

UNITED STATES PATENT OFFICE.

CHARLES H. REID, OF DANBURY, CONNECTICUT.

IMPROVEMENT IN BUTTON-FASTENINGS.

Specification forming part of Letters Patent No. **142,043**, dated August 19, 1873; application filed July 16, 1873.

To all whom it may concern:

Be it known that I, CHARLES H. REID, of Danbury, in the county of Fairfield and State of Connecticut, have invented a new and useful Improvement in Button-Fastenings; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of my device in operative position. Figs. 2 and 3 are plan and perspective views of my device detached. Figs. 4 and 5 represent the same in plan as it is cut from the blank, and of modified form.

The object of my improvement is to produce a cheap, durable, and efficient fastening for buttons, whereby they can be attached to any fabric with ease and dispatch; and it consists of a metallic clip suitably formed, with a neck to pass through the shank-eye of the button, and projecting points to penetrate the material to which the button is to be attached, and, being bent down and clinched, to hold the same firmly secured.

That others may fully understand my invention, I will particularly describe it.

A is the button, which must be provided with a shank-eye, B. C is the fastening-clip. This clip is formed of some suitable metal, such as brass, rolled to a proper temper. At its central part it is formed with a sort of neck, *a*, to rest in the eye of the button-shank, and

at each end there are sharp tangs *b b*, to penetrate the cloth or other material to which the button is to be attached. I form two of these points *b b* at one end, and one of the same at the other end, as shown. When made ready for use, the clip is bent at its central part or neck *a*, so as to form a loop, as shown, within which the shank-eye of the button rests.

When ready for attachment, the points *b b* are bent down at right angles to the surface to which the attachment is to be made, and, being forced through the fabric, they are again bent and clinched down upon the under surface thereof.

If necessary, a re-enforce piece may be placed next to the surface of the fabric, and under the clinched points *b*.

In placing the fastening, the end of plate C, having two points, *b b*, will, of course, be set opposite the direction of strain, while on the side of the strain the single point will be sufficient.

Having now described my invention, what I claim as new is—

The clip C, formed with looper-neck *a* and the points *b b*, disposed as described, to form a fastening for eye-shanked buttons.

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Witnesses:

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F. H. RICHARDS.
Machines for Forging Horseshoe Nails.

No. 142,044.

Patented August 19, 1873.

FIG. 1.

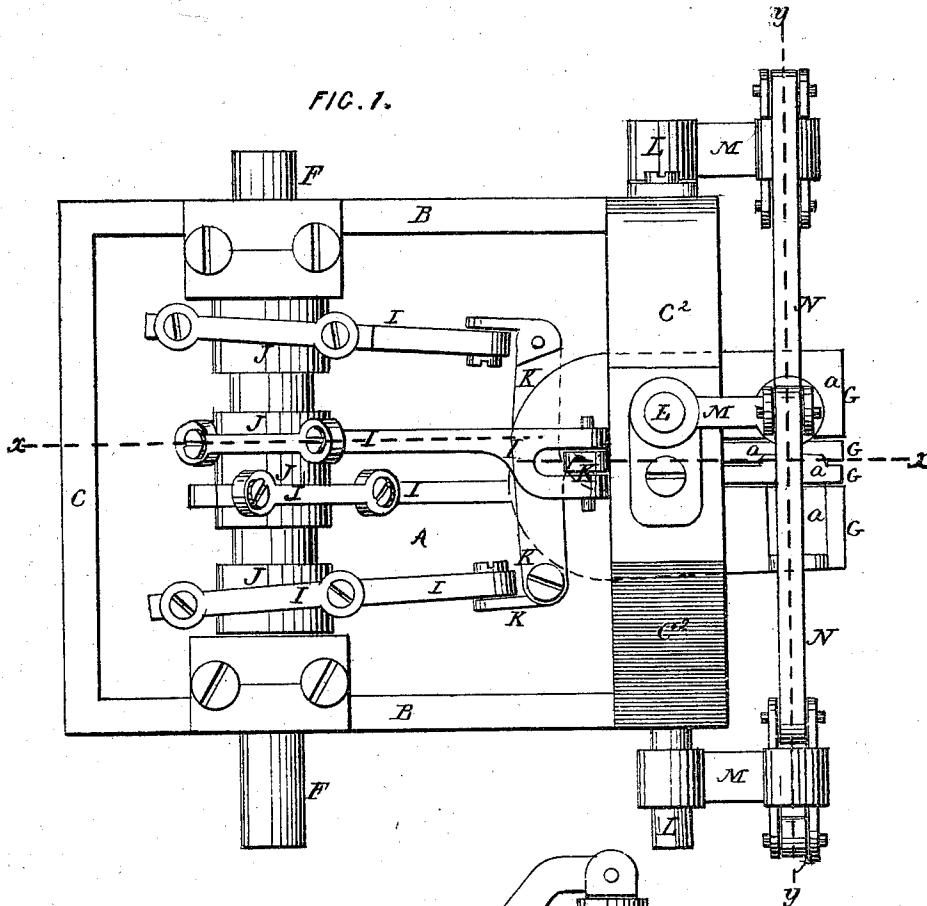
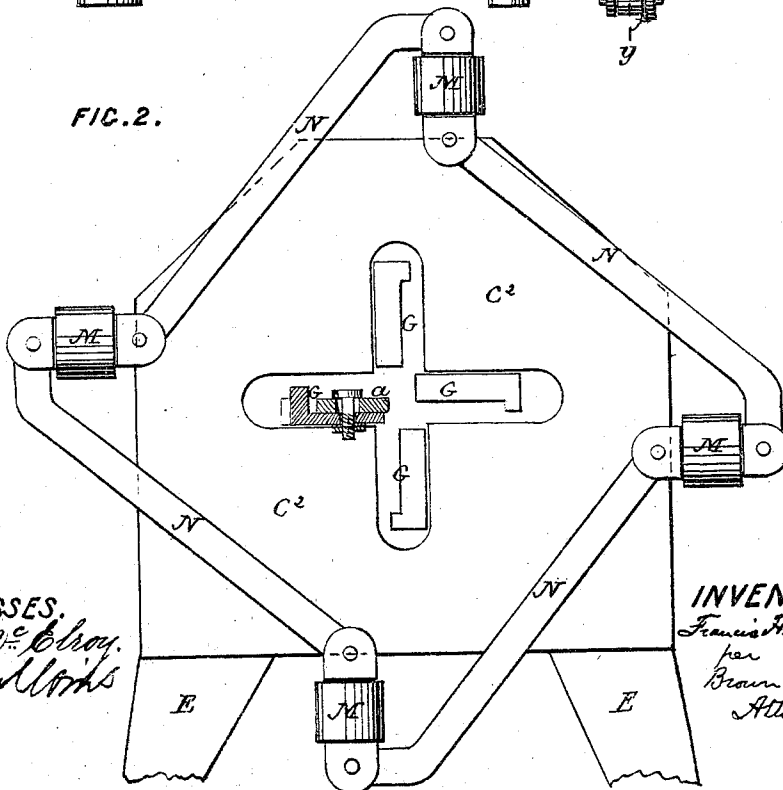


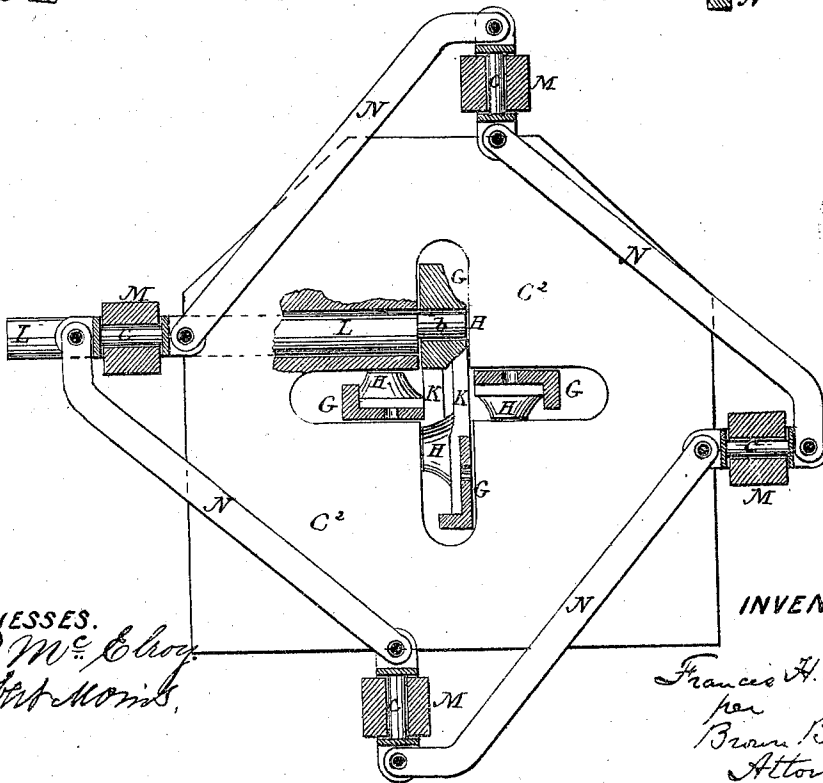
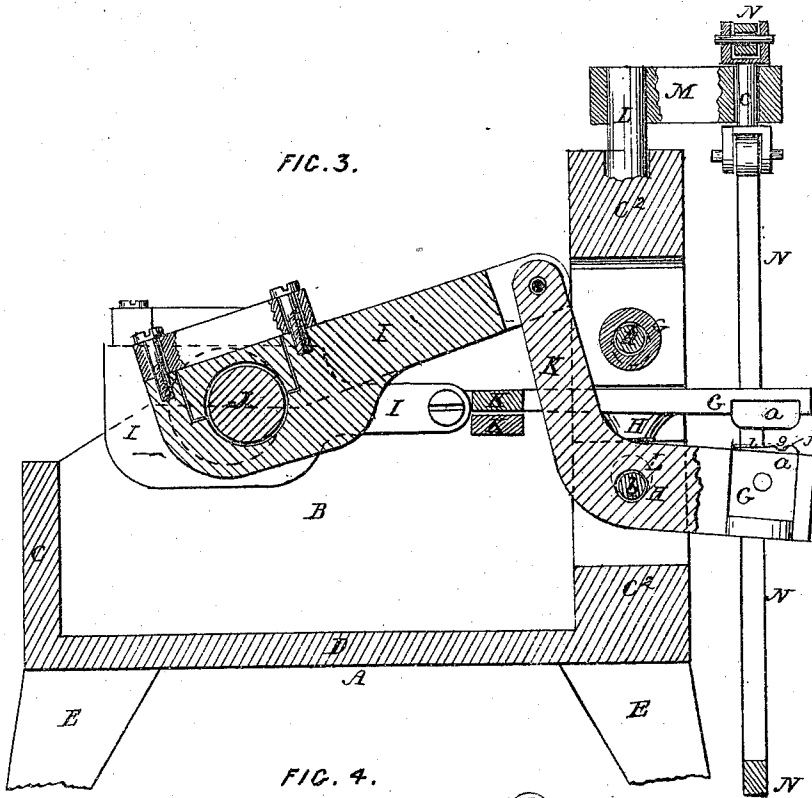
FIG. 2.



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Machines for Forging Horseshoe Nails.

No. 142,044.

Patented August 19, 1873.

FIG. 5.

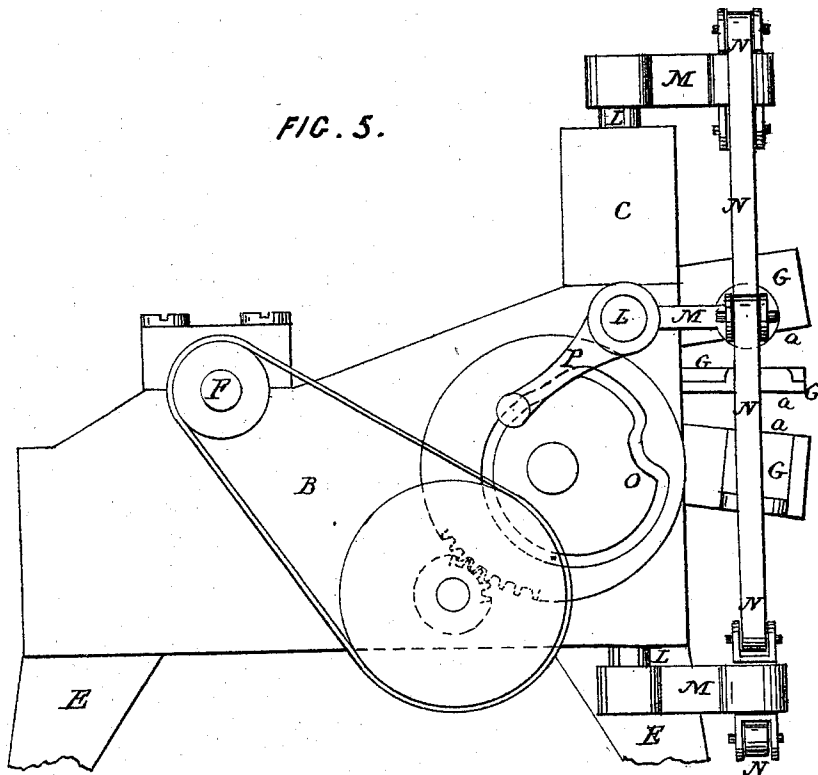


FIG. 6.

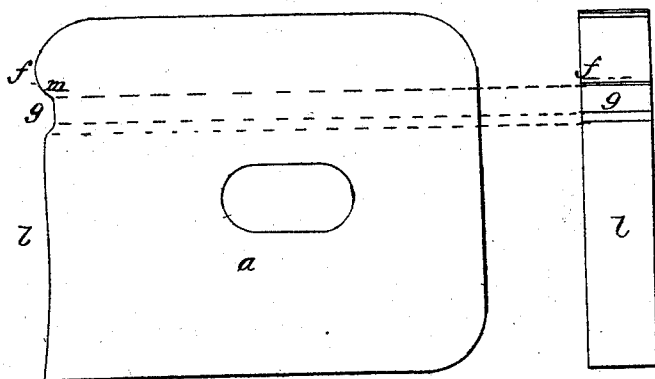
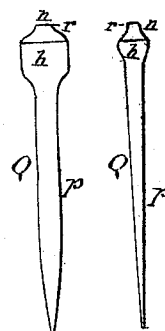


FIG. 7.



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UNITED STATES PATENT OFFICE.

FRANCIS HENRY RICHARDS, OF NEW BRITAIN, CONNECTICUT.

IMPROVEMENT IN MACHINES FOR FORGING HORSESHOE-NAILS.

Specification forming part of Letters Patent No. **142,044**, dated August 19, 1873; application filed September 14, 1872.

To all whom it may concern:

Be it known that I, FRANCIS HENRY RICHARDS, of New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Forging-Machines; and that the following is a full, clear, and exact description of the same, reference being had to the accompanying plates of drawings.

The present improvements in forging-machines are more especially designed for the forging of horseshoe-nails, although, as will be apparent from the description herein given, they are applicable to the forging of other articles to produce which it is necessary to draw the metal bar or blank. The object of this invention is to produce a forging-machine that in operation and effect will correspond as nearly as possible to that of hand forging, and in which articles can be forged of a perfect, even, and uniform quality and texture. This invention consists of certain improvements in forging-machines, the construction and operation of which will be fully hereinafter described, and it is not deemed essential to enter into a preliminary explanation.

In Plate 1, Figure 1 is a plan view of a forging-machine constructed according thereto; Fig. 2, a view, in elevation, of the end of the machine where the forging occurs and the metal bar or blank is received. In Plate 2, Fig. 3 is a vertical section in plane of line *x x*, Fig. 1, Plate 1, deviating, however, in some points from such plane; Fig. 4, a vertical section in plane of line *y y*, Fig. 1. In Plate 3, Fig. 5 is a view, in elevation, of one side, showing more particularly mechanism for actuating the devices employed to change the fulcrum of the hammering-tools. Fig. 6 are views, in full size, of a tool adapted under this invention to produce horseshoe-nails; and Fig. 7, a view of a horseshoe-nail having in its head the characteristic embraced by this invention.

A in the drawings represents a frame-work, made in the present instance of a rectangular box shape, with sides B, ends C², and bottom D, supported upon legs E, one at each corner. This frame-work A may be of other and various forms. F is a shaft, arranged horizontally across the frame-work A, turning in suitable bearings of each side B. By

this shaft F, it being suitably driven, are carried and operated the several forging tools or hammers employed. G, the forging-tools. These tools G, in the present instance, are four in number, each and all corresponding by their working-dies *a* in shape and size. H, the fulcrum of each tool G. These fulcrums H are all within the head or end C² of the frame-work A, and are severally so located that the tools when arranged therein project equally by their die portions *a* outside and beyond the head C², and are in pairs. The tools of each pair stand, by the die faces, directly opposite to and equidistant from each other, and the die-faces of the two pairs are at right angles to each other, about a common center, one pair being in a horizontal and the other in a vertical plane. The tools, hung upon fulcrums, as above stated, are extended within the frame A toward the shaft F, and to such shaft they are each connected by separate and distinct pitman-rods I, having separate and distinct eccentric bearing J upon the said shaft. The several tools are pivoted to their respective pitman-rods I, the connecting-arm K of each tool passing by the connecting-arm of the other tool in its pair, and corresponding in direction to the plane in which the tools work. The several eccentric portions of the shaft F are similar, but those for one pair of tools are diametrically opposite to those for the other pair, so that in the revolution of the shaft, while the two tools of each pair work simultaneously in the same direction—that is, toward or away from each other, as the case may be—the tools of one pair moving forward, while those of the other pair are moving backward. The fulcrum of each tool is the eccentric portion *b* of shafts L—one to each tool. These shafts L are all similarly arranged in the end C² of frame A, those of the horizontal-working tools being vertical, and those of the vertical-working tools horizontal, and from said end they all project, one upon each side or boundary thereof. M, arms, similar in length, one to each shaft L, to which they are fastened at right angles, projecting horizontally outward from the head-plate C². These arms M each carry at their outer end, and equidistant from the axis of the shafts L, a transverse pin or journal, *c*, that