating therewith to slit the welt during the attaching operation, and means to control the slitting at different stages of the attaching operation whereby the slitting may be confined to such portions of the welt as it is desirable to slit.

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

GEORGE GODDU.

Witnesses:

GEO. W. GREGORY,

ELIZABETH R. MORRISON