

No. 662,416.

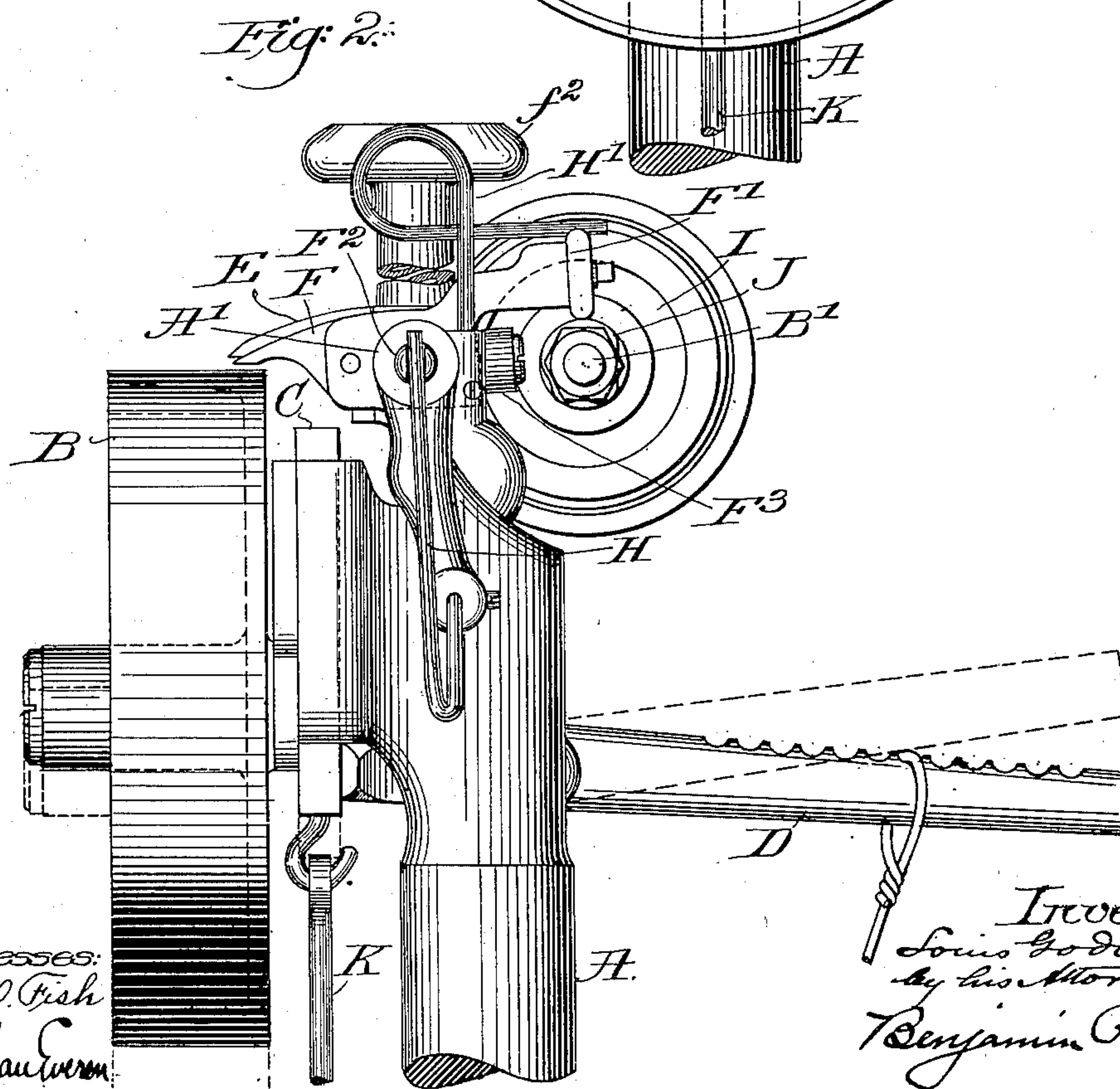
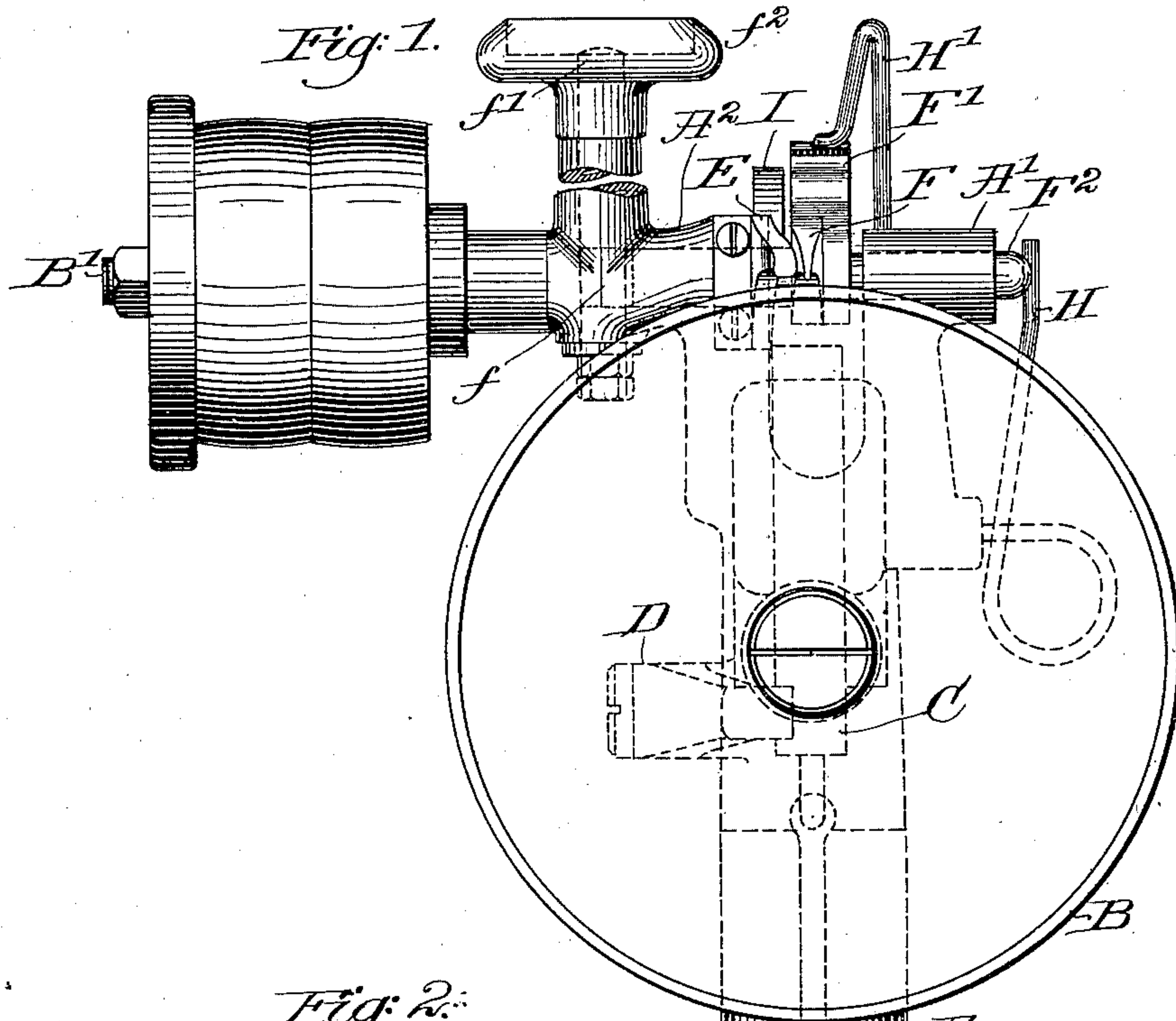
Patented Nov. 27, 1900.

L. GODDU.
STITCH SEPARATOR.

(Application filed Aug. 31, 1900.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:
Fred W. Fish
Horace Van Euren

Inventor
Louis Goddu
by his Attorney
Benjamin Phillips

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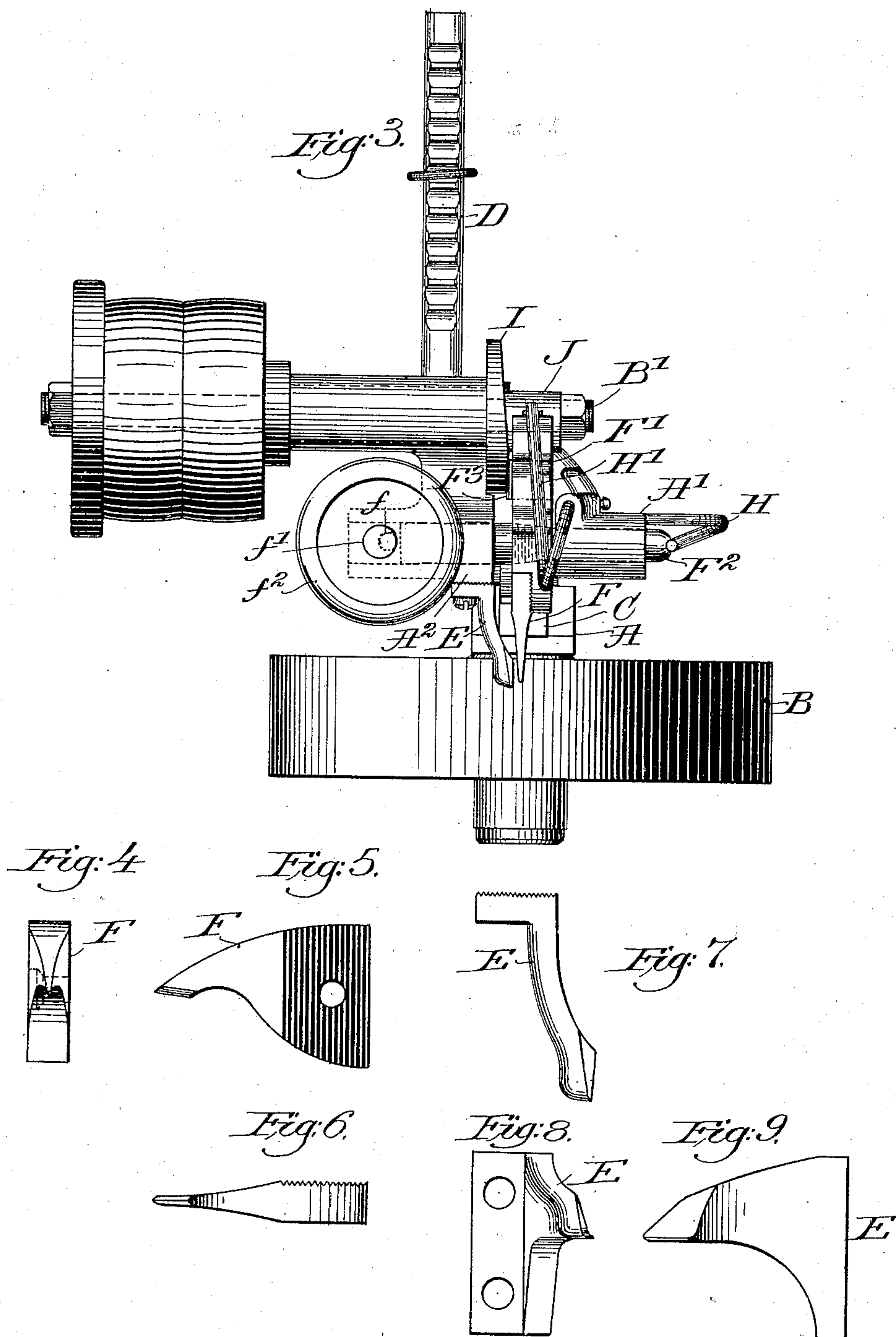
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UNITED STATES PATENT OFFICE.

LOUIS GODDU, OF WINCHESTER, MASSACHUSETTS, ASSIGNOR TO THE GODDU SEWING MACHINE COMPANY, OF PORTLAND, MAINE.

STITCH-SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 662,416, dated November 27, 1900.

Application filed August 31, 1900. Serial No. 28,630. (No model.)

To all whom it may concern:

Be it known that I, LOUIS GODDU, a citizen of the United States, residing at Winchester, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Stitch-Separators; 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 stitch-separating machines or "stitch separating and indenting machines," as they are sometimes called, and more especially to that class of such machines by which the indenting operation is performed after the seam has been finished.

The object of the invention is to produce a machine in which the number of operating parts is reduced to a minimum, which shall be of simple and cheap construction, and which shall nevertheless perform its intended function in a certain and satisfactory manner.

With this object in view the invention consists in the devices and combinations of devices hereinafter described and claimed.

A preferred form of my invention is illustrated in the accompanying drawings, in which—

Figure 1 represents a side elevation of a machine embodying the same. Fig. 2 represents an end elevation, and Fig. 3 represents a plan view, of the machine shown in Fig. 1. Figs. 4, 5, and 6 are detail views illustrating the indenting-tool, and Figs. 7, 8, and 9 are detail views illustrating the upper work-support.

The machine embodying my invention comprises a yieldingly-mounted lower work-support which supports the work under the action of the indenting-tool, an upper work-support cooperating therewith, and a vertically and horizontally movable indenting-tool for separating the stitches and feeding the work.

To compensate for the different lengths of stitches found in various styles of work and also to compensate for varying lengths of stitches occasionally found in the same piece

of work, I provide a mechanism within easy reach of the operator whereby the length of feed may be readily controlled during the operation of the machine.

Referring to the drawings, in which like characters of reference indicate like parts, the lower work-support is shown as a roller B, mounted to revolve freely on a stud projecting from a slide C, adapted to reciprocate vertically in guideways in the frame A. This work-support is normally pressed upwardly by means of a coiled spring (not shown) connected to one end of a lever D, pivoted to the main frame, the other end of the lever D engaging a notch in the side of the slide C. (See Fig. 1.) As shown in Fig. 2, the upper side of the lever D is provided with a series of notches, with one of which a looped wire leading from the coiled spring engages.

The upper work-support E is securely fastened to the frame and extends horizontally a suitable distance over the lower work-support B. This upper work-support is shown separately in Figs. 7, 8, and 9, from which it will be seen that the face portion of the support, which engages the frame, is provided with serrations which engage corresponding serrations on the frame to thus secure a firm unyielding connection.

The indenting-tool F (shown separately in Figs. 4, 5, and 6) has a serrated surface adapted to engage a correspondingly-serrated surface at the outer end of a lever F', to which it is rigidly secured. This lever is rigidly mounted upon a pivot-pin F², mounted so as to be capable of endwise as well as oscillating movements in bearings A' A² of the frame. This pivot-pin is pressed to the left against an adjustable stop, to be described, by means of a spring H, fastened to the frame and bearing against the projecting end of the pin. Endwise movement against the force of the spring H is given to the pin by means of a face-cam I, secured to the driving-shaft B' and bearing against a friction-roll F³, mounted on the inner end of the lever F'. The adjustable stop for limiting the endwise movement of the pin F² under the force of the spring H consists of an eccentric-pin f, formed in a vertical shaft f', mounted in bearings in the

main frame, so as to extend across the line of movement of the pin F^2 . This shaft carries a hand-wheel f^2 at its upper end in convenient position to be reached by the operator in front of the machine.

To impart to the indenting-tool the requisite up-and-down movements for separating the stitches, I provide a cam J on the driving-shaft adjacent the cam I and arranged to act on the under side of the inner end of the lever F' in whatever position it is shifted by the cam I. A spring H' , secured to the bearing A' and arranged to bear against the upper side of the outer end of the lever F' , is provided for keeping the end of the lever in contact with the cam.

So far as I am advised of the state of the art in all stitch-separating machines which have heretofore been devised the separating-tool has been arranged to have but one indenting movement for each stitch interval.

Owing to its elasticity that portion of the material displaced by the indenting-tool has a tendency to resume its original position as the indenting-tool rises from the work, thus partially destroying the effect produced by the downward movement of the tool. I have found that this tendency of the material to resume its original position can be overcome and greatly superior results produced by causing the indenting-tool to act a second time on the material between adjacent stitches. In order to accomplish this result, I form the cam J with a number of cam-surfaces, whereby the lever F' , and consequently the indenting-tool, is moved up and down a number of times during each revolution of the driving-shaft. As shown in Fig. 2, the cam is arranged to cause the indenting-tool to act on the material between adjacent stitches three times, although it will be obvious that it could be formed to cause the tool to act a greater or less number of times.

The operation of the machine illustrated and described as an embodiment of my invention is as follows: By pressing on a treadle connected by means of the rod K to the slide C the operator depresses the lower work-support B sufficiently to allow the insertion of the projecting edge of a sewed shoe-sole. The treadle is then released, the support B rising and clamping the shoe-sole against the upper support E. Starting with the indenting-tool up and at the extreme limit of its movement to the right of Fig. 3, as the driving-shaft revolves the cam J acts on the lever F' to depress the indenting-tool into the space between two adjacent stitches. The raised portion of the cam I now leaves the lever F' , and the spring H, acting on the pin F^2 , moves the indenting-tool, together with the work, to the left until stopped by the pin F^2 contacting with the stop f . The cam J now acts upon lever F' to raise and lower the tool F a number of times corresponding to the number of cam-surfaces.

As the driving-shaft completes its revolution the tool F is raised by the cam J and returned to its original position at the right by the cam I. By means of the hand-wheel f^2 the operator can adjust the position of the stop f to vary the length of feed for different lengths of stitches found in various styles of work and can also by means of this adjustment vary the length of feed to compensate for irregular stitching.

It will be seen that by my present invention I provide a machine capable of producing accurate and satisfactory work, which is composed of few working parts, is simple in construction and operation, and which can be manufactured at a fraction of the cost of machines heretofore used.

Having thus described my invention and explained the operation thereof, what I claim as new, and desire to secure by Letters Patent, is—

1. A stitch-separating machine having in combination, a work-support, an indenting-tool, and mechanism for imparting to the tool a plurality of indenting movements for each stitch interval to indent the material between adjacent stitches, substantially as described.

2. A stitch-separating machine having, in combination, work-feeding and stitch-separating devices, and mechanism for actuating said devices to impart to the stitch-separating device a plurality of indenting movements for each feed movement of the feeding device, substantially as described.

3. A stitch-separating machine having, in combination, a work-support, an indenting-tool having vertical and lateral movements with relation to the work-support, and mechanism for actuating the tool to give it backward and forward lateral movements to feed the work, and a plurality of upward and downward vertical indenting movements for each backward and forward lateral movement, substantially as described.

4. A stitch-separating machine having, in combination, a work-support, an indenting-tool, a lever to which the indenting-tool is secured, a pivot-pin capable of endwise movement upon which the lever is rigidly mounted, a cam bearing against the side of the lever to move the pin in one direction, a spring for moving the pin in the other direction, and a second cam engaging the lever for imparting thereto oscillatory movements whereby the indenting-tool is actuated to indent and feed the work, substantially as described.

5. A stitch-separating machine, having, in combination, a work-support, an indenting-tool, a lever to which the indenting-tool is secured, a pivot-pin capable of endwise movement upon which the lever is rigidly mounted, a cam bearing against the side of the lever to move the pin in one direction, a spring for moving the pin in the other direc-

tion, an adjustable stop for limiting the movement of the pin under the action of the spring, and a second cam engaging the lever for imparting thereto oscillating movements
5 whereby the indenting-tool is actuated to indent and feed the work, substantially as described.

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

LOUIS GODDU.

Witnesses:

HORACE VAN EVEREN,
ALFRED H. HILDRETH.