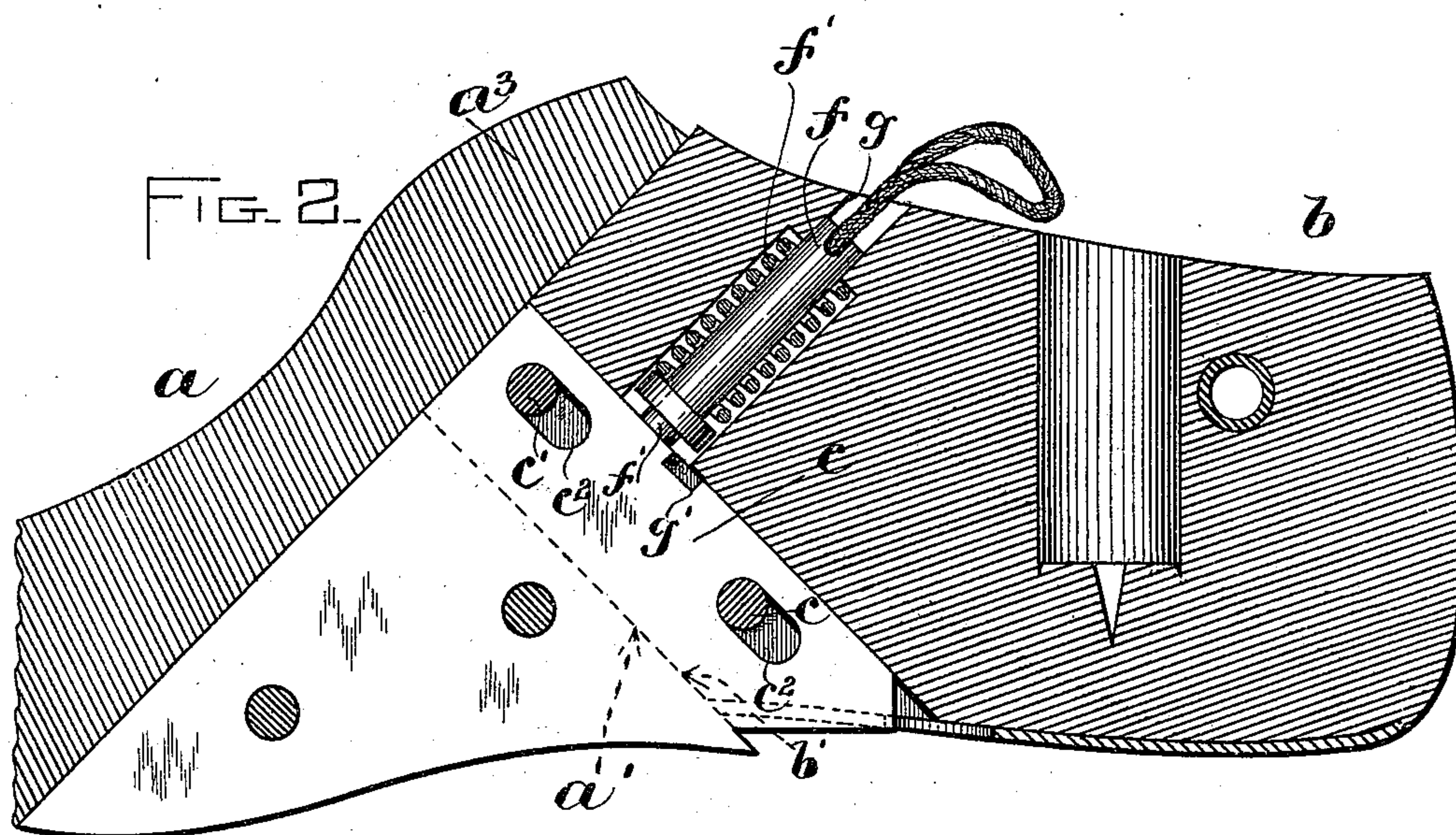
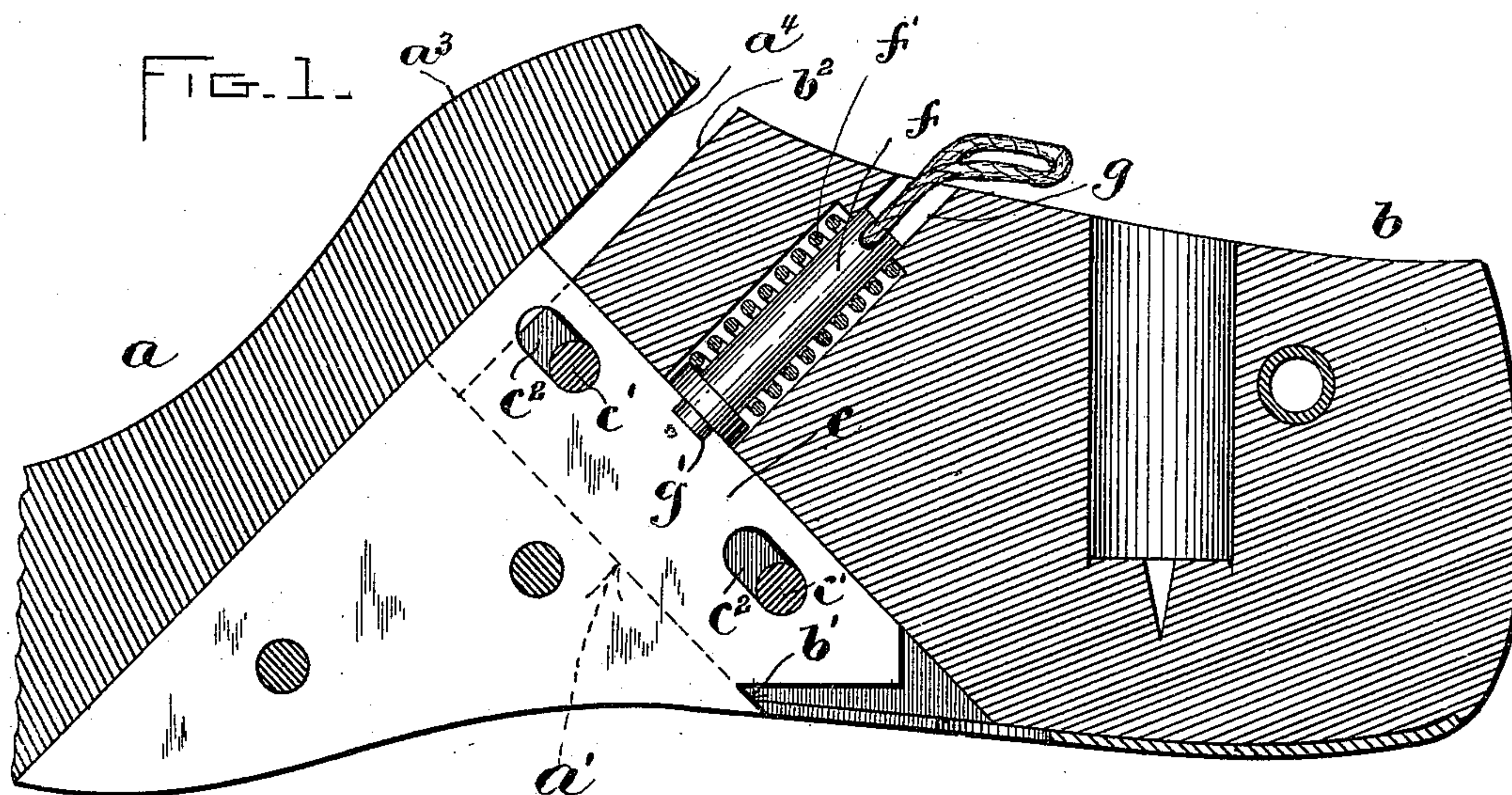


(No Model.)

W. & C. E. GORDON.  
LAST.

No. 556,096.

Patented Mar. 10, 1896.



WITNESSES:  
A. D. Harrison  
G. S. Adams

INVENTORS:  
W. Gordon  
C. E. Gordon  
by Knight Brown & Lundy  
Atty.



# UNITED STATES PATENT OFFICE.

WILLIAM GORDON AND CHARLES E. GORDON, OF BOSTON, MASSACHUSETTS.

## LAST.

SPECIFICATION forming part of Letters Patent No. 556,096, dated March 10, 1896.

Application filed January 7, 1896. Serial No. 574,615. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM GORDON and CHARLES E. GORDON, of Boston, in the county of Suffolk and State of Massachusetts, have  
5 invented certain new and useful Improvements in Lasts, of which the following is a specification.

This invention relates to transversely-divided lasts, and has for its object to provide a  
10 last of simple construction, adapted to be lengthened to operatively fill a boot or shoe, and shortened to permit the ready removal of the last.

The invention consists in the improvements  
15 which we will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a longitudinal section of a last embodying  
20 our invention, the last being extended and in its operative form. Fig. 2 represents a similar view, showing the last shortened.

The same letters of reference indicate the same parts in both the figures.

25 In the drawings, *a* represents the fore-part section, and *b* the heel-section of a transversely-divided last. The section *a* has a flat inclined guiding-face *a'* extending from the rear portion of the shank-surface of the last  
30 upward and forward, and terminating back of the instep portion *a<sup>3</sup>*, the latter extending above the face *a'* and having an inclined inner face *a<sup>4</sup>*.

The heel-section *b* has an inclined face *b'*  
35 formed to bear on the guiding-face *a'*, and a face *b<sup>2</sup>*, which is movable toward and from the face *a<sup>4</sup>*.

The sections *a* and *b* are provided with interlocking guides or coupling members which  
40 permanently connect the sections, keeping the faces *a'* *b'* in contact with each other and permitting a limited movement of one section on the other, said members as here shown comprising a plate *c* rigidly secured to the  
45 fore-part section and projecting above the face *a'* and entering a slot formed for its reception in the heel-section, and pins *c'* *c'* affixed to the heel-section and extending through the slot therein and through slots  
50 *c<sup>2</sup> c<sup>2</sup>*, formed in the plate *c*, said slots being

parallel with the face *a*, so that they permit movement of the pins and of the heel-section in a direction parallel with said face.

The inclination of the faces *a'* and *b'* is such that a movement of one section on the other  
55 is substantially lengthwise of the last and causes a quick adjustment of the length of the last without any considerable vertical displacement of the heel-section. Hence, in moving the heel-section forward, it recedes  
60 directly from the counter of the boot or shoe without moving upwardly while in contact therewith. The boot or shoe therefore offers no resistance to the shortening movement of  
65 the last, as it would in a last the heel-section of which has a movement which is substantially vertical or approximately at right angles with the length of the last.

The last is provided with an opening, extending downwardly from the top of the last  
70 behind the instep, its walls including portions of both sections of the last and being arranged so that when the last is lengthened a locking device inserted in said opening will positively engage both sections and prevent  
75 forward movement of the heel-section. We employ a bolt *f* as the locking device, said bolt being movable in an opening, the upper portion, *g*, of which is formed in the heel-section, while the lower portion, *g'*, is formed  
80 in the plate *c*, said portions coinciding when the heel-section is at the rear extreme of its movement and permitting the bolt *f* to be projected by a spring *f'* into the portion *g'*.  
85 The bolt *f* extends upwardly to the top of the last, so that it can be manipulated from that point without requiring the displacement of the upper of the boot or shoe to permit access to the locking device.

It will be seen that the faces *a'* *a<sup>4</sup>* of the  
90 fore-part section form a recess, which receives the forward part of the heel-section and permits the substantially longitudinal movement of the heel-section, the fore-part section containing in itself a complete support for the  
95 instep portion of the upper, so that the heel-section is free to move forward when unlocked, the heel-section being supported in its extended position wholly by the bolt, so that when it is unlocked it yields to and is  
100



displaced by the pressure of the boot or shoe upon it and does not require to be displaced by the operator.

5 The rear end of the fore-part section presents an angular recess, into which the angular end of the heel-section projects, the form of the sections being such that when the last is extended and in its operative adjustment there is practically no break in its continuity, 10 the only opening between the two sections being the narrow space between the faces  $a^4$  and  $b^2$ , which is too small to permit the upper to sink into it.

15 The instep portion  $a^3$  may be made in a separate piece, detachably connected with the fore-part section, like an ordinary last-block.

We claim—

20 A transversely-divided last composed of a fore-part section having a guiding-face extending approximately lengthwise of the last, and an instep portion above said face; a heel-section having a bottom face movable on the said guiding-face, said faces being arranged so that movements of the heel-section on the 25 guiding-face of the fore-part section are substantially lengthwise of the last, whereby the heel-section is enabled to be displaced auto-

matically by the pressure of the boot or shoe upon it; interlocking guides or coupling members on the two sections having provisions for 30 permanently connecting the sections and for permitting a limited length-adjusting movement of one on the other, the last having an opening extending to the top of the heel-section, the walls of said opening including portions of both sections; and a locking device 35 movable in said opening and adapted to positively engage the two sections therein to hold the last in its extended adjustment, the heel-section being supported in its extended position wholly by said locking device, so that the 40 withdrawal of the latter releases the heel-section and permits it to yield to the pressure of the boot or shoe upon it.

In testimony whereof we have signed our 45 names to this specification, in the presence of two subscribing witnesses, this 3d day of January, A. D. 1896.

WILLIAM GORDON.  
CHARLES E. GORDON.

Witnesses:

A. D. HARRISON,  
A. D. ADAMS.