

(No Model.)

G. W. JOHNSON.  
HEELING MACHINE.

No. 411,524.

Patented Sept. 24, 1889.

Fig 1.

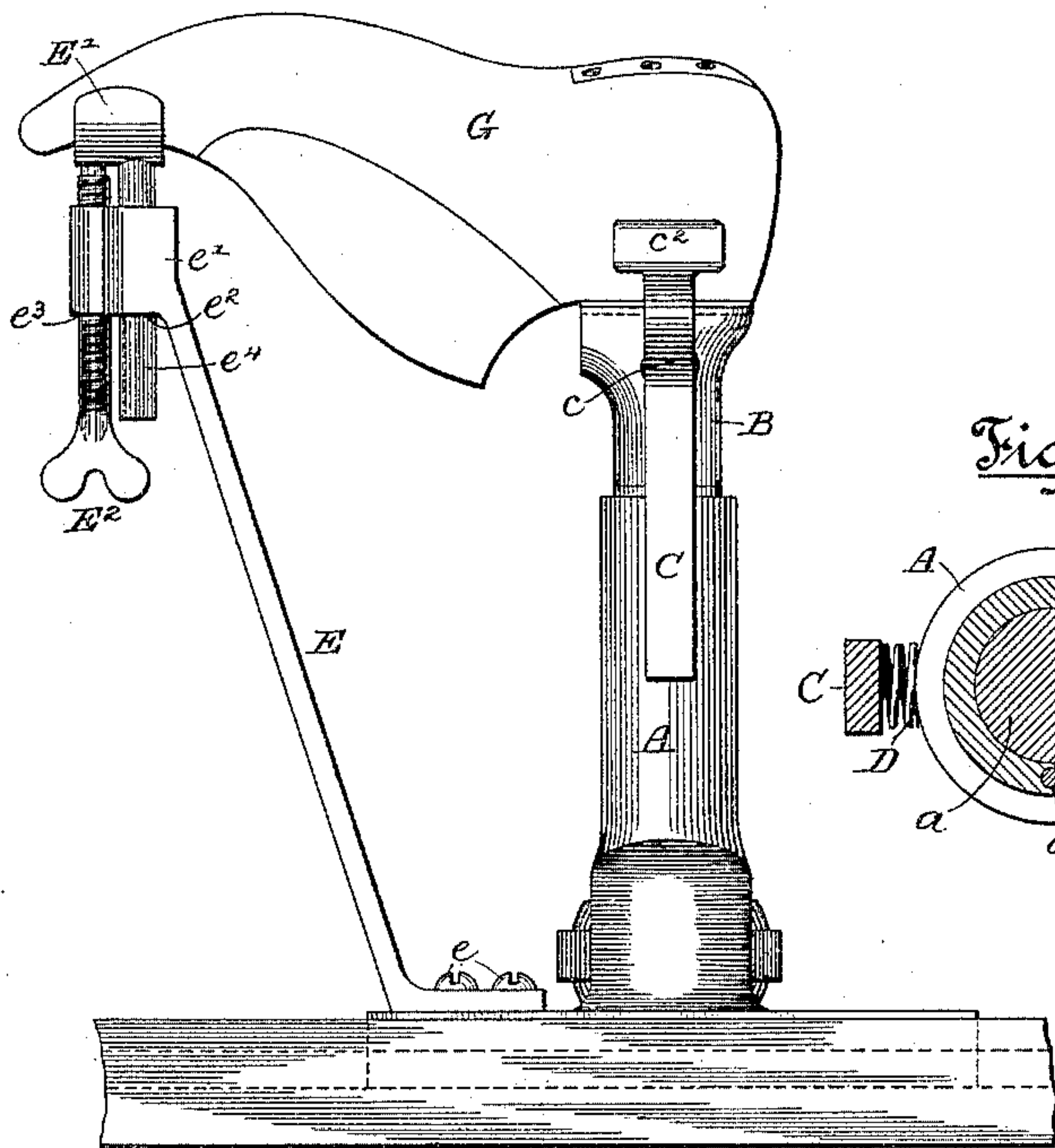


Fig 2.

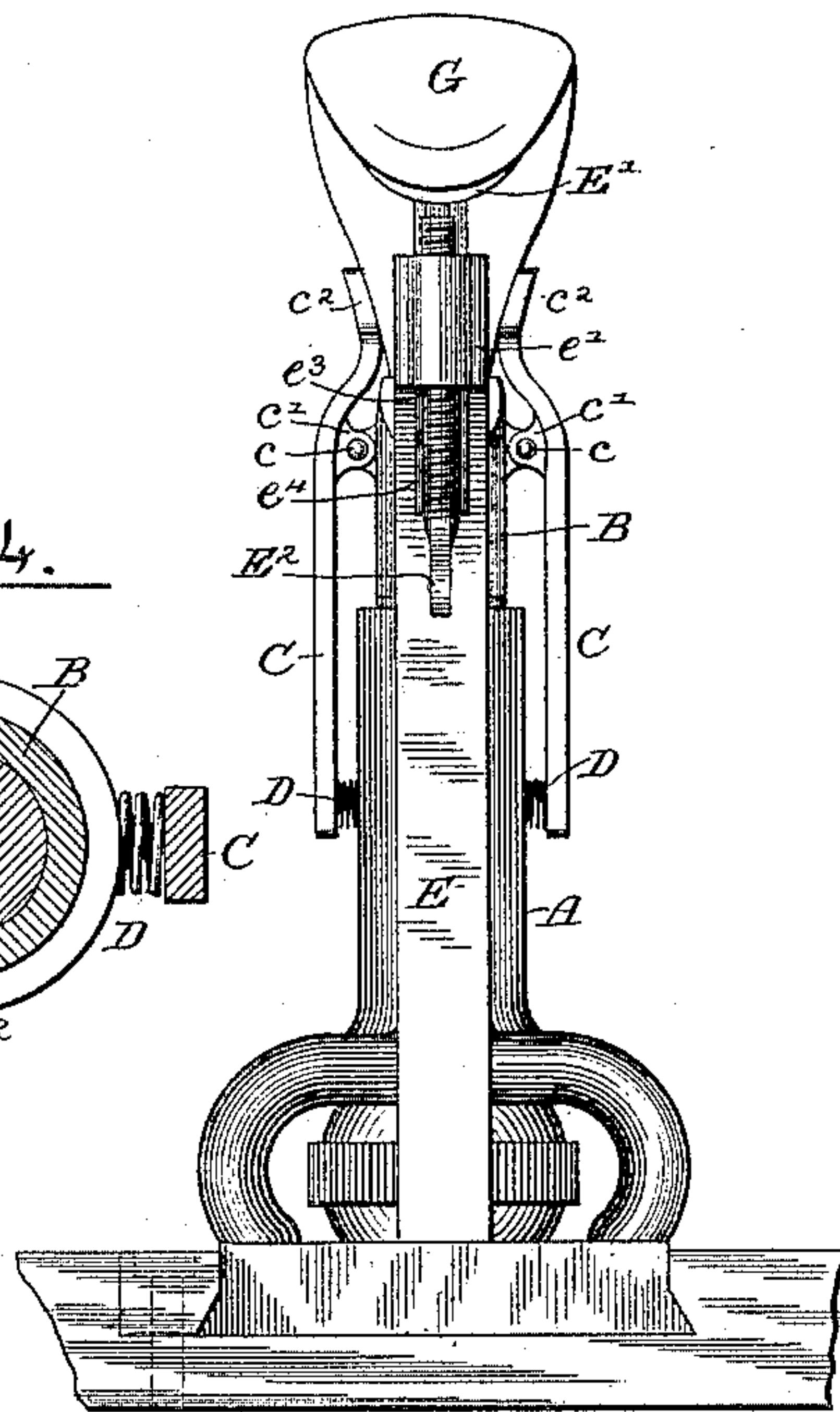


Fig 4.

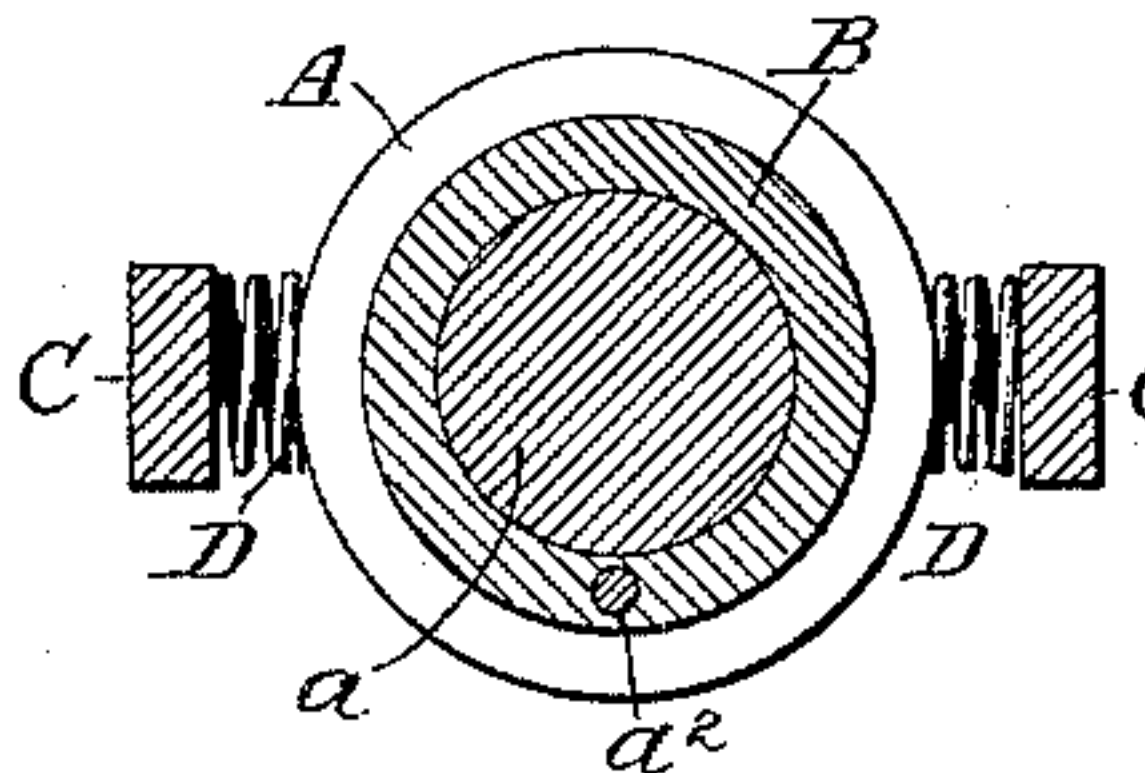


Fig 3.

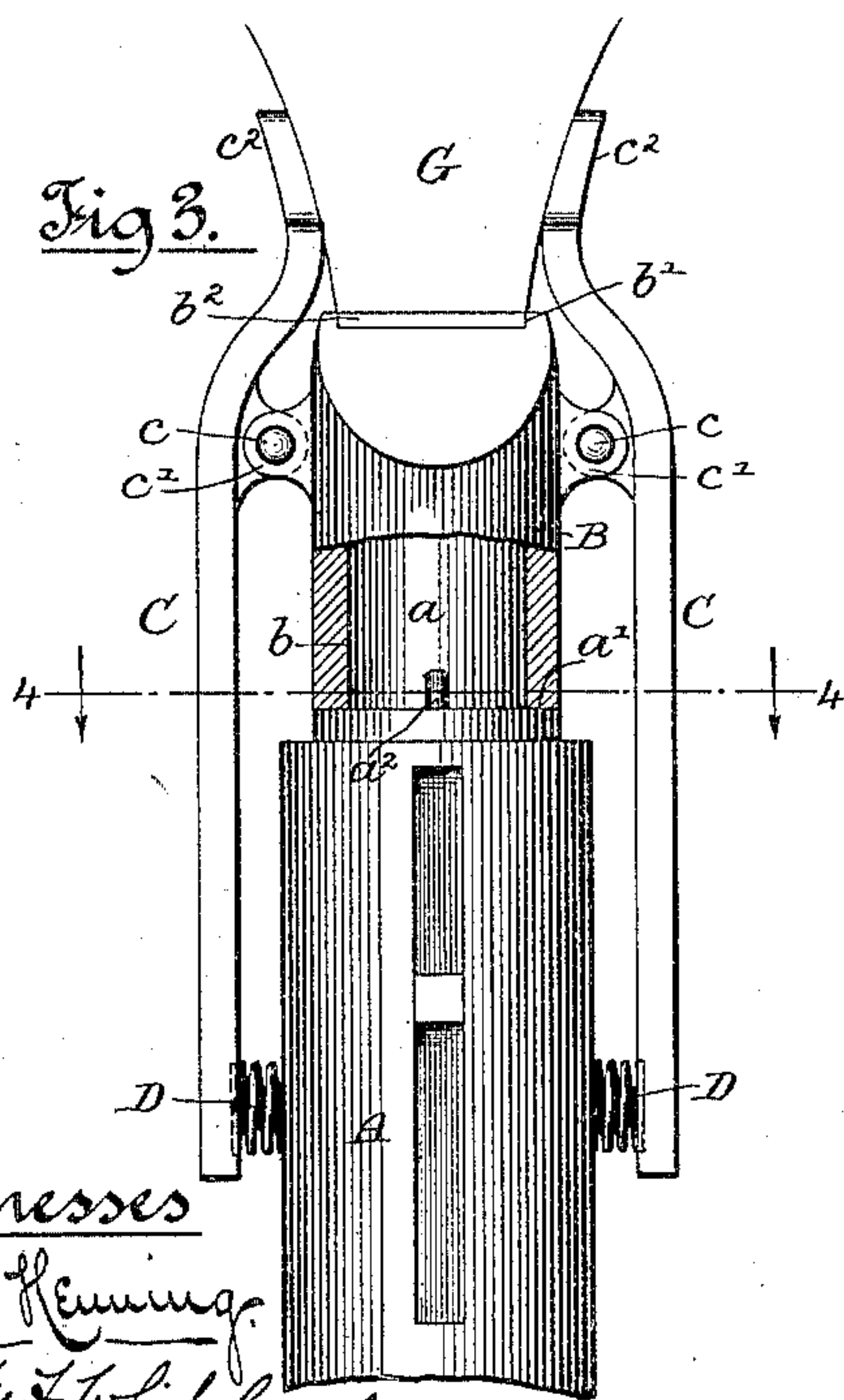
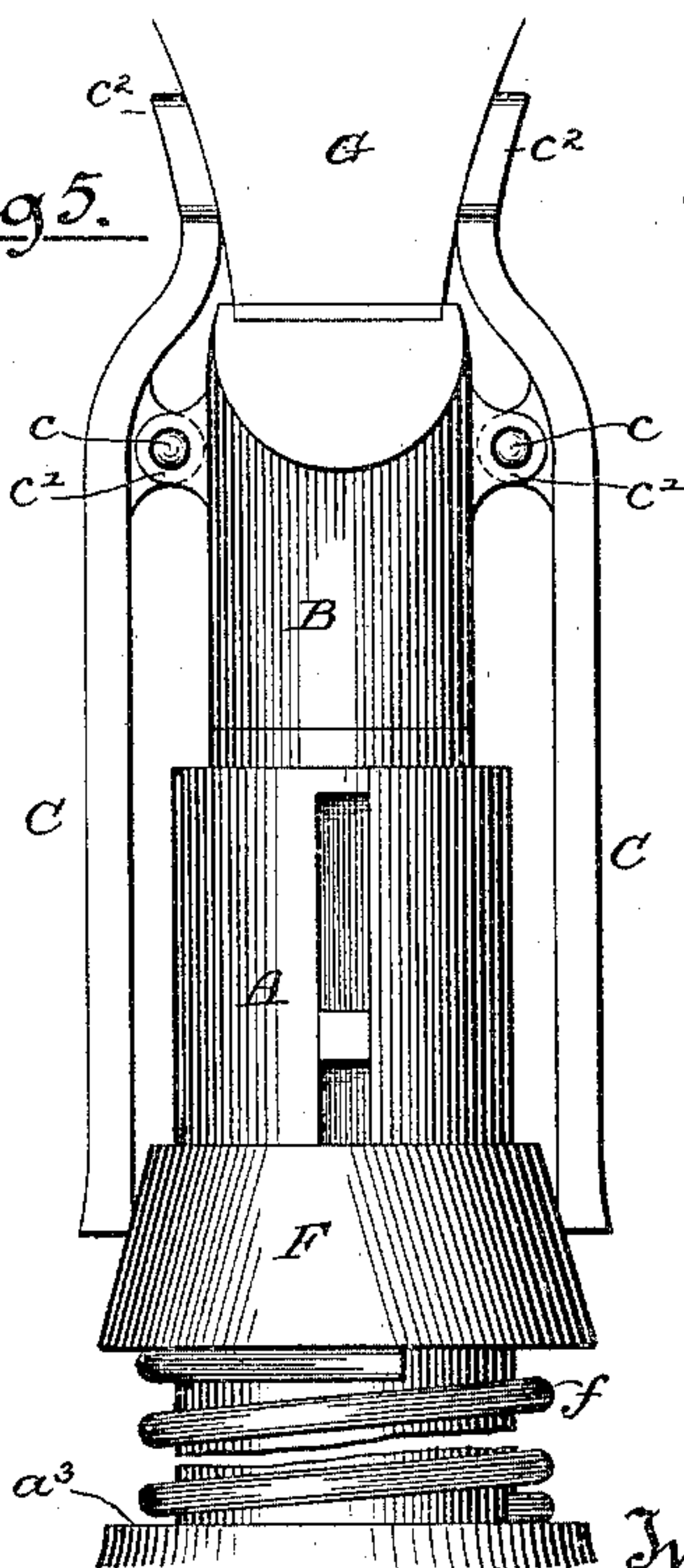


Fig 5.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## HEELING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 411,524, dated September 24, 1889.

Application filed July 6, 1889. Serial No. 316,713. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE W. JOHNSON, of Chicago, in the county of Cook and State of Illinois, have invented certain new and  
5 useful Improvements in Heeling-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying  
10 drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in shoe-heeling jacks or shoe-last supports employed in applying heels to shoes in their  
15 manufacture.

The invention consists in the several features of novelty hereinafter described, and more particularly pointed out in the appended claims.

20 In the manufacture of shoes as now practiced it is customary to construct the shoe, up to the point of putting on the heel, upon a wooden last and then to remove the last from the shoe and insert a smaller last of  
25 metal. The metal last is applied to a support or standard, commonly one of two standards, the other one of which supports the forward portion or toe of the last. The last-supporting mechanism is sometimes called a  
30 "heeling-machine" and sometimes a "heeling-jack." The reason for substituting an iron for a wooden last is that the former is more stable or can be more firmly held in place on the jack or heeling machine under the heavy  
35 hammering or pressure to which it is subjected in nailing on the heel, besides being adapted to clinch the nails by which the heel is secured. Wooden lasts are, however, sometimes provided with metal heel-plates for the  
40 same purpose, as shown in Figure 1. The substitution of one last for another in the progress of the manufacture of the shoe is, for some reasons, objectionable. Such substitution not only requires the expenditure of  
45 time on the part of the workman, but it also more or less impairs the nicety of the shape of the shoe generally. Moreover, the shape of the shoe is more or less impaired when the heel is being attached upon a substituted  
50 last, because the latter, not being as large as

the one upon which the shoe was originally formed, does not firmly hold the shoe in one position during the operation of attaching the heel. It is hence very desirable that the heel should be nailed to the shoe without re-  
55 moving the latter from the last over which it is formed in attaching the sole proper.

One of the objects of my invention, therefore, is to provide the main standard of an ordinary heeling jack or machine with a last-  
60 supporting device, whereby the wooden last over which the shoe is first formed may be firmly held in place upon the machine and may therefore be retained in the shoe while the heel is being attached.  
65

Another feature of the invention consists in an improved construction of an adjustable toe rest or support by which the last may be held firmly upon the jack to receive the heel.

In the accompanying drawings, Fig. 1 is  
70 a side view of a heeling jack or machine containing my improvements. Fig. 2 is a front view thereof. Fig. 3 is a fragmentary enlarged rear view, partly in section, of the heel-standard of the jack having the last-  
75 supporting attachment of my invention thereon. Fig. 4 is a horizontal section in the line 4 4 of Fig. 3. Fig. 5 is a rear view of the main standard of the jack, showing a modified form of mechanism for operating the  
80 clamps which form part of my improvement.

In the drawings, A is the upper part of the rear or heel-supporting standard of a heeling-jack, which may be of any approved pattern. The standard A is here shown as being pro-  
85 vided at its upper end with a reduced portion or projection *a*, terminating at its lower end at a shoulder *a'*, this projection being a part which is inserted in a corresponding recess  
90 in the peen of an iron last.

B is a sleeve fitted to the projection *a* of the standard A and closed at its upper end, where it is suitably formed to constitute a support or rest for the peen of the last. The upper surface of the rest B may be provided  
95 with a slight recess *b'*, in which is placed a cushion *b<sup>2</sup>*, of leather or other suitable material.

C C are gripping-arms pivoted between their ends at *c* to the lugs *c'*, located on op-  
100



posite sides of the rest-sleeve B. The lower portions of the arms C are shown in Figs. 2, 3, and 4 as being pressed outwardly by expanding springs D, interposed between the arms and the standard A, while the upper ends  $c^2$  of said arms extend above the rest and are arranged to bear against the sides of the last. The springs D, having a constant tendency to force the lower ends of the arms C outward, cause their upper ends to press firmly against the last and to sustain the latter rigidly in its upright position. In Fig. 5 a coiled spring  $f$ , surrounding the standard and bearing upwardly against an annular conical wedge F, which also embraces the standard between the lower ends of the arms C, similarly operates to force the lower ends of said arms outward and to press the upper ends of the arms against the sides of the last.

The upper bearing portions  $c^2$  of the arms C are slightly rounded on their outer lateral surfaces to permit their free insertion between the upper of the shoe and the sides of the last, and they are desirably elongated horizontally, as shown, to give more extended bearing upon the surface of the last. A vertical pin  $a^2$ , rising from the shoulder  $a'$  of the standard A, enters a corresponding hole in the lower face of the sleeve B and operates to prevent the rest from revolving about the standard A.

The device, as above described, including the removable sleeve-rest B, illustrates this portion of the invention as an attachment which may be applied to an ordinary standard A. It is manifest that the standard may include the top piece or rest B as an integral part thereof, and that the arms C C may be pivoted directly to the integral standard.

E is a rod or standard for the support of the toe or front part of the last, while the rear portion of the last rests upon the standard A.

The toe standard or support E is rigidly secured to the base of the machine, and is provided at its upper end with vertical adjusting devices by which it may be lengthened and lowered so as to bring the peen of the last into square bearing upon the rest B. To this end the upper end of the rod E is provided with a lateral enlargement  $e'$ , having two vertical holes  $e^2$   $e^3$  through it, the latter of which is provided with screw-threads.

$E'$  is a toe-rest proper, provided with a shank  $e^4$ , fitted to the hole  $e^2$ .

$E^2$  is a thumb-screw fitted to the screw-threaded hole  $e^3$  and rising beneath the toe-

rest  $E'$ , as shown, so that in turning said thumb-screw the toe-rest is adjusted vertically to any desired height.

G represents a wooden shoe-last having a metal facing  $g$  upon its heel portion, by which are clinched the nails that are driven through the heel to secure the same to the sole proper.

I do not wish to be limited to the precise means described for throwing the upper ends of the gripping-arms C into bearing upon the sides of the shoe-last, as it is obvious that other devices than those shown may be employed for producing the desired result, nor do I desire to be restricted to the exact means shown for adjusting the independent toe-rest  $E'$ .

I claim as my invention—

1. In a heeling-machine, and in combination, the standard A, provided at its upper end with a reduced portion  $a$ , a pin  $a^2$ , projecting from the upper portion of said standard, and a sleeve B, fitting over said projection  $a$ , and having a hole in its lower face fitting over the pin  $a^2$ , whereby it is prevented from displacement, said sleeve being provided with a flat top surface to receive the shoe-last G, substantially as described.

2. The combination, with the toe-supporting standard E, provided with an apertured lateral enlargement or head  $e'$ , of the toe-rest  $E'$ , provided with a shank  $e^4$ , fitted to a hole in the head, and an adjusting-screw  $e^3$ , also fitted to the head and arranged to adjust the toe-rest vertically, substantially as described.

3. In combination, in a heeling-machine, a suitable standard having a reduced portion at its upper end, a sleeve B, fitting over said reduced portion and provided with a flat top surface for the reception of the shoe-last, a pin  $a^2$  on the standard A, fitting a corresponding recess in the sleeve-rest, whereby the same is prevented from turning, gripping-arms C C, pivoted to the sleeve-rest, their upper ends extending above said sleeve bearing against the sides of the last, springs bearing upon the lower ends of said arms for holding them normally pressed against the last, and a vertically-adjustable rest, as  $E'$ , adapted to support the toe of the last, substantially as described.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

GEORGE W. JOHNSON.

Witnesses:

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