

(No Model.)

2 Sheets—Sheet 1.

E. E. BEAN.
SHOE SEWING MACHINE.

No. 524,986.

Patented Aug. 21, 1894.

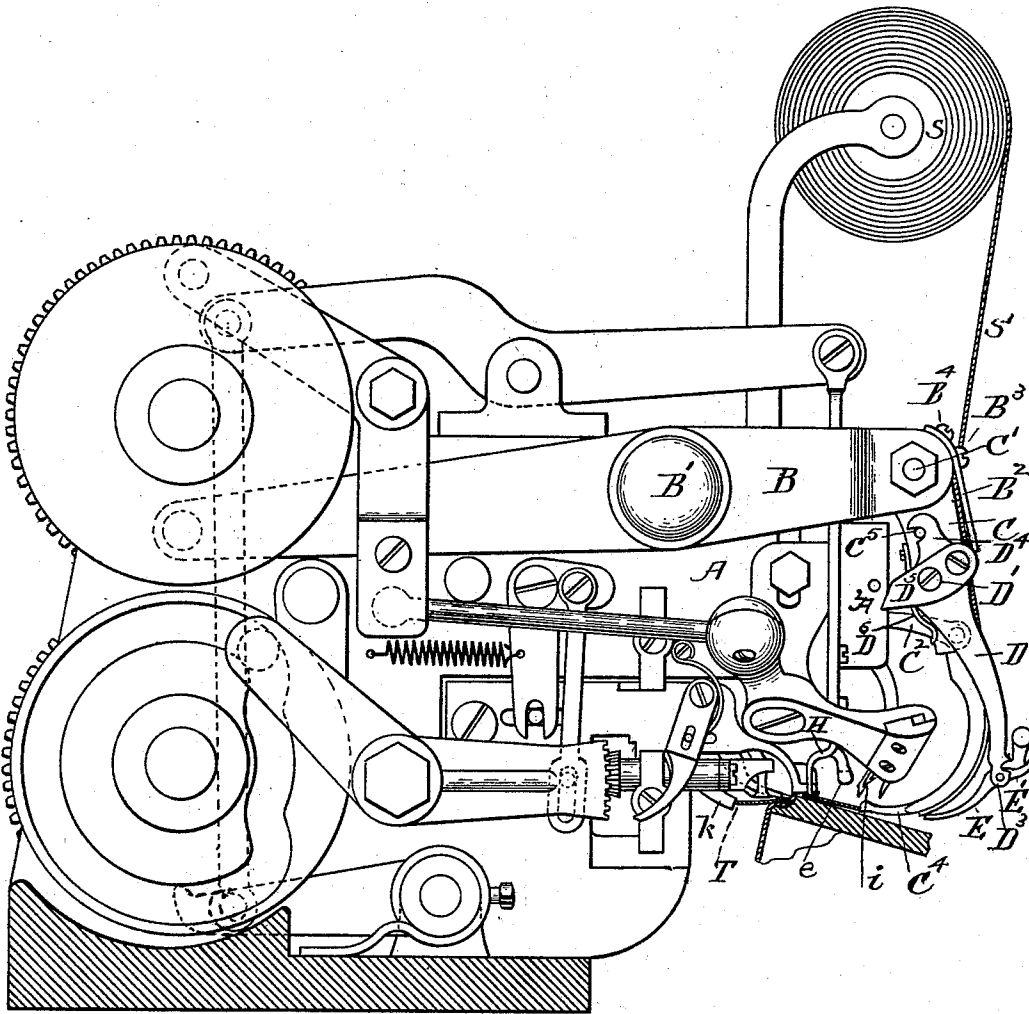


FIG. 1.

WITNESSES.

Frank G. Parker
Frank G. Hattie

INVENTOR

Edwin E. Bean.

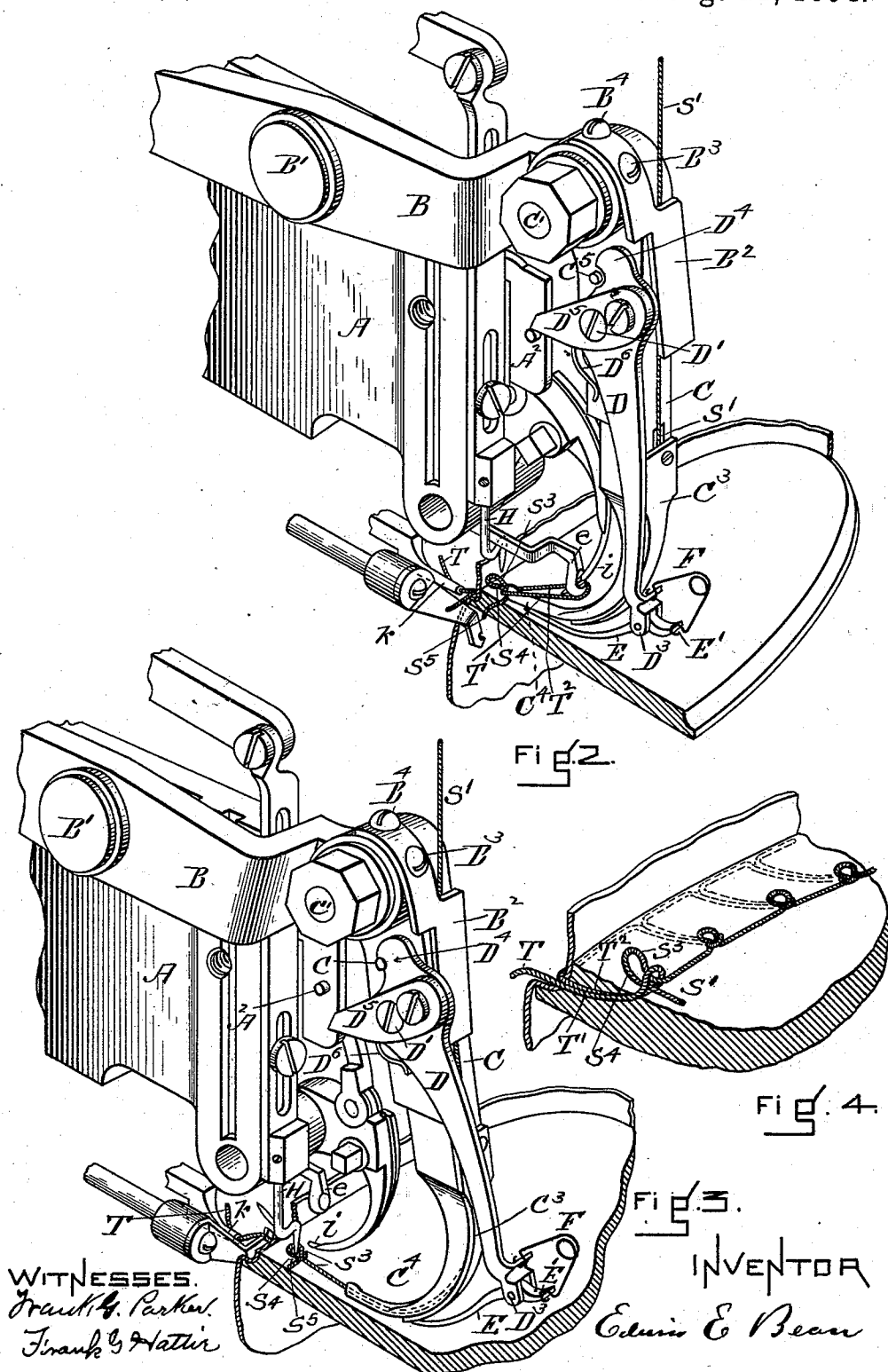
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2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

EDWIN E. BEAN, OF BOSTON, MASSACHUSETTS.

SHOE-SEWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 524,986, dated August 21, 1894.

Application filed April 13, 1894. Serial No. 507,431. (No model.)

To all whom it may concern:

Be it known that I, EDWIN E. BEAN, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful
5 Improvement in Shoe-Sewing Machines, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to attachments to be combined with the working parts of a shoe
10 sewing machine described in Letters Patent of the United States No. 513,048, dated January 16, 1894, subject, shoe sewing machine, the object being to make a shoe sewing machine that will rapidly make a lock stitch
15 having two threads, one of which only goes through the stock. This object I attain by means of the mechanism shown in the accompanying drawings, in which—

Figure 1 is a view in elevation showing the
20 principal parts of a shoe sewing machine, having my improvements. Fig. 2 is a perspective view showing the stitch forming parts, the stitch being partly formed. Fig. 3 is a perspective view showing the stitch forming
25 parts, the stitch being about complete. Fig. 4 is a perspective view showing a part of a shoe, illustrating the stitch and the method of making it.

In the drawings, A represents a part of the
30 frame of the machine and to which the moving parts are attached.

In the following description I refer to such
35 parts only as it may be necessary to an understanding of the working of the stitch forming appliances. The mechanism for operating such parts may be of the kind shown and described with patent above referred to, or of
40 any desirable construction.

B is a lever pivoted at B' to the frame A of
45 the machine; a thread clamp B² is rigidly attached to the front end of this lever by screws B³ B⁴ or otherwise.

C C⁴ is a pendent arm pivoted to the lever
50 B at C'. This arm C C⁴ moves bodily up and down with the front end of the lever B and has in addition a swinging movement imparted to it by the link C² which is operated by a
55 cam or other suitable mechanism; a plate C³ is attached to the front of the arm C C⁴ and

is so curved and arranged that it, together
55 with the arm C C⁴ forms a thread holder and carrier for the second thread S'.

For convenience in description, I designate the thread S', the second thread. This thread
60 forms the "bite" (see S³ S⁴ Fig. 4) and engaging with the loop T' T² of the thread T (first thread) and makes a lock stitch of it. The second thread passes downward in a
65 channel made on the under side of the arm C C⁴ and is pushed forward in said channel by the thread pushing arm E. This pushing
70 forward of the thread S' causes it to form a loop S³ S⁴ in front of the end of the carrier C⁴ which forms a bite or lock for the stitch formed by the first thread T. The pushing
75 forward of the second thread to form the "bite" is effected by the following described device: The thread pushing arm E' E is pivoted at D³ to the lever D while the said lever
80 D is pivoted in turn to the pendent arm C C⁴ at D' and has an arm D⁵ attached to it, so arranged that as the pendent arm C is moved
85 downward by the lever B and inward by the link C², the arm D⁵ will come in contact with the pin A² which will stop its downward
90 movement and thus cause the lever D to swing so as to throw its lower end inward; this action will carry the feeder E in the
95 same direction, which in turn will take the "second" thread with it and thus form the loop or "bite" S³ S⁴. The feeder E E' is held in contact with the thread by the spring F. Now the loop-bite being formed as shown in
Fig. 2, the loop-bite holder H will descend so as to enter and hold the loop-bite as shown
in Fig. 3. The pendant arm C C⁴ will be swung outward by the motion of the link C². This movement will cause the thread to be
drawn taut, since the part S⁵ is held by a previously made stitch, and that part of the
thread that is between the holder H and the
reel S will be clamped and held by the clamp
plate B² and the pendent arm C; for the reason that the clamp B² is relatively stationary while the arm C C⁴ is made to swing against
it, thus pinching the thread S² and giving it the required tension for insuring the proper
drawing up of the loop-bite. The lever D is

held in its normal position by a spring D⁶ and a pin C⁵ which limits the movement of the upper end D⁴ of the lever D.

While the above described formation of the loop-bite from the "second" thread S' has been taking place, the stitch from the first thread T has also been made as I will now explain.

The thread T or first thread comes through the looper *k* which passes it around the point of the needle *i* so as to engage with the hook of the needle; now the needle retreats and draws the thread through the stock and forms a long loop T' T² (Fig. 2); this loop is thrown off the hook of the needle by the cast-off *e* and immediately the take-up (not shown) operates to draw the loop tight down upon the loop-bite and the stitch is complete (see Fig. 3).

In the above description, the presser-foot, feed device, and awls, have not been described as they form no part of my present invention and are fully illustrated and described in the Patent No. 513,048 above referred to.

I claim—

1. In a sewing machine, the combination of

the lever B, carrying the thread clamp B², and the pendent arm C C⁴ pivoted to the lever B, and adapted to swing back and forth in relation to the thread clamp B² and therewith form a tension device for the thread S' S²; with the clamp B² substantially as and for the purpose set forth.

2. In a sewing machine, the combination of the lever B, carrying the thread clamp B² and the pendent arm C C⁴ pivoted to the lever B and having attached to it a plate C³ adapted to act in connection with channeled part C⁴ of the arm C C⁴ as a thread-holder and carrier; with the lever D pivoted to pendent arm C C⁴, thread pushing arm E, arm D⁵ attached to said lever D and pin A², all adapted to operate together substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 30th day of March, A. D. 1894.

EDWIN E. BEAN.

Witnesses:

FRANK G. PARKER,
FRANK G. HATTIE.