

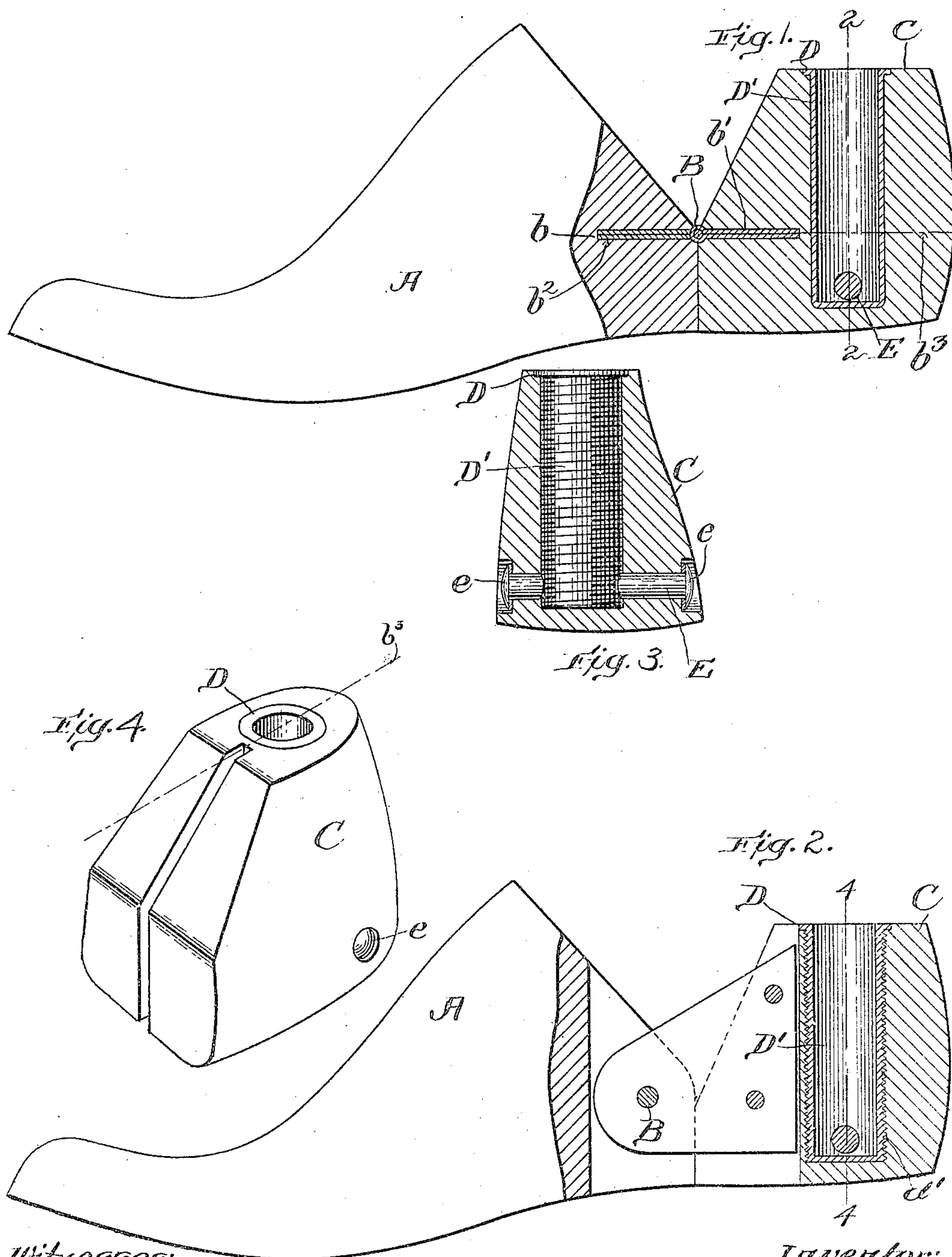
No. 818,407.

PATENTED APR. 24, 1906.

G. E. BELCHER.

LAST.

APPLICATION FILED FEB. 27, 1904.



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UNITED STATES PATENT OFFICE.

GEORGE E. BELCHER, OF STOUGHTON, MASSACHUSETTS.

LAST.

No. 818,407.

Specification of Letters Patent.

Patented April 24, 1906.

Application filed February 27, 1904. Serial No. 195,556.

To all whom it may concern:

Be it known that I, GEORGE E. BELCHER, a citizen of the United States, and a resident of Stoughton, in the county of Norfolk and State of Massachusetts, have invented new and useful Improvements in Lasts, of which the following is a specification.

My invention is an improved last; and it consists in providing means to obviate a difficulty or weakness which is common in lasts by providing a binding means which connects the upper or comb portion of the heel part to the lower or sole portions of the heel part in such fashion that splitting of the heel part is prevented.

In the drawings, Figure 1 is a central longitudinal section of a hinged last having a hinge-slot in a horizontal plane. Fig. 2 is a central longitudinal section of a hinged last having a hinge-slot in a perpendicular plane. Fig. 3 is a section on line 4 4 of Fig. 2. Fig. 4 is a perspective of the heel part of Fig. 2.

This splitting is more common in divided hinged lasts as at present constructed than in block-lasts, because in hinged lasts the leaf of the hinge which connects the fore part and the heel part together is secured to the heel part by slotting the heel part either in a plane parallel to the sole-surface of the last or in a plane perpendicular to the sole-surface of the last, and this slotting of the heel part necessarily weakens the heel part, and the heel part tends under the strain to which it is subjected in the heeling and leveling processes to split along a line in continuance of the hinge-receiving slot.

In hinged lasts as at present constructed the thimble which is commonly employed to receive the spindle is inserted to a point somewhat above the level of the hinge-receiving slot, (see Fig. 1,) the thimble fitting within a hole bored in the heel part and being retained within the hole by frictional engagement only. In my improved last the thimble-receiving hole is bored to a point well below the plane of the hinge-receiving slot and the thimble is provided with means for locking it and making it practically integral with both the upper or comb side of the heel-section and the lower or sole part of the heel-section. This end may be achieved in more than one way. In one form which I have contemplated the outer surface of the thimble is screw-threaded, and the inner surface of the thimble-receiving hole in the heel-section is also screw-threaded, and the thim-

ble is screwed into the hole and passes well below the line of the hinge-receiving slot. (See Fig. 3.) In this way the screw-threaded thimble serves not only as a thimble, but as a binding member connecting the upper and lower portions of the heel-section together in fixed relation and resisting the splitting tendency of the heel-section under the pressure to which it is subjected; but the screw-threaded thimble which I have shown in Fig. 3 provides only reinforcement and resistance against the weakness developed by the slotting of the heel-section in a plane parallel to the sole-surface of the last, and in the preferred form of my invention (shown in Figs. 2 and 3) I have provided means to reinforce not only the weakness suggested above, but the possibility of the splitting of the heel-section under pressure of the working strains which sometimes occur in a perpendicular plane along the longitudinal center of the heel-section when the heel is slotted to receive a hinge of the type shown in Fig. 2.

In Figs. 1 and 2 I have shown a thimble flanged at its upper end and having an aperture through its lower end registering with an aperture bored through the lower or sole side of the last to receive a bolt which passes from side to side of the last through the lower end of the thimble and is headed at both ends, so that the structure is an inverted T, which locks the top and bottom of the heel-section together and also the two sides of the heel-section together, resisting splitting tendencies in both directions and incidentally serving to lock the thimble in position.

In the drawings, A is the fore part; B is the hinge; b and b' , the two leaves of the hinge, respectively; b^2 , the hinge-slot in the heel-section; b^3 , the line of cleavage; C, the heel-section; D, the flange at the upper end of the thimble; E, the cross-bolt having locking ends e . In the modification shown in Fig. 3 the screw-threads on the thimble D' are indicated by the letter d' . In the views of the heel-section shown in Figs. 1 and 4 I have indicated by dotted planes the two lines of cleavage which commonly occur under working strains in the heel-sections of lasts.

I claim—

In a hinged last, the combination with the slotted heel-section having a thimble-receiving aperture, of a binding-thimble in said aperture extending from the comb toward the bottom of the heel-section and having

adjacent to its upper end and integral there-
with, means for positively engaging the heel-
section, and a binding cross-bolt interlocked
with the thimble at the lower end of the lat-
5 ter and close to the bottom surface of the
heel-section and positively engaging the op-
posite sides of the heel-section, one of the two
binding members extending across the plane

of the hinged slot so as to prevent splitting
on said plane.

Signed by me at Stoughton, Massachusetts,
this 22d day of February, 1904.

GEORGE E. BELCHER.

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