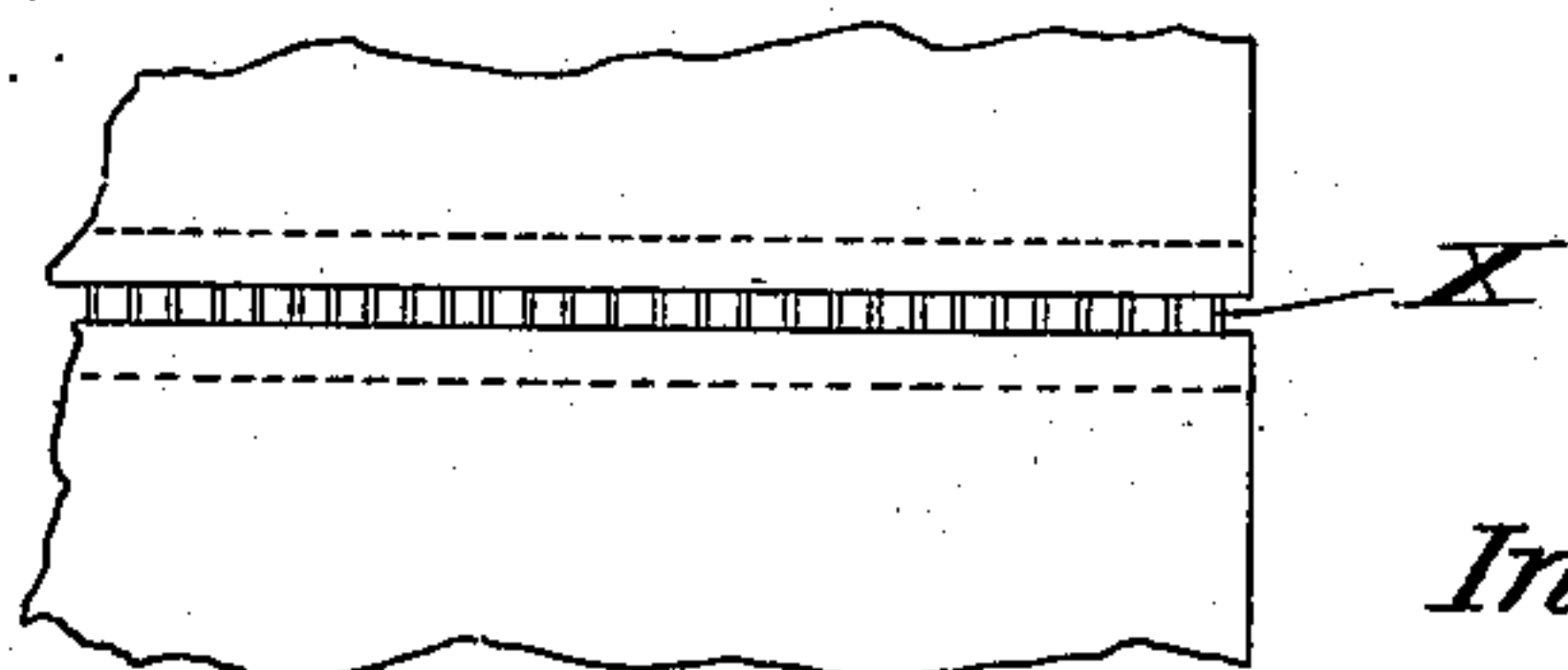
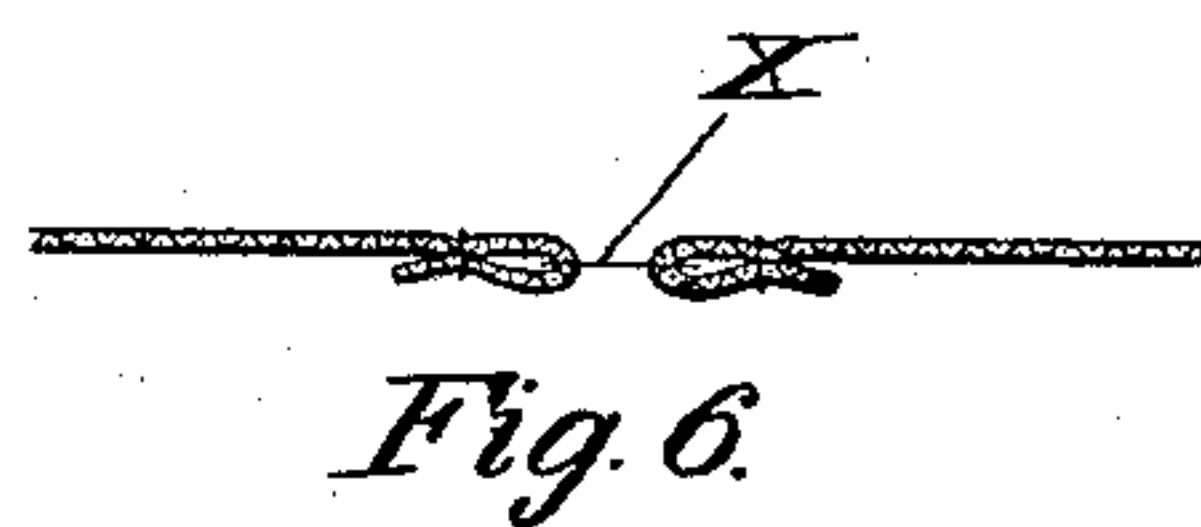
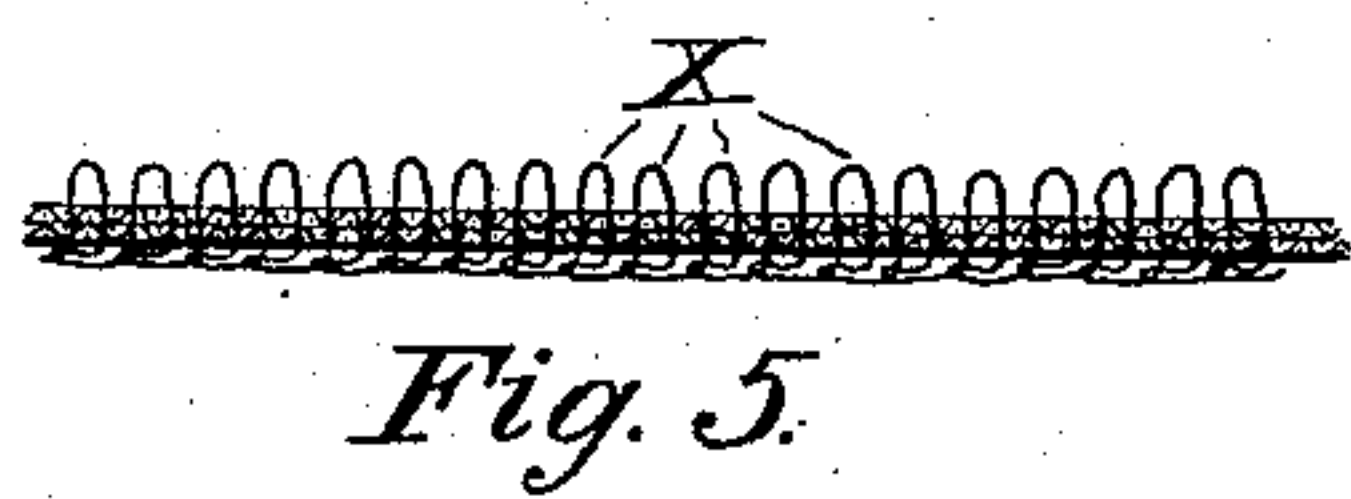
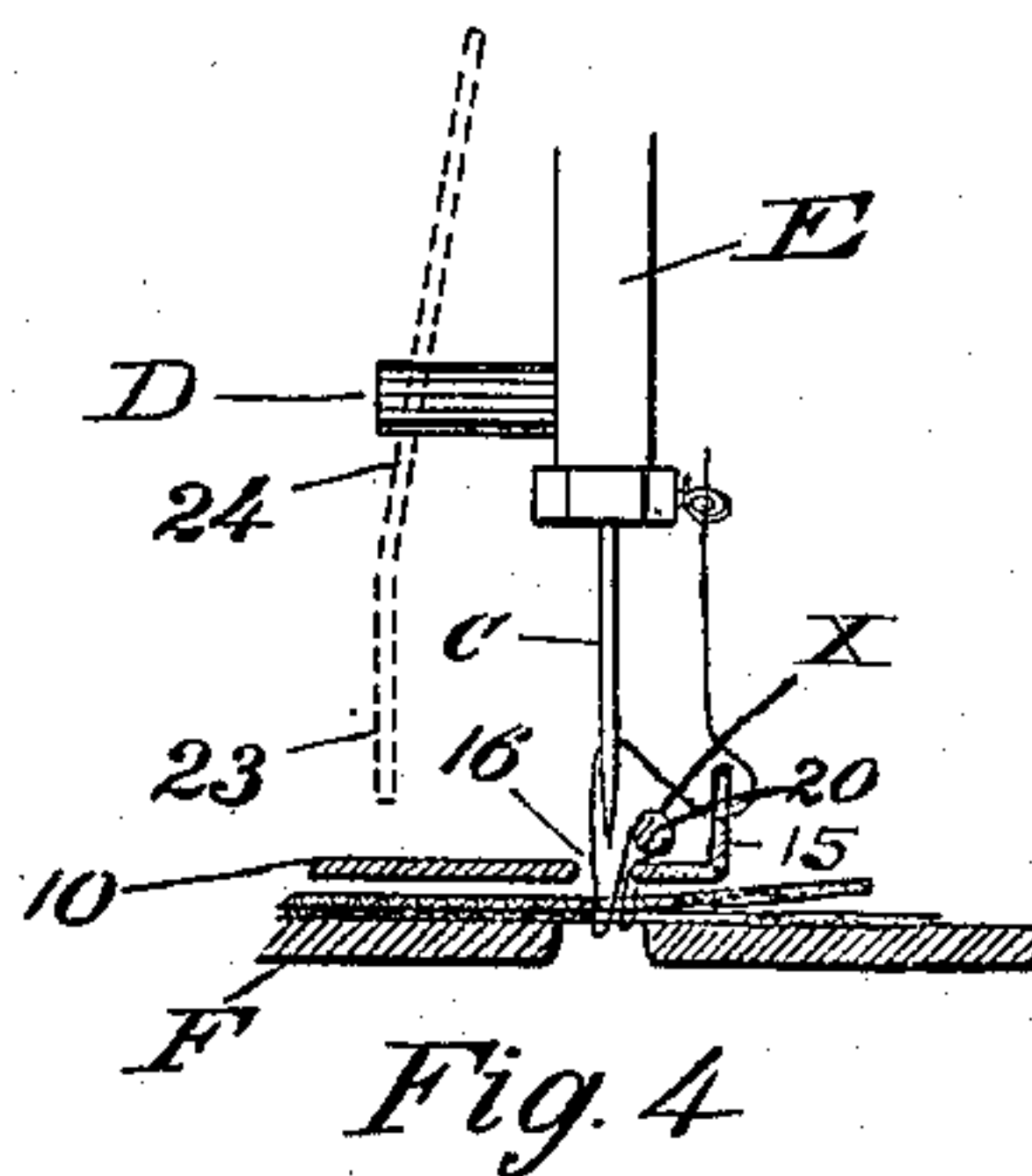
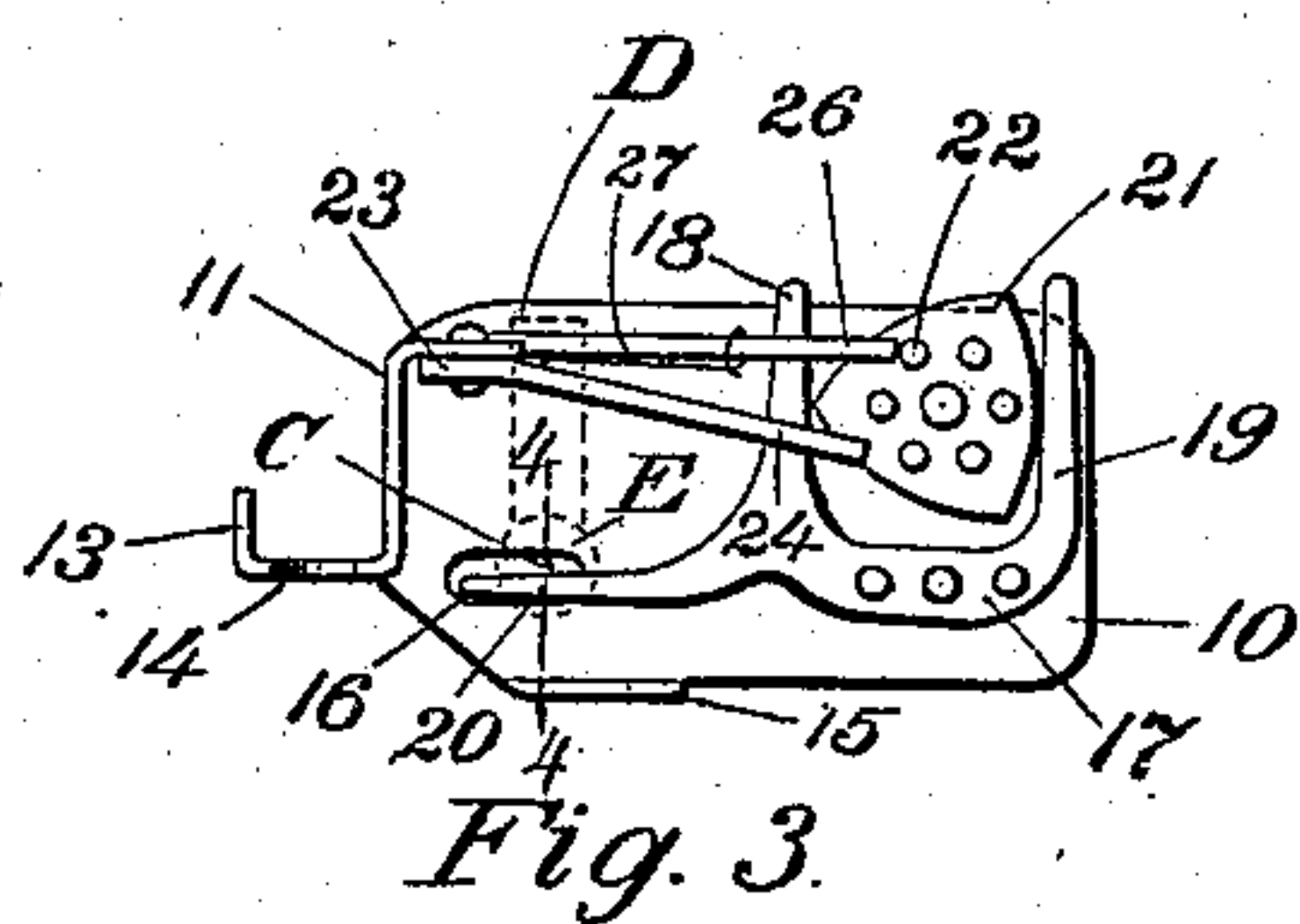
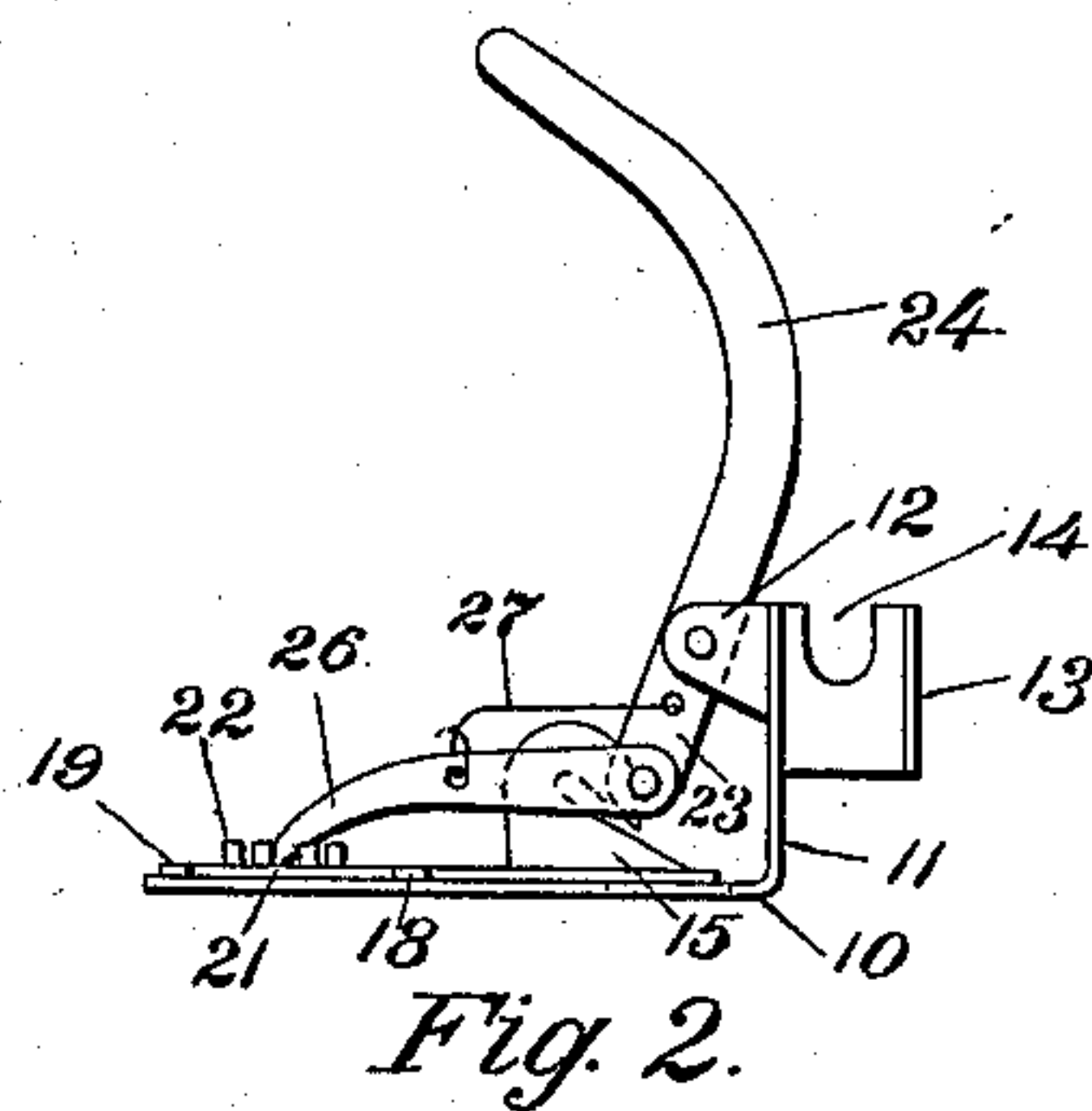
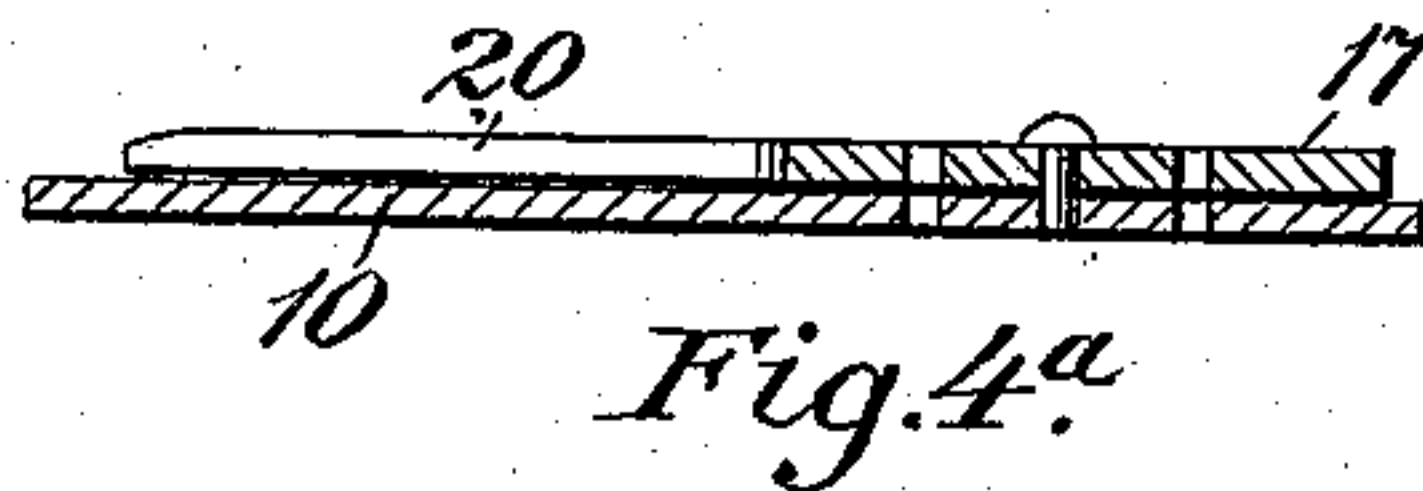
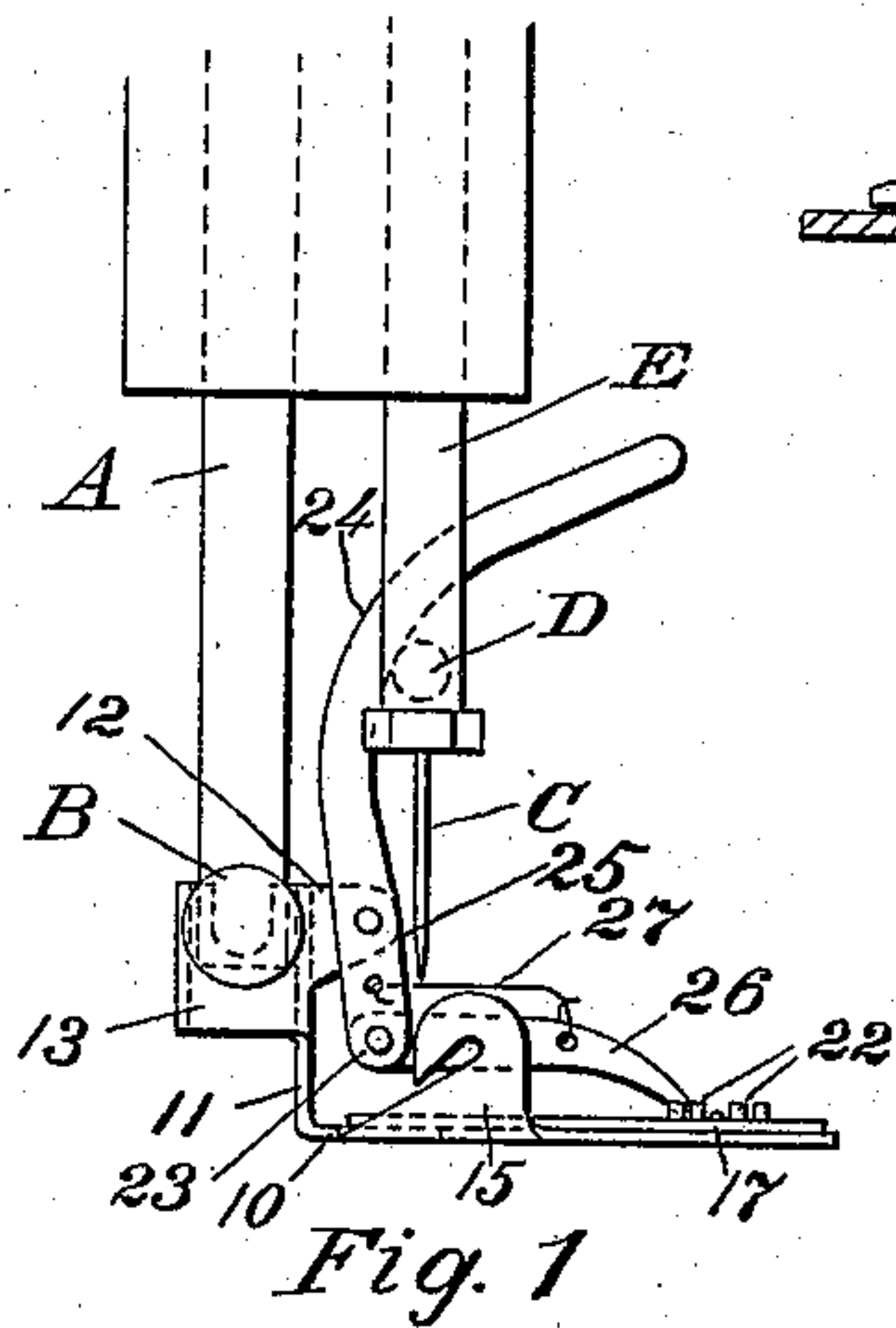


H. A. EICHORN.
HEMSTITCHING DEVICE.
APPLICATION FILED MAY 13, 1907.

915,945.

Patented Mar. 23, 1909.



Witnesses:

William Wiley.

Blanche L. Gilbride

Fig. 7.

Inventor:

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UNITED STATES PATENT OFFICE.

HENRY A. EICHORN, OF BOSTON, MASSACHUSETTS.

HEMSTITCHING DEVICE.

No. 915,945.

Specification of Letters Patent.

Patented March 23, 1909.

Application filed May 13, 1907. Serial No. 373,321.

To all whom it may concern:

Be it known that I, HENRY A. EICHORN, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Hemstitching Devices; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to improvements in devices, designed to be attached to sewing machines whereby two pieces of cloth may be sewed together by slack stitches whereby such pieces of cloth may be separated a distance equal to the length of such slack stitches and, after suitably folding and securing the edge portions of such pieces of cloth, producing a simulated hemstitch effect.

One object of the invention is to so construct a hemstitching device for sewing machines, that the feed of the sewing machine may be varied without affecting the operation of the hemstitching device.

Another object of the invention is to simplify the construction of devices of this nature and to reduce the cost of construction.

Another object of the invention is to so construct a hemstitching device of this character, that the slack holding means may be adjusted to take up more or less slack thread.

Other objects of the invention will appear from the following description.

The invention consists in such peculiar features of construction and combination of parts as shall hereinafter be more fully described and pointed out in the claims.

Figure 1, represents a front elevation of the improved hemstitching device shown in its relation to the presser foot and needle bar of a sewing machine. Fig. 2, represents a rear elevation of the device. Fig. 3, represents a plan view of the same. Fig. 4, represents a diagrammatic view showing the slack thread holder in its relation to the needle. Fig. 4^a, represents a sectional view of a portion of the plate 10 and yoke 17 and the pivot connecting the same, showing the additional pivot holes in said plate and yoke to which the pivot may be changed to adjust the length of the stroke of said yoke and its thread taking finger. Fig. 5, represents a longitudinal section of the work approximately illustrating the appearance of the slack stitches as the work is delivered from the machine. Fig. 6, represents an end

view of parts of the work as finished. Fig. 7, represents a plan view of the same.

Similar numbers of reference designate corresponding parts throughout.

As shown in the drawing in its preferred form, 10 indicates a base plate having the upwardly extending end plate 11 furnished with the ear 12 and the member 13 having the slot 14, adapted to fit over a clamping screw whereby the device may be secured to the presser foot bar or other part of a sewing machine. At one edge of the base plate 10 is the thread guide 15 and, preferably adjacent the end plate 11, is located the needle opening 16 formed through the material of the plate 10 and extending approximately in the direction of the feed of the cloth in the sewing operation.

On the plate 10 is adjustably pivotally mounted the yoke 17 having the arms 18 and 19 and the thread taking finger 20 and, on said plate 10, between the arms 18 and 19 of the yoke 17 is rotatably mounted the cam 21 having the pins 22—22 which extend upwardly therefrom.

Pivotally mounted on the ear 12 is the actuating lever 23, having the curved arm 24 and the lip 25, and to the lower portion of this lever is pivoted the pawl 26, the free end of which is pressed downward by the spring 27 secured to said arm 24 and to the pawl 26.

This device is preferably secured to the ordinary presser foot bar A of any ordinary sewing machine by means of a clamping nut B, having a shank adapted to be received by the slot 14 of the member 13, so that said device may be raised or lowered by the ordinary raising or lowering of the presser foot bar. By such mounting the device is so positioned with regard to the path of the needle C that said needle, in its movement, passes centrally through the needle opening 16 as is indicated by the dot C in Fig. 3 of the drawing, and the projection D from the needle bar E extends between the curved arm 24 and the lip 25 of the lever 23.

In the operation of the machine with this device applied thereto, the feed and tension are regulated as in ordinary hemstitching. Two pieces of cloth are fed between the plate 10 and the work plate of the sewing machine, indicated at F in Fig. 4, and as the needle bar E is reciprocated, by the usual means, the projection D strikes alternately the curved arm 24 and the lip 25, of the lever 23 to effect the vibration of such lever. After the

first downward movement of the needle bar and at the final part of the next upward stroke the projection D strikes the curved arm 24 and effects the swinging of the lever 23 whereby the spring pressed pawl 26 engages one of the pins 22 of the cam 21 and rotates said cam to effect the vibration of the frame comprising the yoke 17, the arms 18 and 19 and the thread taking finger 20 to swing finger 20 across the path of the needle and to carry the thread to one side. On the next downward movement of the needle a loop is formed, which extends to and around the finger 20; this loop being the slack thread indicated at $x-x$ in Figs. 4, 5, 6 and 7, and as the needle bar moves downward the projection D strikes the lip 25 of the lever 23 and effects the backward swing of this lever and the engagement of the pawl 26 with another of the pins 22 of the cam 21. When the needle bar now moves upward sufficiently to carry the end of the needle above the path of the finger 20, the projection D again engages the curved end 24 of the lever 23 to again advance the pawl 26 and partially rotate the cam 21, by engagement with one of its pins 22, whereby the finger 20 is swung across the path of the needle to the opposite side of the opening 16, to carry the thread extending from the needle to the work in that direction; approximately at this time, that is during the upward stroke of the needle bar and the lateral movement of the finger 20, the cloth feed moves the work forward and effects the drawing of the slack thread loop x from the end of the finger, and such loop passes down through the needle opening 16 and advances with the work beneath the plate 10. After the sewing operation is completed, the pieces of cloth are creased, or folded, along the lines of stitching and the narrow edges are secured to the main portions as is usual in hemstitching to produce the effect indicated in Figs. 6 and 7 of the drawings.

It is of course evident that the finger 20 may be vibrated in unison with the movement of the needle by other means than that herein shown, and that the length of the slack stitches depends upon the thickness of the finger 20 and the extent of its lateral movement. Within limits, adjustment of the swing of this finger may be effected by

changing the position of the pivot on which the yoke 17 swings lengthwise thereof, to increase or diminish the length between the end of said finger 20 and said pivot.

Having thus described my invention I claim as new and desire to secure by Letters Patent.

1. A hemstitching device for sewing machines comprising a plate adapted to be secured in position on a sewing machine and having a needle passage extending in line with the direction of feed of the work, a finger pivotally mounted on said plate, and extending longitudinally of the needle passage, said finger having a pair of laterally extending arms, and a cam rotatably mounted between said arms and adapted to effect the vibration thereof when rotated.

2. A hemstitching device for sewing machines comprising a presser plate adapted to be secured in position on a sewing machine and having a needle passage, a finger pivotally mounted on said plate, to swing across said passage, and having a pair of arms, a cam rotatably mounted between said arms and adapted, in its rotation, to bear against said arms alternately, an arm pivotally mounted on said plate, and adapted to be actuated by a moving part of the sewing machine, and a spring pressed pawl pivotally mounted on said arm and engaged with said cam.

3. The combination with a plate having a needle passage and an upwardly extending member adapted to be secured to the presser bar of a sewing machine, of a yoke pivotally mounted on said plate and having a pair of arms and a thread engaging finger, a cam rotatably mounted between said arms and having upwardly extending pins, a lever pivotally mounted on the upwardly extending member of said plate and having a curved upper end, and a spring pressed pawl pivotally mounted on said lever and adapted to engage one of said cam pins as said lever is swung, as and for the purpose described.

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

HENRY A. EICHORN.

Witnesses:

H. J. MILLER,
B. L. GILBRIDE.