(No Model.)

D. F. LAPAUGH.

DIE FOR LASTS.

No. 414,553. Patented Nov. 5, 1889.

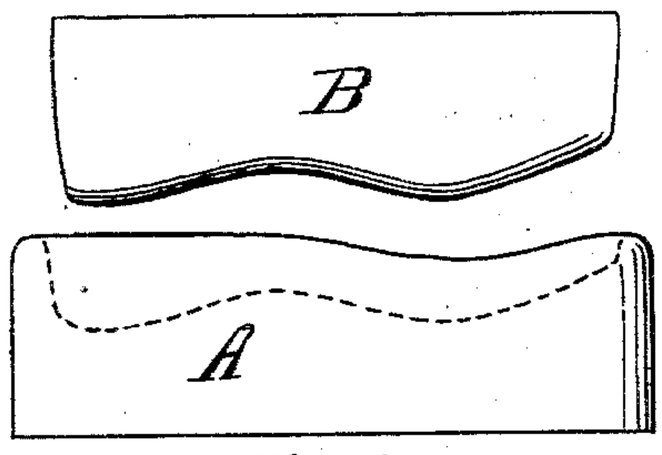

Fig. 1.

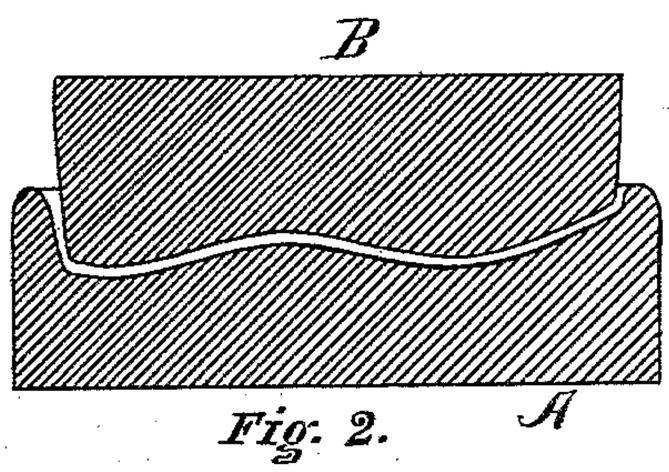

Fig. 2.

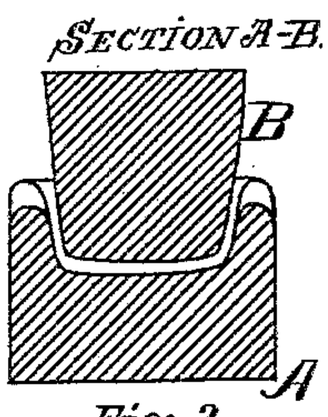

Fig. 3.

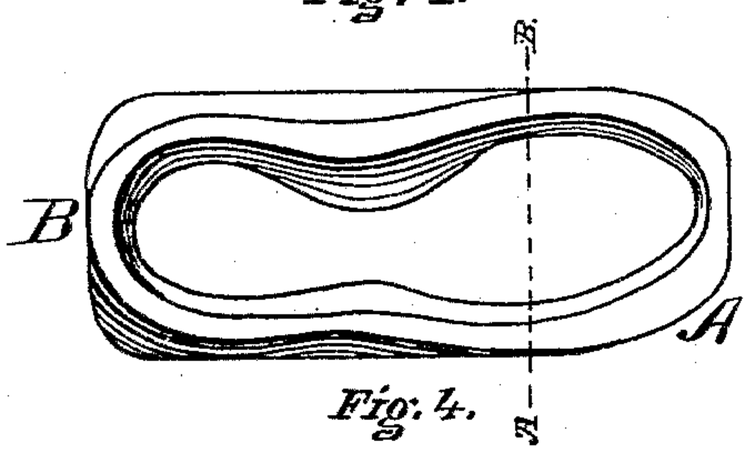

Fig. 4.

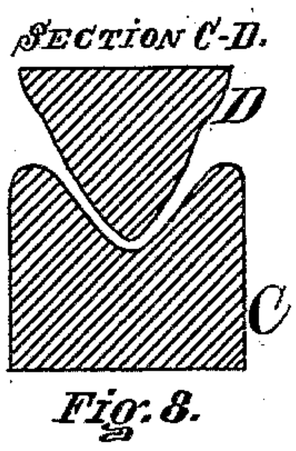

Fig. 8.

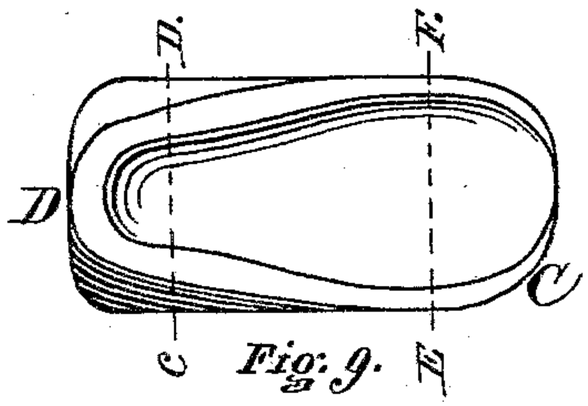

Fig. 9.

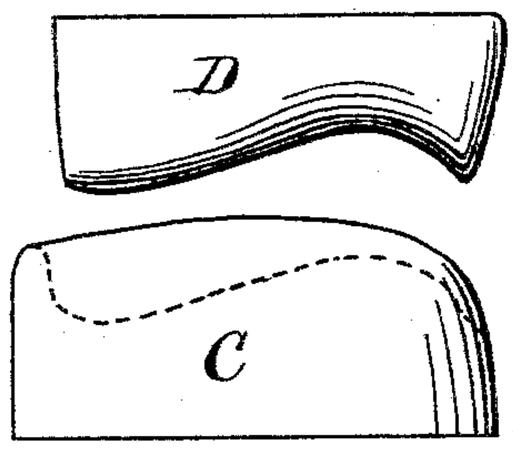

Fig. 5.

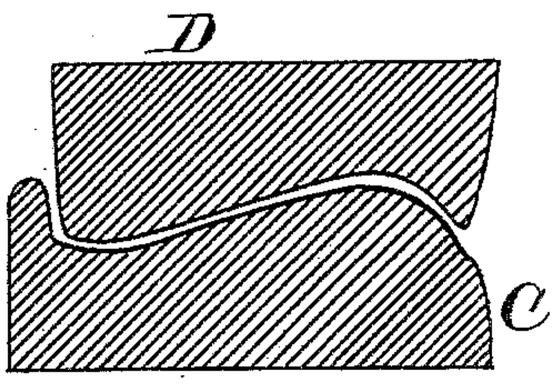

Fig. 6.

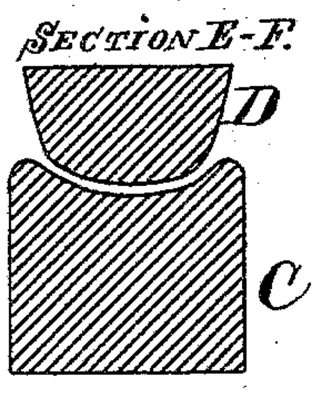

Fig. 7.

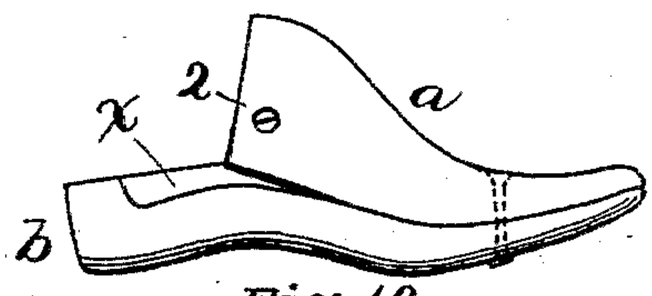

Fig. 10.

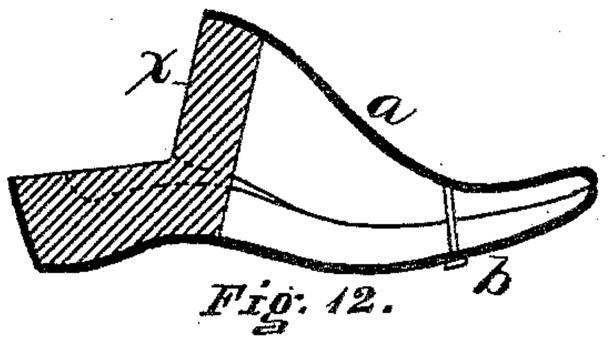

Fig. 12.

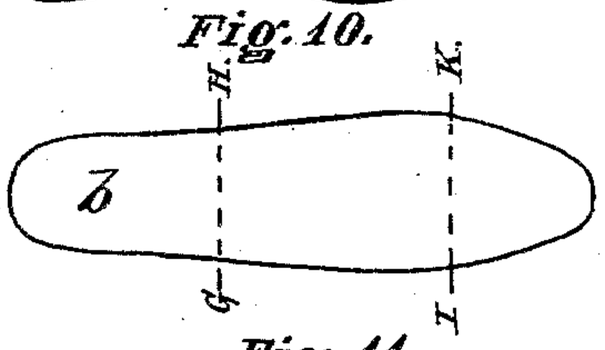

Fig. 11.

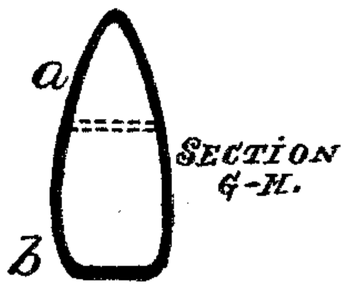

Fig 13.

Fig. 14.

WITNESSES.
Rich. George.
H. P. Denison

INVENTOR.
Daniel F. Lapaugh
By Smith & Denison
his Attys.

UNITED STATES PATENT OFFICE.

DANIEL F. LAPAUGH, OF UTICA, NEW YORK.

DIE FOR LASTS.

SPECIFICATION forming part of Letters Patent No. 414,553, dated November 5, 1889.

Application filed May 20, 1889. Serial No. 311,487. (No model.)

To all whom it may concern:

Be it known that I, DANIEL F. LAPAUGH, of Utica, county of Oneida, in the State of New York, a citizen of the United States, have invented certain new and useful Improvements in Last-Dies, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of the dies for forming the bottom section of the last with upturned edges and toe and heel counter. Fig. 2 is a longitudinal vertical section of Fig. 1. Fig. 3 is a vertical cross-section of Fig. 4 on the line *a b*. Fig. 4 is a bottom plan view. Fig. 5 is a side elevation of dies detached for forming the upper section of the last. Fig. 6 is a vertical longitudinal section of the upper dies close together. Fig. 7 is a vertical transverse section of Fig. 9 on the line E F. Fig. 8 is a like view of the same on the line C D. Fig. 9 is a bottom plan view. Fig. 10 is a side elevation showing the parts of the last placed together. Fig. 11 is a bottom plan of the same. Fig. 12 is a side sectional elevation of Fig. 10. Fig. 13 is a vertical section of Fig. 11 on the line G H. Fig. 14 is a like view of the same on the line I K.

This invention relates to the construction of dies to be used for the forming of segments of hollow metallic lasts either wholly hollow or partially so, having a filling inserted beneath the instep and thence back to the heel to support and hold the block to be inserted to fill out the back part of the last.

The object of my invention is to produce a hollow last (constructed of sheet-steel or other sufficiently hard material) constructed in segments, which are secured together by brazing their meeting edges or in any other ordinary manner, and which will form a very light but durable last.

My invention consists in the several novel features of construction and operation hereinafter described, and which are specifically set forth in the claim annexed.

It is constructed as follows:

A is the female die for the sole portion of the last, concaved a sufficient depth to form the side flange around the edge, and also to form a heel-counter, the bottom of the concavity having the general outlines of the bottom of the foot.

B is the male die for forming the sole portion, the lower face of which and the edges adjacent thereto are of proper form to properly fit the male die.

In Fig. 5 I show the dies for forming the top section of the last, in which C is the female die, concaved in proper form to correctly represent the exterior surface of the upper last-section.

D is the male die, of proper form to properly fit the die C.

The hard sheet metal is heated to a proper temperature, placed in the dies, and when pressure is properly applied the dies A B will form the lower last-section, and the dies C D will form the upper or instep section of the last, and these sections are then trimmed, so that their meeting edges will properly coincide, and are then brazed together or secured by a screw or bolt, as shown in Fig. 12, as to the front portion, and the rearward portion of the instep-section may be secured by screws 2 to the filling of wood *x*, inserted substantially as shown in Fig. 12, the lower last-section at its rear end being secured to the filling by a screw or screws through the heel vertically or through the counter, or both. When these die-sections have been used and have formed last-sections, the last-sections can be heated and tempered to increase their hardness and rigidity.

It will be observed that I thus produce a hollow last from sheet metal sufficiently strong and durable to stand rough usage, hard pounding, and capable of perfectly clinching nails, and at the same time of great lightness of weight—weighing less than one-half if not less than one-quarter as much as the cast-iron last cast solid.

What I claim is—

Dies for forming the sections of a hollow last, consisting of the dies A B, forming the lower last-section, and the dies C D, forming the top last-section, substantially as described.

In witness whereof I have hereunto set my hand this 25th day of April, 1889.

DANIEL F. LAPAUGH.

In presence of—
H. P. DENISON,
FRANK C. CROWELL.