

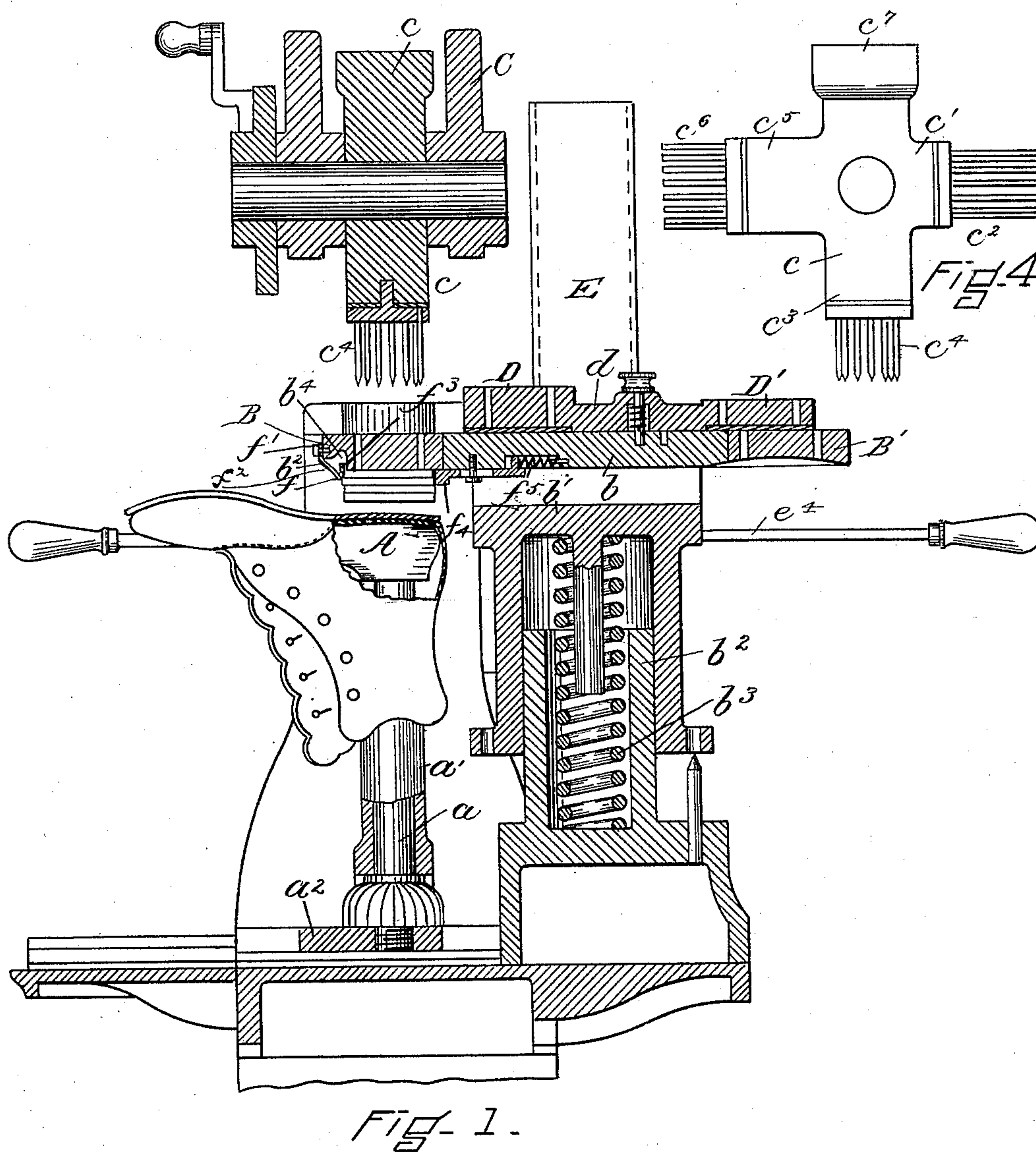
(No Model.)

3 Sheets—Sheet 1.

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

No. 409,372.

Patented Aug. 20, 1889.



WITNESSES.

J. M. Dolan
Fred. B. Dolan

INVENTOR.

F. F. Raymond

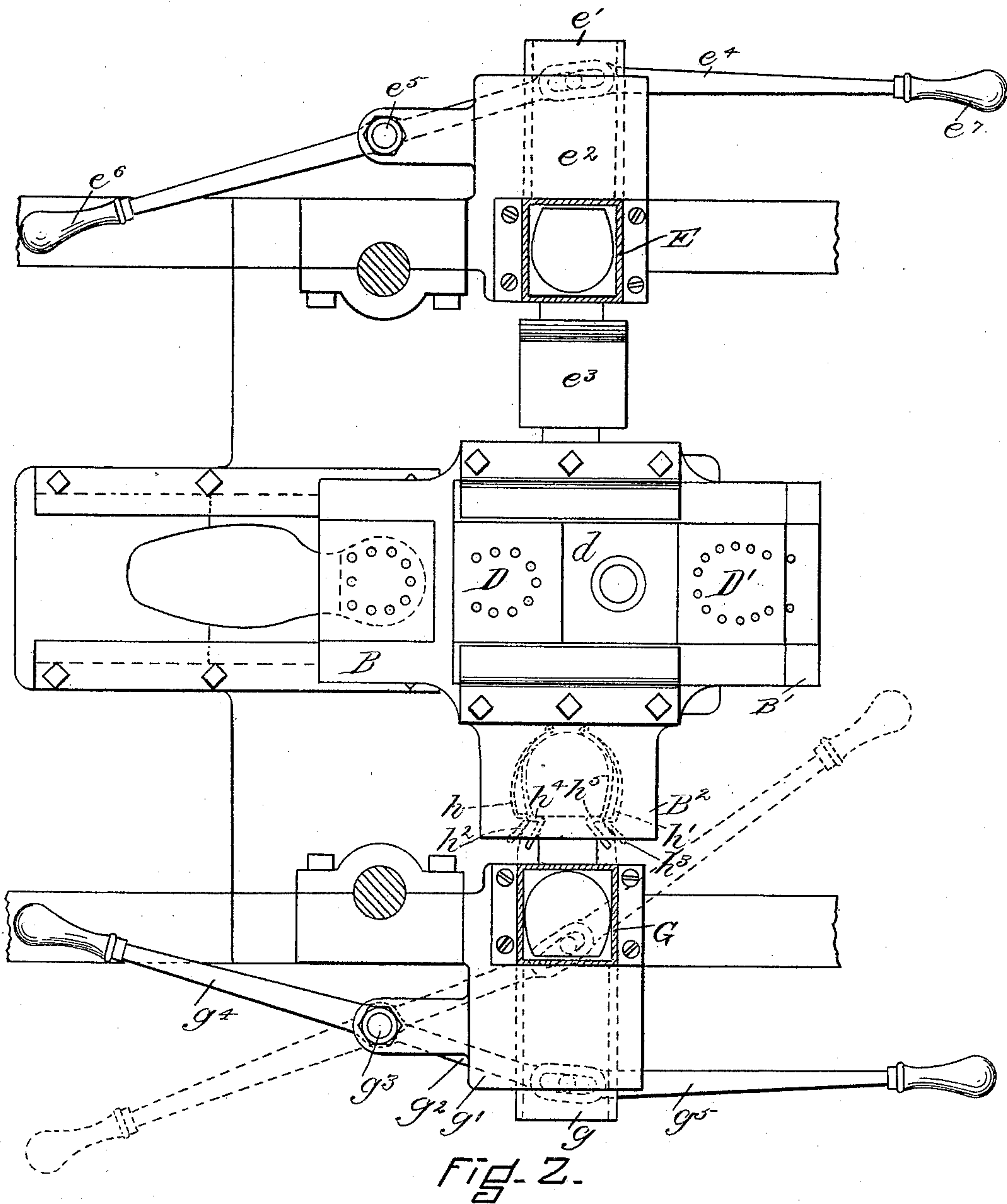
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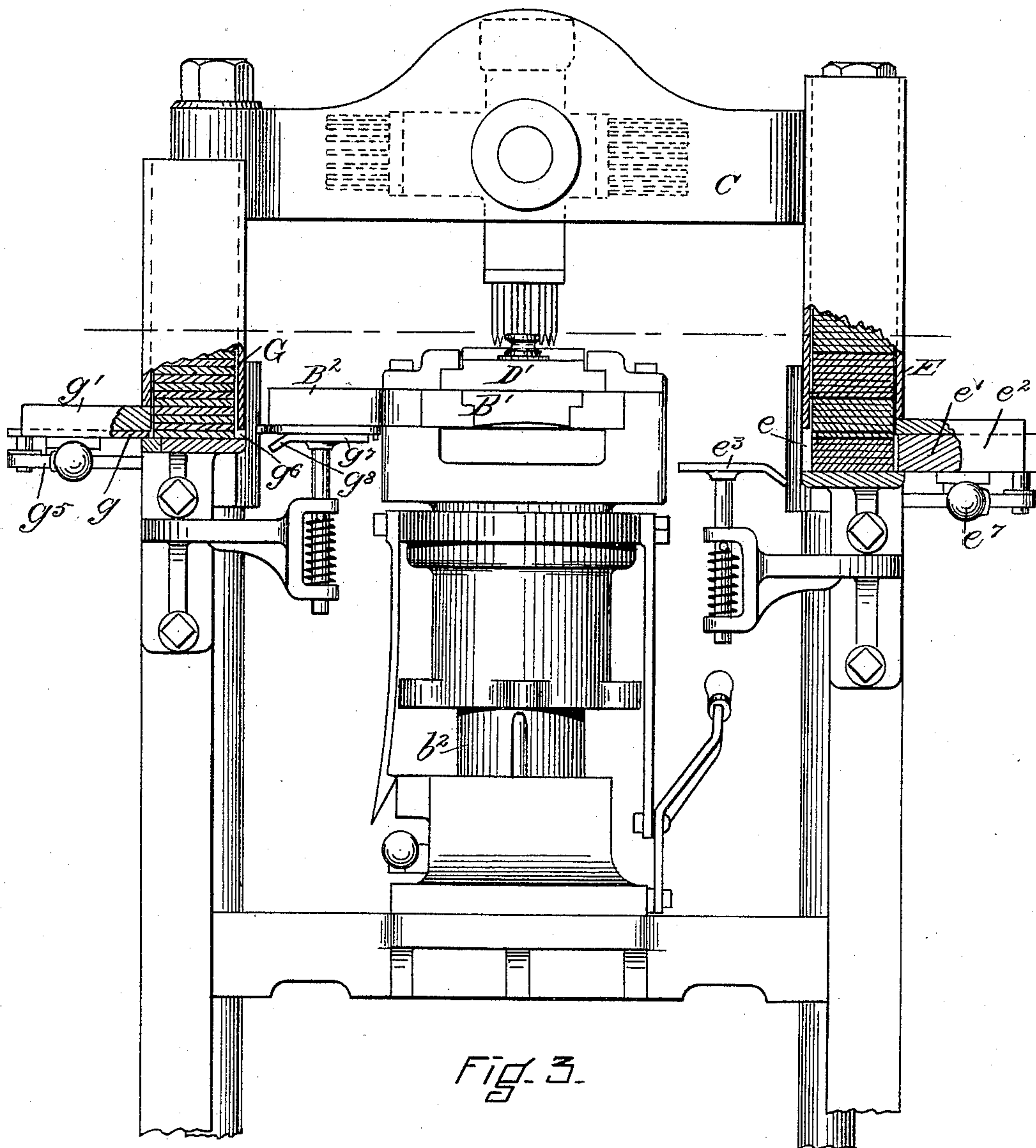


Fig. 3.

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UNITED STATES PATENT OFFICE.

FREEBORN F. RAYMOND, 2D, OF NEWTON, MASSACHUSETTS.

HEEL-NAILING MACHINE.

SPECIFICATION forming part of Letters Patent No. 409,372, dated August 20, 1889.

Application filed December 10, 1886. Serial No. 221,178. (No model.)

To all whom it may concern:

Be it known that I, FREEBORN F. RAYMOND, 2d, of Newton, in the county of Middlesex and State of Massachusetts, a citizen of the United States, have invented a new and useful Improvement in Heel-Nailing 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 Letters Patent of the United States No. 344,499; and it relates especially to means for feeding or supplying the heel-blanks and top lifts to the templet and to the top-lift-spanking plate, respectively.

In the drawings, Figure 1 is a vertical central section of so much of the heeling-machine as is necessary to show the nature of the invention. Fig. 2 is a view in horizontal section taken just above the nail-carrier plate and in plan of the parts below. Fig. 3 is a view in rear elevation, a part of the top-lift and heel-blank holding and feeding devices being broken out to illustrate the construction of these parts of the machine. Fig. 4 is an elevation of the revolving head.

A is the last or work-support.

a is the jack-spindle; a' , the jack-post; a^2 , the jack-plate.

B is the templet for heel-nailing. It is supported at one end of the plate b .

B' is the templet for sole nailing or for nailing the heel end of the outsole. It is supported at the other end of the plate b . The plate b is fastened to the table or carriage b' , which is vertically movable upon the post b^2 in opposition to the spring b^3 , and is adapted to be turned or rotated thereon to present in successive order to the nail-driving devices the sole-nailing templet, the heel-nailing templet, and the top-lift carrier and spanking plate B^2 , which is shown in Figs. 1 and 2.

D is the nail-carrier for the templet B. D' is the nail-carrier for the templet B'. They are formed in the opposite ends of the sliding plate d .

C is the cross-head. It supports the revolving head c , which, when the machine is organized or adapted to nail a heel-seat and heel,

has an arm c' , which carries a block carrying or supporting a gang of drivers c^2 , and arm c^3 , which carries a block supporting a gang of awls c^4 , an arm c^5 , which carries a block supporting a gang of drivers c^6 , and a spanker-arm c^7 . The revolving head, however, may have any other number of arms desired, and any other arrangement of gangs or groups of awls or drivers which may be needed on account of the character of the work or nailing done.

So far the parts are like the parts described in my said patent.

To feed the heel-blank to the templet, I have arranged a box or receptacle E at one side of the post b^2 in a position to permit heel-blanks to be fed therefrom by devices hereinafter specified to the holding devices of the templet when the plate b has been rotated to bring the top-lift carrier and spanker-plate B^2 over the heel—that is, the plate will have been rotated a quarter from the position represented in Fig. 2. This brings the heel-blank-holding devices of the templet opposite the opening e of the box E, through which the heel-blank may be fed while the templet is in its highest position or in its lowest position, according as may be desired.

In Fig. 3 the parts are represented as adapted to feed the heel-blank and top lift when the templet and top-lift plate are in their highest position.

The heel-blank-feeding devices comprise the slide-plate e' , which is supported by the plate or block e^2 , and which is movable across the bottom of the box E to force the undermost heel-blank from the box upon the yielding holder or plate e^3 , which is below the under surface of the templet when the templet has been moved into position to receive the blank. The plate e' is moved, preferably, by a lever e^4 , (see Fig. 2,) which is pivoted at e^5 , and which has the front arm e^6 and the rear arm e^7 , so that the blank may be fed from the box or stack either by the operator at the front of the machine or by the attendant at the back.

Any suitable devices for holding the heel-blank to the templet may be used; and, in addition to those which I have described in va-

rious of my patents, there may be used also those shown in Fig. 1, which comprise, essentially, a spring gage-plate f , attached at f' to the front of the templet, and having the inclined section f^2 and the straight edge f^3 . There is formed in the front of the plate a recess b^4 , of a size sufficient to permit the spring to be moved upward into it while the heel-blank is being moved outward from the stack or box by the plate e' , and this plate then automatically moves downward to the position shown in Fig. 1, and so as to act as an abutment. As the heel-blank is fed, it is held by the pressure-plate e^3 against the surface of the templet, and the spring-plate f is forced or moved upward while the heel-blank is passing it and until it has been moved by its inner edge, when it springs down into position. This movement of the heel-blank by it also brings the back end of the heel-blank in contact with the slide-plate f^4 , which is moved backward against the pressure or resistance of the spring f^5 so long as the heel is being moved by the feed-plate e' ; but upon the reverse movement of the plate this plate f^4 moves against the back edge of the heel-blank and serves to press its breast against the spring holding-plate f , so that upon the withdrawal of the plate e' the heel will be held to the under surface of the templet between the abutment f^3 and the spring-plate f^4 , as shown in Fig. 1.

The devices for feeding top lifts to the top-lift carrier and spanking plate are similar to those for feeding the heel-blanks, and they comprise a stack or box G , located in relation to the post b^2 as represented in Figs. 2 and 3, and a carrier-plate g , which is supported by the plate g' , and is moved to expel the undermost top lift from the stack, holder, or box G by means of the lever g^2 , pivoted at g^3 , having the forward arm g^4 and the back arm g^5 to enable the plate g to be moved either by the operator or by the attendant. The top lift is fed to the plate when it is in the position shown in Figs. 2 and 3, and this is the position which the templet occupies in relation to the heel-blank-feeding device preparatory to the feeding of a heel-blank thereto. The box G has a hole or opening g^6 , through which the top lifts are pushed, and there is arranged opposite this opening the yielding plate g^7 , having the inclined section g^8 , which is adapted to receive the top lift as it is fed and to hold it against the under surface of the plate B^2 . The plate B^2 is supplied with top-lift-grasping devices, which comprise the yielding arms h h' , having the outward-extending ends h^2 h^3 and the shoulders h^4 h^5 . These spring-arms are fastened to the top-lift plate, and are adapted to hold the top lift to the under surface thereof and to center it thereon by the shoulders h^4 h^5 .

In operation, the movement of the top lift into position under the top-lift plate and over the yielding plate g^7 brings the back end of

the top lift into contact with the arms and causes them to be opened or spread apart thereby, and they are held apart until the breast of the top lift has passed the shoulders h^4 h^5 , when they automatically close or move toward each other and hold the top lift in place securely by its edge. I would say, however, that I do not confine myself to the especial form of holding devices shown.

It will be seen that the movement of the top-lift-carrying plate into position beneath the nail-driving devices brings the heel-nailing templet into position beneath the heel-blank-feeding devices, and that the heel-blank is then fed to the heel-holding devices of the templet; and it will also be seen that the templet is revolved or turned until the heel-blank is finally brought into position over the heel, and that this brings the templet-plate into position opposite the top-lift-feeding devices, and the top lift is then fed to the top-lift-holding arms carried thereby.

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

1. In a heel-nailing machine, the combination of a nailing device, a rotary templet supporting heel-blank-holding devices, a box or receptacle for holding the heel-blanks in stack, and devices for feeding the heel-blanks in successive order to the templet when the templet has been rotated or turned to a position to receive them, comprising the sliding plate e' and the plate e^3 , substantially as described.

2. The combination, in a heel-nailing machine, of the stack or box E , for holding heel-blanks, the slide-plate e' , and an actuating-lever e^4 , having the arms e^6 e^7 , as and for the purposes described.

3. The combination, in a heel-nailing machine, of a rotary top-lift-carrier plate B^2 , having top-lift-holding devices, with a box or receptacle G for holding top lifts in stack, and top-lift-feeding devices for feeding top lifts from the box in successive order to said top-lift-carrier plate, comprising the slide-plate g and the plate g^7 , substantially as described.

4. In an organized heel-nailing machine, the combination of the box G , for holding top lifts in stack, the slide-plate g , and lever g^2 , having the arms g^4 g^5 , substantially as described.

5. The combination of the templet with the heel-blank-grasping devices, comprising the vertically-movable spring-plate f , and the spring-actuated slide-plate f^4 , substantially as described.

6. The combination of the top-lift-carrier plate with the spring-arms h h' , having the bent ends h^2 h^3 and the shoulders h^4 h^5 , substantially as described.

7. The combination, in a heel-nailing machine, of nailing devices, a rotary table supporting a heel-nailing templet and a top-lift-

carrying plate, and heel-blank-holding de-
vices carried by the heel-nailing templet, top-
lift-holding devices carried by the top-lift-
carrier plate, heel-blank-feeding devices for
5 feeding the blanks to the heel-holding devices
of the heel-templet, and top-lift-feeding de-
vices, substantially as set forth, for feeding

top lifts to the top-lift holder of the top-lift
carrier, substantially as described.

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Witnesses:

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