

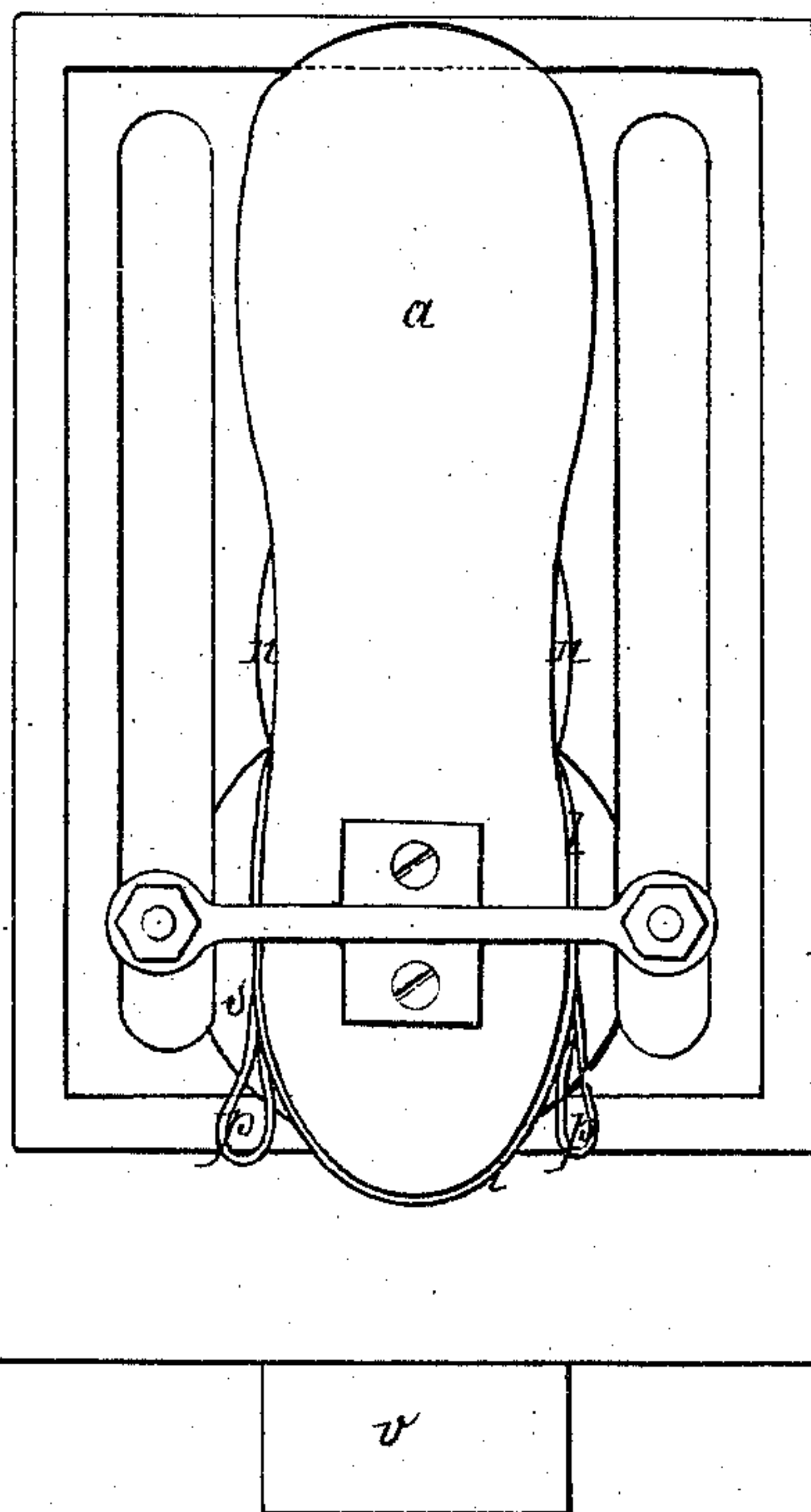
E. POCOCK & C. F. GARDNER.

Machinery for Lasting Boots and Shoes.

No. 152,917.

Patented July 14, 1874.

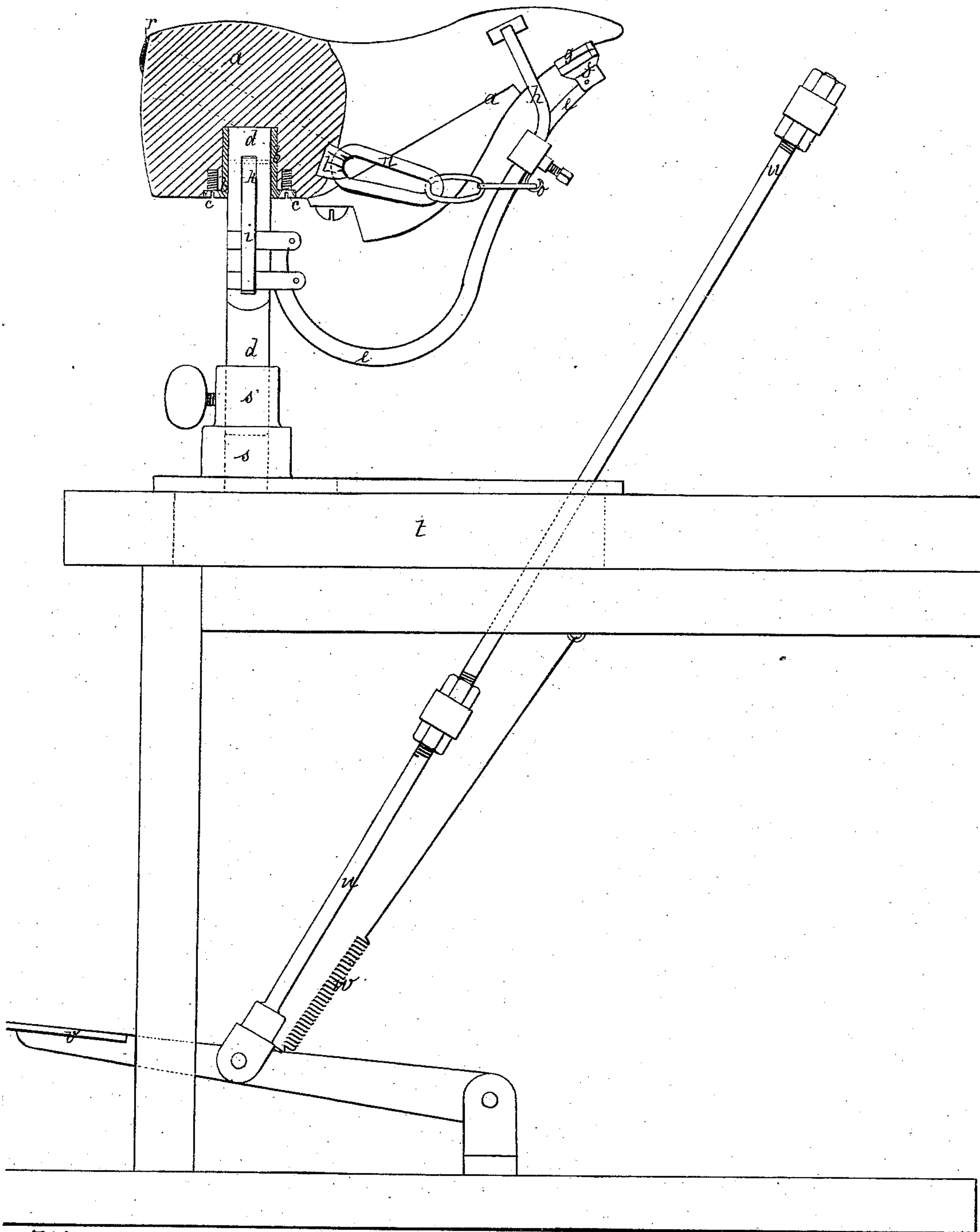
FIG. 1



Witnesses.
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FIG. 2.



Witnesses.

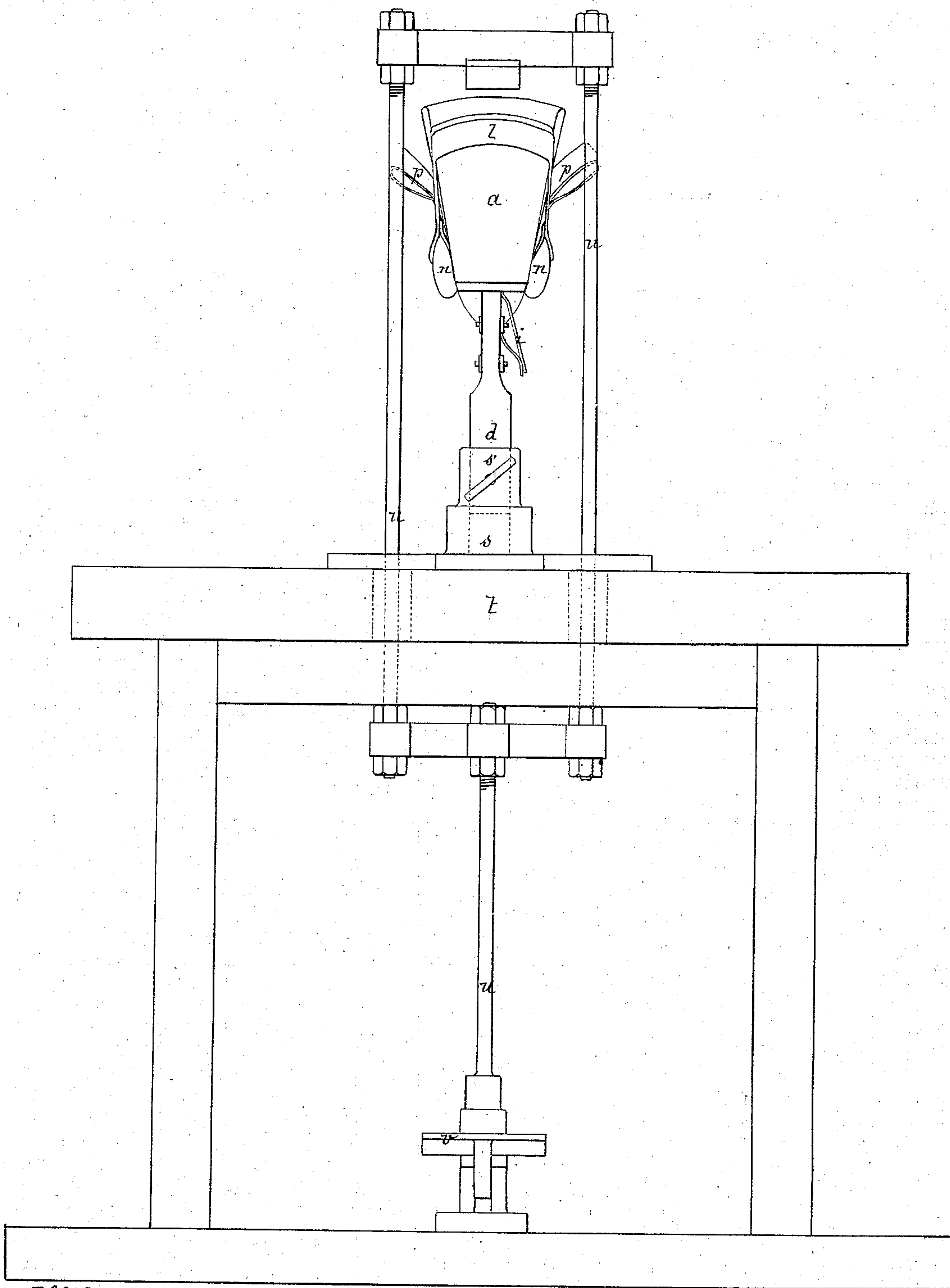
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FIG. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

EBENEZER POCOCK, OF PARIS, FRANCE, AND CHARLES F. GARDNER, OF
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IMPROVEMENT IN MACHINERY FOR LASTING BOOTS AND SHOES.

Specification forming part of Letters Patent No. **152,917**, dated July 14, 1874; application filed
May 28, 1874.

To all whom it may concern:

Be it known that we, CHARLES FREDERIC GARDNER, of New Bedford, Bristol county, Massachusetts, and EBENEZER POCOCK, of Paris, France, have invented certain new and useful Improvements in Lasting Boots and Shoes; and we do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of our invention sufficient to enable those skilled in the art to practice it.

These improvements have reference, in the first place, to a novel system of fixing an upper on a last for the purpose of uniting the former with its sole, either by mechanical or by hand sewing, or by riveting. Our improvements have reference, in the second place, to the mechanism employed for carrying into practice the first part of our invention.

Many arrangements may be devised which would answer the purpose in view, and we shall limit ourselves to explaining one of the said devices, at the same time stating that whatever the nature of the said device may be, it must, in order to embody our invention, necessarily form part and parcel of the form itself without augmenting to any great extent either its volume or its weight, so that the last, with its mechanism, is of easy manipulation, the latter being arranged in such a manner that by one simple and rapid motion the upper is not only stretched uniformly on the last, but also maintained firmly thereon while the sole is being sewed or riveted to the same.

Having thus explained the nature of our invention, we will describe conjointly with the three drawings hereunto annexed the best means that we are acquainted with for putting the same into practice.

Figure 1 is a plan of an ordinary last with our mechanism attached. Fig. 2 is a longitudinal elevation of the same, the last being partially in section; and Fig. 3 is an end elevation.

In these figures, *a* represents an ordinary wooden last, in the back of which a vertical hole is made, that does not go entirely through the same, and which is provided with a metallic lining, *b*, fixed thereto by screws *c c*. In this lining *b* we insert and fix our said mechanism, which consists in a metallic rod, *d*, to

which is attached, in the manner shown in the drawings, a mainspring, *e*, to the outer extremity of which is jointed a metallic presser, *f*, padded underneath with rubber or other appropriate material, *g*, and on each side of this mainspring *e* is attached one of the lateral springs *h h*, equally provided at their outer extremities with pressers of the same nature as *f*, which may be padded or not.

It will be readily understood, an upper having been passed over the last *a*, that if the rod *d* is depressed in its orifice, the elastic arms *e h h* will come in contact with the upper, and that on continuing the said depression, these arms, by reason of their elasticity, will cause the upper to tighten over the last with a tension sufficient to immobilize the same completely and uniformly; and in order to maintain these parts in the said condition during the subsequent stitching or riveting, we have adapted in the rod *d* a small spring-click, *i*, the tooth *k* of which catches in a notch made for the purpose in the lining *b*, as shown in Figs. 2 and 3. This latter arrangement, although furnishing greater security, is not altogether indispensable, for the different parts of this mechanism will act on the well-known principle of the carpenter's hold-fast.

Under certain circumstances we consider it advisable to add to our mechanism a strap, *l*, for the purpose of fixing more securely the heel end of the upper, as shown in the three figures. This strap is provided, at either extremity, with rubber rings *n n*, which are hung on the hooks *o o*, fixed to the mainspring *e*. *p p* are two loops, attached to the strap in order to draw the same over the back of the last, and *r* is a small bent steel spring, sewed in the said strap, in order that it should assume the form of the back of the last, and thus facilitate drawing it into place.

To separate our apparatus from the last after the upper has been united with the sole, it is merely requisite to withdraw the click *k* from the notch by pressing on the spring-click *i* and to draw or slightly strike the rod *d*.

Our new system is easily operated by simply depressing with the hand the rod *d* in the orifice of the last; but in order for providing greater facility and rapidity of action, we ap-

ply to the same a special mechanism or apparatus, consisting, in the first place, in a support, *s*, fixed to a table, *t*, and in which is adapted a socket-piece, *s'*; and in the second place, in a double connecting-rod, *u*, united at its upper end by a cross-piece, and connected at its lower extremity to a pedal, *v*, jointed to the floor, with the addition of a spring, *w*, for the purpose of raising the pedal.

When an upper has been laid on our last and the mechanism placed over the upper, these parts are placed in this special mechanism by the insertion of the rod *d* in the socket-piece *s'*, and by pressing with the foot on the pedal *v* the last is pressed down in the lasting mechanism until the tooth *k* of the click *i* has entered the notch in the lining *b*, and by then raising the foot the pedal and the connecting-rod are lifted by the spring *w*, thus liberating the last with the upper perfectly stretched and fixed upon the same.

We claim—

1. In combination with a last-supporting standard adapted for supporting an ordinary last, adjustable metal springs applied thereto, and serving, when the last, with the upper thereon, is pressed down to its place upon the standard, to tighten and hold the upper with

the requisite tension during the subsequent stitching or riveting, substantially as and for the purpose described.

2. The lasting mechanism consisting in elastic arms *e h h*, attached to the last-supporting rod *d*, substantially as and for the purpose set forth.

3. The click *i*, for maintaining this mechanism stationary in the last during the operation of uniting the upper to the sole.

4. The strap *l*, rubber springs *n n*, hooks *o o*, loops *p p*, and spring *r*, for the purpose of further securing the upper on the last, if requisite.

5. The combination, with the support *s*, socket-piece *s'*, and the removable standard or rod *d* above the table, of the double connecting-rod *u*, pedal *v*, and spring *w*, as and for the purpose described.

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