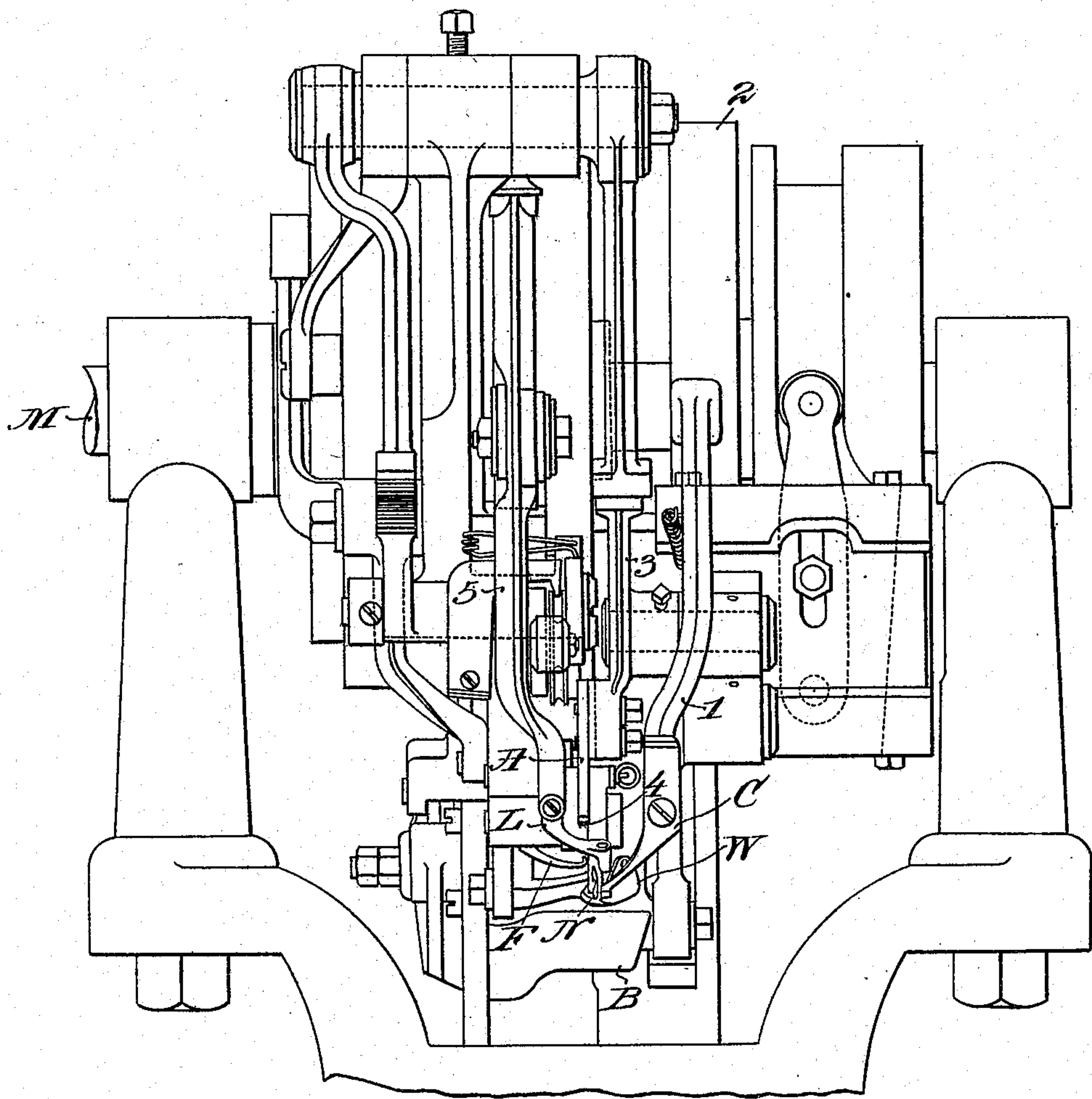


F. J. FREESE,  
SHOE SEWING MACHINE.  
APPLICATION FILED OCT. 7, 1903.

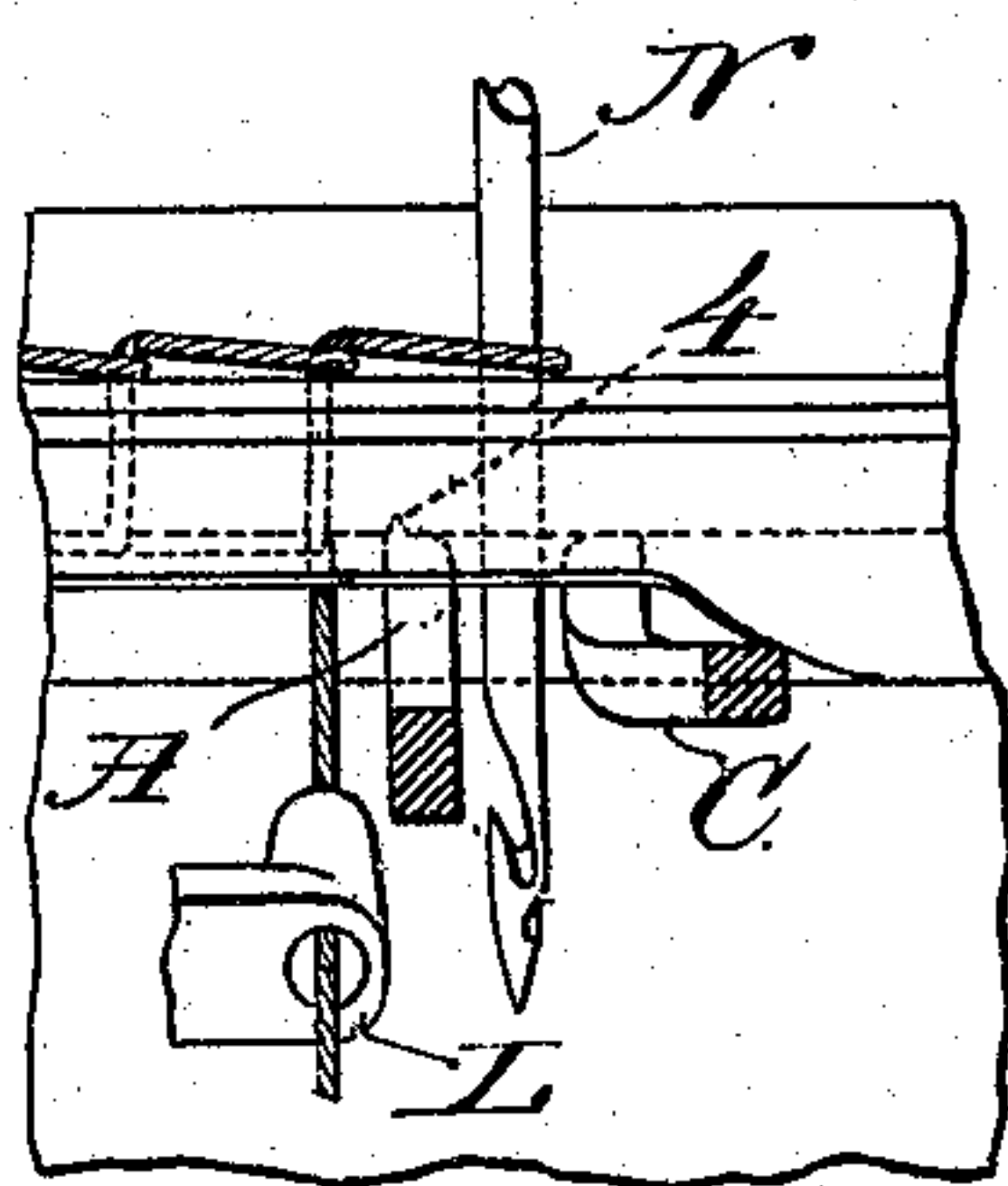
930,542.

Patented Aug. 10, 1909.

*Fig. 1.*



*Fig. 2.*



Witnesses:  
John F. B. Prinkert  
Garnum F. Dorsey

Inventor:  
Francis J. Freese  
by his Attorneys  
Phillips Van Curen & Fish



# UNITED STATES PATENT OFFICE

FRANCIS J. FREESE, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

## SHOE-SEWING MACHINE.

No. 930,542.

Specification of Letters Patent.

Patented Aug. 10, 1909.

Application filed October 7, 1903. Serial No. 176,063.

*To all whom it may concern:*

Be it known that I, FRANCIS JOSEPH FREESE, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Shoe-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 an improvement in sewing machines and more particularly sewing machines of the curved hook-needle, wax-thread type of which the commercial Goodyear welt and turn machine is an example.

In the Goodyear welt and turn machine the channel guide is constructed and arranged so that it engages the channel of the insole and supports and guides the work to the machine, the awl engages the work to feed the same, the awl and channel guide moving simultaneously in the direction of the feed to feed the work, the awl or feed point moving into the plane of the needle and withdrawing as the needle advances. This is more or less objectionable, owing to the fact that the channel guide is the only support which the shoe has to oppose the thrust of the needle, and this support being located upon one side of the needle does not prevent lateral twitching or jerking of the shoe by the needle when the needle advances to penetrate the work. This twitching or jerking of the shoe in the hand of the operator renders the correct presentation of the shoe to the machine more difficult than otherwise would be the case, and the object of the present invention is to produce an inseam sewing machine in which means are provided for engaging and supporting the work during the work-piercing movement of the needle upon both sides of the point of emergence of the needle so that the work is steadied and supported during such work-piercing movement.

The invention consists in the devices and combinations of devices hereinafter described and claimed.

Referring to the accompanying drawings illustrating the preferred embodiment of the present invention, Figure 1 is a front elevation of an inseam sewing machine embodying the present invention, and Fig. 2 is a plan view of a portion of the work showing the

relative positions of the channel guide, awl or feed point and needle during the time the needle is making its work-piercing stroke.

The present invention is adapted for use in connection with the Goodyear welt and turn machine and the embodiment thereof shown in the drawings is the Goodyear welt and turn machine as modified by the present applicant and illustrated and described in an application for Letters Patent of the United States filed the 9th day of February, 1898, Ser. No. 705,134. The invention, however, is susceptible of embodiment in other forms of welt and turn sewing machines, the illustration of the invention in connection with the applicant's modified welt and turn sewing machine being simply for the purpose of setting forth the embodiment which the applicant prefers.

Referring to the accompanying drawings the needle N, the looper L, the thread finger F, the back rest B, and welt guide W are arranged and operate in the same general manner as the corresponding parts of the Goodyear welt and turn machine which is illustrated and described with substantial accuracy in Letters Patent of the United States, No. 412,704, October 8, 1889, and to which reference may be had for a description thereof. The channel guide C is mounted on the channel guide lever 1 and is operated in the usual way from the cam 2 on the main shaft M of the machine, but its work-engaging end is arranged so that its position at the end of the feed movement is close to the position occupied by the needle, substantially as illustrated in Fig. 2 of the drawings. The work engaging end of the channel guide is preferably curved on the left-hand side as shown for a purpose hereinafter described in connection with the description of the operation of the machine. The feed point A is secured to the lower end of the awl lever 3 in the usual manner but its operating end is preferably made wider than the operating end of the usual awl of the Goodyear welt and turn machine, so that it engages somewhat more of the bottom of the channel. On the left-hand edge of the work-engaging end of the awl or feed point is provided a work-engaging point 4 which serves to engage the material to feed the same. The side of the edge of the awl or feed point A which is adjacent to the channel guide C is curved as shown for a purpose to be described. The awl is so mounted on the



awl lever 3 that at the end of its feed movement it occupies a position substantially as illustrated in Fig. 2 of the drawings with relation to the position of the needle. This has  
 5 necessitated changing the shape of the lower end of the looper lever 5 slightly so that the awl or feed point and the looper lever shall not interfere.

The operation of the sewing machine embodying the present invention is substantially the same as the operation of the said Goodyear welt and turn machine, except that the awl and channel guide at the end of the back feed engage the bottom of the channel  
 10 separated from each other by a short distance, which distance is sufficient to permit the needle to pass between them. After they have engaged the material they move to the left together, being carried by the feed  
 15 slide into the position with relation to the path of the needle shown in Fig. 2, and then they remain at rest during the forward movement of the needle, *i. e.* during the work-piercing movement, whereby they support the work upon opposite sides of the needle and prevent the work from being jerked  
 20 or twitched by the thrust of the needle thereagainst. The curved sides of the work-engaging edges of the channel guide and awl or feed point serve in case the needle is deflected by striking a tack to guide the needle back to its correct path. This tends to guide the needle during its work piercing stroke and to cause it to occupy more nearly  
 25 the same position at every stroke, conducing indirectly to the certainty of looping as the needle is held with greater certainty in proper position for the presentation of the thread by the looper. The channel being  
 30 opened by the channel guide, the awl or feed point can be made much thicker and stronger than heretofore so that it affords a rigid support for the work against the thrust of the needle. This arrangement of the  
 35 channel guide and awl with relation to the needle not only has the advantages above referred to of securing a good support for the work during the thrust of the needle, but it secures other advantages apparent to those  
 40 skilled in the art, such, for example, as convenience of presentation of the shoe to the machine and facility for sewing around curves.

The present invention is not limited to the

illustrated embodiment as it may be embodied in other and different forms without departure therefrom.

Having thus described the invention, what is claimed is:—

1. A shoe-sewing machine, having, in combination, a curved hook needle entering the work from the upper side, a looper, means for engaging the channel and supporting the work in the line of the seam upon both sides of the point of emergence of the needle there-  
 60 through, during the work-piercing movement of the needle, substantially as described.

2. A shoe-sewing machine, having, in combination, a curved hook needle, a looper, a channel guide and feed point, the channel guide and feed point being separated from each other to permit the needle during its forward movement to penetrate the work and emerge between the channel guide and  
 75 feed point, substantially as described.

3. A chain-stitch shoe sewing machine having, in combination, a curved hook needle entering the work from the upper side and emerging in the channel, a channel guide reciprocating with the feed movement and standing close at one side of the needle during the work-piercing stroke of the latter, and a feed point moving laterally with the channel guide to feed the work and then  
 80 dwelling in engagement with the bottom of the channel close to the needle on the opposite side from the channel guide during the work-piercing stroke of the needle so as to support the between-substance on the opposite side from the channel guide, substantially  
 85 as described.

4. A shoe sewing machine, having, in combination, a curved hook needle, a looper a channel guide and feed point, the feed point  
 95 being located alongside of but in advance of the channel guide and separated therefrom at the end of the work-feeding movement to permit the needle to emerge between the channel guide and the feed point, substantially  
 100 as described.

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

FRANCIS J. FREESE.

Witnesses:

HORACE VAN EVEREN,  
 ALFRED H. HILDRETH.