

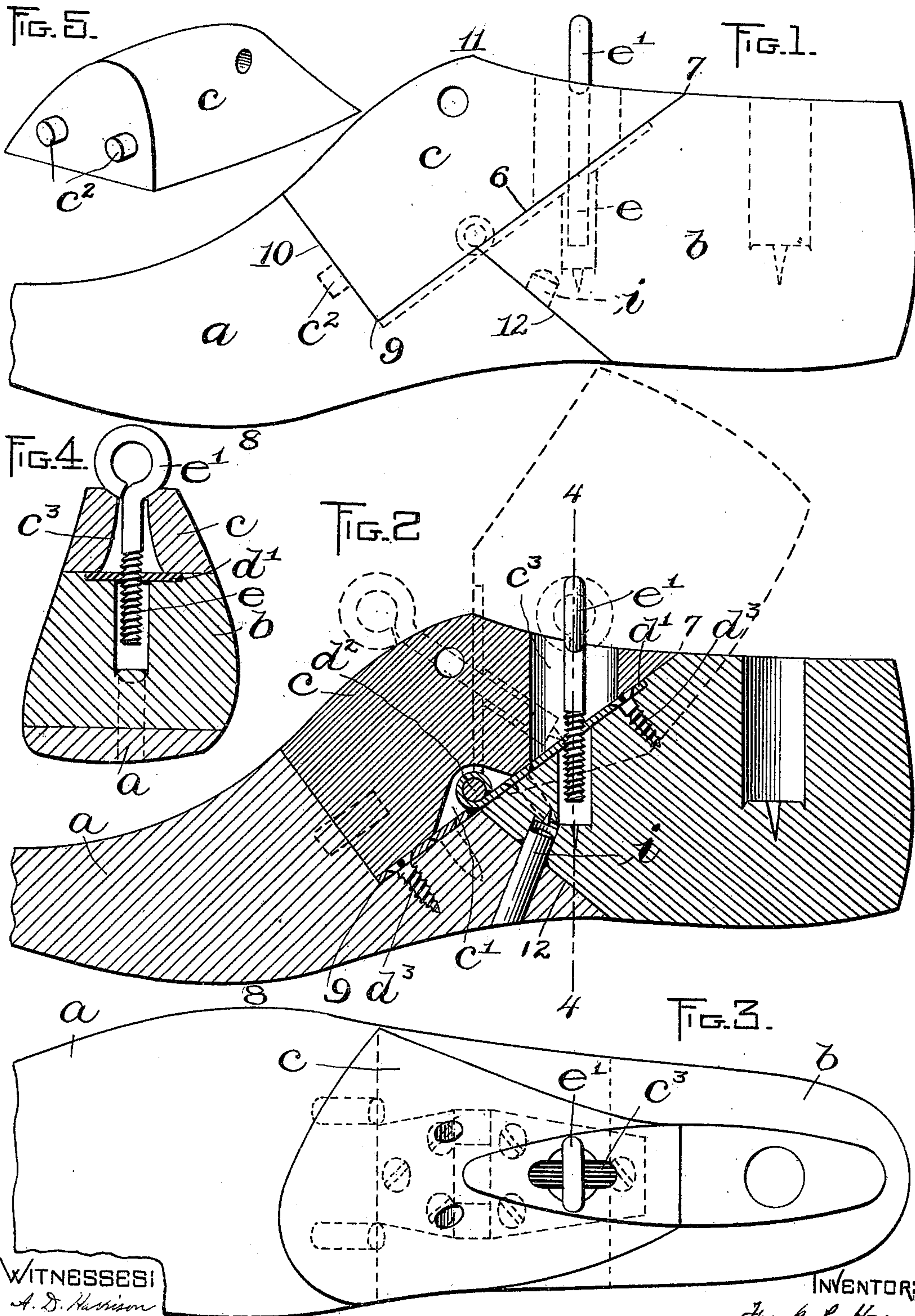
No. 641,629.

Patented Jan. 16, 1900.

F. L. HOVEY.  
HINGED LAST.

(Application filed Jan. 19, 1899.)

(No Model.)



WITNESSES:

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# UNITED STATES PATENT OFFICE.

FRANK L. HOVEY, OF BROCKTON, MASSACHUSETTS, ASSIGNOR OF ONE-HALF  
TO FREDERICK A. HOYT AND DANIEL B. TIBBETTS, OF SAME PLACE.

## HINGED LAST.

SPECIFICATION forming part of Letters Patent No. 641,629, dated January 16, 1900.

Application filed January 19, 1899. Serial No. 702,623. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK L. HOVEY, of Brockton, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Hinged Lasts, of which the following is a specification.

This invention has relation to hinged lasts of the class wherein a block is employed in connection with the hinged members; and it has for its object to provide certain improvements in lasts of the characters specified whereby the parts may be locked together with greater rigidity than heretofore and whereby all the advantages heretofore gained by the hinging of the parts may be augmented by the strengthening of the last and by the ease with which the block may be detached to withdraw the last from a shoe.

To these ends the invention consists of a hinged last having certain features of construction and relative arrangement of parts, all as illustrated upon the accompanying drawings, described in the following specification, and set forth with particularity in the appended claims.

Reference is to be had to the accompanying drawings, and to the letters and figures marked thereon, forming a part of this specification, the same letters and figures designating the same parts or features, as the case may be, wherever they occur.

Of the drawings, Figure 1 represents in side elevation a last embodying my invention. Fig. 2 represents a longitudinal section through the same. Fig. 3 represents a plan view of the last. Fig. 4 represents a transverse section on the line 4-4 of Fig. 2. Fig. 5 represents a perspective view of the block detached.

In carrying out my invention the last is formed in three parts *a*, *b*, and *c*, the part *a* being the toe or front portion, *b* the heel or rear portion, which is hinged to the first-mentioned part, and *c* the locking-block, which engages the parts *a* and *b*. These parts are formed by three sections or cuts after the last has been properly shaped in the lathe, the first section being indicated at 6. It begins at 7 at the top of the last substantially midway between the crown 11 and the rear edge and extends downwardly and forwardly transversely of the last toward the ball 8, stopping

at 9 substantially in the plane of the waist. The second section 10 is transverse of the last and is at substantially an angle of ninety degrees to the section 6 and is in substantially the plane of the waist of the last or a short distance in front of the instep. These two sections form the block *c*, and to separate the toe and heel portions a third section 12 is made, beginning in a line substantially directly below the crown 11 or about one-third of the distance between the ends of the section 6 from the line 9 and extending downwardly and rearwardly toward the heel, so that the front end of the heel portion *b* forms an angle of substantially seventy-five degrees. The parts *a* and *b* are connected together by a hinge having its leaves *d* *d'* secured to the two faces formed by the section 6 and having its pintle *d*<sup>2</sup> substantially at the intersection of the cuts 6 and 12, whereby the heel portion *a* may be thrown forward, as shown in dotted lines in Fig. 2, to shorten the last and permit its withdrawal from the shoe. Preferably the hinge is placed in sockets in the parts *a* and *b*, so that it is flush with the faces of the latter, and is secured in place by a plurality of wood-screws *d*<sup>3</sup>. The block *c* is socketed at *c'* to receive the pintle *d*<sup>2</sup>, as clearly illustrated, and at its front end is provided with two dowel-pins *c*<sup>2</sup> *c*<sup>2</sup>, having their median lines lying in a plane substantially parallel with the plane of section 6, the two portions *a* being socketed to receive said pins.

For the purpose of locking the three parts of the last detachably together I employ a fastening which is best shown in Figs. 2 and 4. It consists of a screw *e*, having an eye *e'* on its end to receive a tool by which it is rotated and also to engage the top of the last-block. The block has a slot *c*<sup>3</sup>, through which the screw passes, said screw being engaged with a threaded aperture in the leaf *d'* of the hinge. It will be seen that the screw is at an acute angle to the plane of the section 6, this being done that the cam action of the eye *e'* when the screw is rotated may force the block toward the toe of the last. Thus the screw performs two functions. First, it draws the block firmly against the heel portion *b*, and, second, forces its end against the face formed in said toe portion by the section 10, so as to throw the parts *a* and *b* around the pintle *d*<sup>2</sup>



until the faces formed by the section 12 are in intimate and close contact. The block becomes a locking member and is rigidly connected to the parts *a* and *b* by the screw, and  
 5 by means of said screw the block may be adjustably forced toward the toe end of the last to increase the pressure of the contact between the faces formed by the section 12 to augment the rigidity of the last for use.

10 The slot *c*<sup>3</sup> is sufficiently long to permit the eye of the screw to pass through it to allow the block to be detached without removing the screw from the part *b*.

The eye *e'* becomes to all intents and purposes a cam when the screw is rotated, and  
 15 it is evident that it may be formed in other ways to accomplish the locking of the members together.

A last constructed in accordance with the foregoing description possesses great rigidity  
 20 when the parts are locked together, and yet is readily removed from the shoe upon detaching the block. The wedge-shaped end of the heel part *b* extends into the V-shaped  
 25 socket formed by the blocks and toe part *a*, so that the pressure upon the middle part of the last of the tools employed in the manufacture of the shoe is withstood by all three  
 30 members and there is no danger of the parts becoming strained or broken apart. The location of the section indicated at 10 also adds to the strength of the last, for the toe portion is strongest at the plane where the  
 35 section is made, and consequently there is little danger of cracking it.

The last possesses many other features of advantage due to the construction and arrangement of its parts, all of which will be  
 40 apparent to those familiar with the art to which this invention relates.

I prefer to provide the section *a* with a dowel-pin *i*, which enters a socket formed for its reception in the section *b*, to prevent the  
 45 possibility of independent side movement of either section.

Having thus explained the nature of the invention and described a way of constructing and using the same, although without having attempted to set forth all of the forms in which it may be made or all of the modes of its use, 50 I declare that what I claim is—

1. A three-part last comprising a toe portion, a heel portion, hinged thereto, a locking-block overlapping the said toe and heel portions, and a fastening device adapted to  
 55 adjustably force said block toward the toe end of the last and against the heel portion whereby the three members are all locked rigidly together.

2. A three-part last comprising a toe portion, and a heel portion having faces in the same plane, said toe portion having a second face at an angle to the first-mentioned face, a flat hinge having leaves secured to said  
 60 first-mentioned faces, a block adapted to engage the faces in the said toe and heel portions, and having a slot and a fastening-screw arranged at an acute angle to said first-mentioned faces and passing through the slot in  
 65 the block for forcing said block toward the toe of the last and for rigidly securing said block and said toe and heel portions together.

3. A last divided by three cuts or planes of division 6, 10 and 12 into a toe portion *a*, a heel portion *b*, and a block *c*, said last having  
 75 a hinge connecting the toe and heel portions together at the intersection of sections 6 and 12, and means for rigidly securing said parts together, said means including a screw passed through an elongated slot in said block and  
 80 through a threaded aperture in the hinge, whereby said block may be forced toward the toe of the last or removed without detaching the screw.

In testimony whereof I have affixed my signature in presence of two witnesses. 85

FRANK L. HOVEY.

Witnesses:

R. M. PIERSON,  
 C. F. BROWN.