

(No Model.)

J. E. CRISP.

LASTING AND FASTENING MACHINE.

No. 264,247.

Patented Sept. 12, 1882.

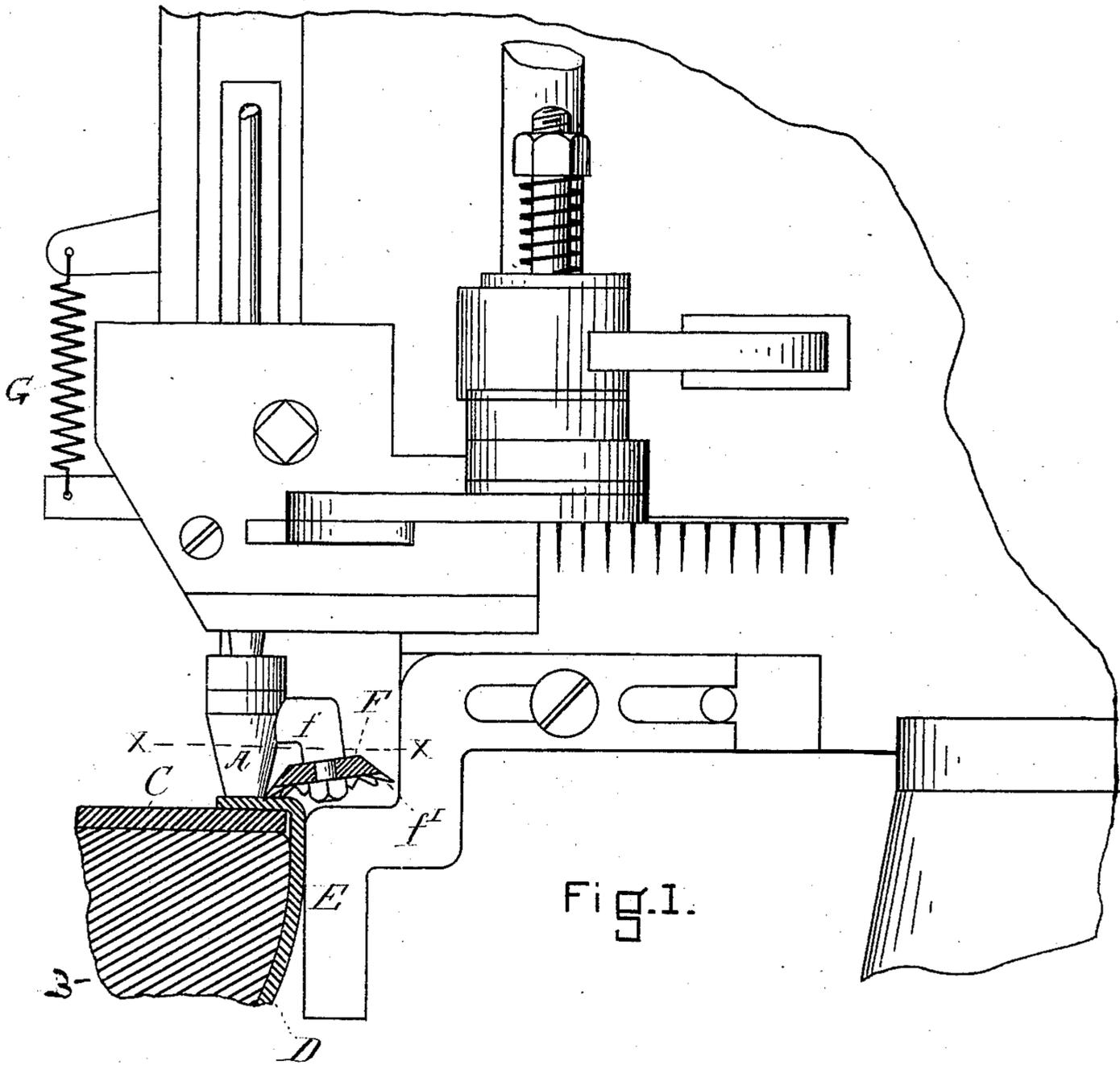


Fig. 1.

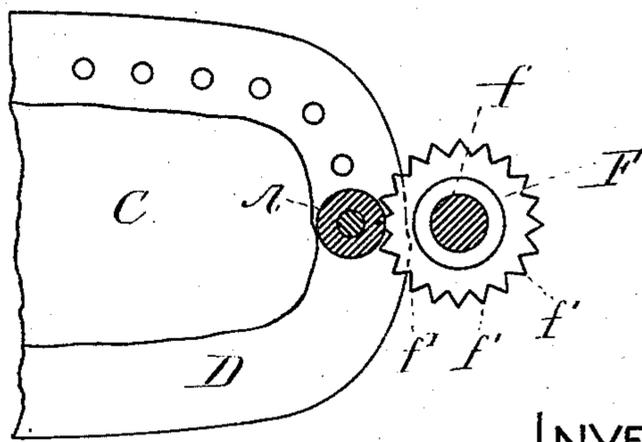


Fig. 2.

WITNESSES

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# UNITED STATES PATENT OFFICE.

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## LASTING AND FASTENING MACHINE.

SPECIFICATION forming part of Letters Patent No. 264,247, dated September 12, 1882.

Application filed January 6, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH E. CRISP, of Boston, in the county of Suffolk and Commonwealth of Massachusetts, a citizen of the United States, have invented a certain new and useful Improvement in Lasting and Fastening Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification in explaining its nature, in which—

Figure 1 is a side elevation of a portion of the fastening driving machine, showing in vertical section a part of the last and a part of the device for straining the upper thereon. Fig. 2 is a plan view below the line  $xx$  of Fig. 1.

This invention is an improvement upon those described in Letters Patent No. 246,437 and No. 248,544, granted Erastus Woodward, and in his application for Letters Patent allowed November 1, 1881. The machine for driving fastenings is that described in said allowed application, and the manner of actuating the machine is that described in the said Patent No. 248,544—that is, the machine is discharged or set in operation by the nozzle. It is immaterial, however, for the purposes of this invention that the machine should be so discharged, as I may use any of the devices described in the pending applications of Erastus Woodward and myself; and, in fact, I may use any suitable machine for driving fastenings in connection with the said feature of the invention which I am about to describe. It is shown in connection with the said Woodward tacking-machine simply for the purposes of convenience in illustrating its use.

The jack which I prefer to employ (not shown in the drawings) is that described in the said Letters Patent No. 248,544, and in my pending application; but any other jack for presenting the work to the nozzle of the machine may be used in lieu thereof without departing from the spirit of my invention.

With a machine that is organized as described in said Patent No. 248,544 the operator, in the process of lasting, draws with his thumb and fingers, or with pinchers, the upper about

the last and holds its edge upon the surface of the insole while the fastening is driven.

My invention consists in a device attached to the fastening driving machine preferably, and adapted to stretch or draw the upper upon the last, or to assist in so stretching or drawing it, and to hold it in position upon the surface of the insole while the fastening is driven. I have represented this device in the form of a wheel or disk having downwardly and outwardly projecting teeth or spurs, which is pivoted in relation to the nozzle of the machine, so that upon the presentation of the work thereto the upper shall come in contact with the wheel, and by a slight sidewise inward movement in relation thereto shall cause the wheel to be revolved, thereby causing the teeth or spurs with which the upper is first brought in contact to be advanced from the edge of the last or insole inwardly toward the nozzle, thereby drawing or straining the upper to the surface of the last. The fastening is then driven, thereby securing to the insole the part or section of the upper which has been thus lasted. The last is then moved horizontally, and in so doing the wheel is revolved and continues to act to draw the upper upwardly and inwardly and fit it to the last and hold its edge upon the surface of the insole, as many steps in the horizontal movement being made as necessary for the purpose of driving the fastenings.

In the drawings, A is the nozzle. B is the last; C, the insole; D, the upper; E, the yielding guide described in said Patent No. 248,544, but curved or offset at its upper end to provide room for the wheel F. This wheel is represented in the drawings as pivoted to the arm or bracket  $f$ , projecting outwardly and downwardly from the nozzle, and the axis of the wheel is a little inclined from a vertical line. I have represented the wheel in the drawings as provided with spurs or teeth  $f'$ . The wheel is represented as secured to the nozzle, in order that it may be lifted therewith in the act of discharging the machine or setting it in operation; and when the wheel is thus attached to a vertically-moving nozzle it will be necessary to make the spring G a little stiffer than

would otherwise be desirable, as it is essential that the wheel be not too easily lifted, as there is some upward pressure thereon, of course, in causing it to do its work. As above stated, 5 however, it is not essential that the wheel be fastened to the nozzle, or that the machine be discharged by the vertical movement of the nozzle, for in lieu of this construction the machine may be discharged in any desirable way, 10 and the wheel may be attached to any part of the frame-work of the machine or to any other support. It is not necessary, either, to provide the wheel with teeth or to locate it in relation to the nozzle, as represented, or to incline its 15 axis, and, if desirable, the nozzle itself may be used as its axis.

The wheel may be serrated upon its under surface, or it may be dish-shaped, or it may have a plane surface. It may be upon one side 20 of the nozzle or upon the other, and the principle of its operation will continue the same.

Of course, in lieu of the wheel, I may use any equivalent therefor which shall act automatically by the movement of the work in relation thereto, as indicated, to cause the upper 25 to be drawn upon the last and its edge held upon the surface of the insole during the driving of the fastening.

It will be noticed that, in addition to the 30 drawing and holding of the upper to the last, this device accomplishes another result, which effects something of an improvement in operation, as compared with the machine described in Patent No. 248,544, in that it is not nec- 35 essary to lower the last or jack from the nozzle for each fastening driven, or for each series of two or three fastenings driven, as is necessary when the upper is drawn up and held by pinchers or the hand of the operator.

It will be observed that by the horizontal 40 movement of the last in relation to the wheel or teeth, the teeth, or that portion of the wheel nearest the edge of the last or insole, first comes in contact with the new or adjacent section of the upper, and that by the continued 45 horizontal movement of the last the wheel is revolved, thereby advancing the position of that portion of the wheel or the teeth from the edge inwardly, thereby causing the upper to be moved or drawn over the edge of the last 50 or insole inwardly upon the insole.

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

1. In a lasting and fastening machine, in 55 combination with a last or support for presenting and holding the work, and mechanism for driving fastenings, a device, substantially as specified, for drawing the upper to the last, and for holding it upon the insole while the 60 fastening is driven, adapted to be operated by the horizontal movement of the last or support in relation thereto, all substantially as and for the purposes set forth.

2. In a lasting and fastening machine, the 65 combination of a last or support for presenting and holding the work, and a device, substantially as specified, for drawing the upper to the last and for holding it upon the insole, operated by the horizontal movement of the 70 last or support in relation thereto, all substantially as and for the purposes set forth.

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Witnesses:

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