

B. J. TAYMAN.

Expansion-Lasts for Trimming and Edge-Setting Shoe-Sole Machines.

No. 148,998.

Patented March 24, 1874.

FIG. 1

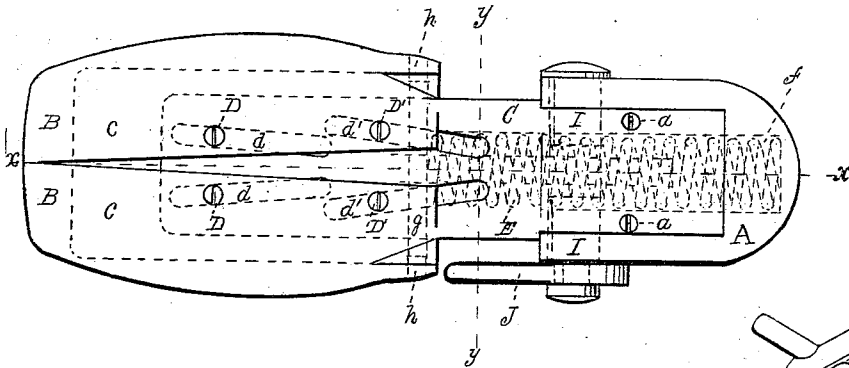


FIG. 4

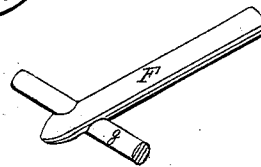


FIG. 2

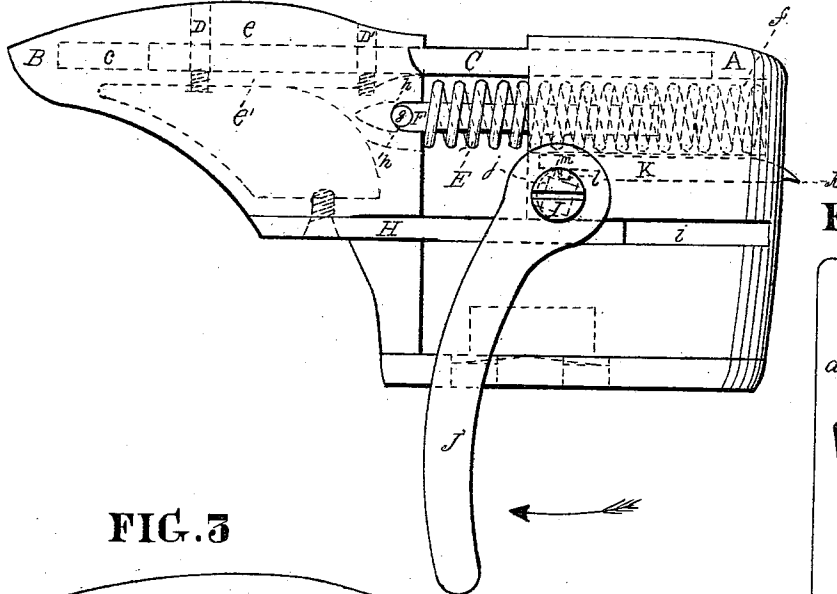


FIG.5 FIG.6

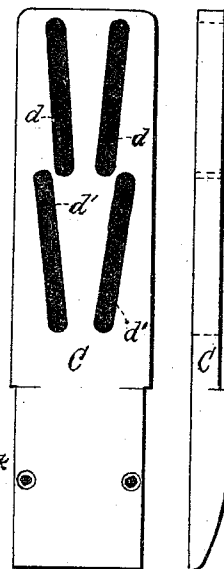
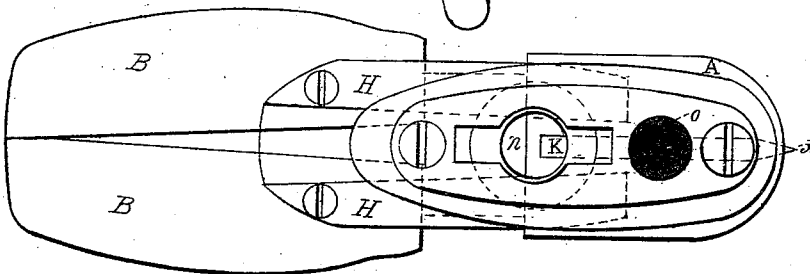


FIG. 3



Witnesses

Thomas B. Bewley.
W. S. Root.

Inventor

Benjamin J. Fayman
By His Attorney
Stephen Ustick

B. J. TAYMAN.

Expansion-Lasts for Trimming and Edge-Setting
Shoe-Sole Machines.

No.148,998.

Patented March 24, 1874.

FIG. 7

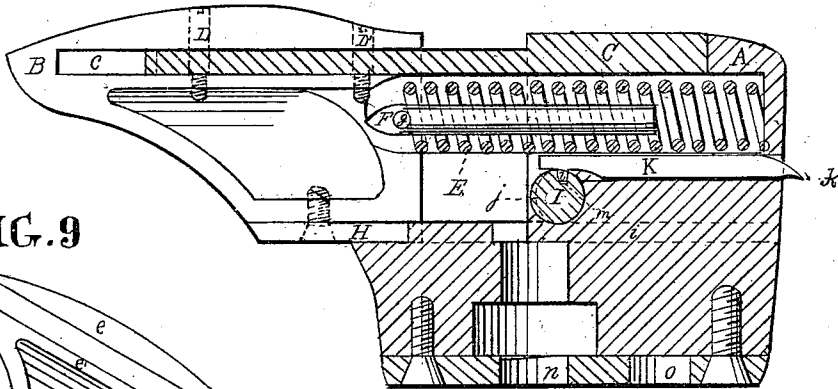


FIG. 9

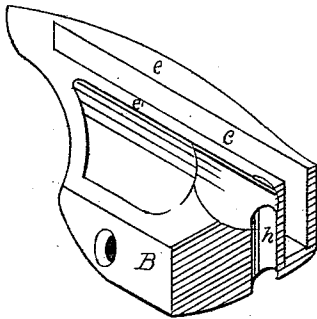


FIG. 8

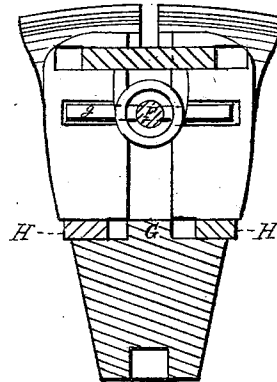


FIG. 10

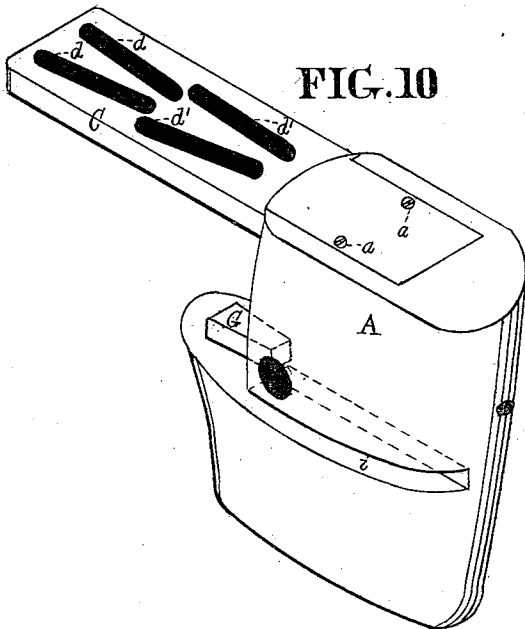
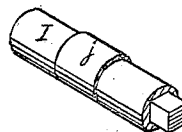


FIG. 11



Witnesses

Thomas J. Dewley.
W. S. Root.

Inventor

Benjamin J. Tayman
By His Attorney
Stephen W. Stick

UNITED STATES PATENT OFFICE.

BENJAMIN J. TAYMAN, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN EXPANSION-LASTS FOR TRIMMING AND EDGE-SETTING SHOE-SOLE MACHINES.

Specification forming part of Letters Patent No. **148,998**, dated March 24, 1874; application filed September 16, 1873.

To all whom it may concern:

Be it known that I, BENJAMIN J. TAYMAN, of the city of Philadelphia and State of Pennsylvania, have invented an Improvement in Expansion-Lasts for Machine for Trimming and Edge-Setting Shoe-Soles, of which the following is a specification:

My invention mainly consists of a last bisected each way, and expanded longitudinally by means of a spring, and laterally by right and left inclines in a stationary slide, in which pins of the movable parts of the last slide. The parts are held in their expanded position by means of a cam-shaft, as hereinafter described. The invention also relates to a spur which has a toothed connection with the cam-shaft, so that by turning the latter to lock the last, the same is forced into the heel-stiffening to hold the shoe securely.

Figure 1 is a reversed plan view of the improved last. Fig. 2 is a side elevation of the same in its reversed position. Fig. 3 is a direct plan view of the last. Fig. 4 is an isometrical view of the cross-head F. Figs. 5 and 6 are face and edge views of the plate C, having inclined slots *dd d d*. Fig. 7, Sheet No. 2, is a vertical section at the line *xx* of Fig. 1. Fig. 8 is a cross-section at the line *yy* of Fig. 1. Fig. 9 is an isometrical view of one of the pieces B. Fig. 10 is a like view of the heel-piece A. Fig. 11 is a like view of the cam-shaft I.

Like letters of reference in all the figures indicate the same parts.

A represents the heel-piece of the last. BB represent the front part of the last which is bisected longitudinally to admit of being expanded laterally for the widening of the last and laterally for its elongation to suit several different sizes of shoes, whereby I am enabled to adapt nine lasts, so constructed, to constitute a complete set of lasts; whereas, when the lasts are made in a single piece, fifty-two are required to form the set, including children, misses, women's, boy's, and men's lasts. The heel-piece A is provided with a guiding-plate, C, the rear end of which is sunk into it and fastened by means of screws *aa*, as seen in Fig. 1. The plate is shown clearly in detail

in Figs. 5 and 6. In each piece B there is a horizontal groove, *c*, as seen clearly in Fig. 9, which slides over the plate C, in the longitudinal and lateral expansion of the pieces B B. The plate C has right and left inclined slots *d d* and *d' d'*, in which the vertical pins D D and D' D' slide. These pins pass through the outer cheeks *e* of the slots, and their inner ends are screwed into the inner cheeks *e'*. As the pieces B B are moved forward when the last is placed in the shoe by the action of the spring E in the bore *f* of the heel-piece A, the spring bearing against the rod *g*, of the cross-head F, and the ends of the rod pressing against the bearings *h* in the inner ends of the pieces B B, the pins D moving in the right and left hand inclined slots *d*, the said pieces B are made to expand laterally as well as longitudinally, whereby the last is caused to fit the shoe all around. The pieces B B are also guided in their expansion by means of the double-inclined permanent tongue G, of the heel-piece A, which is seen in detail in Fig. 10, and the slides H H, pivoted at their front ends to the pieces B B. The slides move in the side grooves *ii* of the piece A, their inner edges being guided by the tongue G. The last is secured in its expanded position by means of the cam-shaft I, operated by means of the handle J, which, being turned in the direction of the arrow, causes the cams *jj* to press on the contiguous sides of the slides H H, and hold them securely. If desired, the heel-piece A may be bisected in like manner as the front of the last, and the pieces expanded both ways, laterally and longitudinally, by inclined grooves in the rear end of the plate C, connecting-pins and a spring, as described and shown in relation to the front pieces B B, the plate C being permanently connected in the middle part to a stationary part of the last. In the heel-piece A there is a sliding rod K, provided with a spur, *k*, at its outer end. The inner end of the rod has a tooth, *l*, which fits in the longitudinal groove *m* of the cam-shaft I, so that when the shaft is turned partly around to lock the last the rod is forced outward, as seen in Figs. 1 and 7, and the spur passes through the heel-stiffen-

ing of the shoe, to hold it securely upon the last—thus dispensing with tacking it from the outside. The top side of the last has openings *n o*, for connection of the last-holder of my machine patented May 27, 1873.

I claim as my invention—

1. The guiding-plate C, having right and left inclined slots *d d* and *d' d'*, in combination with the front pieces B B, having a groove, *c*, and pins D D, the spring E, cross-head F, and heel-piece A, for the longitudinal and lateral expansion of the last, substantially as described.

2. The combination of the cam-shaft I, with the heel-piece A, having grooves *i i*, and a

double inclined tongue, G, and with slides H H, pivoted to the pieces B B, for holding the latter in their expanded position, substantially as set forth.

3. The sliding rod K, having a spur, *k*, and a tooth, *l*, in combination with the heel-piece A, and cam-shaft I, having a groove, *m*, for holding the shoe securely on the last, substantially as described.

BENJAMIN J. TAYMAN.

Witnesses:

THOMAS J. BEWLEY,
STEPHEN USTICK.