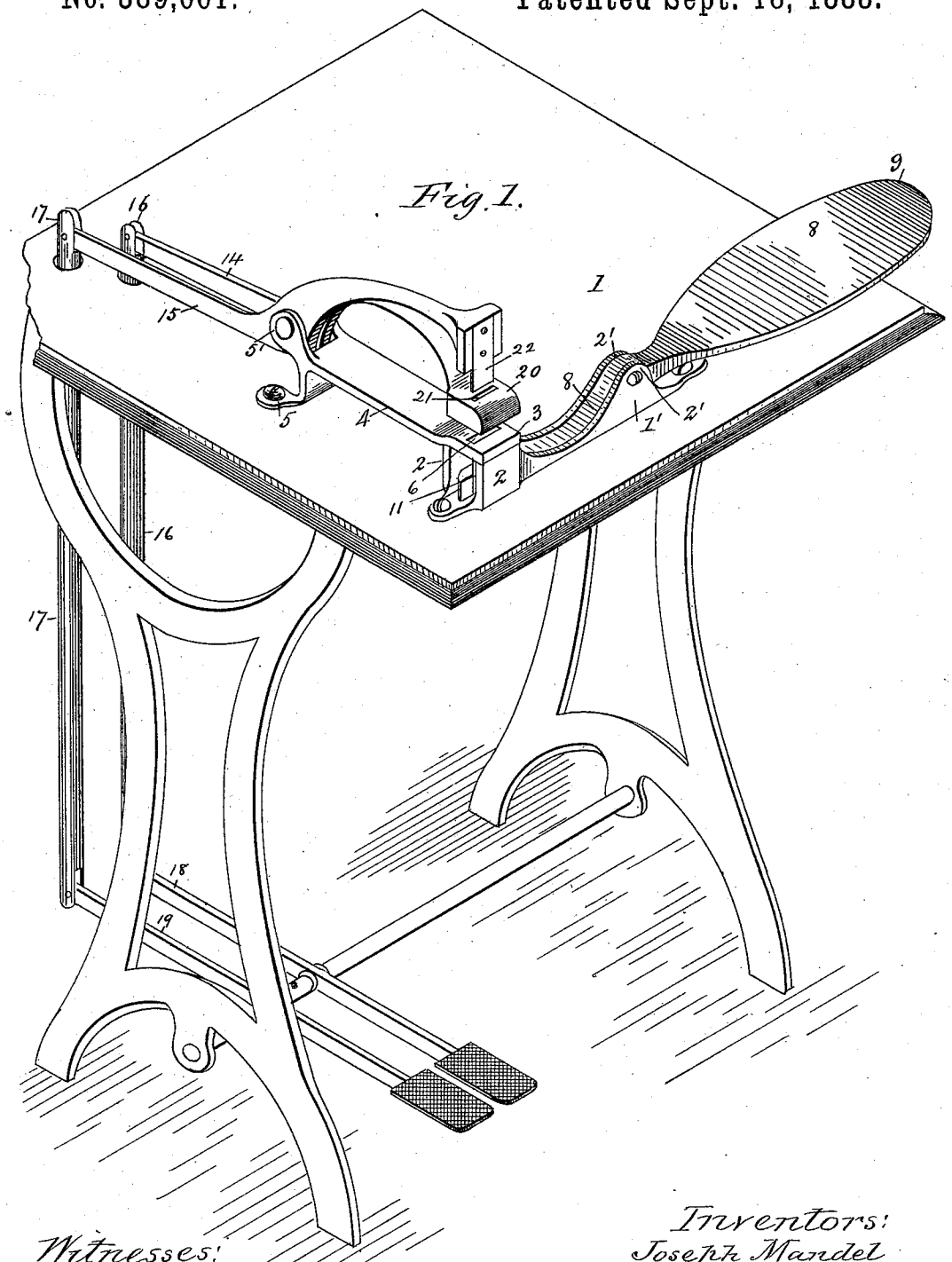
(No Model.) 3 Sheets—Sheet 1.

J. MANDEL & J. P. HENDERSON.

MACHINE FOR INSERTING AND CLINCHING STAPLES.

No. 389,661. Patented Sept. 18, 1888.

Fig. 1.



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(No Model.) 3 Sheets—Sheet 2.

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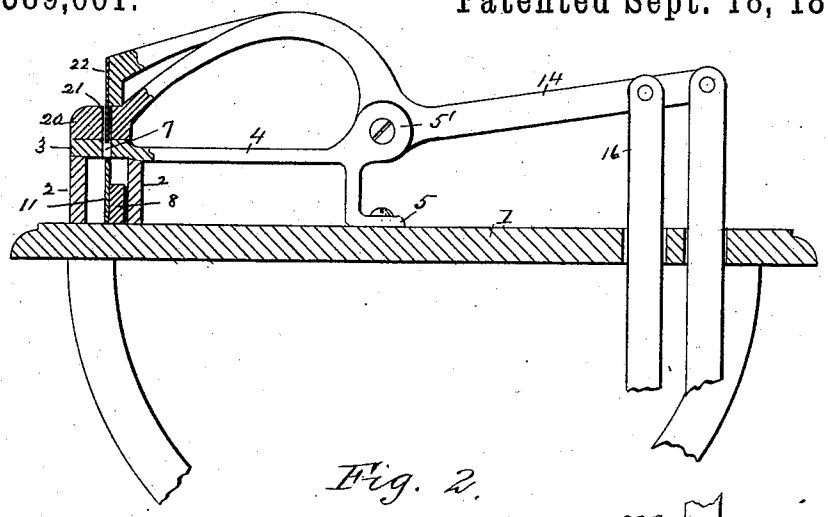


Fig. 2.

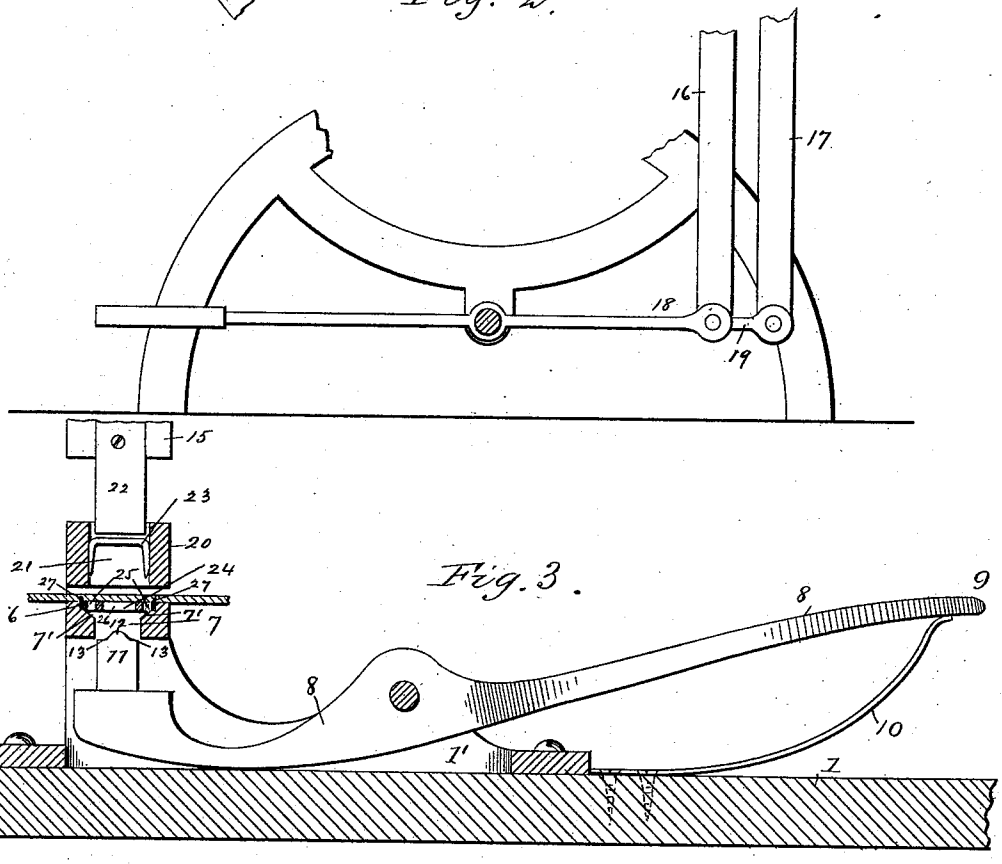


Fig. 3.

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(No Model.) 3 Sheets—Sheet 3.

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Fig. 4.

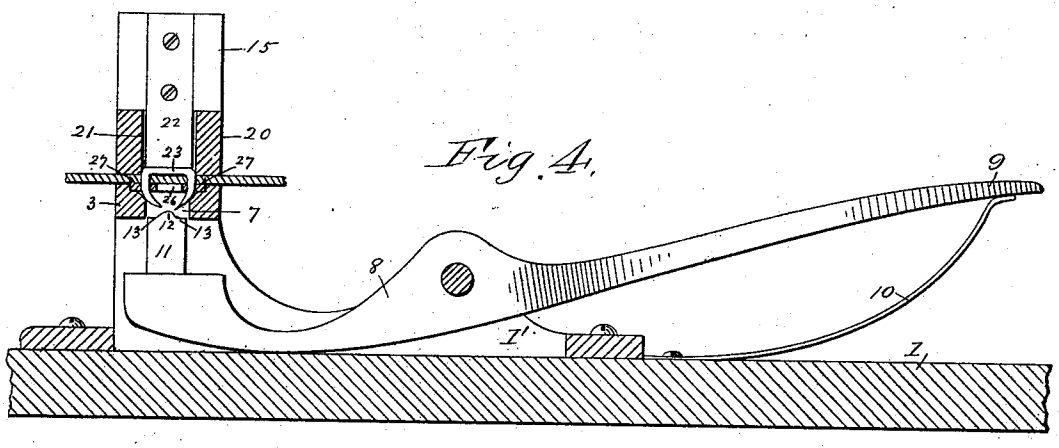


Fig. 5.

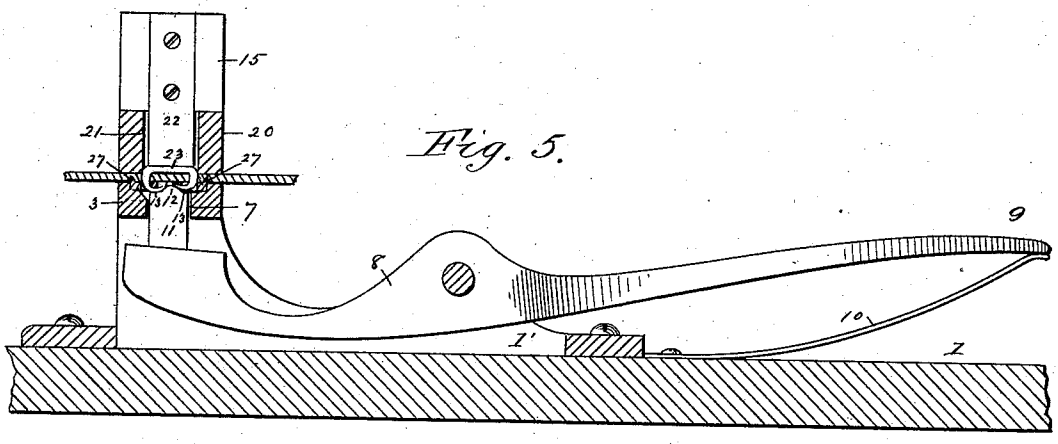


Fig. 6.

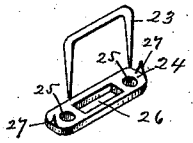


Fig. 7.

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UNITED STATES PATENT OFFICE.

JOSEPH MANDEL AND JAMES P. HENDERSON, OF LOGANSPORT, INDIANA.

MACHINE FOR INSERTING AND CLINCHING STAPLES.

SPECIFICATION forming part of Letters Patent No. 389,661, dated September 18, 1888.

Application filed June 25, 1888. Serial No. 278,082. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH MANDEL and JAMES P. HENDERSON, citizens of the United States, residing at Logansport, in the county of Cass and State of Indiana, have invented certain new and useful Improvements in Machines for Inserting and Clinching Staples; and we 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.

Our invenion relates, generally, to machines for inserting metallic staples through one or more thicknesses of textile fabric, paper, or similar material, for fastening the same by clinching their protruding legs upon the surfaces of yokes or plates used in connection therewith, and it is particularly designed for re-enforcing the corners of pockets and other parts of garments subject to strain; and it consists in the improved construction and arrangement or combination of parts hereinafter fully disclosed in the description, drawings, and claims.

The objects of our invention are, first, to provide a machine of the character named with an anvil which is formed with a peculiar slot for staples and a recess for the reception of yokes or plates which are used in connection with said staples; second, to provide the same with treadles, connecting-rods, and levers for operating the staple guide-block or holder and the staple-plunger by foot or other power; and, third, to provide the same with a clinching-plunger operated by a handle or hand-lever.

In the accompanying drawings, forming part of this specification, and in which the same reference-numerals indicate the same parts, Figure 1 represents a perspective view of our improved machine for inserting staples and clinching them upon the yokes or plates, the plunger, the guide-block or holder, and the anvil being shown separated from each other or out of operative position; and Fig. 2, a vertical section in a plane parallel to the levers of the staple guide-block or holder and the staple-plunger, said section being taken through said block and plunger and through the anvil and clinching-plunger. Figs. 3, 4, and 5 represent vertical sections on line *x x* of Fig. 2, respectively showing the staple in the guide-block or holder as ready for insertion, as inserted and ready for clinching, and as clinched; and Figs. 6 and 7 are detail views of the staple and yoke or plate.

In the drawings, the numeral 1 indicates the support or table upon which the machine is secured. The base-plate 1′ of the machine is longitudinally recessed and formed at its inner end with two upwardly-projecting lugs, 2. These lugs support the anvil 3, which is formed in the forward end of a plate, 4, which is provided at its rear end with supports or feet 5, which rest upon and are secured to the table. This anvil is formed with an oblong depression or recess, 6, in its face, and with a slot, 7, leading downward from said recess, and having end walls, 7′, which incline toward each other or inwardly toward the center of said slot at an angle of about forty-five degrees, whereby the ends or legs of the staple may be bent inwardly into proper position to be clinched into the center of the slot of the yoke or plate, as hereinafter more fully explained.

A hand-lever, 8, is pivoted between the upwardly-projecting lugs 2′ on the outer end of the recessed base-plate 1′, the outer arm, 9, of said lever being flattened and slightly curved to form a convenient surface to bear down upon with the open hand. A spring, 10, bears upward against this outer arm of the hand-lever, and serves to raise the same after it has been depressed and the pressure is removed. The clinching-plunger 11 is secured to the inner end of said hand-lever 8, and is adapted to be forced up into and through the slot 7 in the anvil 3 by depressing the outer arm, 9, of said lever. The upper end or edge of this plunger is formed with a rounded or convexed middle portion, 12, and with two slightly-concaved surfaces, 13, at the sides and base of said middle portion, which serve to bend and clinch the ends or legs of the staples.

Two levers, 14 and 15, are fulcrumed between two upwardly-projecting lugs, 5′, on the rear end of the plate 4; also, two vertical rods, 16 and 17, are pivotally connected at their upper ends to the outer ends of the rear arms of these levers, and are pivoted at their lower ends to suitable treadles, 18 and 19, by means of which said levers may be operated by the feet; or, in lieu of said treadles, any other suit-

able operative mechanism may be employed. The forward end of the lever 14 is provided with a staple guide-block or holder, 20, which is formed with a vertical slot, 21, which is of the same width as the staple to be inserted and clinched, and is arranged to register with the slot 7 in the anvil 3. This staple guide-block or holder may be formed integrally with the lever 14, or attached thereto. The forward end of the lever 15 projects above the staple guide-block or holder 20, and is provided with the straight flat staple-driving plunger 22, which registers with and fits freely within the vertical slot in said block. This staple-driving plunger may also be formed integrally with the lever 15, or attached thereto.

The staple 23, which is employed in this machine, is of the usual construction, but is preferably used in connection with a yoke or plate, 24, which is formed with two holes, 25, near its ends, with a slot, 26, in its middle, and with upwardly-projecting points or prongs 27 at its ends. This staple and plate, however, are merely illustrated and described herein for the purpose of explaining the operation of our machine, no claim therefor being herein made, as a separate application for Letters Patent therefor is filed simultaneously herewith.

The operation of the machine is as follows: The yoke or plate 24 is first placed in the recess 6 in the anvil 3. Then the garment, goods, paper, or other material to be fastened by the staple is placed upon the anvil above said yoke or plate. Then the staple guide-block or holder 20 is depressed upon the material to be fastened by operating the lever 14, the connecting-rod 16, and the treadle 18 with the foot. The staple is then inserted into the staple-holding slot 21 of said guide-block or holder, as illustrated in Fig. 3. Then the staple-driving plunger 22 is depressed, being operated by foot through the treadle 19, the connecting-rod 17, and the lever 15, when the ends or legs of the staple will be driven through the material upon the anvil through the holes 25 in the yoke or plate 24 and into the anvil-slot 7, where, coming into contact with the inclined walls 7′ of said slot, they will be bent slightly inward or toward each other, as shown in Fig. 4. Then the handle of the lever 8 is depressed by hand and operated to raise the clinching-plunger 11, which turns the legs of the staple further inward by striking them with its concave portions 13, its convexed middle portion, 12, forcing them toward and into the slot 26 in the plate or yoke 24 and firmly clinching them there, as shown in Fig. 5. When the yoke or plate 24 is provided with the points or prongs 27, they will project into the material to be fastened from the under side of the same, and will hold it in place until the staple guide-block or holder 20 is depressed, when the lower face thereof will turn down and clinch said points or prongs, which thus serve as an additional fastening means for the material being secured.

It will be obvious from the foregoing that by the use of this machine the material or articles to be fastened together will be held firmly upon the anvil by the staple guide-block or holder; that the staple will enter the material without canting, and exactly at the point where it is desired; that, owing to the slot in said staple guide-block or holder being made of the exact size to fit the staple, and owing to the staple-driving plunger 22 fitting freely but snugly within said slot, the legs of the staple will be driven perfectly true through the material and pass into the holes in the yoke or plate without deviation; that the inclined end walls, 7′, of the slot 7 in the anvil 3, in connection with the clinching-plunger 11, having the rounded or convexed middle portion, 12, and the two slightly-concaved surfaces 13, will bend the legs of the staple inwardly and clinch their ends into the slot 26 of the yoke or plate 24, and that the staple thus inserted will have only its crown on the face side of the material, its clinched legs and the yoke or plate being on the back side thereof.

Having thus fully described the construction and arrangement or combination of parts of our improved machine for inserting and clinching staples, its operation and advantages, what we claim as new is—

1. In a machine for inserting and clinching staples, the combination of an anvil formed with an oblong recess in its upper face and a slot leading downward from said recess, a vertically-reciprocating staple guide-block or holder formed with a vertical slot which registers with the slot in said anvil, a staple-driving plunger, means for forcing it through the slot in said staple guide-block or holder, a clinching-plunger, and a pivoted hand-lever for raising it up through said slot in the anvil, substantially as described.

2. In a machine for inserting and clinching staples, the combination of an anvil formed with an oblong recess in its upper face and a slot leading downward from said recess having inwardly-inclining end walls, a staple guide-block or holder formed with a vertical slot which registers with the slot in said anvil, means for depressing said block or holder upon the face of said anvil, a staple-driving plunger, means for forcing it through the slot in said staple guide-block or holder, a clinching-plunger formed with a rounded or convexed middle portion and with concaved end portions at its upper end or edge, and a pivoted hand-lever for raising said plunger up through the slot in said anvil, substantially as described.

3. In a machine for inserting and clinching staples, the combination of an anvil formed with an oblong recess in its upper face and a slot leading downward from said recess, a vertically-reciprocating staple guide-block formed with a vertical slot which registers with the slot in said anvil, a pivoted lever for depressing said block upon the face of said an-

vil, a staple-driving plunger which registers with the vertical slot in said staple guide-block, a pivoted lever for depressing said plunger through said slot, a clinching-plunger arranged to register with the slot in said anvil, and a pivoted lever having a handle for raising and lowering said plunger, substantially as described.

4. In a machine for inserting and clinching staples, the combination of an anvil formed with an oblong recess in its upper face and a slot leading downward from said recess, a staple guide-block formed with a vertical slot which registers with the slot in said anvil, a connecting-rod attached to the rear end of said pivoted lever, means for actuating said rod, a staple-driving plunger which registers with the vertical slot in said staple guide-block, a pivoted lever for depressing said plunger through said slot, a connecting-rod attached to the rear end of said lever, means for actuating said rod, a clinching-plunger arranged to register with the slot in said anvil, and a pivoted lever having a handle for raising and lowering said plunger, substantially as described.

5. In a machine for inserting and clinching staples, the combination of the anvil 3, formed with the oblong recess 6 in its upper face and with the vertical slot 7, having inwardly-inclined walls 7', the staple guide-block or holder 20, having the slot 21, the lever 14, the connecting-rod 16, the treadle 18, the staple-driving plunger 22, the lever 15, the connecting-rod 17, the treadle 19, the lever 8, formed with the curved handle 9, the spring 10, bearing against said handle, and the clinching-plunger 11, mounted upon the inner end of said lever and formed upon its upper end or edge with the convex middle portion, 12, and concave end portions, 13, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

JOSEPH MANDEL.
JAMES P. HENDERSON.

Witnesses:
SOLOMON WISE.
DAVID B. FICKLE.