

No. 792,019.

PATENTED JUNE 13, 1905.

E. L. GODING.

LAST.

APPLICATION FILED AUG. 20, 1900.

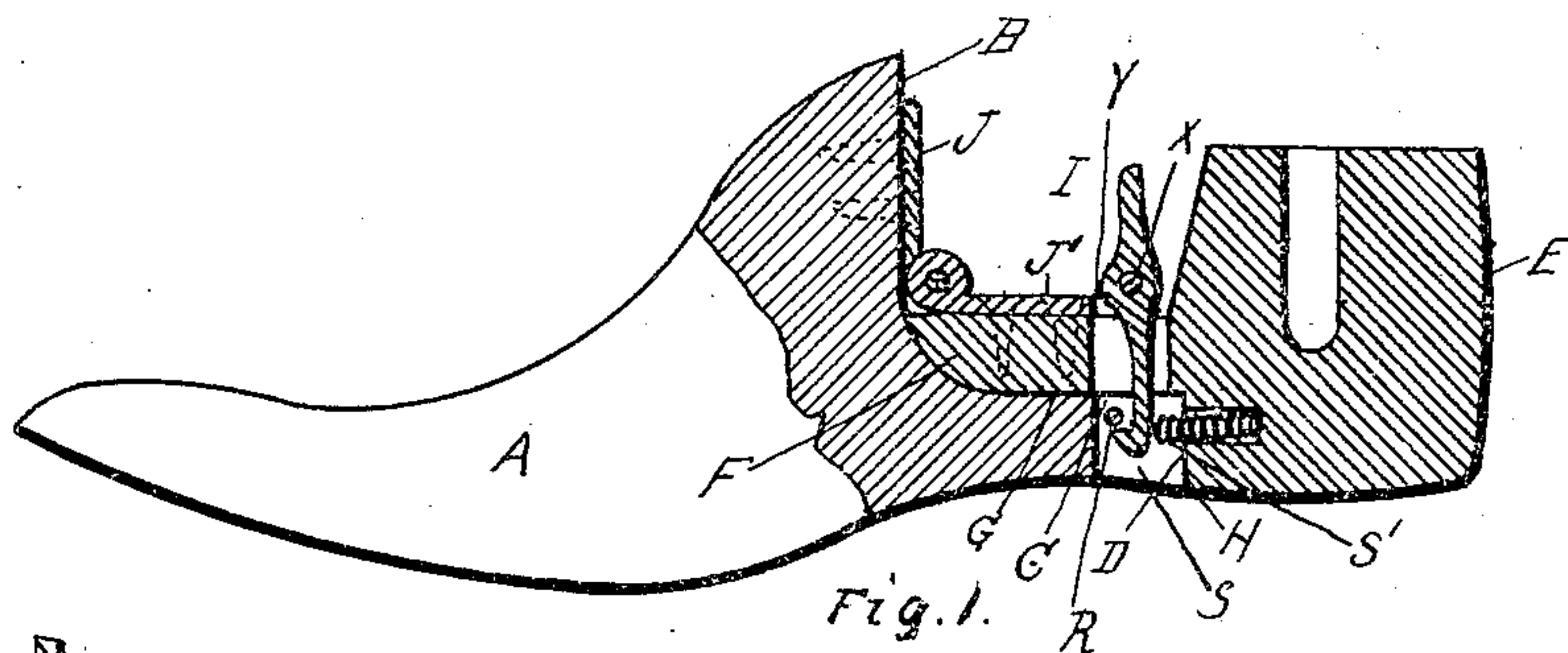


Fig. 1.

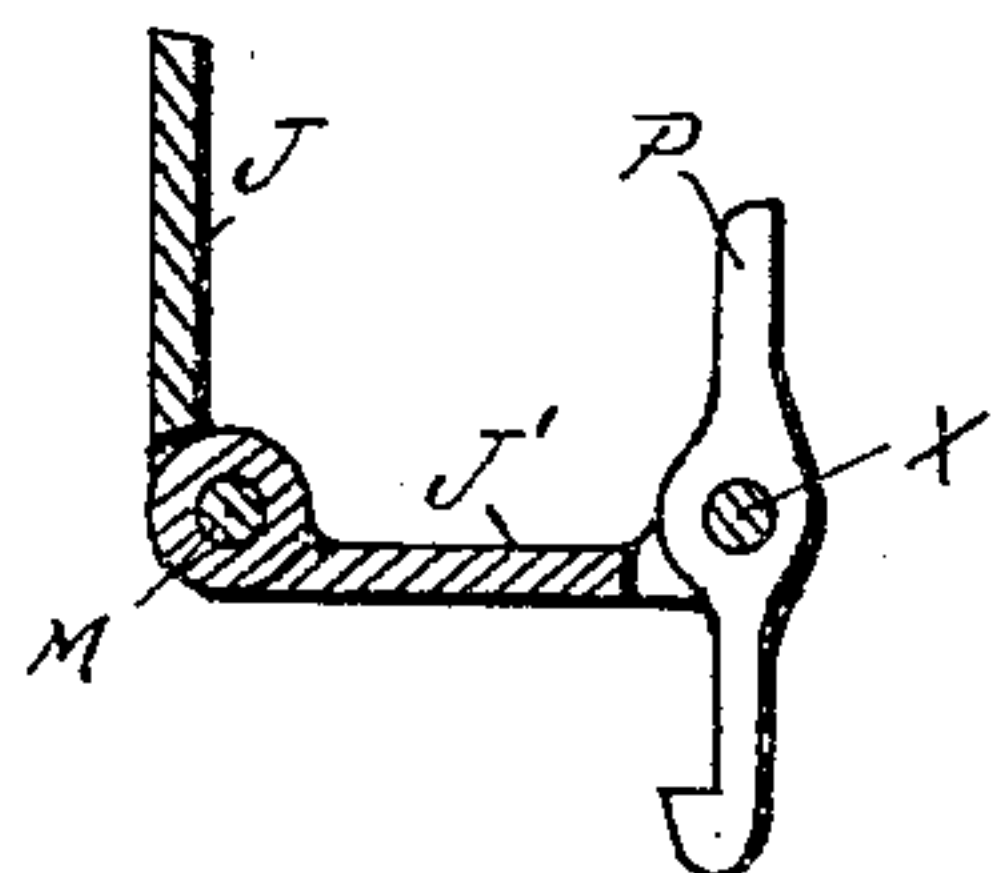


Fig. 2.

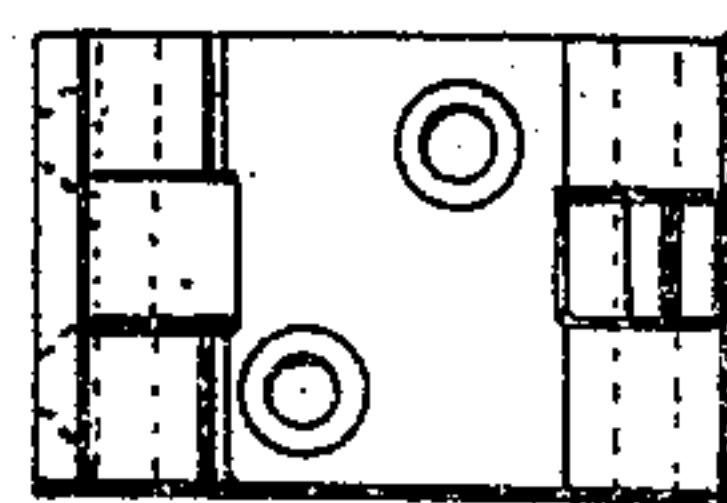


Fig. 3.

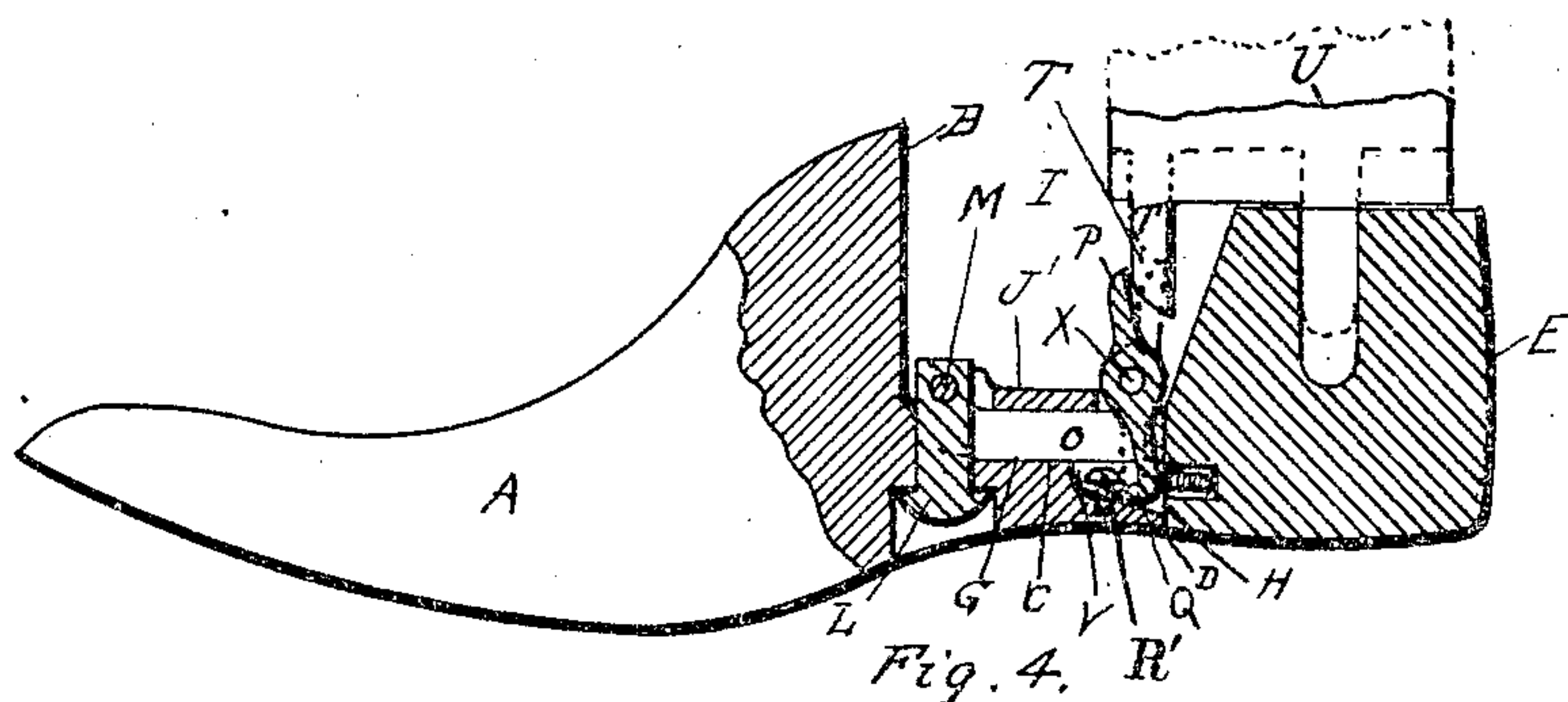


Fig. 4.

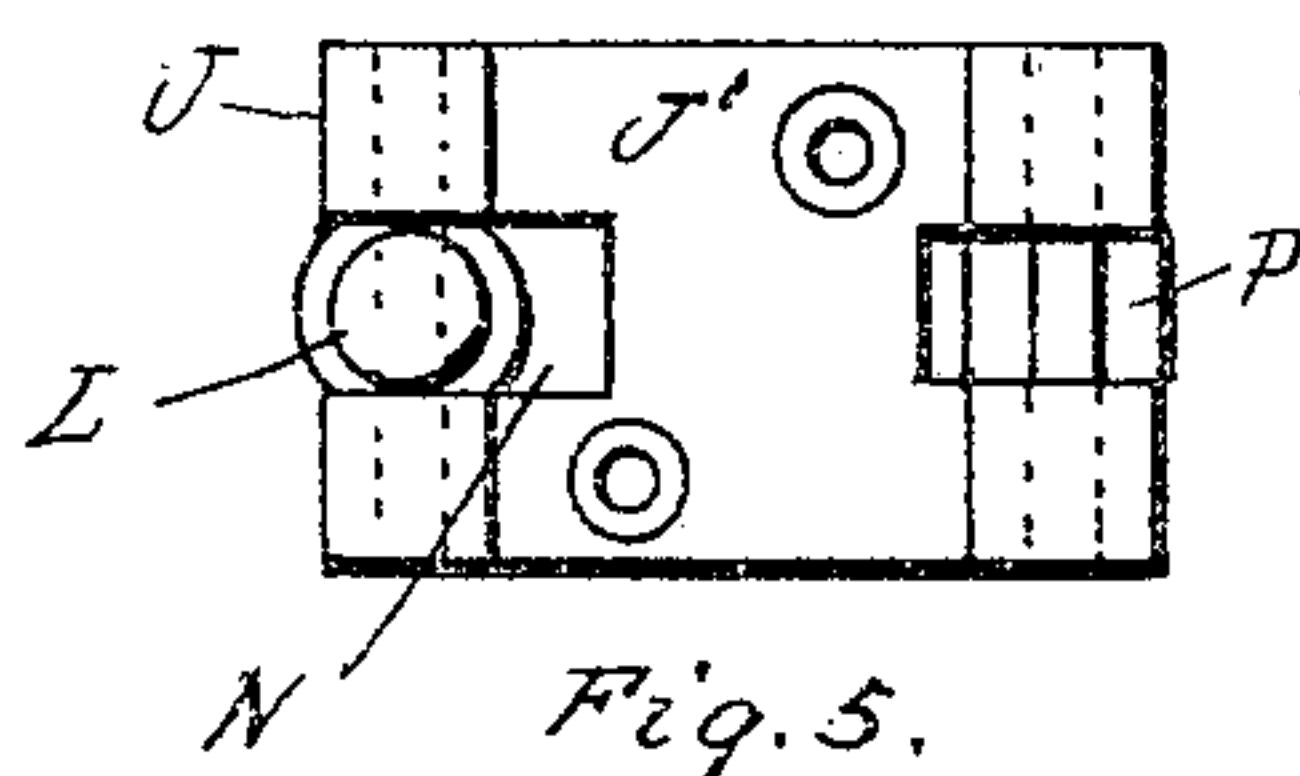


Fig. 5.

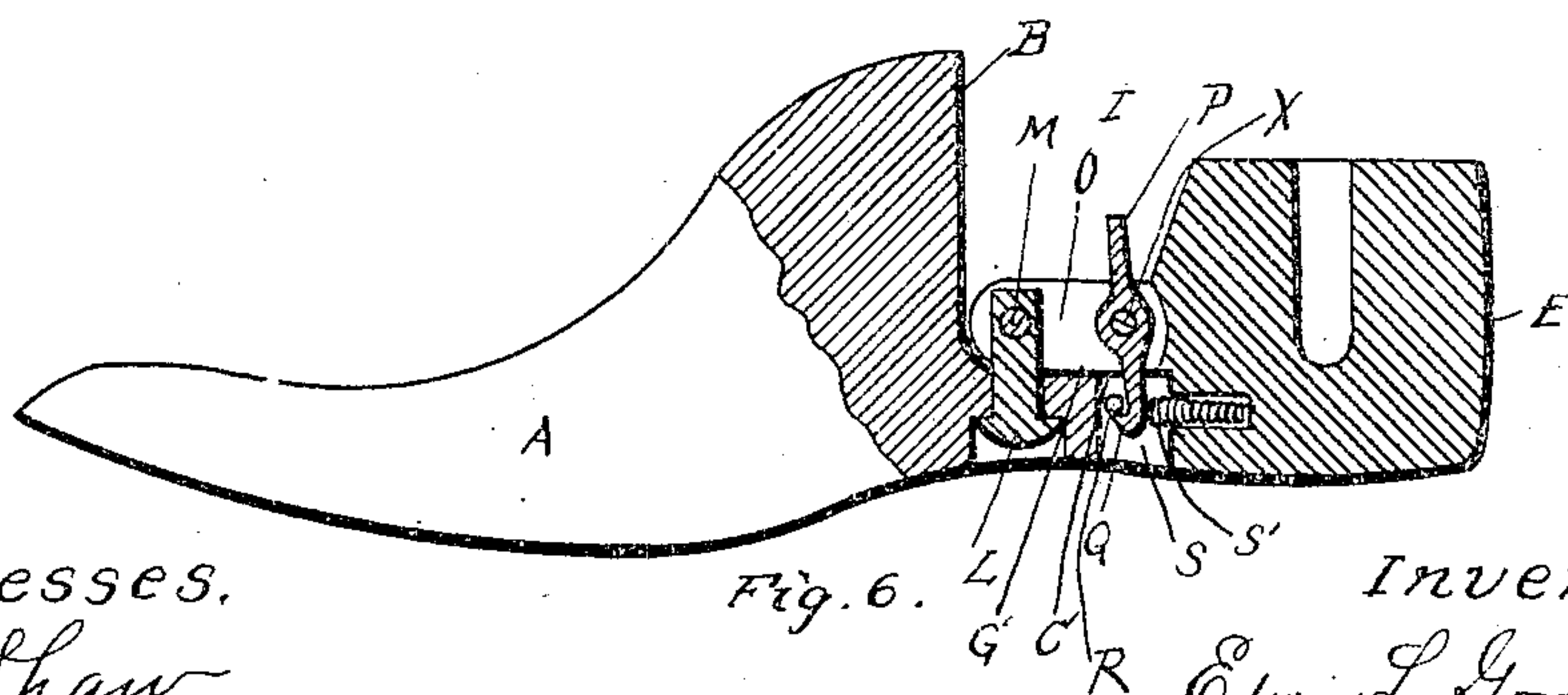


Fig. 6.

Witnesses.  
H. C. Shaw  
Anna M. Cole

Inventor.

Edwin L. Goding.  
by Verrill & Clifford.  
Attorneys.



# UNITED STATES PATENT OFFICE.

EDWIN LYFORD GODING, OF SANFORD, MAINE, ASSIGNOR TO O. A. MILLER TREEING MACHINE COMPANY, OF PORTLAND, MAINE, A CORPORATION OF MAINE.

LAST.

SPECIFICATION forming part of Letters Patent No. 792,019, dated June 13, 1905.

Application filed August 20, 1900. Serial No. 27,358.

*To all whom it may concern:*

Be it known that I, EDWIN LYFORD GODING, a citizen of the United States, residing at Sanford, in the county of York and State of Maine, have invented certain new and useful Improvements in Lasts; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in lasts, and more particularly to that class of lasts which are composed of two parts, the line of division being transverse to the length, and which are united by a union in such manner that one part can be turned upwardly and toward the other for the purpose of insertion and withdrawal from the shoe. It also relates to the construction of the union, to means for locking the two parts together, and to certain details of construction hereinafter described and claimed. As hitherto constructed lasts of this character have been lacking sufficient strength and rigidity to withstand the pressure to which they are subjected during some of the processes of shoe manufacture, both upon the bottom and endwise, tending to collapse the last; and one of the objects of my invention is to so construct a last thus divided and connected as to overcome said difficulties, the problem to be solved being to construct the parts of the last and the union in a way to render the composite last sufficiently strong to resist pressure applied upwardly on the bottom or longitudinally upon the ends, the last being supported at each end.

To this end I divide a last transversely by lines of cut which form on the fore part a horizontal surface somewhat removed from the bottom and a vertical abutting end extending from said horizontal surface to the bottom of the last and a heel part having a vertical abutting end extending from the bottom upwardly a distance equal to the vertical thickness of the projection on the fore part and an overhanging shoulder adapted to project forward and rest upon the horizontal

surface of the projection on the fore part. The last is also provided with an open gap at the top, which permits the turning of the heel part on the fore part for shortening the last. I then unite the two parts by a pivoted union, the pivot-point being located in front of the vertical abutting ends and above the horizontal surface of the projection on the fore part.

In the drawings herewith accompanying and making a part of this application I have shown various lines of cut, each having the characteristics above described, and various forms of union, all of which, as well as many others, are within the scope of my invention.

In said drawings, Figure 1 is a central vertical sectional view of a last embodying my invention, the union being in the form of a leaf-hinge, one leaf secured to the top of the overhang of the heel part and the other to the forward vertical wall of the fore part. Fig. 2 is a longitudinal sectional view of the hinge, together with a locking device made integral therewith. Fig. 3 is a plan view of said hinge. Fig. 4 is a vertical central sectional view of a different style of union consisting of a single leaf secured to the projection of the heel part and having its forward end pivotally mounted in a bar or post set in the fore part of the last. Fig. 5 is a plan view of the hinge shown in Fig. 4, and Fig. 6 is a central vertical sectional view of a last in which there is no hinge proper, but the two parts are connected by a vertical post inserted in the fore part and a transverse pivot-pin passing through the overhang on the heel part and said post.

Same letters of reference refer to like parts.

It will be seen that in all these cases when pressure is exerted on the bottom, the heel and fore parts being supported on the jack in the usual way, the vertical abutting ends and the horizontal overlapping faces, taken in connection with the pivot located at or near the front thereof, cooperate to resist the pressure, the resistance being much greater than would be the case if the union were located at the juncture of the vertical abutting walls and the open space. It will be seen that when pres-



sure is applied to the bottom of the fore part the fore part is supported on the horizontal surface of the heel part, and the tendency of the two parts to be forced apart is lessened greatly by the vertical abutting ends below the overlapping parts.

For a more detailed description of my invention I refer to the drawings, in which—

A represents the fore part, having a vertical face B above a substantially horizontal face C and a vertical abutting wall D at the rear end extending from said horizontal face downwardly to the bottom of the last. The heel part E has a forwardly-extended projection F, with a bottom horizontal face G, adapted to rest upon and overlap the horizontal face on the fore part, and below said projection a vertical abutting wall H, corresponding with the vertical wall D of the rear projection of the fore part. Between the two sections of the last and above said horizontal overlapping parts is an open space I, extending to the top of the last and permitting the heel part to be turned relatively to the fore part.

In the preferred form of my invention, as shown in Fig. 1, the horizontal face C of the overlapping portion of the fore part has a curved surface which connects said face with the vertical wall B, and the end of the overlapping portion of the heel part is provided with a cooperating curved engaging face. Sharp angles are thereby dispensed with, and the tendency for the fore part to split at the junction of the vertical and horizontal faces is greatly reduced, and the end of the overlapping portion of the heel part is not liable to chip off, as it would if it were formed with a sharp corner.

In Fig. 1 I have shown a union of a structure similar to the ordinary leaf-hinge, one leaf, J, being attached to the wall of the fore part above the overlapping portions, and the other, J', secured to the upper face of the overlapping projection on the heel, the pivot-point being positioned above the overlapping faces a distance about equal to the distance of said faces from the bottom of the last. The two parts are secured to the wood of the last in any convenient manner—as, for instance, by screws passing through the leaf and into the wood of the last. This is a particularly simple, strong, and durable method. It is particularly strong, because the pressure in operation is as near as may be in a vertical line against the material of the hinge, the pintle receiving the greatest amount of support possible and the leaf itself pressed upwardly in a direction transversely to the length of the screws, thus obviating any tendency to pull the screws out of the wood.

In the form of union shown in Figs. 1 and 4 the rear end of the leaf is rolled to form a bearing for the pivot-bar X and the locking-latch is permanently secured to the leaf by said bar, the latch working in a slot Y in the

leaf. In Fig. 4 the union consists of a single leaf J', attached to the heel part, as before, and the other members of the union consist of a post L, inserted in the wood of the fore part, and the pintle M, passing through the end of said post, a portion N of the end of the hinge being cut away, as seen in Fig. 5, to receive the end of the post. In Fig. 6 the hinge is discarded entirely, and the overlapping part of the heel has a central vertical slot O therein, and the post extends upwardly through the overlapping part of the fore part and into said slot, and the pivot-pin M, corresponding with the pintle of the hinge, passes through the wood of the last and through the end of said post. In all these cases the pintle serves not only for a pivot-point, but also for a stop to receive the thrust of the forward end of the heel part when pressure is exerted on the bottom of the last; but they need not necessarily be the same, as the top may, if desired, be independent of the pivot connection—as, for example, the leaf of the hinge in Fig. 1 forms a stop to receive the initial thrust of the front end of the heel part.

In constructing lasts of this kind it is important to locate the pintle as near the bottom of the last as possible consistent with the required strength. It is found important, therefore, to provide means for preventing the two parts from accidentally collapsing. This may be done in many ways, a convenient way being shown in Figs. 1, 4, and 6. This consists of a vertically-disposed latch P, secured to the heel part or the leaf of the hinge, which is itself secured to the heel part, the upper end extending upwardly into the open space aforesaid and the lower end provided with a finger Q, adapted to engage a lug secured to the overlapping part of the fore part of the last. This lug may be in the form of a bar R, as seen in Figs. 1 and 6, extending transversely across a slot S in the overlapping part of the fore part, or a headed bolt R', as seen in Fig. 4, or in any convenient manner. The finger is held normally and yieldingly in engagement with the lug by means of a spring S', inserted in the rear vertical wall of the heel part and adapted to press against the back of the latch. The free end of the latch extends slightly away from the wall of the heel part normally, so that it can be automatically disengaged by a member T, carried by the jack U, when the last is placed upon the jack for the purpose of removing the shoe from the last. This construction renders it possible to conceal the locking end of the latch in a recess V in the projection on the fore part.

Having thus described my invention and its use, I claim—

1. A divided last having overlapping portions on the adjacent ends of its fore part and heel part, the overlapping portion of the fore part resting on and gaining support from the



heel part when the last is in inverted position, said two parts being hinged together at the forward extremity of the heel part, and means carried by one of said overlapping portions for automatically locking the other of said portions thereto said locking means being located at the rear of said hinge.

2. A divided last, having heel and fore parts provided with overlapping mutually-supported portions, a hinge connecting the two parts and a gap being formed above said hinge when the last is in lengthened position, the portions of the last being in contact below said hinge when in lengthened position, combined with an automatic locking device located to operate through the overlapping portions of the last to the rear of the hinge for binding them together in extended position.

3. A transversely-divided last, comprising a fore part and a heel part, the fore part having a vertical wall and an overlapping portion provided with a substantially horizontal engaging face, and the heel part having an over-

lapping portion provided with a cooperating engaging face, the heel part being pivotally 25 connected to the vertical wall of the fore part at a point above the horizontal engaging faces substantially equal to the distance of said faces from the bottom of the last.

4. A transversely-divided last, comprising 30 a fore part and a heel part, the fore part having a vertical wall and an overlapping portion provided with a curved and a horizontal engaging face, and the heel part having an overlapping portion provided with a cooperating 35 engaging face, the heel part being pivotally connected to the vertical wall of the fore part at a point above the curved engaging faces of the overlapping portions.

In testimony whereof I affix my signature, 40 in presence of two witnesses, this 16th day of August, 1900.

EDWIN LYFORD GODING.

Witnesses:

FRED J. ALLEN,

JOHN F. BURNHAM.