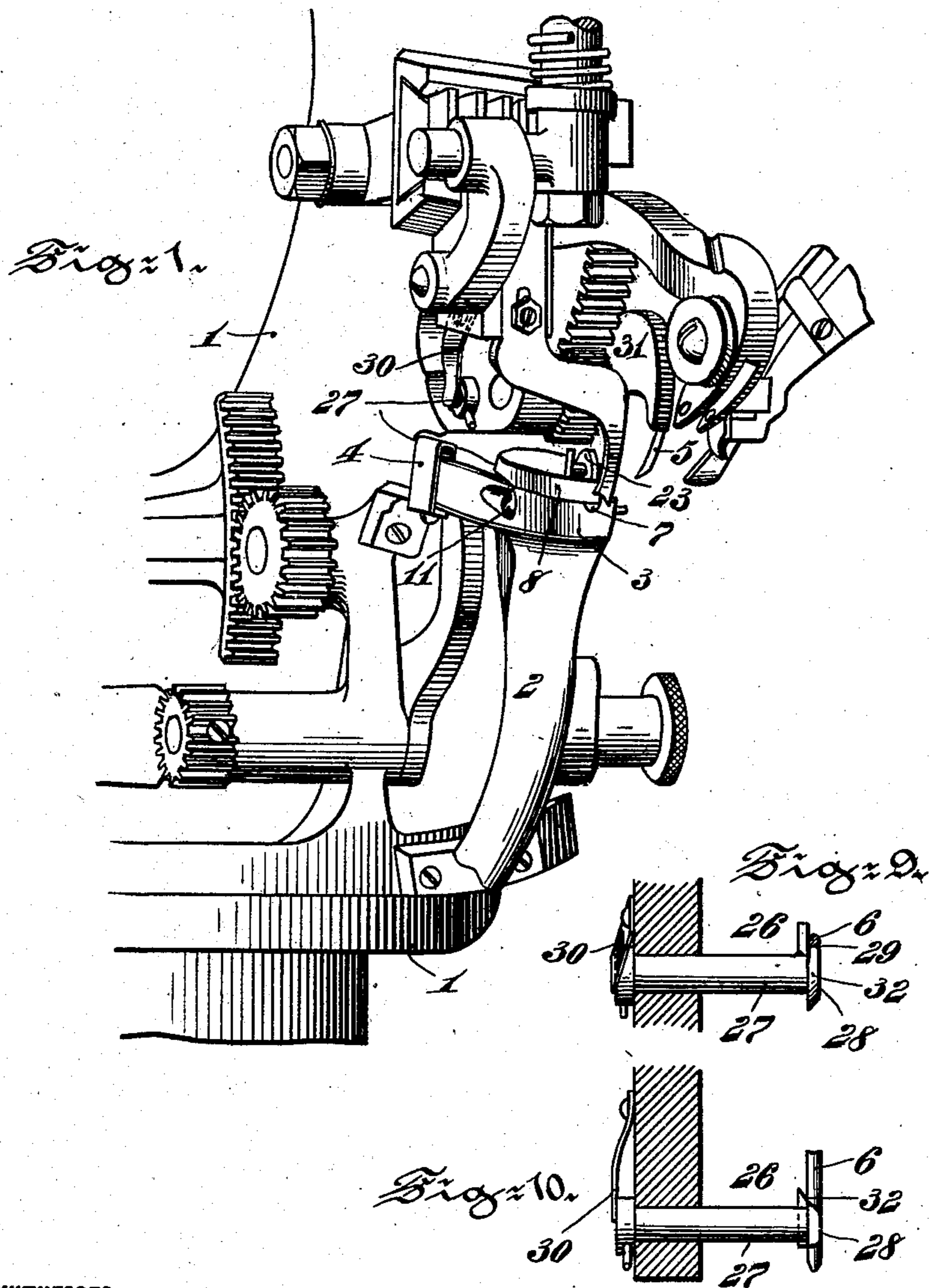


J. H. & J. B. URSBRUCK.  
SHOE SEWING MACHINE.  
APPLICATION FILED MAY 22, 1907.

924,019.

Patented June 8, 1909.  
2 SHEETS—SHEET 1.



WITNESSES:

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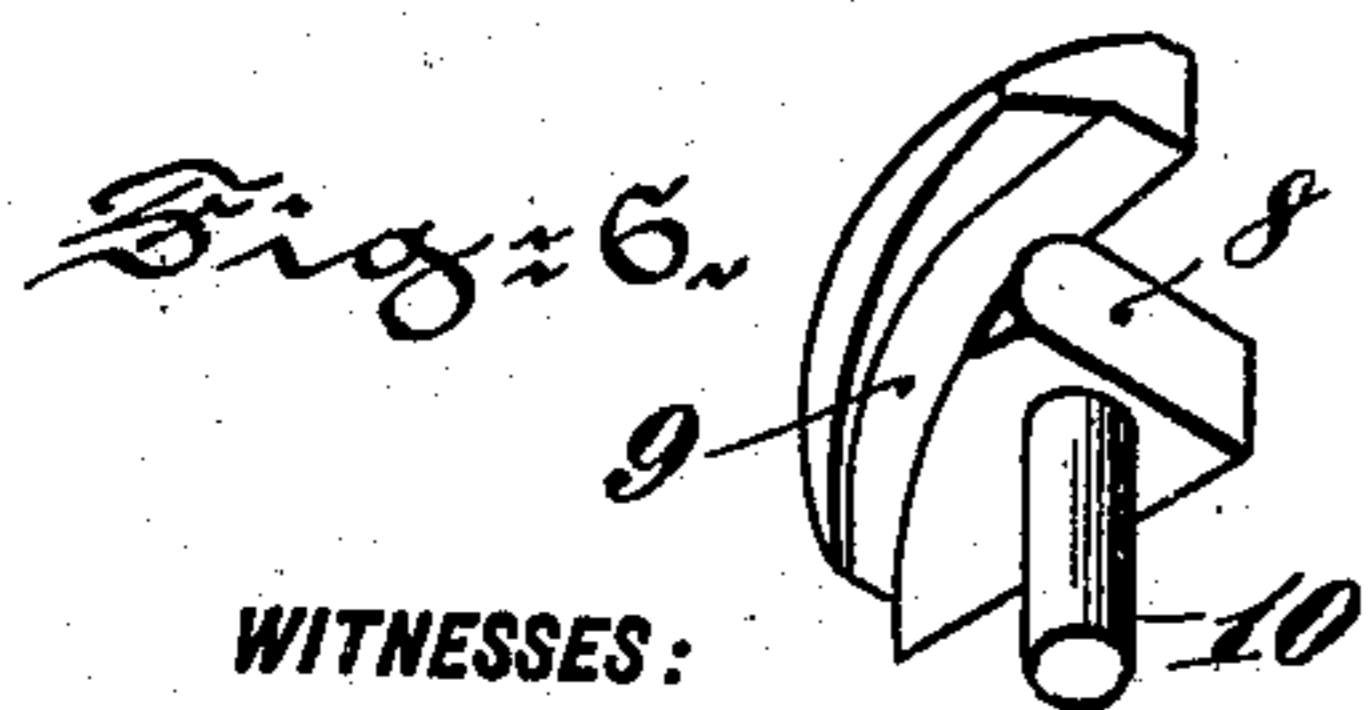
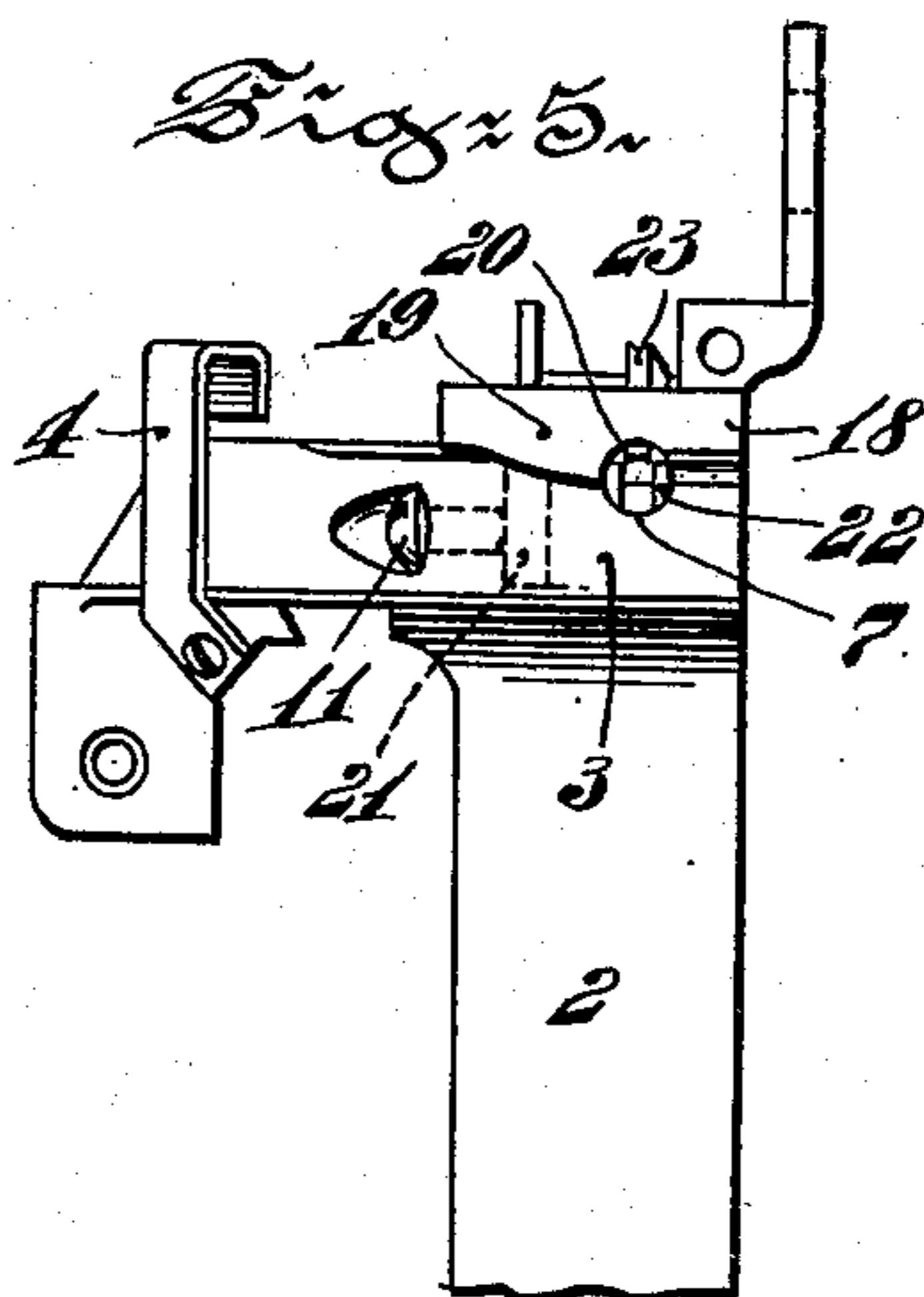
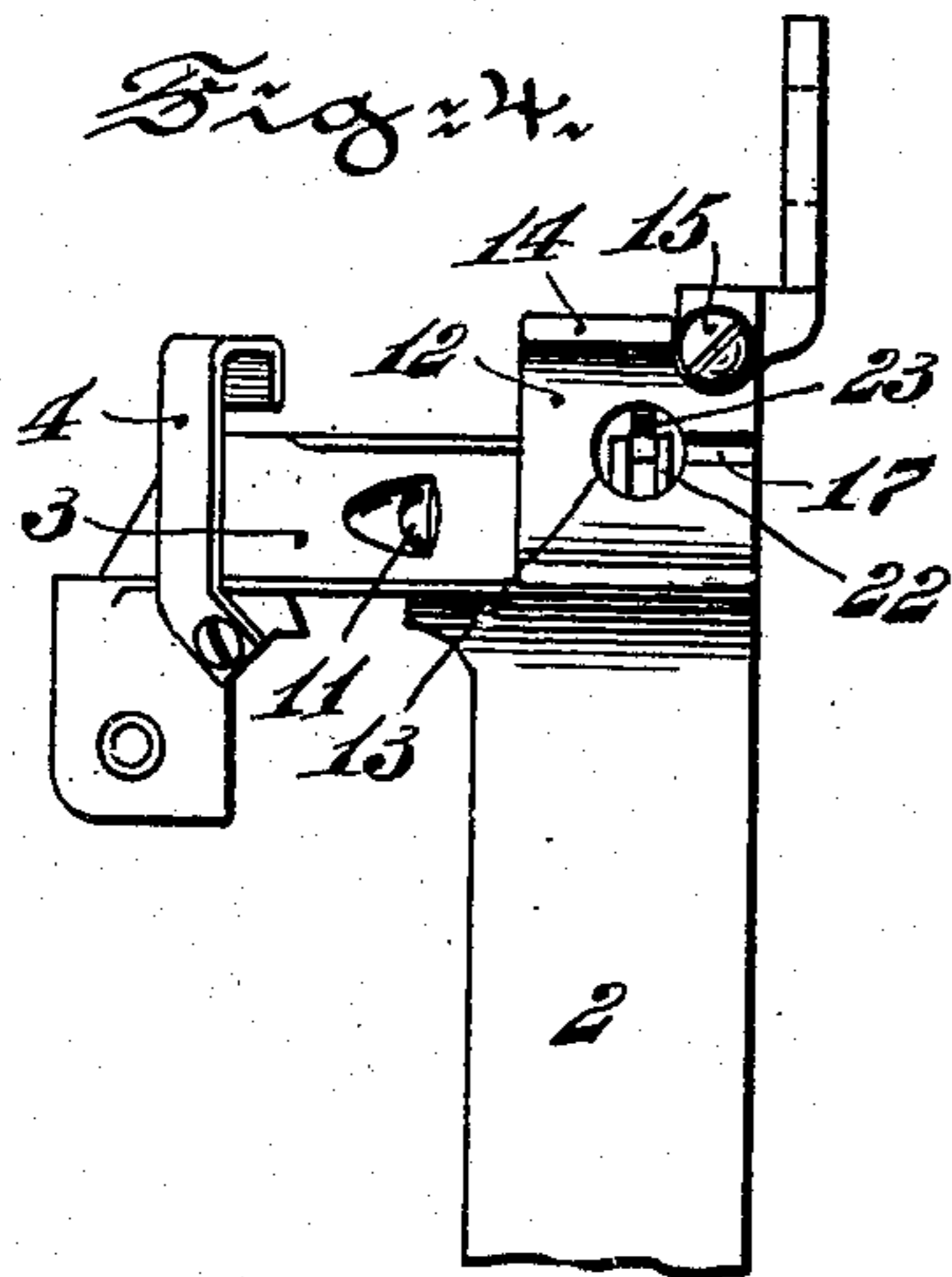
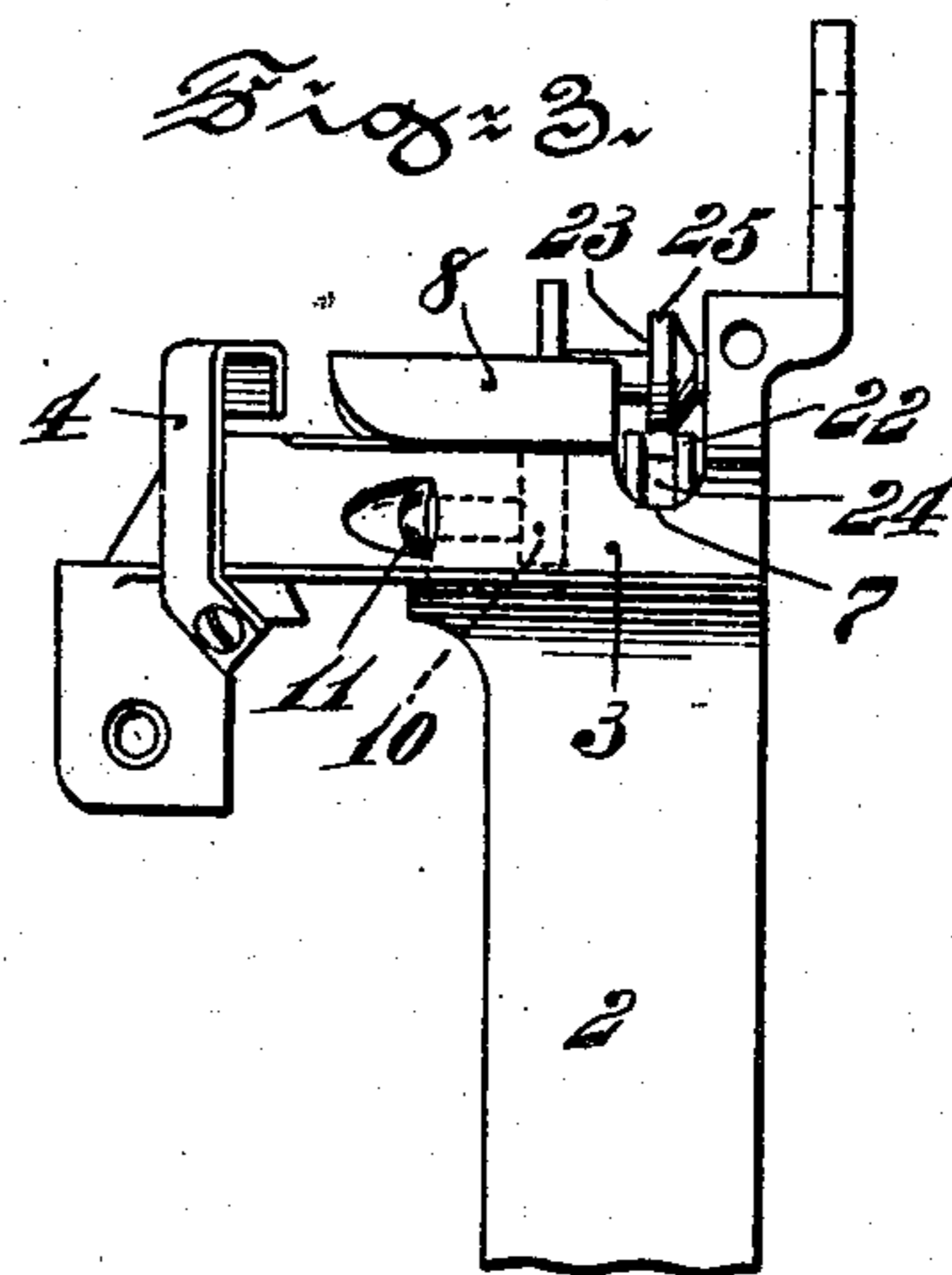
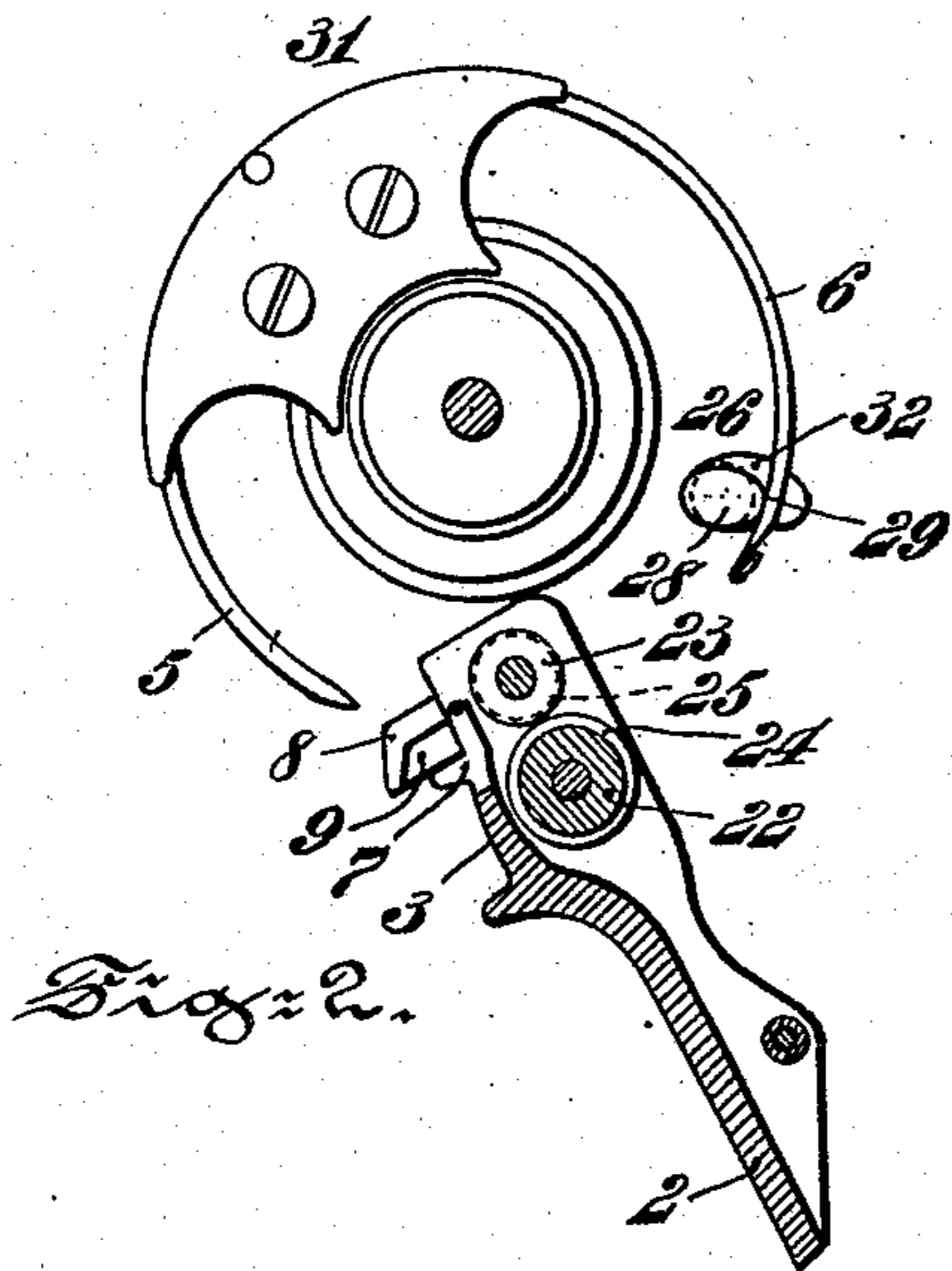
*by H. V. Hutton* ATTORNEY.

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2 SHEETS—SHEET 2.



WITNESSES:

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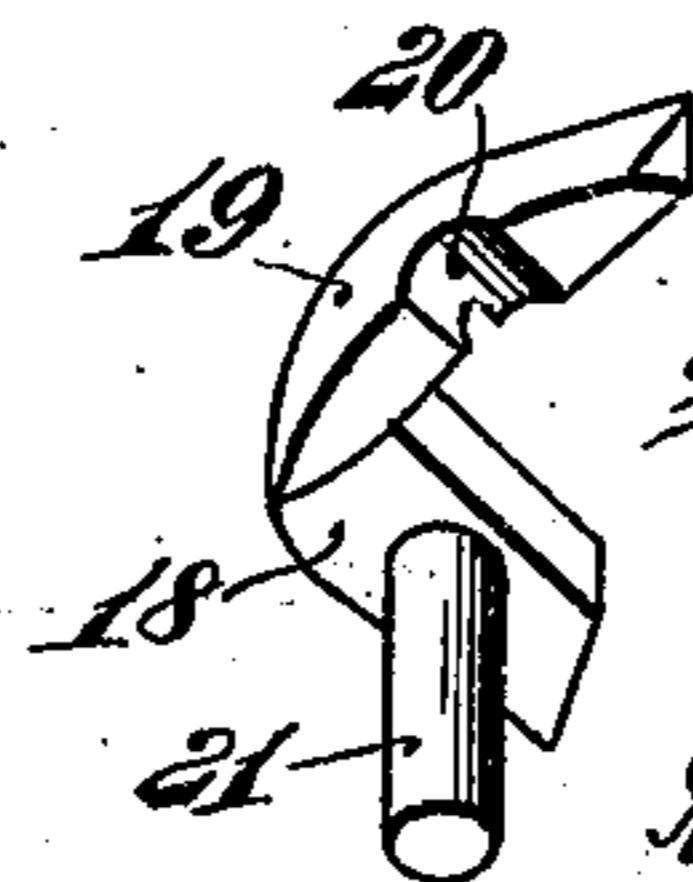
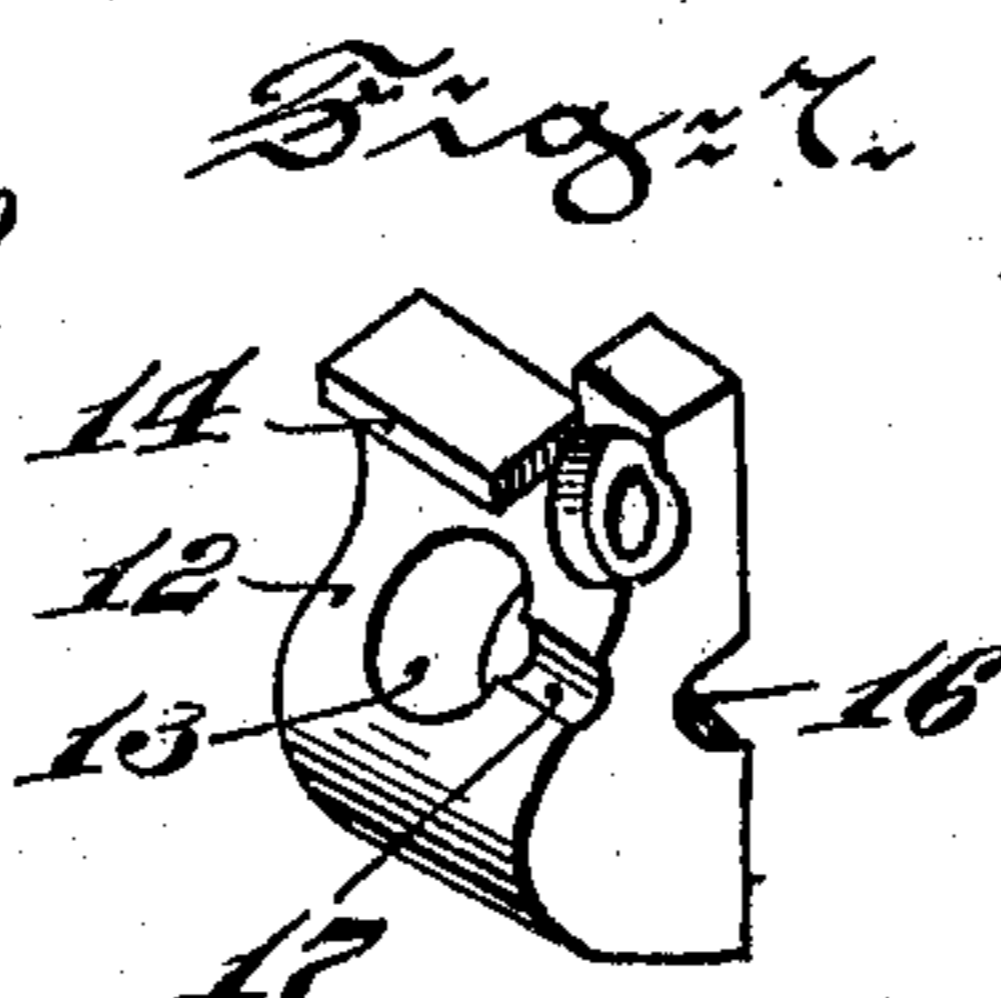


Fig. 8.

INVENTORS

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# UNITED STATES PATENT OFFICE.

JOHN H. URSBRUCK AND JOSEPH B. URSBRUCK, OF PHILADELPHIA, PENNSYLVANIA, ASSIGN-  
ORS OF ONE-FOURTH TO JOHN A. HUNTER AND ONE-FOURTH TO MARY A. HUNTER, OF  
PHILADELPHIA, PENNSYLVANIA.

## SHOE-SEWING MACHINE.

No. 924,019.

Specification of Letters Patent.

Patented June 8, 1909.

Application filed May 22, 1907. Serial No. 375,098.

*To all whom it may concern:*

Be it known that we, JOHN H. URSBRUCK and JOSEPH B. URSBRUCK, citizens of the United States, residing in the city of Philadelphia, State of Pennsylvania, have jointly  
5 invented certain new and useful Improvements in Shoe-Sewing Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying  
10 drawings, forming a part of this specification.

Our invention relates generally to boot and shoe sewing machines and particularly to the machine of that class shown and described in U. S. Letters Patent heretofore  
15 granted to us, No. 715,323 dated December 9, 1902, and our present improvements thereon relate to means hereinafter described having for their object to support the work rela-  
20 tively to the oscillating awl and needle, in sewing the welt on the in-sole, in sewing an inseam on a turned shoe and also in sewing through the sole; also to support and guide the curved needle in its passage through the  
25 work when so supported, and also to support the needle on its withdrawal from the work after formation of the stitch.

To these ends our present invention comprises a work and needle support consisting  
30 of a bracket-arm mounted by its lower end on the main frame of the machine, the upper terminus of the bracket-arm having a curved head channeled on the exterior face and supporting a welt guide, and on the top edge of  
35 which head is removably mounted one of the three interchangeable forms of work supporting attachment hereinafter described for supporting the material to be sewed.

Our invention also comprises providing the  
40 bracket-arm of the work-support with a rearward slotted opening to receive a pair of annularly-grooved guide-wheels, mounted in such relation to the oscillating segmental carrier for the awl and needle, that the forward  
45 movement of the needle through the stock will reciprocate between the guide wheels and in the annular groove thereof, whereby it will be supportingly guided against abnormal vertical and lateral move-  
50 ments. And our invention finally comprises means to guide the oscillating needle after its withdrawal from the stock, following the stitch-forming forward movement and to

prevent its deflection by the pull of the heavy  
waxed thread carried by it. 55

In the accompanying drawings: Figure 1 is a perspective view of a portion of a machine of the type described in the aforesaid Letters Patent No. 715,323 with our improved work and needle supports shown in  
60 connection therewith. Fig. 2 is a view, partly in elevation and partly in section, of the vibrating curved awl and needle, the oscillating segmental carrier for the same, the work and needle supports and the  
65 bracket on which the same are mounted. Fig. 3 is a front elevation of the upper end of the work and needle support, the same having a detachable portion or element which as shown in this figure is of a form es-  
70 pecially adapted for use when sewing the welt to the upper. Fig. 4 is a similar view, but having a modified form of such detachable element having special utility when sewing the sole to the welt. Fig. 5 is a similar  
75 view, but showing another modified form of such detachable element of the work support having special utility for inseam stitching. Figs. 6, 7 and 8 are respectively perspective  
80 views detached of these three forms of the detachable portion of the work-supporting device. Fig. 9 is a plan view partly in section of the supplementary needle support, and Fig. 10 is a similar front elevation of the  
85 same.

Referring now to said drawings the needle and work supports consist primarily of a bracket arm 2 mounted by its lower end on the main frame 1 of the machine. This bracket arm extends outwardly and up-  
90 wardly to a point in proximity to the path of travel of the vibrating awl 5 and needle 6 which are mounted on an oscillating segmental carrier 31. These elements—the carrier, the needle and the awl—are constructed  
95 and arranged and have the same mode of operation, as described and set forth in our aforesaid Letters Patent No. 715,323, so that no further description of the same is necessary herein. 100

The bracket arm 2 has a relatively curved and enlarged head end which is channeled as at 3, on its exterior face, and at the outer end of said channel is secured a hook shaped member 4 which forms, in conjunction with  
105 said channel, a guide for the welt as it is fed

to the vibrating awl and needle and as it is fed to be stitched to the upper. To permit of the passage of the awl and needle through this bracketed work support, the upper edge of its upper channeled end is cut away as at 7.

To properly support the needle in its passage through the work, the bracket 2 is provided at its upper exterior or channeled end with a pair of grooved rollers 22 and 23 arranged in vertical relation. The lower one, 22, of these rollers is provided with a comparatively deep annular groove 24 in which the needle end vibrates and which operates to support it against lateral displacement, while the upper roller 23 is provided with a relatively shallow annular groove 25, co-acting with the aforesaid larger groove, in supporting and guiding the needle against displacement out of its true circumferential or arc-like path of travel. While ordinarily these guiding supports for the awl and needle, are quite sufficient, there is a portion of their arc of oscillatory vibration when they have respectively passed back out of engagement with these grooved rollers, and hence we prefer to provide a supplementary support 26 (see Figs. 9 and 10), operating at such time, for the purpose of further supporting the needle; and this supplementary needle support consists of a rod or bar 27 mounted, longitudinally movable, in the main frame, and governed as to such movement by a spring 30 bearing against its inner head end and maintaining it normally without movement. The opposite end of the rod 27 has a head 28 beveled as at 32, and a shoulder 29 for directly supporting the needle, the mode of operation being such that the rod 27 is adapted to be moved endwise against the tension of the spring 30, and hence bearing, by the inclined surface 32 of its beveled head, and shoulder 29, against the needle to prevent displacement of it when, in the oscillatory travel of the needle, it has passed out of engagement with the grooved rollers of the main needle-support.

We will now describe the work-supporting element of the bracketed needle-support, and this is an important feature of it as the machine is thereby adapted to perform a greater range of work than any other of like general character, including sewing a welt on an insole, sewing an inseam on a turned shoe, and sewing through the sole. An identifying feature of this element is its detachability from the bracket 2, and hence it consists, (referring to Figs. 3 and 8 for example) of a base plate 8 with a depending pin 10 adjustably secured in a recess in the channel 3 of the bracket 2 by means of a jam-screw 11. For welt sewing the base plate 8 is provided with an underfaced groove 9 curved to conform to the channel 3 of the bracket 2, and this supplies a guide for the welt in appro-

priate proximity to the path of travel of the vibrating awl and needle. A modification of this detachable element of the supporting bracket to better adapt it to inseam stitching, is shown in Figs. 5 and 8; and it differs from that shown in Figs. 3 and 6 before described, and in lieu of a supporting plate 8 having a curved groove 9 on its underface, in having a like supporting plate, indicated at 18, having a curved outer face 19 with central recess 20 therein to permit of the passage therethrough of the awl and needle. A further modification of this detachable element, to adapt it to better guide the work in stitching through a sole, is shown in Figs. 4 and 7, wherein the supporting plate 8 of the generic device, is indicated at 12 in the form of a block with a rounded lower edge, and perforated at 13 for the passage of the awl and needle, and with a flat guiding flange 14 for the work, and also in lieu of the integral supporting pin 10 of the generic form, a screw 15 (see Fig. 4) is substituted for the pin 10 as the supporting device; and the guide itself (Fig. 7) is grooved on its back face, as at 16, to conform to the upper wall of channel 3 in the bracket 2, while its front face is grooved as at 17 (see Fig. 7) to receive the projecting surface of stitches on the sole, which might prevent the easy passage of the sole over this guiding element used in sewing such part.

Having thus described our invention, we claim as new and desire to secure by Letters Patent:—

1. In a shoe sewing machine the combination with the carrier, the curved needle and awl, a bracket arm, a pair of peripherally grooved rollers mounted thereon in the path of movement of the awl and needle, a hook mounted in said bracket, and a detachable work-supporting guide.

2. In a shoe sewing machine the combination with an oscillating segmental carrier, a curved awl and needle on opposite ends thereof, a bracket arm mounted on the frame of the machine, and means mounted in said bracket arm consisting of a pair of peripherally coinciding rollers the lower of which is annularly grooved, supplying between them an annular slot operating as a rotatable grooved guideway for the awl and needle in their passage through the work during the stitch-forming operation.

3. In a machine of the class recited, comprising in combination an oscillating segmental carrier, a curved awl and curved needle mounted thereon in oppositely-disposed relation, a supporting bracket, a pair of peripherally coinciding rollers annularly grooved to provide between their peripheries a rotatable supporting guideway for the awl and needle in their forward passage through the work during stitch formation, and means

substantially as described to prevent deflection of the needle under the pull of the thread, after its withdrawal from the work.

4. In a machine of the class recited comprising a segmental carrier, a curved awl and a curved needle mounted thereon in oppositely-disposed relation, means to oscillate the carrier in a short arc to cause the awl and needle to enter the interposed work in alternating succession, a bracket arm fixed on the machine frame and having an upper channeled end, means thereon arranged in the path of movement of the awl and needle, consisting of a pair of grooved rollers coinciding peripherally supplying a rotatable grooved passageway transversely through said channeled head of the bracket, operating to support the awl and needle against abnormal lengthwise movement, and means also mounted in said channeled head of the bracket and in the plane of said needle-supporting means, operating to guide the work to the awl and needle.

5. In a machine of the class recited comprising a segmental carrier, a curved awl and a curved needle mounted thereon in oppositely-disposed relation, means to oscillate said carrier in a short arc, a bracket arm having means mounted on its upper end, in the plane of said arc movement, operating to guide and support the awl and needle dur-

ing stitch formation, and a work supporting guide detachably mounted on said bracket, in the plane of said needle guide, and having essentially a curved guiding surface for the work and a transversely-disposed passageway for the awl and needle.

6. In a machine of the class recited, comprising a segmental carrier, a curved awl and a curved needle mounted thereon in oppositely-disposed relation, means to oscillate the carrier in a short arc to cause the awl and needle to enter the interposed work in alternating succession, a bracket-arm having a channeled head with a welt guiding loop thereon, and a detachable work-supporting attachment grooved on its underside in a curved direction coinciding with the curvature of the channeled head whereby the welt is guided to the work in proximity to the path of movement of the awl and needle through the work, and the work itself is supported in appropriate relation to the welt fed thereto.

In testimony whereof, we have hereunto affixed our signatures this 11th day of May A. D. 1907.

JOHN H. URSBRUCK.  
JOSEPH B. URSBRUCK.

Witnesses:

ADA M. BIDDLE,  
C. A. DUNLAP.