

(No Model.)

W. J. FAHNLEY.  
HEEL NAILING MACHINE.

No. 454,726.

Patented June 23, 1891.

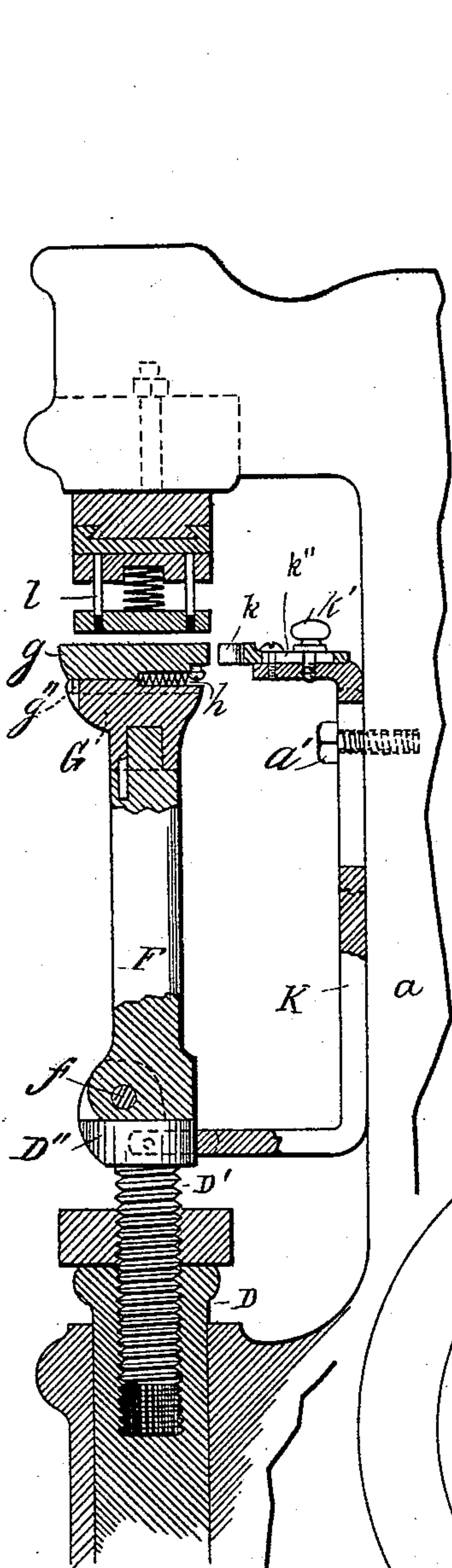


Fig. 2.

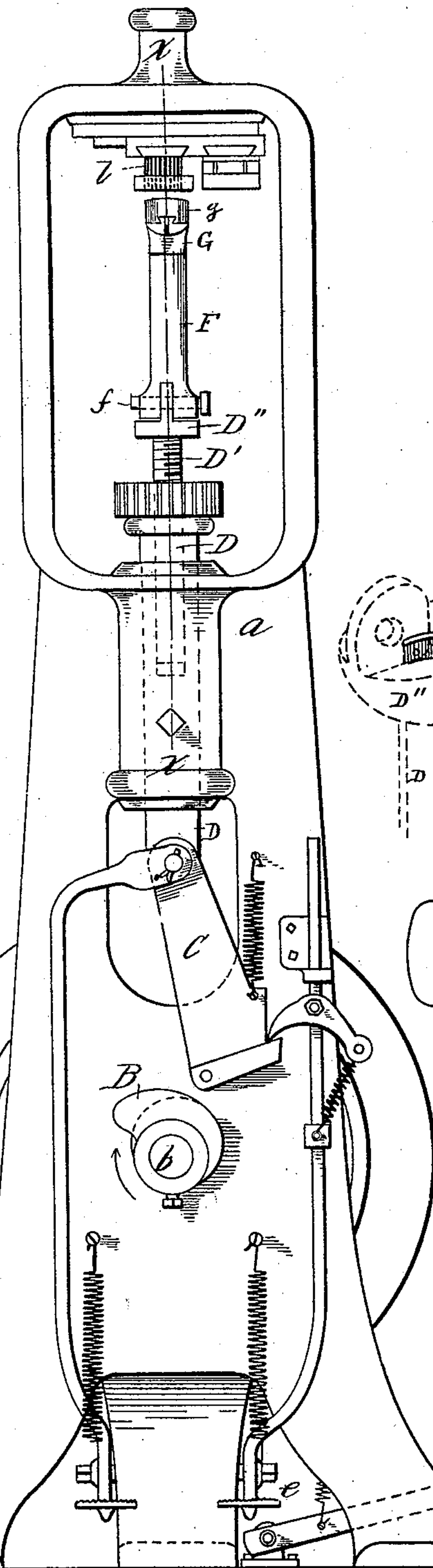


Fig. 1.

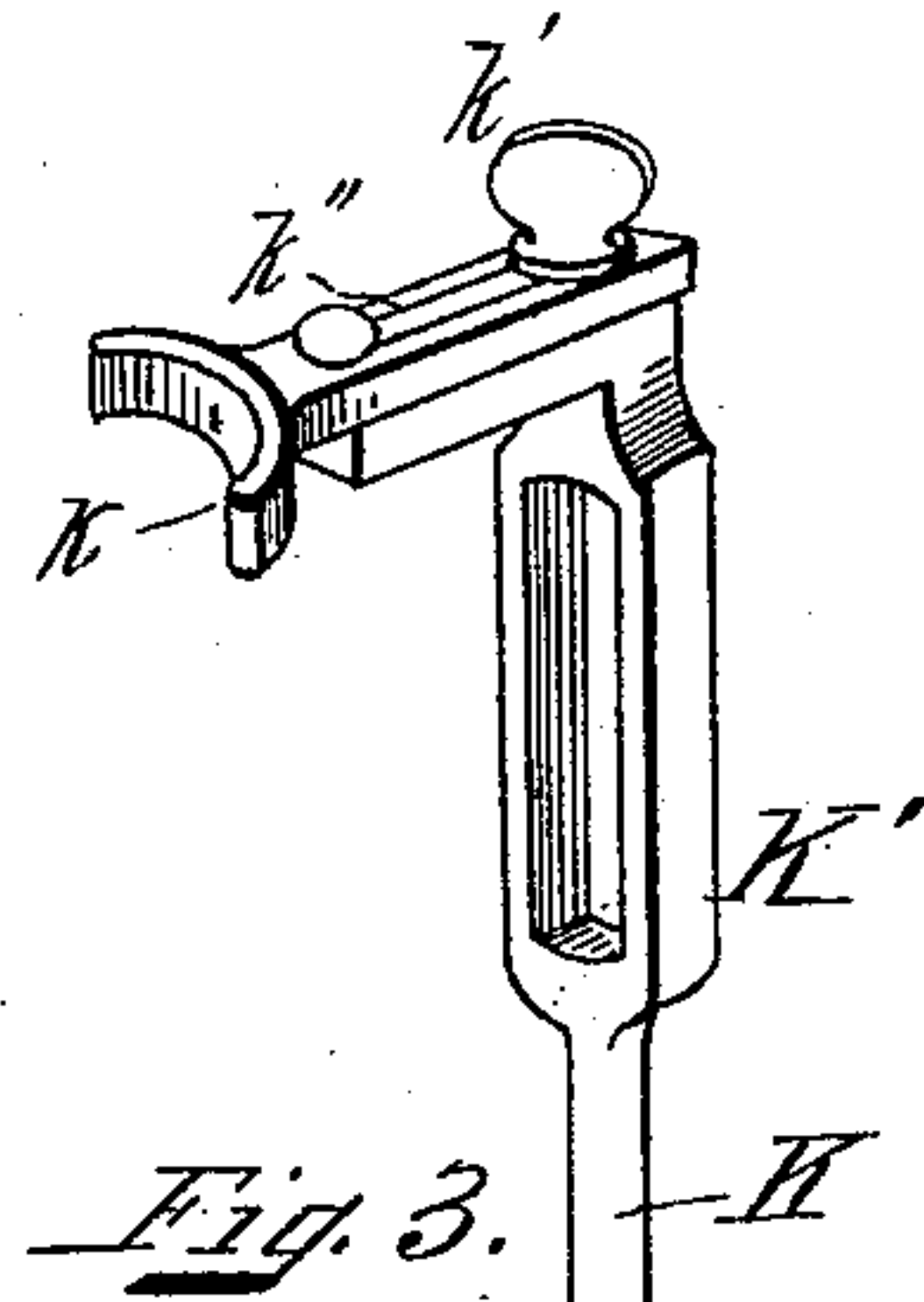


Fig. 3.

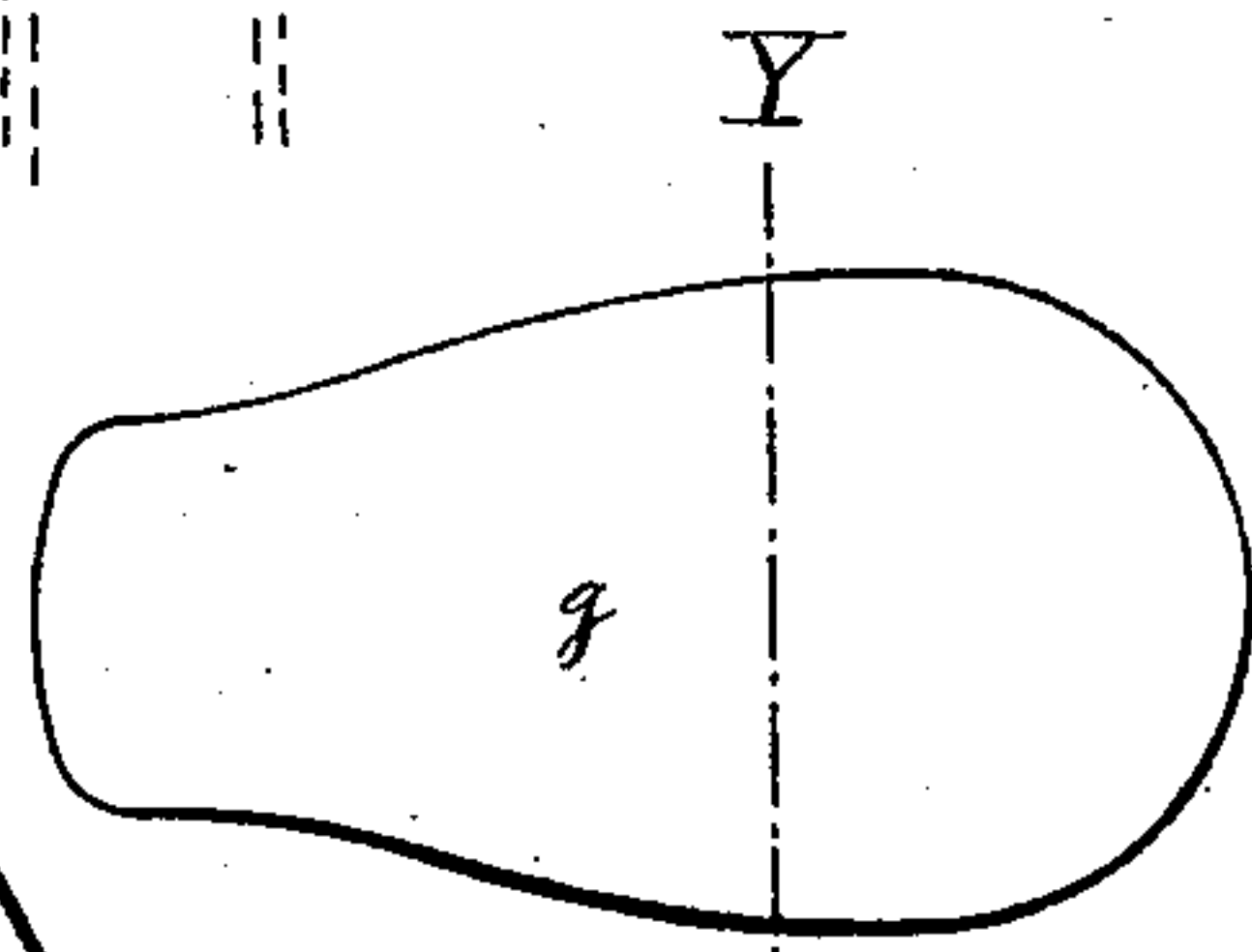


Fig. 4.

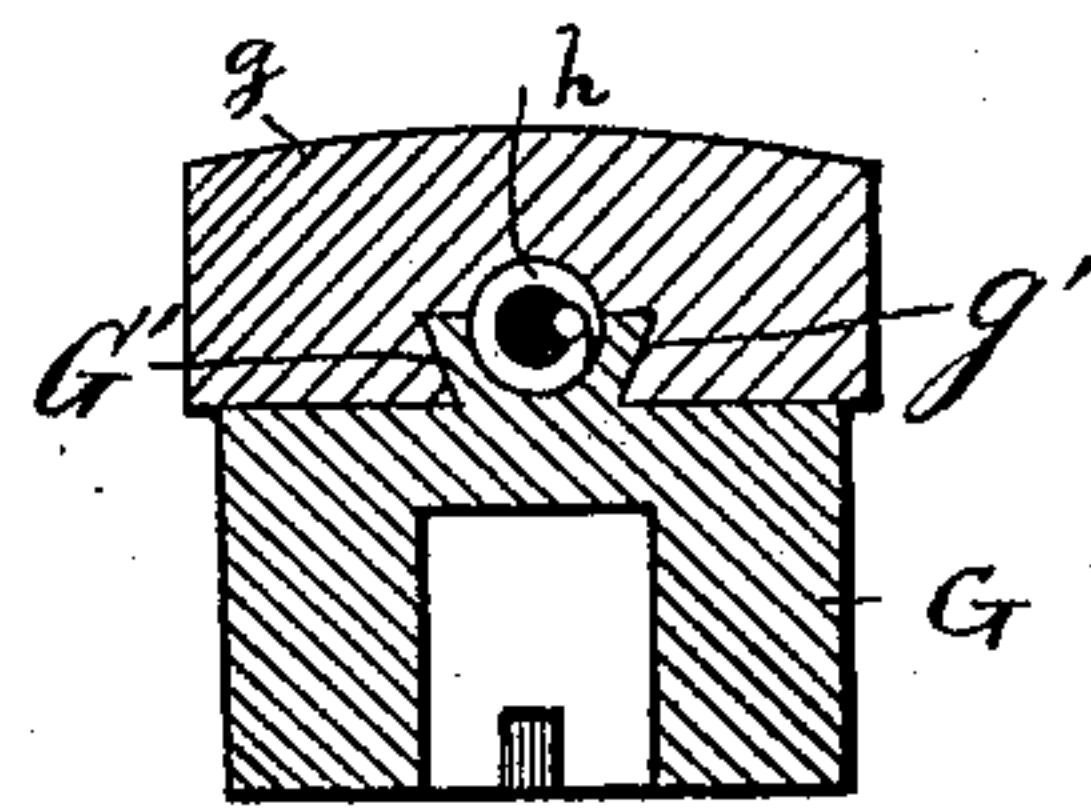


Fig. 5.

Witnesses  
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Inventor,  
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by  
Alvan Andrew Smith.



# UNITED STATES PATENT OFFICE.

WILLIAM J. FAHNLEY, OF LYNN, ASSIGNOR TO JOHN Q. A. WHITTEMORE,  
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## HEEL-NAILING MACHINE.

SPECIFICATION forming part of Letters Patent No. 454,726, dated June 23, 1891.

Application filed October 24, 1890. Serial No. 369,186. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM J. FAHNLEY, a citizen of the United States, and a resident of Lynn, in the county of Essex and State of Massachusetts, have invented new and useful Improvements in Heel-Nailing Machines, of which the following, taken in connection with the accompanying drawings, is a specification.

10 This invention relates to improvements in heel-nailing machines; and it consists in improvements in the jack and means for adjusting the shoe on the last relative to the drivers, as will hereinafter be more fully shown and described, reference being had to the accompanying drawings, where—

Figure 1 represents a front elevation of a heel-nailing machine provided with my improvements. Fig. 2 represents a vertical longitudinal section on the line X X, shown in Fig. 1. Fig. 3 represents a detail perspective view of the adjustable counter-guard. Fig. 4 represents a detail plan view of the improved last; and Fig. 5 represents a cross-section on the line Y Y, shown in Fig. 4.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

30 *a* is the frame or standard of the machine, in a bearing in which is journaled, as usual, the driving-shaft *b*, provided with a cam *B*, which actuates a lever *C* and causes it and the plunger *D* to move upward, when the treadle *e* is depressed, in a manner as shown and described in the patent granted to me 35 May 13, 1890, No. 428,044, for heel-nailing machines. I wish to state that the mechanism for raising and lowering such plunger and the jack connected to it forms no part of my present invention, as any suitable mechanism 40 may be used for this purpose without departing from the spirit of my invention. The said plunger *D* is shown as being internally screw-threaded and adapted to receive the adjustable screw-threaded rod *D'*, having a head or projection *D''* in its upper end, to which is pivoted at *f* the jack *F*, as usual.

The upper end of the jack *F* carries my improved last, which is constructed as follows: 50 It consists of a base portion *G*, detachably se-

cured in any suitable manner to the upper end of the said jack *F*, as shown. Upon the part *G* is guided and laterally yielding the shoe-support *g*, having preferably a dovetailed recess *g'* on its under side, adapted to 55 receive a correspondingly-shaped dovetailed rib *G'* on the upper side of the part *G*, as shown in Fig. 5. *g''* is a stop projection on the shoe-support *g*, which is normally held in contact with the forward end of the base *G* 60 by the influence of a suitable spring *h*, interposed between said parts *G* and *g* in such a manner as to hold the projection *g''* with a yielding pressure against the front end of the part *G*, as shown in Fig. 2. It will thus be 65 seen that the shoe-support *g* is capable of a horizontal sliding motion upon the part *G*, for the purpose of permitting it to be adjusted against the counter-guard, according to variations in the thickness of the shoe upper and 70 counter during the nailing operation, thus allowing the jack at all times to be swung into a vertical position with its lower end resting squarely upon the head or projection *D''*, by which the breaking of the jack where it is 75 connected to said head *D''* is entirely prevented. In connection with said improved last I use a counter-guard *k*, which is horizontally adjustable upon the upper end of the counter-guard carrier *K*, the lower end of 80 which is secured in a suitable manner, preferably, to the head *D''*, as shown in Fig. 2. The counter-guard carrier *K* is guided relative to the frame *a* during its up-and-down motion, preferably by means of a headed 85 guide pin or screw *a'*, secured to the frame *a* and passing loosely through a slotted perforation *K'* in said carrier *K*, as shown in Figs. 2 and 3. The counter-guard *k* is preferably secured to the counter-guard carrier *K* by means 90 of a set-screw or thumb-screw *k'*, passing loosely through a slotted perforation *k''* in said counter-guard and screwed into the upper end of the said carrier, as shown in said Figs. 2 and 3; but such adjustment may be 95 made by other or equivalent means, if so desired, without departing from the essence of my invention. The said counter-guard partakes of the vertical motion of the jack and serves for the purpose of properly adjusting 100



the shoe on its last relative to the drivers *l*, according to variations in the shapes of the heels to be nailed.

5 In using the machine the counter-guard is adjusted in position so as to cause the nails to be driven properly into the heel when the shoe-counter is brought in contact with said counter-guard. The shoe is placed upon the last when the jack is swung forward out of  
10 operative position, as usual, after which the jack is swung into its vertical working position, and in so doing the shoe-support *g* is free to yield slightly forward, when the shoe-counter is pressed against the counter-guard,  
15 so as to permit the lower end of the jack to rest squarely on the head or projection *D''*, irrespective of variations in the thickness of the shoe upper or its counter, as hereinbefore mentioned.

20 By having the counter-guard arranged to move up and down with the jack the shoe-upper is prevented from injury or abrasion during the nailing operation.

25 Having thus fully described the nature, construction, and operation of my invention, I wish to secure by Letters Patent and claim—

1. In a heel-nailing machine, the combination, with a swinging jack having its upper portion provided with a rectilinear rib, of a 30 horizontal sliding shoe-support having a rectilinear groove engaging the rib, a spring connecting the ribbed portion of the jack and the shoe-support and permitting the latter to yield, and a stop for limiting the inward 35 movement of the shoe-support under the influence of the spring, substantially as described.

2. In a heel-nailing machine, the combination, with a pivoted swinging jack, of a last 40 carried by the upper end of the jack and composed of the base *G*, detachably secured to the jack, and the horizontally-yielding spring-pressed shoe-support *g*, having a tongue-and-groove connection with the said detachable 45 base, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 15th day of October, A. D. 1890.

WILLIAM J. FAHNLEY.

Witnesses:

ALBAN ANDRÉN,  
ALICE A. PERKINS.