

No. 700,279.

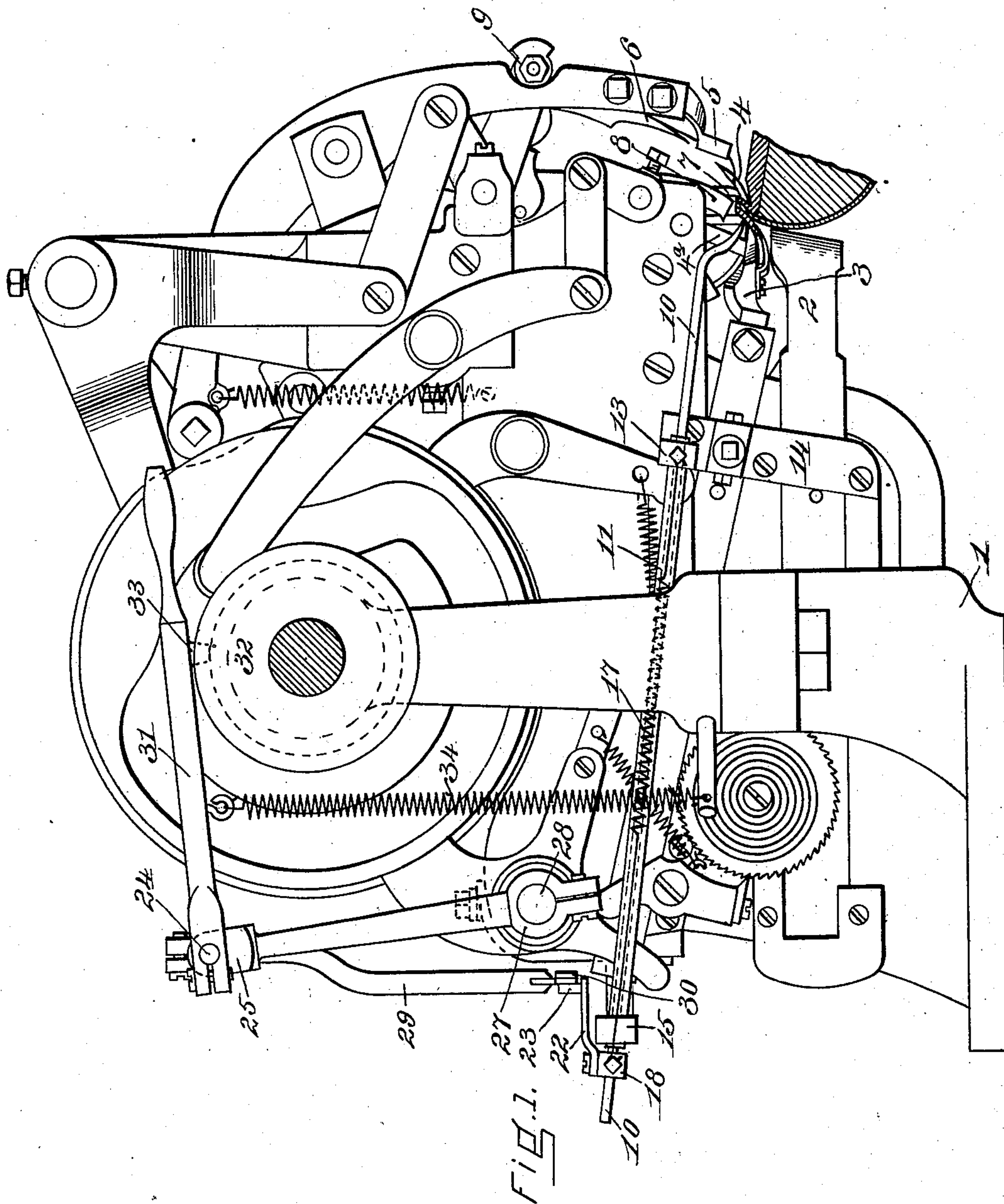
Patented May 20, 1902.

E. E. WINKLEY.  
WELT SEWING MACHINE.

(Application filed Dec. 13, 1900.)

(No Model.)

3 Sheets—Sheet 1.



WITNESSES

Edward S. Day  
Horace Van Euren

INVENTOR

Erastus E. Winkley  
by his Attorney  
Benjamin Phelps

No. 700,279.

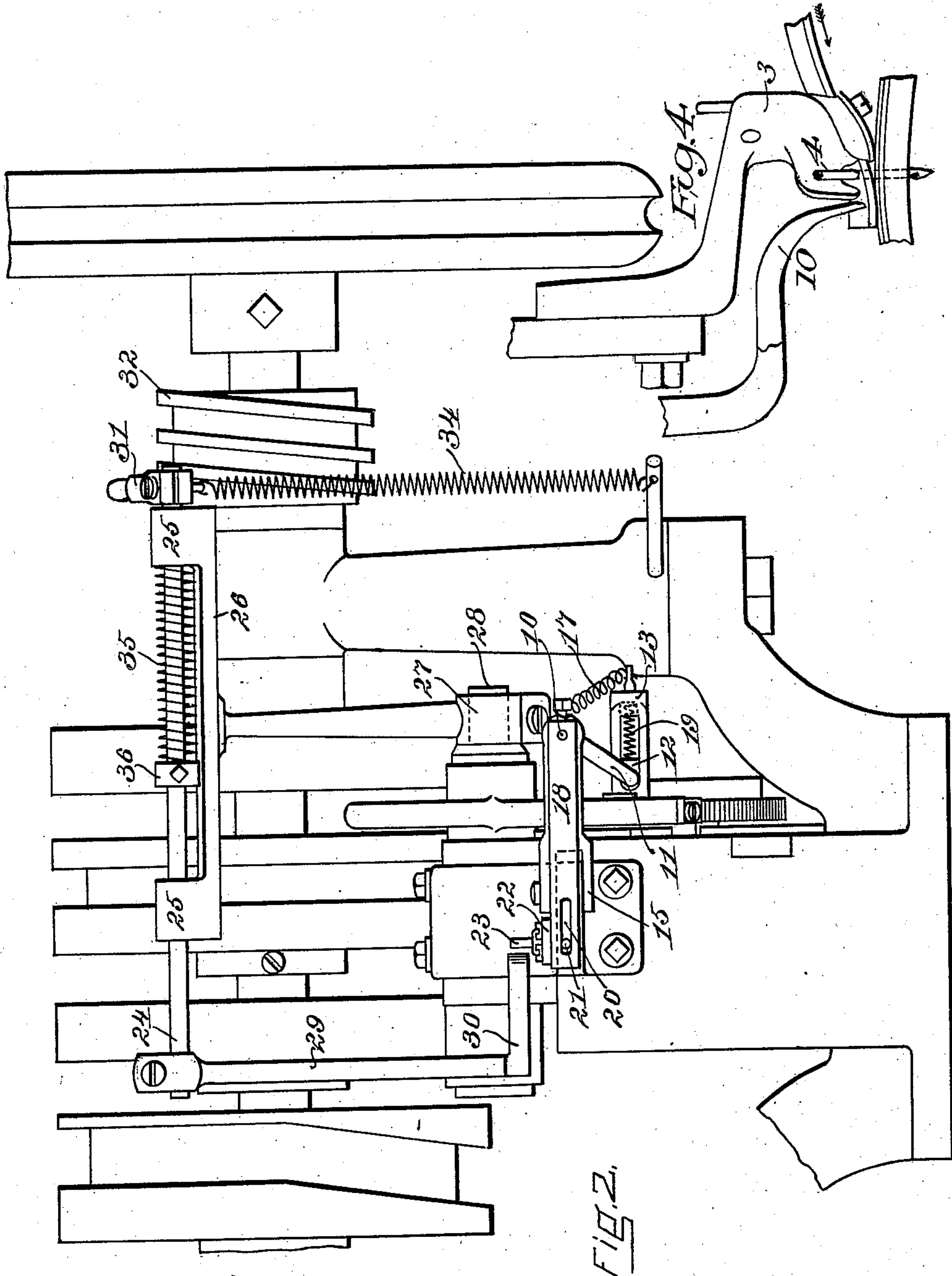
Patented May 20, 1902.

E. E. WINKLEY.  
WELT SEWING MACHINE.

(Application filed Dec. 13, 1900.)

(No Model.)

3 Sheets—Sheet 2.



WITNESSES

Edward S. Day  
Horace Van Eeren

FIG. 2.

INVENTOR

Erastus E. Winkley  
by his Attorney  
Benjamin Phillips



No. 700,279.

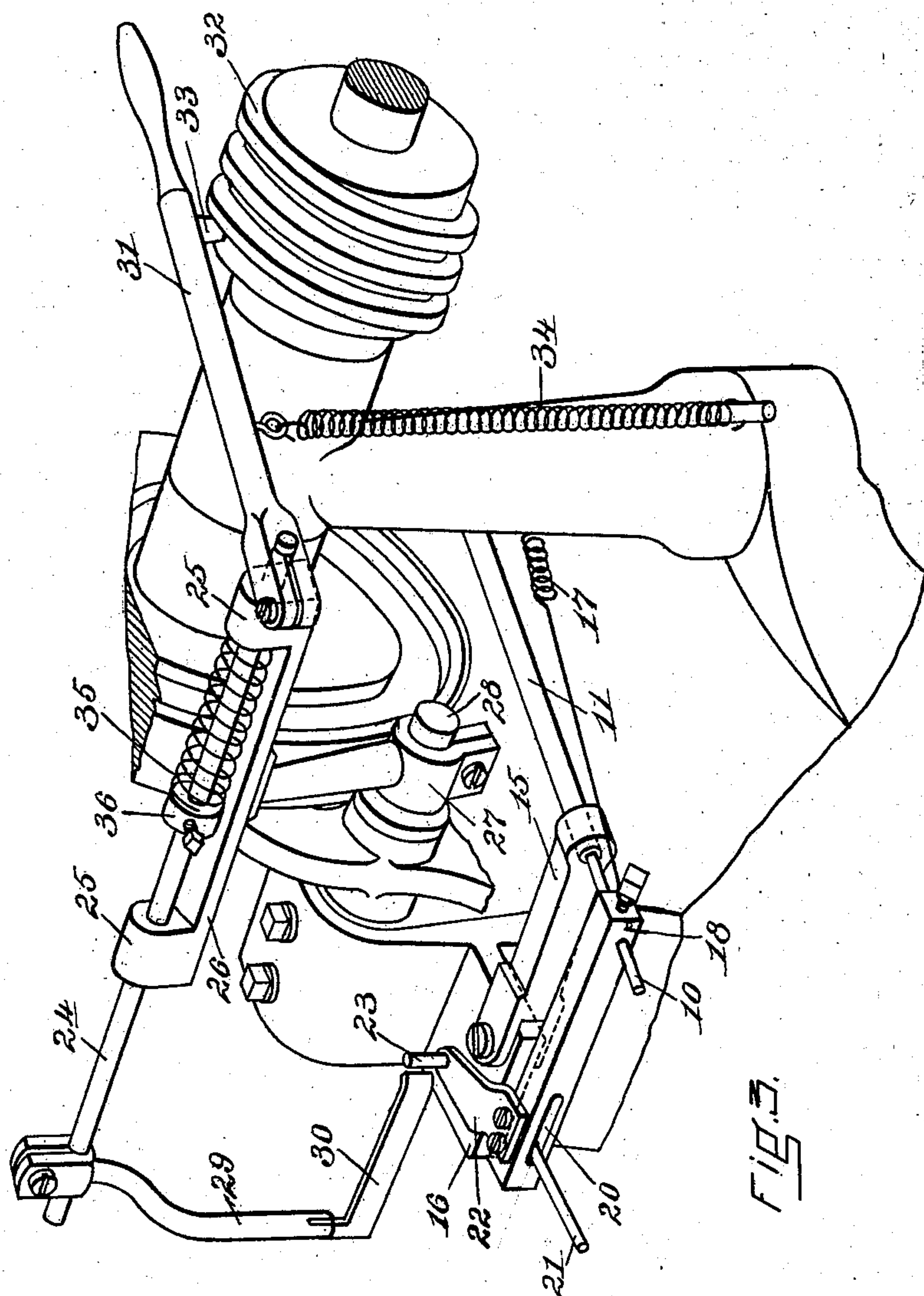
Patented May 20, 1902.

E. E. WINKLEY.  
WELT SEWING MACHINE.

(Application filed Dec. 13, 1900.)

(No Model.)

3 Sheets—Sheet 3.



WITNESSES

Edward S. Day  
Horace Van Eem

INVENTOR

Ernest E. Winkley  
by his Attorney  
Benjamin Phillips



# UNITED STATES PATENT OFFICE.

ERASTUS E. WINKLEY, OF LYNN, MASSACHUSETTS.

## WELT-SEWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 700,279, dated May 20, 1902.

Application filed December 13, 1900. Serial No. 39,701. (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 Welt-Sewing 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 shoe-sewing machines which are used in the manufacture of boots and shoes to attach the welt to the lasted upper and insole. Such machines comprise suitable instrumentalities for forming the stitches which unite the welt, upper, and insole, means for guiding and feeding the lasted upper and insole, and a welt-guide for guiding the welt to a position to be attached to the upper and insole. No separate feeding mechanism for the welt is provided in such machines; but the free end of the welt is held in position by the operator during a number of operations of the stitch-forming mechanism until firmly secured to the upper and insole, and thereafter the welt is fed forward by the movement of the other parts of the shoe. In order to hold the end of the welt in position to be attached to the upper and insole, the operator is obliged to pull the welt forward through the guide and start the seam at some distance from the end of the welt, the amount pulled through the guide and the distance from the end of the welt at which the seam is started depending on the care and skill of the operator. It will be evident that the greater the distance from the end of the welt that the seam is started the greater will be the waste. The amount of welt wasted in this manner on a single shoe often amounts to two inches. The object of my invention is to provide a means whereby this waste is avoided; and with this object in view my invention consists in providing a welt-sewing machine with a welt-holder arranged to hold the end of the welt in contact with the upper and insole while being attached thereto. This welt-holder may be of any suitable construction and operated in any suitable manner to perform its intended function and can be applied to any

sewing-machine adapted to attach a welt to the upper and insole of a boot or shoe.

In the drawings accompanying this application I have illustrated a preferred form of my invention applied to the well-known Good-year welt-sewing machine in common use and disclosed in United States Letters Patent to Z. T. French and W. C. Meyer, No. 412,704, dated October 8, 1889; but it is to be understood that my invention is not limited to the construction shown and that the particular machine to which it is applied has been chosen for convenience of illustration only.

Having thus indicated the object and scope of my invention, I will now proceed to describe the specific embodiment thereof illustrated in the accompanying drawings, in which—

Figure 1 is a view in side elevation, partly in section, of a welt-sewing machine with my invention applied thereto. Fig. 2 is a rear view of so much of the machine shown in Fig. 1 as is necessary to show the connection of my invention therewith. Fig. 3 is a detail sectional view of the parts which constitute my invention looking from the rear of the machine. Fig. 4 is a detail view showing the relative arrangement of the needle, welt-guide, and welt-holder.

Referring to the drawings, in which like characters of reference indicate like parts, 1 indicates the frame of the machine, 2 the gage or work-support, 3 the welt-guide, 4 the needle, 4<sup>a</sup> the needle-guide, 5 the looper, 6 the feed-point, 7 the channel-gage, 8 the thread-holder, and 9 the take-up, these parts being constructed and arranged in the same manner and operated by the same mechanism as the corresponding parts of the machine disclosed in the patent hereinbefore referred to.

The welt-holder for holding the end of the welt in contact with the upper during the operation of the stitch-forming instrumentalities is indicated at 10 and, as shown in Fig. 1, is located on the opposite side of the needle from the welt-guide. In the embodiment of my invention shown in the drawings the welt-holder 10 consists of a rod the forward end of which is provided with a point adapted to penetrate the welt and hold it in contact



with the shoe-upper. The welt-holder is arranged to be moved into and out of operative position by being mounted to slide in a sleeve 11, the forward end of which is secured to a block 12, mounted in a slot in a lug 13, projecting laterally from the bracket 14, secured to the frame of the machine, and the rear end of which is secured to an arm 15, pivotally mounted on a lug 16, projecting from the rear portion of the machine-frame. For moving the welt-holder into operative position to engage the end of the welt and hold it in contact with the shoe-upper a coiled spring 17 is provided, one end of which is attached to a block 18, secured to the rear end of the welt-holder, which projects beyond the arm 15 and sleeve 11, and the other end of which is secured to the lug 13. In the construction shown in the drawings the welt-holder is arranged to move with the shoe while in operative position, this movement being permitted by the slotted bearing for the block 12, to which the forward end of the sleeve 11 is secured, and the pivotal connection of the arm 15, to which the rear end of the sleeve 11 is secured, with the lug 16. For returning the welt-holder to its original position after being disengaged from the welt a coiled spring 19 is situated in the slot in the lug 13 and bears against the block 12. The spring 17 for moving the welt-holder into operative position is under the control of the operator, whereby the welt-holder can be thrown into engagement with the end of the welt at the desired time, as will be described. The welt-holder need remain in operative position only during so many operations of the stitch-forming mechanism as may be necessary to firmly secure the end of the welt to the upper and insole. Means are accordingly provided for moving the welt-holder out of operative position, and in the construction shown in the drawings this means is automatic in its operation and acts to withdraw the welt-holder from engagement with the welt after a sufficient number of operations of the stitch-forming mechanism to firmly secure the welt to the upper and insole.

The means by which the action of the spring 17 to move the welt-holder into operative position are controlled by the operator and the means by which the welt-holder is automatically removed from contact with the welt are as follows: The block 18, which is secured to the rear end of the welt-holder, is provided with a guiding-slot 20, through which a guiding-pin 21, projecting from the lug 16, passes. (See more particularly Fig. 3.) To the upper surface of the block 18 is secured a plate 22, which is provided with an upwardly-extending pin 23. A sliding rod 24 is mounted in bearings 25 of a bracket 26, secured, by means of a split collar 27, to a stud 28, which forms the pivot-bearing for one of the operating-levers of the machine. Secured to one end of the rod 24 is a downwardly-extending arm 29, provided at its

lower end with a horizontally-extending portion 30, which as the rod 24 is moved to the right, as viewed in Fig. 3, by mechanism to be hereinafter described, passes in front of the pin 23. To the other end of the rod 24 is secured a handle 31, which projects laterally therefrom above the driving-shaft of the machine. To the driving-shaft of the machine is secured a worm or spirally-grooved cam 32, with the groove in which a stud 33, projecting downward from the handle 31, is adapted to engage. A coiled spring 34 connects the handle 31 with a fixed portion of the machine-frame and acts to hold the stud 33 in contact with cam 32. By this construction as the driving-shaft rotates the rod 24 will be moved to the right, as viewed in Fig. 3, and after several revolutions of the shaft the projection 33 of the handle 31 will pass off the cam 32 and the spring 34 will depress the handle 31 until it contacts with the driving-shaft or other suitable stop. As the handle 31 is so depressed the rod 24 will be rocked and the portion 30 of arm 29 contacting with pin 23 will move the block 18 against the tension of spring 17, and thereby remove the welt-holder 10 from contact with the welt. When it is desired to again move the welt-holder into operative position, the handle 31 is raised, thereby rocking the shaft 24 in the opposite direction and removing the portion 30 of arm 29 from contact with pin 23 and allowing spring 17 to force the welt-holder into contact with the welt. To assist the operator in moving the rod 27 to the left, a spiral spring 35 is provided, which surrounds the rod 24 and is interposed between one of the bearings 25 and a collar 36, adjustably secured to the rod.

The operation of the mechanism above described may be briefly described as follows: The machine being at rest, the shaft 24 being in its extreme position at the right, as viewed in Fig. 3, with the handle 31 depressed and the welt-holder held out of contact with the welt by the engagement of the part 30 with pin 23, the work is placed in position to be acted upon by the stitch-forming mechanism, as shown in Fig. 1, and, if necessary, the free end of the welt is placed in proper position to be attached to the upper and insole. The handle 31 is now raised, thereby rocking the shaft 24 and removing the part 30 from pin 23 and allowing the spring 17 to force the welt-holder into contact with the welt. The handle 31 is moved to the left, as viewed in Fig. 3, and released to allow the spring 34 to press the projection 33 against the cam 32. The machine is now thrown into operation, and during several operations of the stitch-forming mechanism the end of the welt will be held in contact with the shoe-upper, the welt-holder moving with the shoe against the tension of spring 19. After the welt has been firmly secured to the upper and insole the projection 33 of handle 31 will pass off the end of cam 32 and spring 34 will act to depress the handle 31 and rock



the shaft 24 in a direction to cause the part 30 to engage the pin 23 and remove the welt-holder from engagement with the welt, the welt-holder being immediately returned to its original position by means of the spring 19.

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

1. A welt-sewing machine, having, in combination, stitch-forming mechanism, a welt-guide, and a welt-holder constructed and arranged to hold the end of the welt in contact with the upper, substantially as described.

2. A welt-sewing machine, having, in combination, stitch-forming mechanism, a welt-guide, and a welt-holder constructed and arranged to move with the shoe and to hold the end of the welt in contact with the upper, substantially as described.

3. A welt-sewing machine, having, in combination, stitch-forming mechanism, a welt-guide, a welt-holder constructed and arranged to move with the shoe and to hold the end of the welt in contact with the upper, and means for automatically throwing the welt-holder out of operative position after a predetermined number of operations of the stitch-forming mechanism, substantially as described.

4. A welt-sewing machine, having, in combination, stitch-forming mechanism, a welt-

guide, a welt-holder constructed and arranged to move with the shoe and to hold the end of the welt in contact with the upper, means under the control of the operator for moving said welt-holder into operative position and means for automatically throwing said welt-holder out of operative position after a predetermined number of operations of the stitch-forming mechanism, substantially as described.

5. A welt-sewing machine, having, in combination, stitch-forming mechanism, a welt-guide, a welt-holder constructed and arranged to move with the shoe and to hold the end of the welt in contact with the upper, and means for moving the welt-holder into and out of operative position, substantially as described.

6. A welt-sewing machine, having, in combination, stitch-forming mechanism including a needle, a welt-guide on one side of the needle and a welt-holder on the opposite side of the needle, substantially as described.

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

ERASTUS E. WINKLEY.

Witnesses:

HORACE VAN EVEREN,  
ALFRED H. HILDRETH.

It is hereby certified that in Letters Patent No. 700,279, granted May 20, 1902, upon the application of Erastus E. Winkley, of Lynn, Mass., for an improvement in "Welt-Sewing Machines," an error appears in the printed specification requiring correction, as follows: In line 51, page 2, the word "are" should read *is*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 3d day of June, A. D., 1902.

[SEAL.]

F. I. ALLEN,  
*Commissioner of Patents.*