

(No Model.)

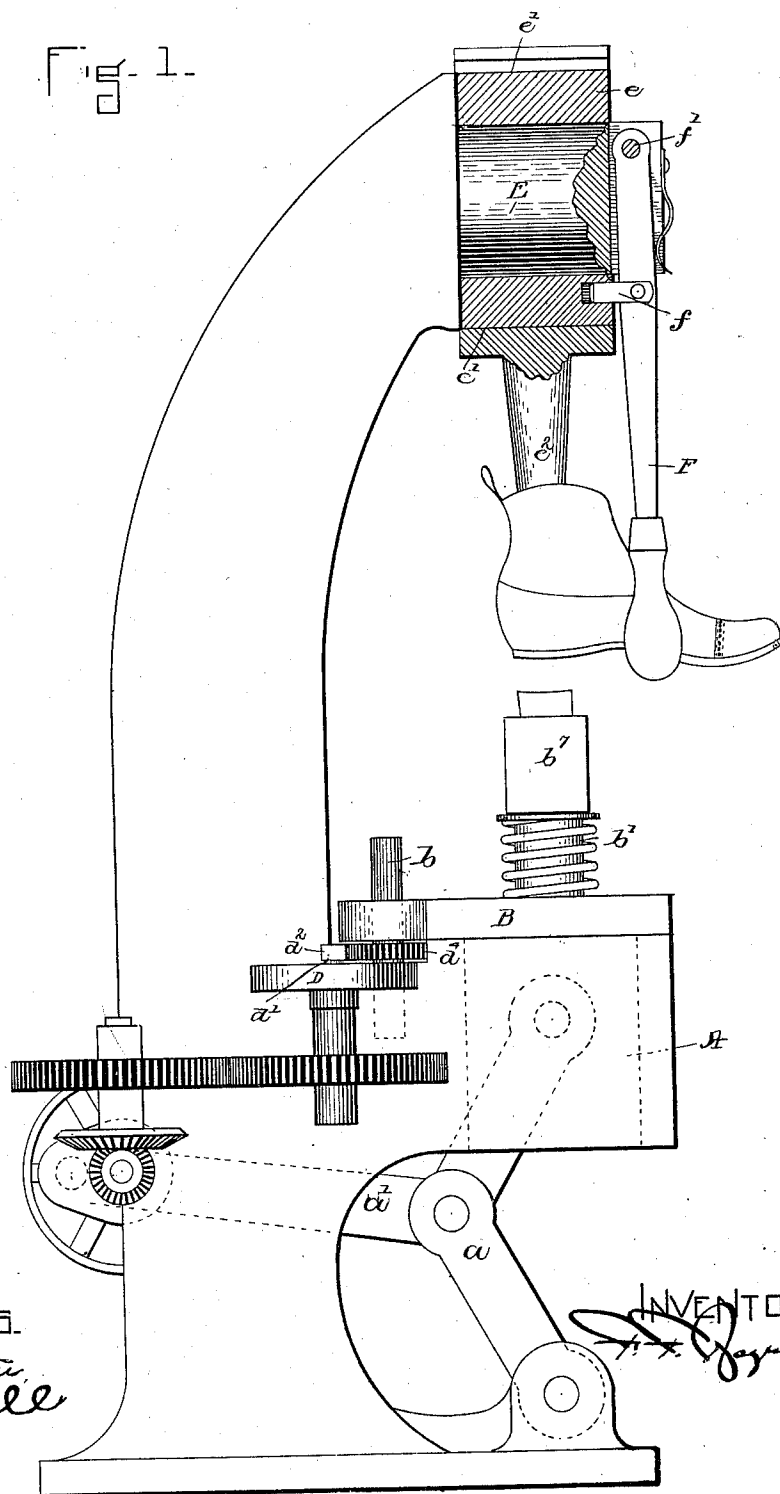
3 Sheets—Sheet 1.

F. F. RAYMOND, 2d.
HEEL ATTACHING MACHINE.

No. 561,608.

Patented June 9, 1896.

Fig. 1--



WITNESSES.

A. P. Porter
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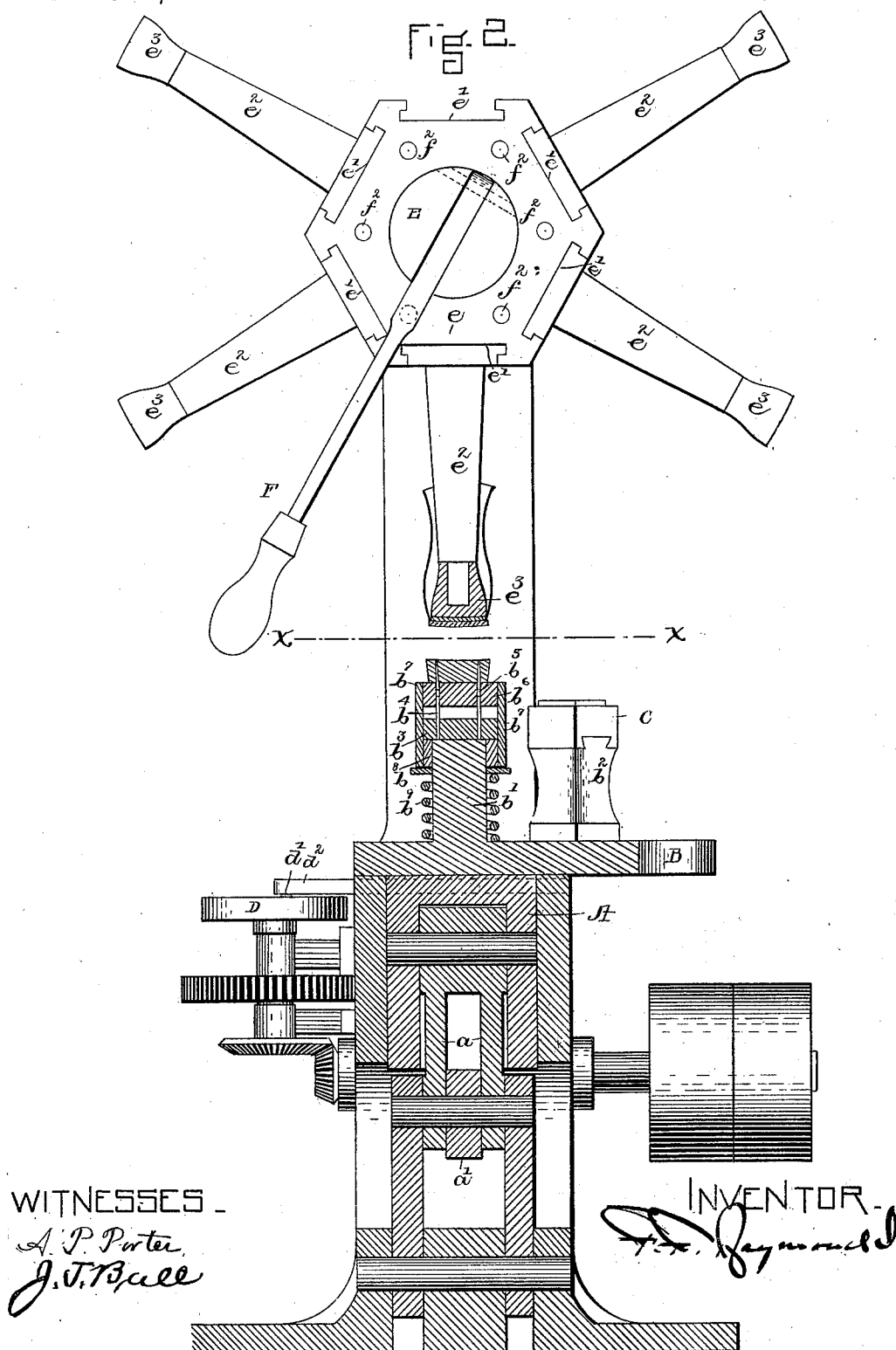
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3 Sheets—Sheet 3.

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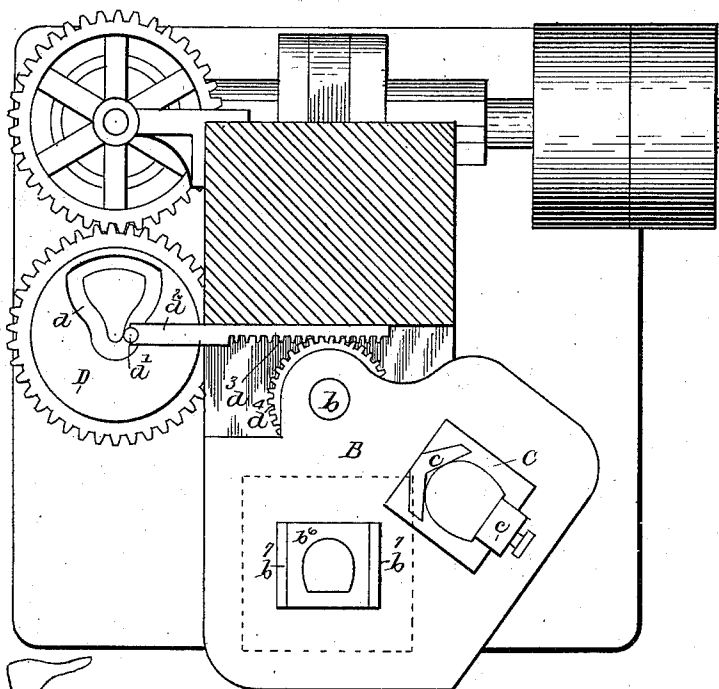


Fig. 3.

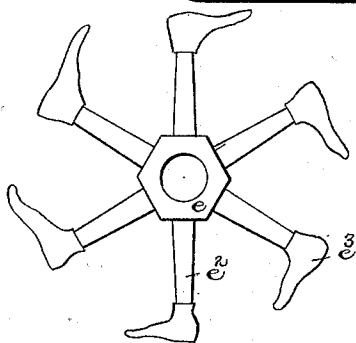


Fig. 6.

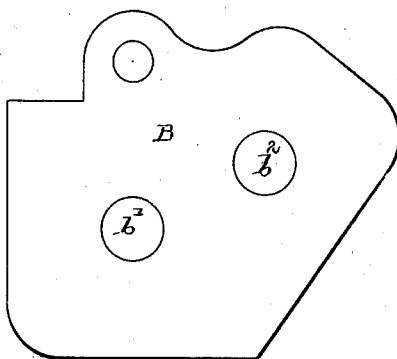
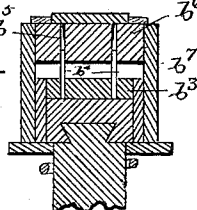


Fig. 4.

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Fig. 5.



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UNITED STATES PATENT OFFICE.

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HEEL-ATTACHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 561,608, dated June 9, 1896.

Application filed August 17, 1889. Serial No. 321,159. (No model.)

To all whom it may concern:

Be it known that I, FREEBORN F. RAYMOND, 2d, a citizen of the United States, residing at Newton, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Heel-Attaching 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.

The invention is an improvement upon that described in my application for Letters Patent of the United States, filed simultaneously herewith, Serial No. 321,158; and it relates especially to certain variations in the organization, all of which will hereinafter be described.

Referring to the drawings, Figure 1 is a view in side elevation of a machine having the features of my invention. Fig. 2 is a view, partly in front elevation and partly in vertical section, of the same. Fig. 3 is a view in cross-section upon the line xx of Fig. 2 and in plan of parts below the same. Fig. 4 is a view in plan of the movable table hereinafter referred to. Fig. 5 is a detail view in section of a modified form of top-lift spanker, to which reference is hereinafter made. Fig. 6 is a detail view of the last-supporting jacks.

A is a vertically-movable slide-head. It is provided with vertical movements by the toggle a , operated by a crank-moved link or connecting-rod a' .

Above the head A is a plate B. This plate is pivoted at b to the frame, and it supports two or more posts. But two posts—the post b' and the post b^2 —are shown. The post b' has mounted upon its upper end a block b^3 , carrying a gang of drivers b^4 . The ends of the drivers enter holes b^5 in a templet-block b^6 . This block is connected by plates b^7 with a sleeve b^8 , arranged to slide upon the post b' in opposition to the spring b^9 , the post preferably being made round to receive the spring and collar. The post b^2 carries at its upper end a spanker-block C. This spanker-block is detachable from the post and has a top-lift holding and centering device c . This may be of any desired form or organization.

The plate B may be moved by hand to bring first the drivers and then the spanker-plate

into operative position; but it is preferably moved automatically by means of a cam D, having a cam-groove d , which receives a cam-pin d' on the cam-slide d^2 , the cam-slide being represented in part as a rack d^3 , which meshes with teeth d^4 of a gear or sector on the shaft forming the pivot b and to which the plate B is attached. The cam is timed to hold the plate B stationary over the head A during the first reciprocation thereof and to then move the plate sufficiently to carry the post b' and drivers carried thereby out of operative position and the post b^2 and spanker into operative position over the head and to hold them in such position during the next reciprocation of the head A, and during the latter part of said reciprocation or before the machine comes to rest to move the plate B back again to bring the drivers into position over the head. As the plate B moves vertically the pivot-shaft between it and the end of the cam-slide d^2 is made somewhat long to permit such movement of the table to take place on it.

Above the head A is a horizontal large round bearing E, which extends outward horizontally from the side of the frame. Upon this is mounted a hub e . This hub rotates upon the bearing E and has the polygonal faces e' , upon each of which is secured a jack e^2 , carrying a last or work-support e^3 . The jack has a longitudinal or cross adjustment upon its hub-surface, according as the last or work-support extends from its jack upon a line parallel with its line of rotation, as represented in Fig. 6, or at a right angle thereto, as represented in Fig. 1. The hub is locked to its bearing by a spring-pin f , carried by a lever F, having a fulcrum f' at the outer end of the bearing. Of course the hub has a separate registering hole f^2 for each jack, into which said pin enters. I would say, however, that I do not confine the invention to the use of a rotary jack, as a single jack may be employed. I would also say that in lieu of providing the plate B and the drivers and spanker-block carried thereby with a traversing movement over said head A the traversing movements may be provided the hub e and jack instead, in which case the plate B will have a vertical movement imparted to

it by the head A, but will not be moved horizontally, while the jack will have a traversing movement as well as a rotary.

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

1. In a heel-attaching machine, the combination with a vertically-movable pressure-head, of a horizontally-movable plate arranged upon said head and provided with a
10 spring-supported templet-block, a rigid nail-driving post and a solid support for the top-lift spanker, substantially as described.

2. The combination, in a heel-attaching machine, of a reciprocating head A, the horizontally and vertically movable plate B over said head, supporting heel-attaching devices and a top-lift spanker, with an automatic actuating device, such as a cam, for holding and
20 moving said plate to first hold the heel-attaching devices in operative position and then move the plate and hold the top-lift-attaching devices in operative position, and then return the plate to its original position, substantially as described.

3. The combination, in a heel-attaching machine, with a vertically-reciprocating pressure-head, of a horizontally-movable plate carried thereby, a plurality of jacks arranged
30 in proximity to said head and movable relative thereto, means for bringing any one of said jacks into working position with respect to said head, and devices for securing such jacks in operative position, substantially as described.

4. In a heel-attaching machine, the combination, with an overhead jack-support, of two

or more lasts carried by said support and movable successively into operative position, nail-driving devices and top-lift spanker below
40 said jack-support, said nail-driving devices and spanker being movable relatively to said lasts to attach the heel and spank the top lift, substantially as described.

5. In a heel-nailing machine, the combination with a reciprocating pressure-head, of a horizontally-movable plate pivoted thereon and vertically movable therewith, a spring-supported templet-block, a rigid nail-driving post and a solid support for the top-lift
50 spanker, carried by said plate, means for automatically bringing said nail-driving post and top-lift spanker into operative position, an overhead jack-support carrying two or more lasts movable successively into operative
55 position over the nail-driving spanning devices, and means for moving said lasts and locking them in position, substantially as described.

6. In a heel-attaching machine, in combination, the head A adapted to reciprocate as described, a jack-carrier and its support, a plurality of jacks mounted on said carrier, a top-lift spanker intermediate said head A and the jack-carrier, and means for moving said
65 jack-carrier so as to bring the jacks successively into operative relation with respect to the top-lift spanker, substantially as described.

FREEBORN F. RAYMOND, 2D.

In presence of—

A. P. PORTER,
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