

No. 640,064.

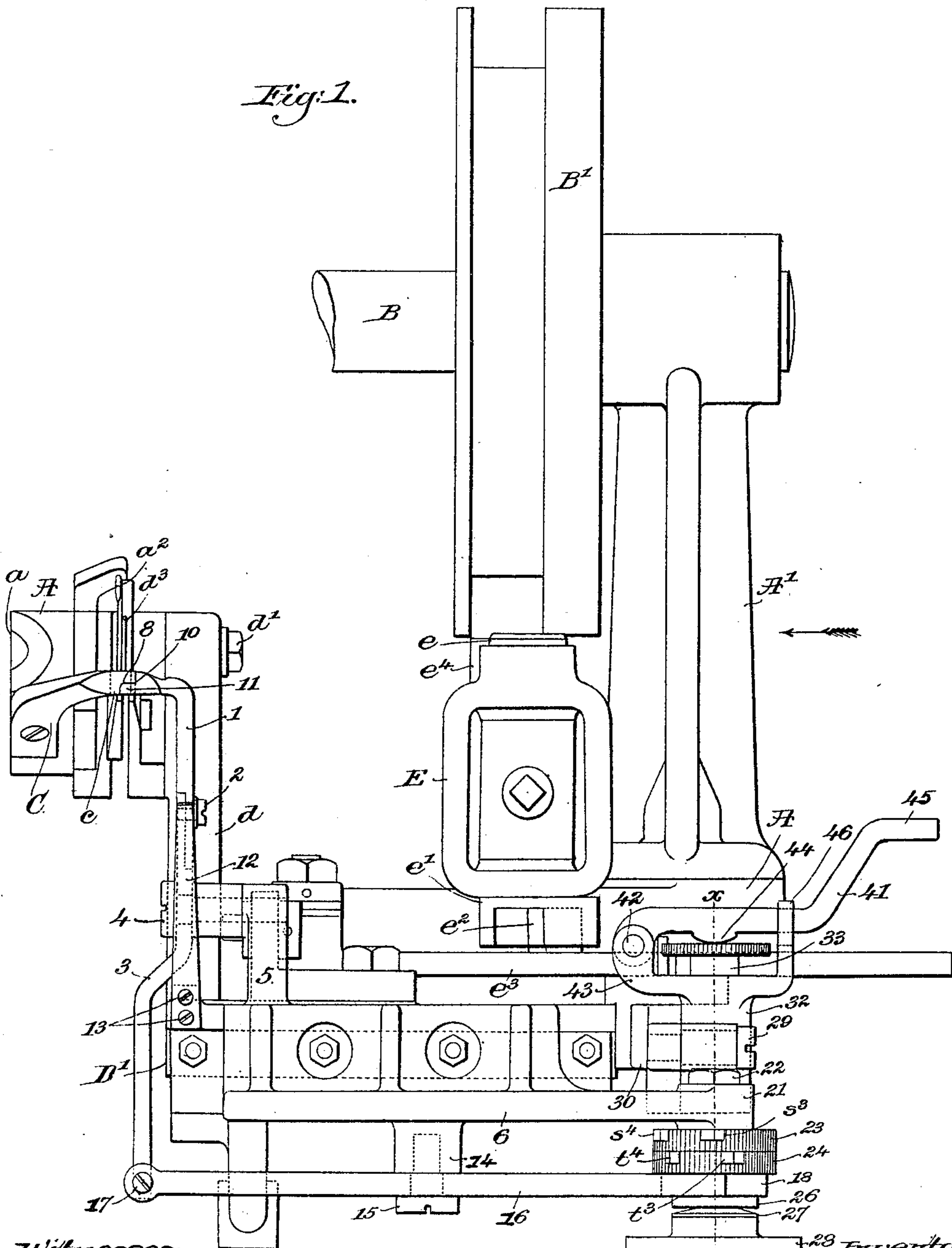
Patented Dec. 26, 1899.

E. E. WINKLEY.
GAGE FOR SHOE MACHINES.

(Application filed Apr. 29, 1899.)

(No Model.)

4 Sheets—Sheet 1.



Witnesses:

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By his attorney
Phillip H. Anderson

No. 640,064.

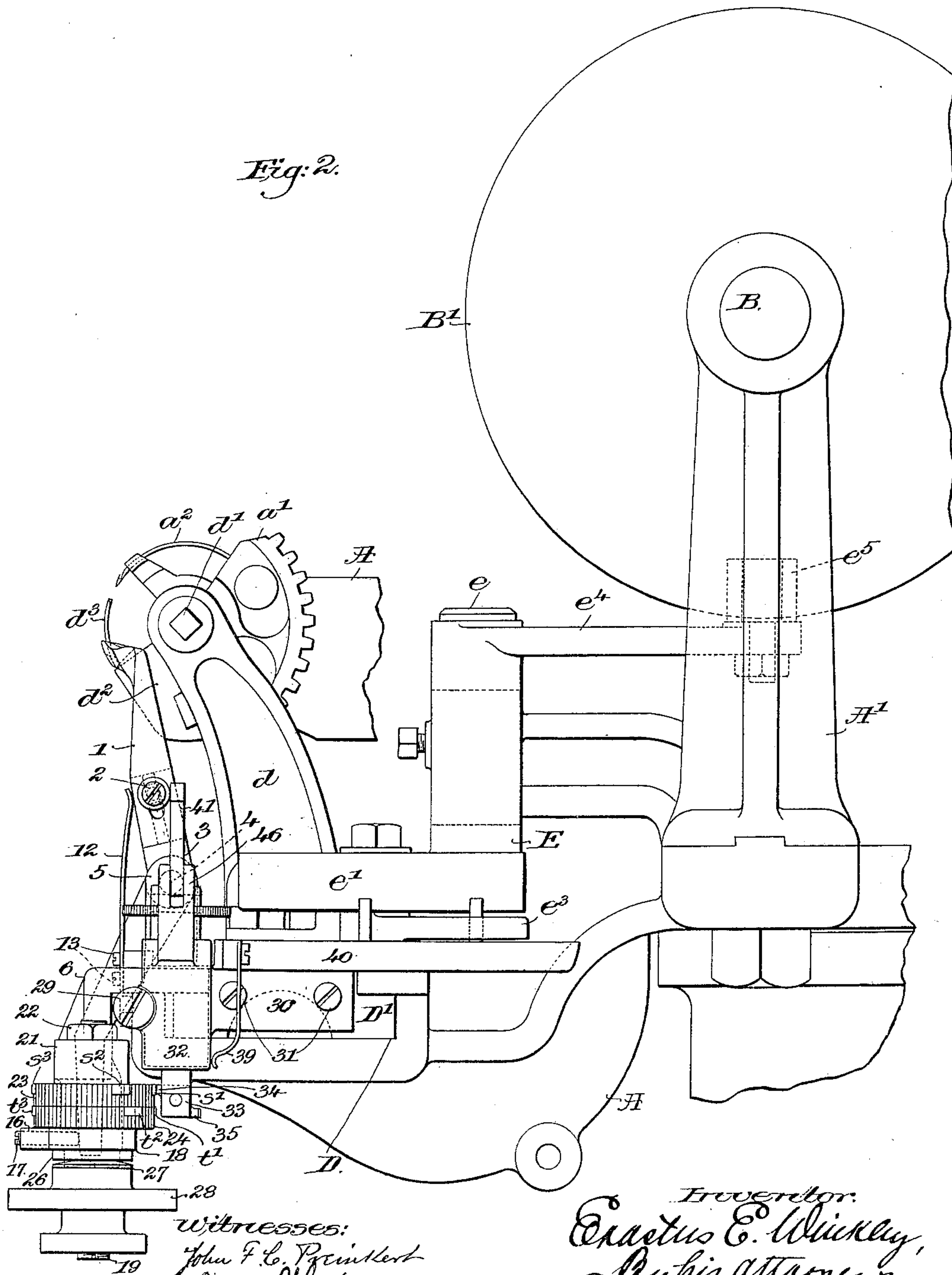
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4 Sheets—Sheet 2.



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No. 640,064.

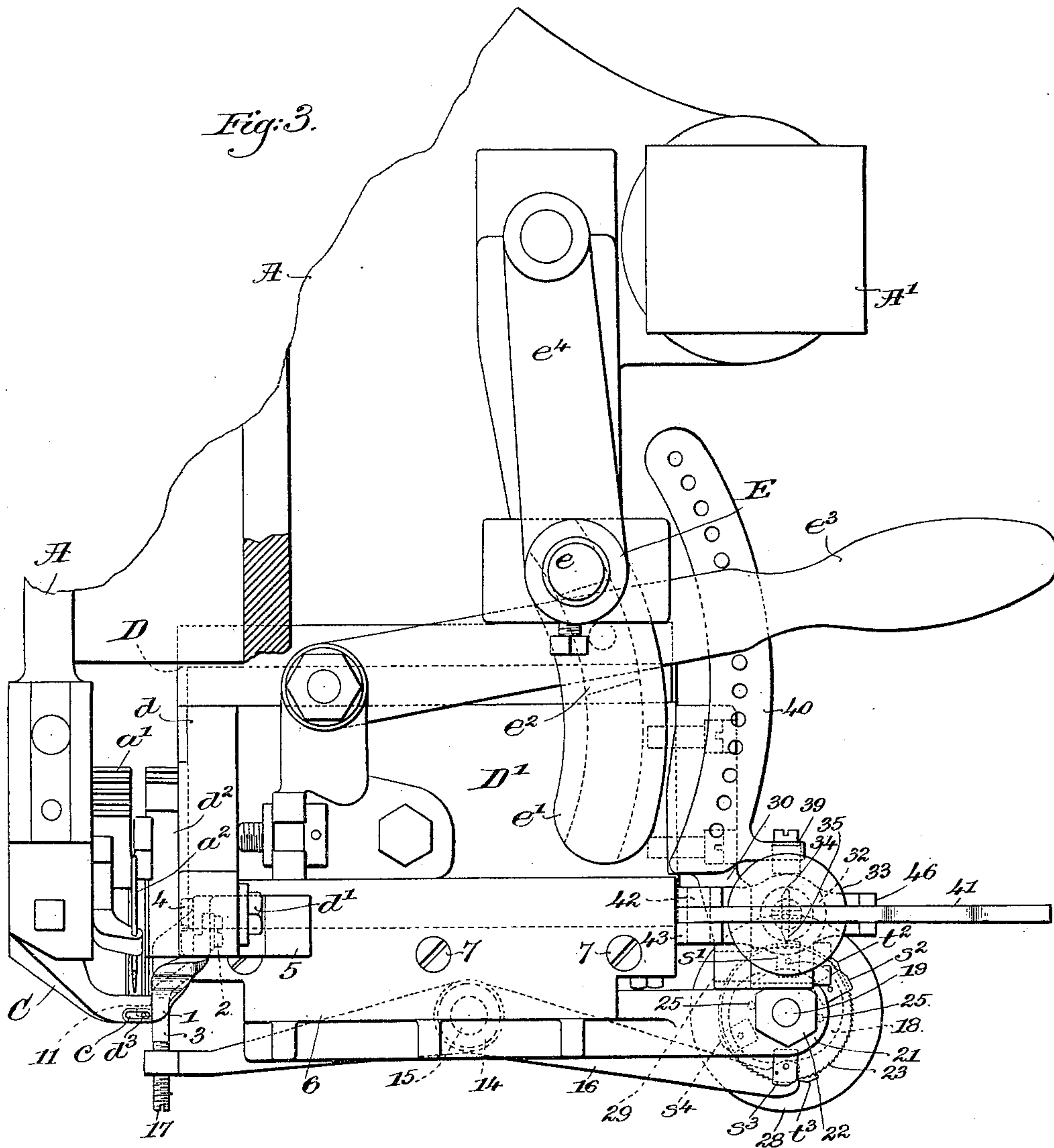
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4 Sheets—Sheet 3.



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4 Sheets—Sheet 4.

Fig. 5.

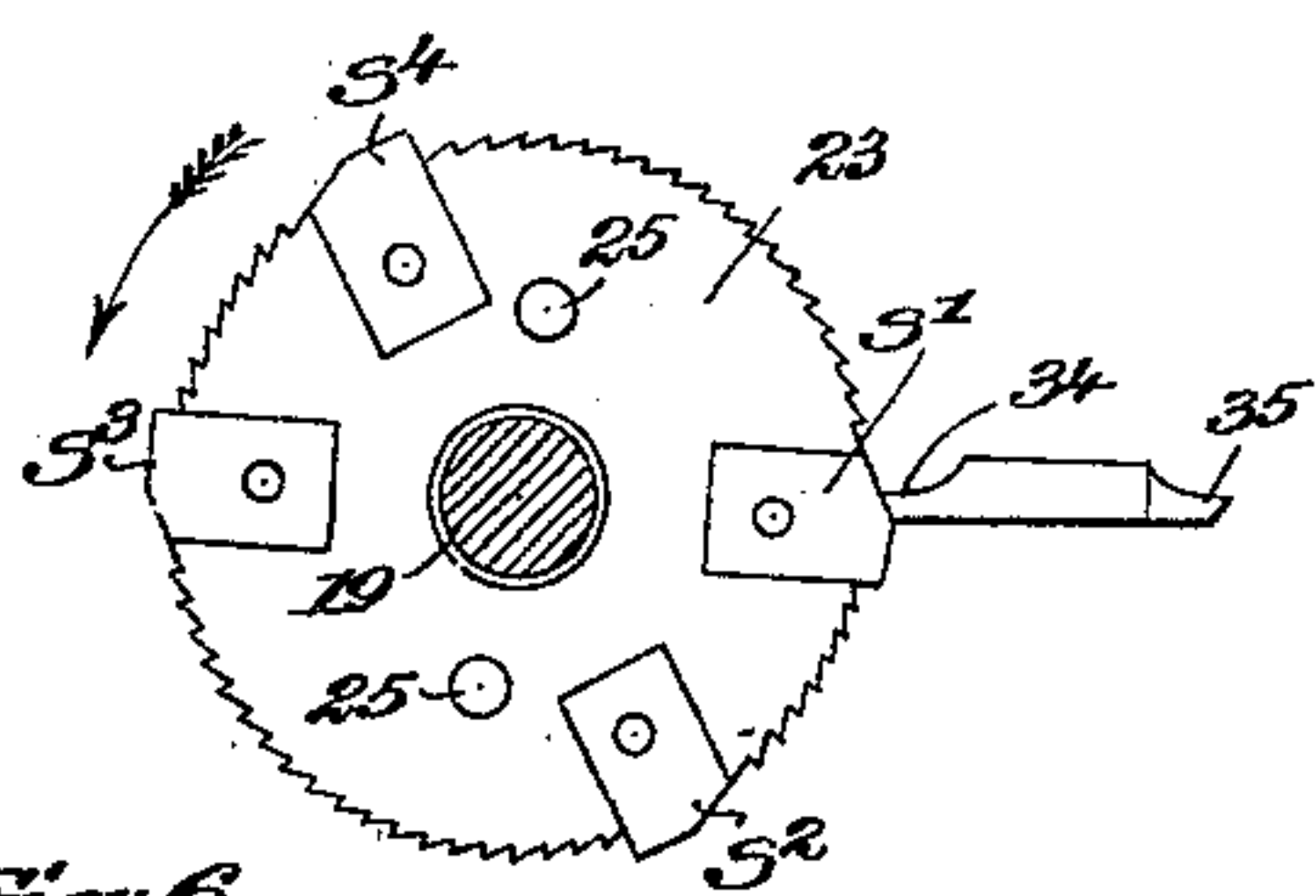


Fig. 6.

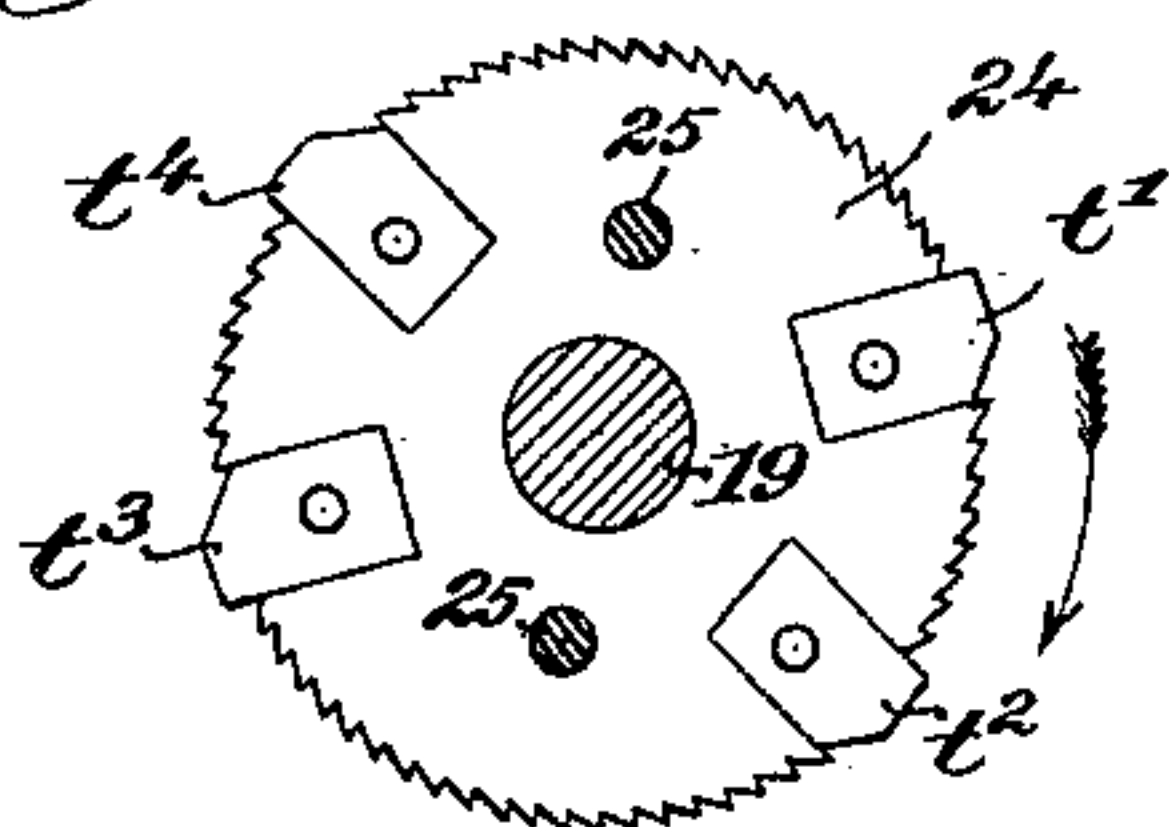


Fig. 7.

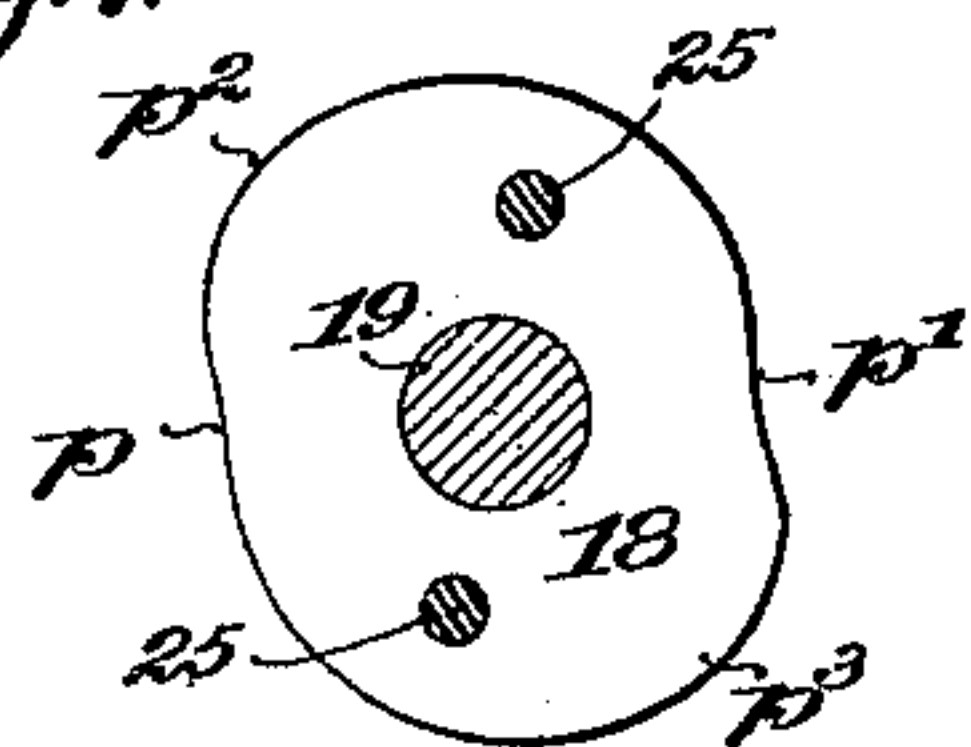


Fig. 8.

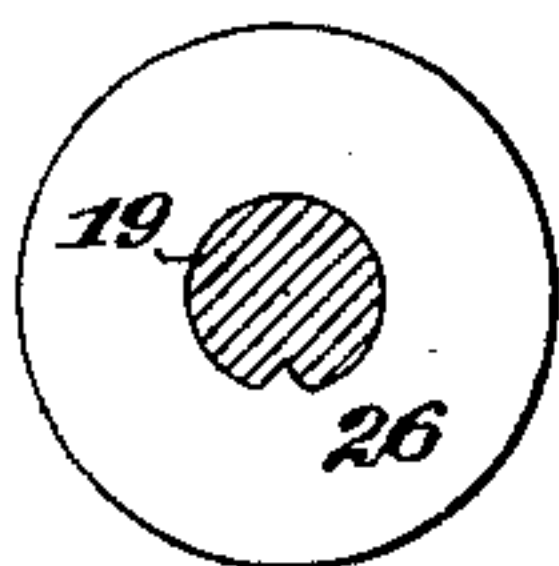


Fig. 4.

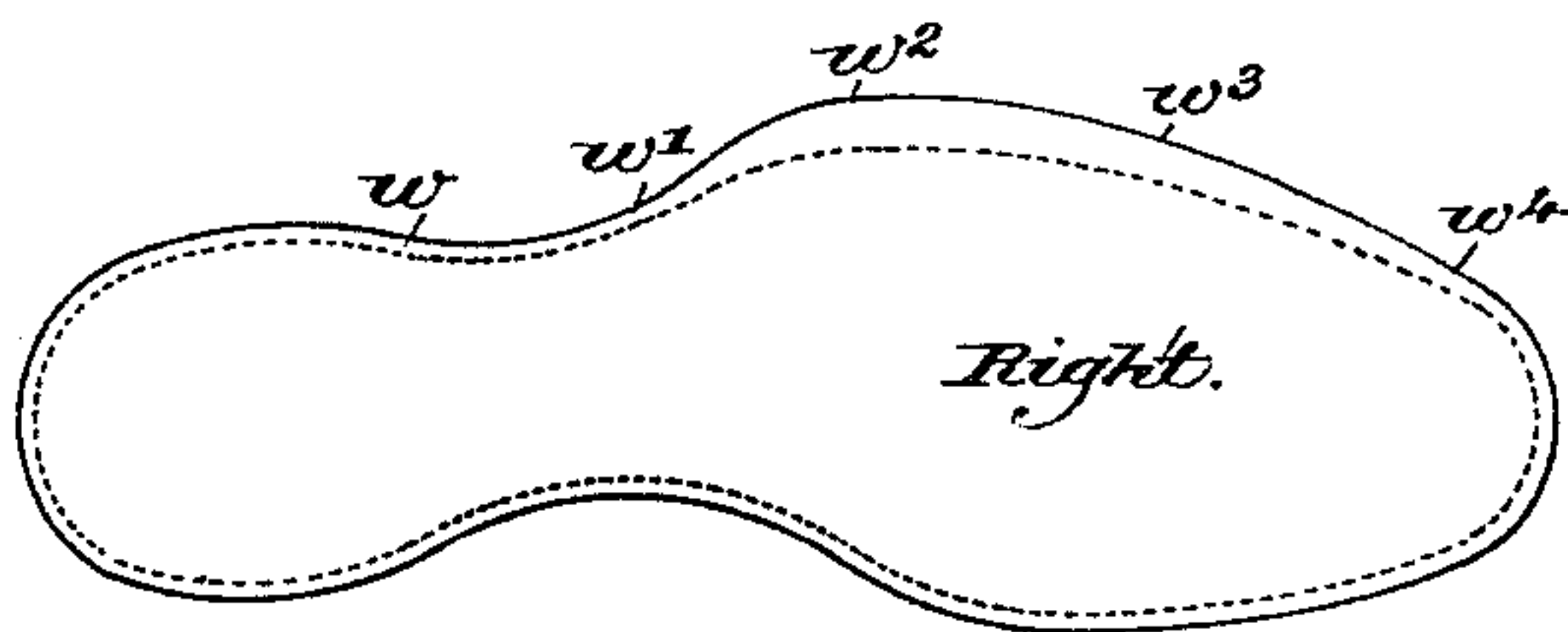
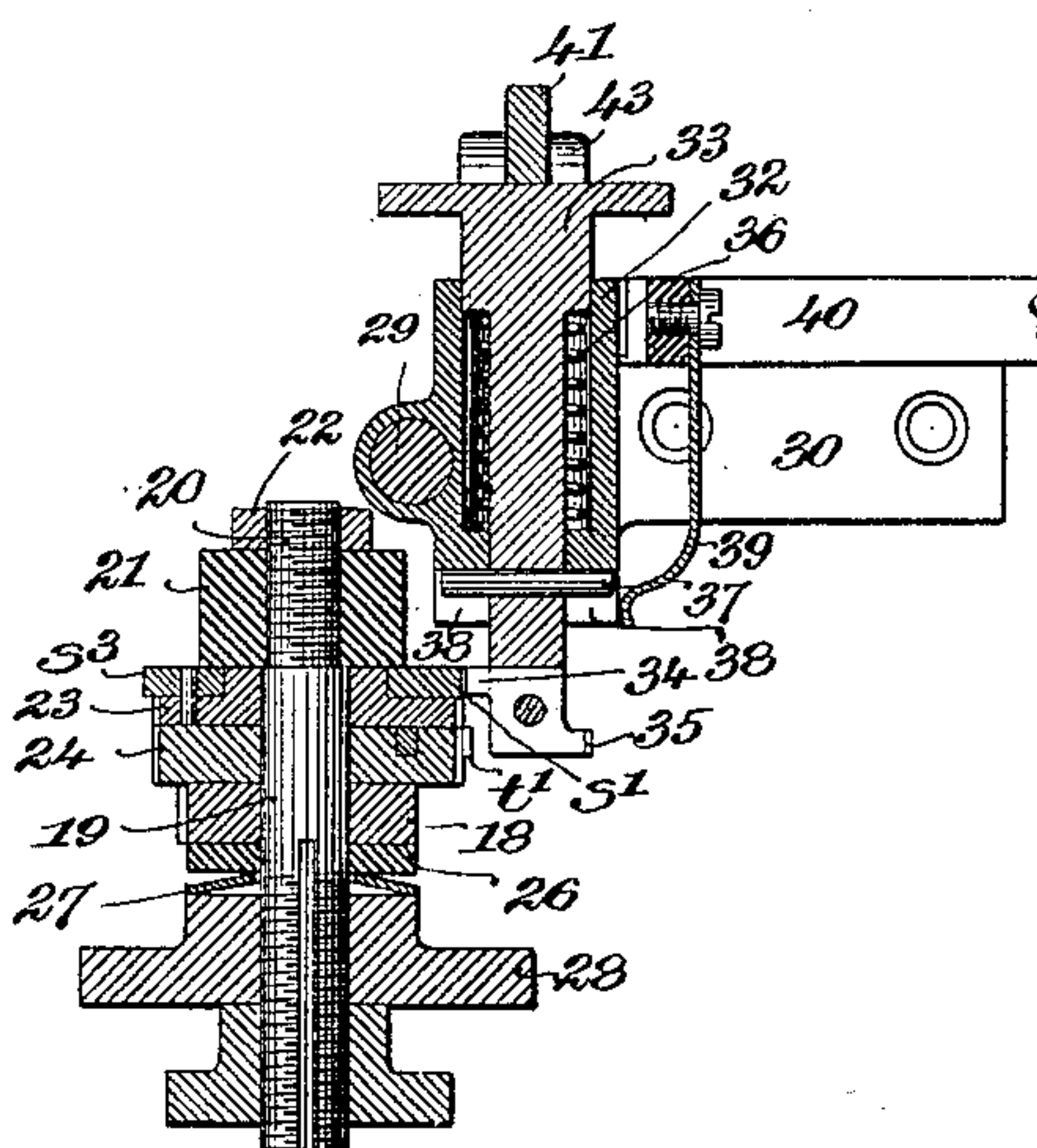


Fig. 9.

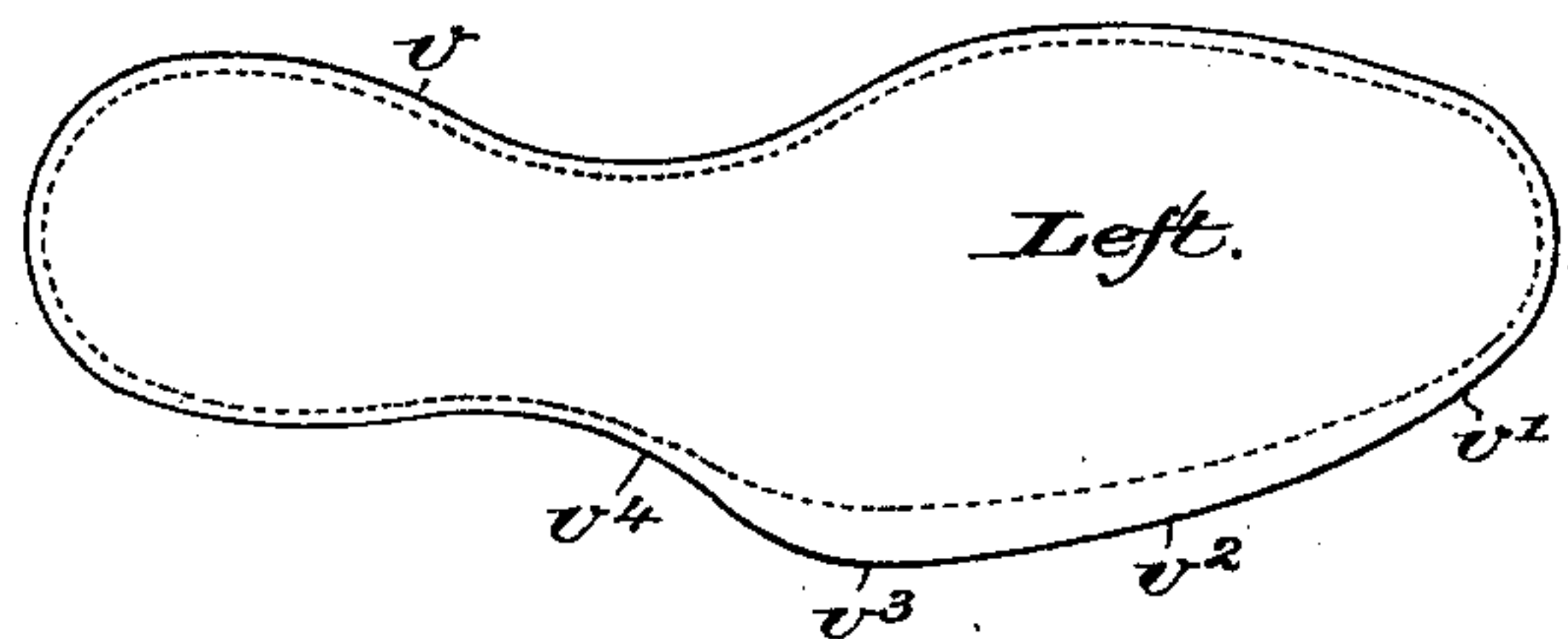


Fig. 10.

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UNITED STATES PATENT OFFICE.

ERASTUS E. WINKLEY, OF LYNN, MASSACHUSETTS.

GAGE FOR SHOE-MACHINES.

SPECIFICATION forming part of Letters Patent No. 640,064, dated December 26, 1899.

Application filed April 29, 1899. Serial No. 714,989. (No model.)

To all whom it may concern:

Be it known that I, ERASTUS E. WINKLEY, a citizen of the United States, residing at Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Automatic Gages for Shoe-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to improvements in gages for machines for operating on shoe-soles—such, for example, as shoe-sewing machines and sole-trimming machines—including such machines as are commonly known as “rough-rounding” and “channeling” machines. In all machines of this class there is provided a tool or tools—such, for example, as the needle of the sewing-machine or the rounding-knife and channeling-knife of a rounding and channeling machine—which are required to operate upon the sole of the shoe along a path bearing a certain relation as to its location to the edge of the last in the shoe to be operated upon, and it is required for many styles of shoes—such, for example, as “Scotch - edge” or “Baltimore-edge” shoes—to vary the position of this path with relation to the edge of the last.

In the prior art, both in the class of sewing-machines and rounding and channeling machines, there have been provided movable gages whereby the above-suggested result could be accomplished. Such gages, however, in so far as I am advised of the state of the art, have either been moved from their retracted to their advanced position by hand or by automatic mechanism which during a single cycle of operation both advanced and retracted such gage, the retracting movement following the advancing movement without any interference on the part of the operator and at a time which was independent of his control.

The hand-operated device above referred to has been found to be uncertain and not uniform in its operation, its use requiring the exercise of the greatest care and judgment on the part of the operator, and the automatic device above referred to, while capable of successful operation on certain sizes and

styles of shoes, requires change of parts to adapt it for variations in size and style and complicated adjustments which render the device difficult to use by the ordinary shoe-factory operator.

It is the object of the present invention to provide a movable gage for machines of the types hereinbefore mentioned with automatic mechanism for operating such gage, such mechanism being normally inactive when the gage is in its retracted and advanced positions, and to provide suitable means under the control of the operator whereby the operating mechanism may be brought into operation at the desired times to either advance or retract such gage.

To the above end the present invention consists of the devices and combination of devices, which will be hereinafter described and claimed.

In the accompanying drawings the present invention has been shown as embodied in a shoe-sewing machine for uniting the outsole to the welt of a boot or shoe; but such illustration has been selected merely for the purpose of describing the invention and its mode of operation, and it is to be distinctly understood that it is in no manner restricted thereto, as it can without substantial change be employed in many other machines for operating upon the soles of boots and shoes.

In the drawings, Figure 1 shows in front elevation portions of an outsole-sewing machine embodying the present invention. Fig. 2 shows a side elevation looking in the direction of the arrow, Fig. 1. Fig. 3 is a plan view of the mechanism shown in Figs. 1 and 2, certain parts being omitted. Fig. 4 is a vertical sectional view taken on the dotted line *xx* in Fig. 1, showing details of the mechanism for actuating the movable gage. Figs. 5, 6, 7, and 8 show details of the gage-actuating mechanism, and Figs. 9 and 10 show inverted plan views of a pair of shoes.

Before proceeding to describe the illustrated embodiment of the present invention it should be stated that it is now the custom in uniting the outsole to the welt of a boot and shoe of the type hereinbefore mentioned, having soles which extend varying distances from the upper, to place the line of stitches at varying distances from the upper or the

edge of the last in the shoe corresponding to the variation in the extension of the sole, and to secure this result the shoe must be moved in and out during the process of stitching toward and away from the path of movement of the needle, the shoe being guided by a gage which bears against the side of the lasted upper near the welt.

In the drawings, A represents a portion of the frame of the machine, upon which are supported vertical standards A', (one only being shown,) in the upper ends of which is mounted a shaft B, carrying a cam B'. Upon a stud a , secured in the frame A, is mounted the needle-segment a' , carrying a needle a^2 , and fixedly secured to the frame A and projecting outwardly and upwardly therefrom is the fixed work support and gage C, formed with an aperture c for the passage of the needle and awl, the forward end of which is arranged to bear against the upper of the boot or shoe while the outsole is being sewed to the welt along the shank and around the toe and inner ball portions and forming the fixed gage. Mounted to reciprocate horizontally in a guideway D is a feed-slide D', which at its inner end carries the upwardly-extending standard d , supporting a stud d' , upon which is mounted the awl-segment d^2 , carrying the awl d^3 . The horizontal reciprocations of the slide D' are imparted by a lever E, fulcrumed upon a stud e and having a grooved arm e' , engaging a block e^2 , pivotally mounted upon a lever e^3 , pivotally connected to the upper surface of the feed-slide D', the arm e^4 , carrying a cam-roll e^5 , engaging the cam-path in the cam B'.

The machine as above described may be and preferably is constructed substantially like the well-known Goodyear outsole-stitcher, and its construction and operation are familiar to those skilled in this art, and therefore a further description herein is deemed unnecessary.

In the machine of the drawings the auxiliary or movable gage 1 is adjustably mounted by a set-screw 2 to the upper end of a lever 3, which is fulcrumed upon a stud 4, carried by an arm 5, projecting upwardly from a base 6, secured by bolts 7 to the front of the frame A along the front side of the guideway D. The movable gage 1 is arranged to be moved in and out toward and away from the path of movement of the needle and awl by the rocking of the lever 3 about its fulcrum 4, and in order that the said movable gage when in its retracted position may have its work-bearing face in substantial alignment with the work-bearing face of the fixed gage C the fixed gage C is cut out, as shown at 8, and the end of the movable gage 1 is cut out, as at 10, forming a projection 11, which when the movable gage 1 is retracted enables the end of the fixed gage C and the movable gage 1 to fit together, as shown in Fig. 1, thus bringing the work-bearing faces of the fixed gage C and the movable gage 1 into

alignment with each other and to a certain degree enabling the movable gage 1 to strengthen and support the work-supporting table C or fixed gage against the downward thrust of the needle as it passes through the work.

Any suitable means may be provided to rock the lever 3 about its fulcrum 4 to advance and retract the movable gage 1; but in the machine of the drawings the said lever is arranged to be rocked in one direction, preferably, to retract the gage 1 by means of a spring 12, secured by screws 13 to the front of the machine, the upper end of which bears against the lever 3 above its fulcrum 4, and said lever 3 is arranged to be rocked about its fulcrum 4 for the purpose of advancing or projecting the movable gage 1 beyond the fixed gage C by means of a cam and connecting mechanism, which will now be described.

Projecting downwardly from the base 6 is a bearing 14, in which is secured a stud 15, supporting a horizontally-rocking lever 16, one end of which carries an adjustable screw 17, which bears against the lower end of the lever 3, the other end of the lever 16 engaging a cam 18, which when rotated by mechanism which will be hereinafter described, either positively moves the lever 16 about its fulcrum 15 to rock the lever 3 and advance the movable gage or permits the spring 12 to rock the lever 3 and the lever 16, retracting the gauge 1, it being understood that the spring 12 maintains the lever 16 always in contact with the cam 18.

As shown in the drawings, the cam 18 is a double cam, and its shape is such that it will in each half-revolution move the lever 16 so as to advance the gage 1 to its extreme outward position and permit said gage 1 to be forced by the spring 12 to its extreme inward or retracted position, and said cam 18 dependent upon the direction of its rotation, is adapted to actuate the gage 1 for either right or left shoe.

As before suggested, there is provided suitable automatic mechanism for rotating the cam 18, and the starting of such mechanism is under the control of the operator, whereby he can start such mechanism into operation either to rotate said cam to advance the gage 1 from its inward or retracted position to its extreme advanced position or to rotate the said cam to permit said gage to be retracted from its advanced to its retracted position, such mechanism being arranged to stop the rotation of the cam 18 with the gage 1 in its retracted position or in its advanced position until the point is reached in sewing the sole to the welt which renders it necessary to move the gage 1 from either of these positions, and the mechanism for turning the cam 18 is also constructed and arranged whereby said cam may be turned in either direction, according as the operator may be sewing a right or left shoe.

In the machine of the drawings the cam 18

is mounted to turn about a shaft 19, the upper end of which is threaded, as shown at 20, and supported in an arm 21 projected from the base 6, it being held in such arm 21 by means of a nut 22 engaging the upper threaded end, as clearly shown in Fig. 4 of the drawings. The cam 18 is given a step-by-step turning movement on the shaft 19 by means of ratchet-wheels 23 and 24, having their teeth formed in opposite direction, as shown, and said ratchet-wheels and the cam 18 are secured to turn together about the shaft 19 by pins 25, whereby their relative positions are always maintained. The ratchet-wheels 23 and 24 and the cam 18 are held on the shaft 19 by means of a splined washer 26, which is placed on said shaft beneath the cam 18 above a spring-washer 27 and nuts 28, whereby the cam and ratchet-wheels are held with some friction between said spring-washer 27 and the under side of the bearing 21, but permitted to be turned on the shaft 19 by the pawl mechanism which will now be described.

It is well known to those skilled in the art that the feeding of the shoe as the stitching progresses around the sole is performed by the awl d^3 , which, as before stated, is mounted in a segment d^2 , carried by an arm d , supported on the feed-slide D' , which feed-slide is horizontally reciprocated, imparting a step-by-step feeding movement to the shoe.

In the machine of the drawings the pawls which engage the ratchet-wheels 23 and 24 are carried by the feed-slide D' and partake of the reciprocations of said feed-slide and are preferably constructed and arranged as follows: Pivotaly mounted at 29 upon a support 30, secured by screws 31 to the end of the feed-slide D' , is a tubular sleeve 32, in which is arranged a vertically-movable pawl-carrying plunger 33, which at its lower end carries pawls 34 and 35, arranged at diametrically opposite points from each other and in different horizontal planes, the pawl 34 being in a plane to engage the ratchet-wheel 23 when turned to the front, as shown in Fig. 4 of the drawings, and the pawl 35 being in a plane to engage the ratchet-wheel 24 when turned to the front. The plunger 33 rests upon a spiral spring 36 within the tubular sleeve 32, which spring normally holds the plunger 33 in an elevated position for a purpose to be hereinafter described.

The plunger 33 is held with either the pawl 34 or the pawl 35 turned toward the front by a pin 37, which is carried by said plunger below the sleeve 32 and which is arranged to engage a groove 38, cut in the lower end of said sleeve.

By depressing the plunger 32 against the tension of the spring 36 until the pin 37 clears the groove 38 said plunger may be turned to bring either the pawl 34 or the pawl 35 in position to engage their respective ratchet-wheels.

By an inspection of Fig. 4 of the drawings it will be noted that the pawls are substan-

tially one-half the thickness of the ratchets, and that the spring 36 normally holds the plunger 32 in an elevated position, so that the respective pawls engage the upper half of their respective ratchets. Each ratchet-wheel is provided with four stops s' , s^2 , s^3 , and s^4 and t' , t^2 , t^3 , and t^4 , which project beyond the face of the ratchets and are formed with a long inclined surface of such a length that whenever a pawl reaches a stop, the reciprocations of said pawl being less than the length of the inclines formed on the stops, the continued reciprocations of the pawls will impart no movement to the ratchets, and therefore no movement to the cam 18, thus leaving the gage 1 in whatever position it may have been moved to until the operator again desires to move the said gage.

The stops s' , s^2 , s^3 , and s^4 and t' , t^2 , t^3 , and t^4 are substantially one-half the thickness of the ratchets 23 and 24 and are placed along the upper edge thereof in the path of movement of the pawls, so that in order to again cause the reciprocations of the pawl which may be to the front to engage and rotate its ratchet the plunger 33 must be depressed to enable the pawl to engage said ratchet below the stops. The pawls are normally pressed toward the ratchets by means of a spring 39, which is fixedly secured to the end of the plate 40 and which at its lower end bears against the tubular bearing 32, below its fulcrum 29. By depressing the plunger 33 against the tension of the spring 36 the pawl which may then be at the front and in contact with one of the stops of the ratchet-wheels 23 or 24 is brought below said stop and the spring 39 forces it forward to engage the ratchet-wheel below said stop.

For the purpose of depressing the plunger 33 there is provided in the machine of the drawings a lever 41, pivotaly supported at 42 on an arm 43, projected from the tubular bearing 32, which lever preferably has a projection 44, resting upon the upper end of the plunger 33 or a disk or head carried by said plunger, the opposite end of said lever 41 extending outwardly and being projected upwardly, as shown at 41, whereby it is in convenient position for the operator to engage the same and by a downward movement thereof depress the plunger 33.

For the purpose of maintaining the lever in proper position with relation to the head of the plunger 33 there are provided upwardly-projecting arms 46 on the tubular bearing 32, between which the lever 41 projects.

From the foregoing description it will be clear that according as the pawl 34 or the pawl 35 may be turned to the front the cam 18 will be turned from right to left or from left to right to actuate the movable gage 1 for positioning either a right or a left shoe.

Assuming that the ratchet 23 is engaged by the pawl 34 when sewing a right shoe, it will be noted that the cam 18 will be turned from the position shown in Fig. 7 from right to

left, and when the pawl 35 engages the ratchet 24 the cam 18 will be turned from left to right when sewing a left shoe.

In Figs. 9 and 10 are illustrated, diagrammatically, plan views, inverted, of the soles of a pair of shoes, with the line of the uppers indicated by dotted lines, showing that the edge of the sole and welt project beyond the upper varying distances, the projection being greatest at the outer "ball" portion of each shoe, as in the Baltimore-edge shoes hereinbefore referred to.

In sewing shoes of the character indicated the auxiliary movable gage will be brought into operation while the sewing progresses along that portion of the sole, or substantially so, included between the points marked w' and w^4 and v' and v^4 , and while sewing the remainder of the sole the auxiliary gage remains in its retracted position.

It will be noted that the cam 18 has two low points marked p and p' ; also two high points marked p^2 and p^3 , and that there is a short rise from the points p and p' to the points p^2 and p^3 and a long gradual decline from such points p^2 and p^3 to the points p' and p , thus imparting to the end of the lever 16, which rests on said cam, either a quick outward movement and a slow return movement or a slow outward movement and a quick return movement, accordingly as said cam is turned to the right or left.

Assuming that the operator is sewing a right shoe and that the parts are in the position shown in Figs. 4, 5, 6, and 7, or substantially so, with the pawl 34 engaging the stop s' , at which time the low part p of the cam 18 will be to the front and the movable gage 1 in its retracted position, the operator now positions the shoe as shown in Fig. 9, with the toe of the shoe pointed toward the right, and begins the sewing at the rear of the shank of the shoe on the outer side thereof, substantially at the point marked w , and while sewing along the shank or from w to w' the shoe is held against the fixed gage, and the movable gage remains in its retracted position, as shown in Figs. 1 and 2 of the drawings. During the sewing of the shank part indicated the pawl 34 has remained in contact with the stop s' , imparting no movement to the ratchet 23 and the cam 18; but as the sewing reaches the point w' and proceeds from such point to the widest part of the projecting edge of the sole or to w^2 it becomes necessary to bring into operation the auxiliary gage 1 to move the shoe outward in order to position the projecting edge of the sole in proper position relative to the path of movement of the needle, so as to position the stitches of the seam properly with relation to the upper.

It will be noted that from the point w' to the point w^2 there is an abrupt outward curve from the shank portion of the sole to the widest part of the projecting edge. When the point w' is reached, the operator brings

into operation the gage-actuating mechanism by depressing the lever 41, thus depressing the plunger 33, and permitting the pawl 34 to engage the ratchet-wheel 23 below the stop s' , and the step-by-step rotation of the ratchet 23 by the reciprocations of the pawl 34 turns the cam 18 from right to left, bringing the high part p^2 of said cam to the front, and rocking the lever 16 moves quickly outward the auxiliary gage 1. The turning of the ratchet 23 brings the stop s^2 in position to engage the pawl 34, at which time the turning of the ratchet 23 will stop, with the high part p^2 of the cam 18 in front and the auxiliary gage 1 in its extreme outward position, thus positioning the shoe so that the stitches will be placed at the greatest distance from the upper at the widest part of the shoe-sole. Assuming that the sewing has progressed from the point w' to the point w^2 during this outward movement of the auxiliary gage and that the point w^2 approximately represents the beginning of the widest part of the projecting edge of the shoe-sole, the sewing will then proceed along the widest part with the shoe guided by the movable gage in its advanced position, and it remains in this position until the sewing has been completed along the widest part of the shoe-sole approximately to the point marked w^3 . It will be noted that from the point w^3 to the point w^4 there is a gradual narrowing of the projecting edge of the shoe-sole, and when the point w^3 is reached the operator again brings into operation the actuating mechanism for the movable gage by again depressing the lever 41 and permitting the pawl 34 to engage the ratchet 23 below the stop s^2 , and the reciprocations of the pawl 34 turn the ratchet 23 and the cam 18, moving the high point p^2 away from the front and bringing the point p' to the front, the shape of the cam being such that the gradual decline from the high point p^2 to the low point p' permits a gradual inward movement of the auxiliary gage 1, which movement takes place while the sewing progresses from the point w^3 to the point w^4 , at which time the gage 1 will have reached its retracted position, and the stop s^3 , coming in contact with the pawl 34, stops the further turning of the ratchet 23 and the cam 18, and the sewing then progresses with the shoe guided by the fixed gage from the point w^4 around the toe along the inner ball portion to the rear of the inner shank portion. In sewing a left shoe the pawl 35 will be turned to the front and brought into engagement with the ratchet 24 and the reciprocations thereof will cause a turning of the ratchet 24 from left to right, thus turning the cam 18 from left to right.

The left shoe is positioned in the same manner as in sewing a right shoe, that is—with the toe of the shoe turned toward the right—and the sewing begins at the point v at the rear of the inner shank portion, at which time the pawl 35 will be in engagement with the stop t' of the ratchet 24, and the auxiliary

gauge will be in its retracted position. The sewing thus progresses from the point v along the inner shank portion, the inner ball portion, and around the toe until approximately the point v' is reached, at which time there is a gradual widening of the projecting edge of the shoe-sole. It is therefore necessary that the movable gauge be brought into operation to move the shoe outward gradually while the sewing progresses from the point v' to approximately the point v^2 , at which point the widest part of the projecting edge of the shoe-sole begins. The operator therefore depresses the lever 41 and permits the pawl 35 to engage the ratchet 24 below the stop t' , and while the sewing progresses from the point v' to the point v^2 the rotations of the pawl 35 will turn the ratchet 24 from left to right, turning the cam 18 from left to right, and gradually bringing the high part p^3 of the cam to the front, thus gradually advancing the movable gauge to its extreme outward position, and as the point v^2 is reached the pawl 35 comes in contact with the stop t^4 , thus stopping the turning of the ratchet 24 and the cam 18, with the high part of the cam p^3 in the forward position and the gauge 1 in its advanced position. While the parts are in this position with the gauge 1 moved out, the stitching proceeds from the point v^2 to approximately the point v^3 , during which time the gauge and its actuating mechanism are at rest. As the point v^3 is reached it is necessary that the movable gauge be quickly retracted in order to permit the shoe to move quickly back as the sewing progresses from the point v^3 to the beginning of the outer shank portion or to the point v^4 . The operator therefore again depresses the lever 41 and permits the pawl 35 to engage the ratchet 24 below the stop t^4 , and while the sewing progresses from the point v^3 to the point v^4 the reciprocations of the pawl 35 will turn the ratchet 24, turning the cam 18, bringing to the front the low part p' of said cam, thus permitting the spring 12 to quickly retract the gauge 1 to its extreme inward position. At this time the stop t^3 will come in contact with the pawl 35, thus stopping the turning of the ratchet 24 and the movement of the cam 18, and the sewing progresses along the outer shank portion with the gauge retracted.

In describing the operation of my improved auxiliary gauge I have assumed that it is employed in sewing what is known as "Baltimore-edge" shoes, wherein the sole projects a greater distance upon one side than on the other; but it is obvious that both sides of the shoe-sole may project uniformly, in which case the auxiliary gauge will be brought into operation while sewing along the inner ball portion of the shoe as well as along the outer ball portion.

It will be noted that by arranging the mechanism of the auxiliary gauge so as to be thrown into operation by the operator it is adapted for employment with all sizes of shoes, as it remains at rest until the operator desires that

it shall move in or out, as the case may be, so that no matter what the length of that portion of the sole which is being stitched while the gauge is in its retracted or its advanced position may be it may remain in such position until said portions of the shoe-sole shall have been stitched, and whenever it becomes necessary to either advance or retract such gauge while the sewing proceeds from a narrow part to a wide part of the shoe-sole or from a wide part to a narrow part such movement is automatically produced.

Having thus described the construction and mode of operation of my invention, I claim as new and desire to secure by Letters Patent of the United States—

1. In a machine for operating upon shoe-soles, the combination with a fixed gauge, of a movable gauge, the meeting ends of said gauges having complementary projections and recesses arranged to take into each other, substantially as described.

2. In a machine for operating on shoe-soles, the combination with a fixed work-support and gauge having a recess in its under side, of a movable gauge, the operating end of which is normally mounted in said recess with its work-gaging face in substantial alignment with the work-gaging face of the fixed work-support and gauge, and means for adjusting said movable gauge beyond the work-gaging face of the fixed work-support and gauge, substantially as described.

3. In a machine for operating on shoe-soles, the combination with a movable gauge, of automatically-operating mechanism for actuating such gauge, such mechanism being normally inactive and the gauge at rest, and means under the control of the operator to set in motion the gauge-operating mechanism to advance or retract the movable gauge, substantially as described.

4. In a machine for operating on shoe-soles, the combination with the feed-slide, of a movable gauge, a cam for actuating such gauge, and a pawl-and-ratchet connection between the feed-slide and the cam, whereby the reciprocations of the feed-slide will actuate the movable gauge, substantially as described.

5. In a machine for operating on shoe-soles, the combination with a movable gauge, of a pawl-and-ratchet mechanism for actuating such gauge, a stop on said ratchet for disconnecting the pawl therefrom, means for normally maintaining the pawl in the path of movement of said stop, and means under the control of the operator to move said pawl out of the path of movement of said stop to engage the ratchet, substantially as described.

6. In a machine for operating on shoe-soles, the combination with a movable gauge, of mechanism for actuating such gauge said mechanism comprising a pair of ratchet-wheels with the teeth arranged in opposite directions, and a pawl-carrier carrying a pair of oppositely-arranged pawls, and means to adjust said pawl-carrier to bring either pawl into engage-

ment with its respective ratchet-wheel, substantially as described.

7. In a machine for operating on shoe-soles, the combination with a movable gage, of a
5 cam for actuating such gage, a ratchet-wheel connected with such cam, a vertically-movable spring-sustained plunger mounted in a movable bearing, and a pawl carried by said
10 plunger to engage the ratchet-wheel, substantially as described.

8. In a machine for operating on shoe-soles, the combination with a movable gage, of a cam for actuating such gage, a pair of oppositely-arranged ratchet-wheels for independ-
15 ently turning said cam in opposite directions, a vertically-disposed spring-sustained plunger mounted on a reciprocating carrier, a pair of oppositely-disposed pawls carried by the plunger in different horizontal planes and
20 means permitting the plunger to be turned to

bring either pawl into position to engage its ratchet-wheel, substantially as described.

9. In a machine for operating on shoe-soles, the combination with a tool for operating
25 upon the sole, of a movable gage arranged to move from a retracted to an advanced position to vary the point of operation of the tool on the sole, automatic mechanism for actuating the gage said mechanism being inactive when the gage is in its advanced and re-
30 tracted positions, and means under the control of the operator to set in operation the said mechanism to advance and retract said gage, substantially as described.

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

ERASTUS E. WINKLEY.

Witnesses:

T. HART ANDERSON,
A. E. WHYTE.