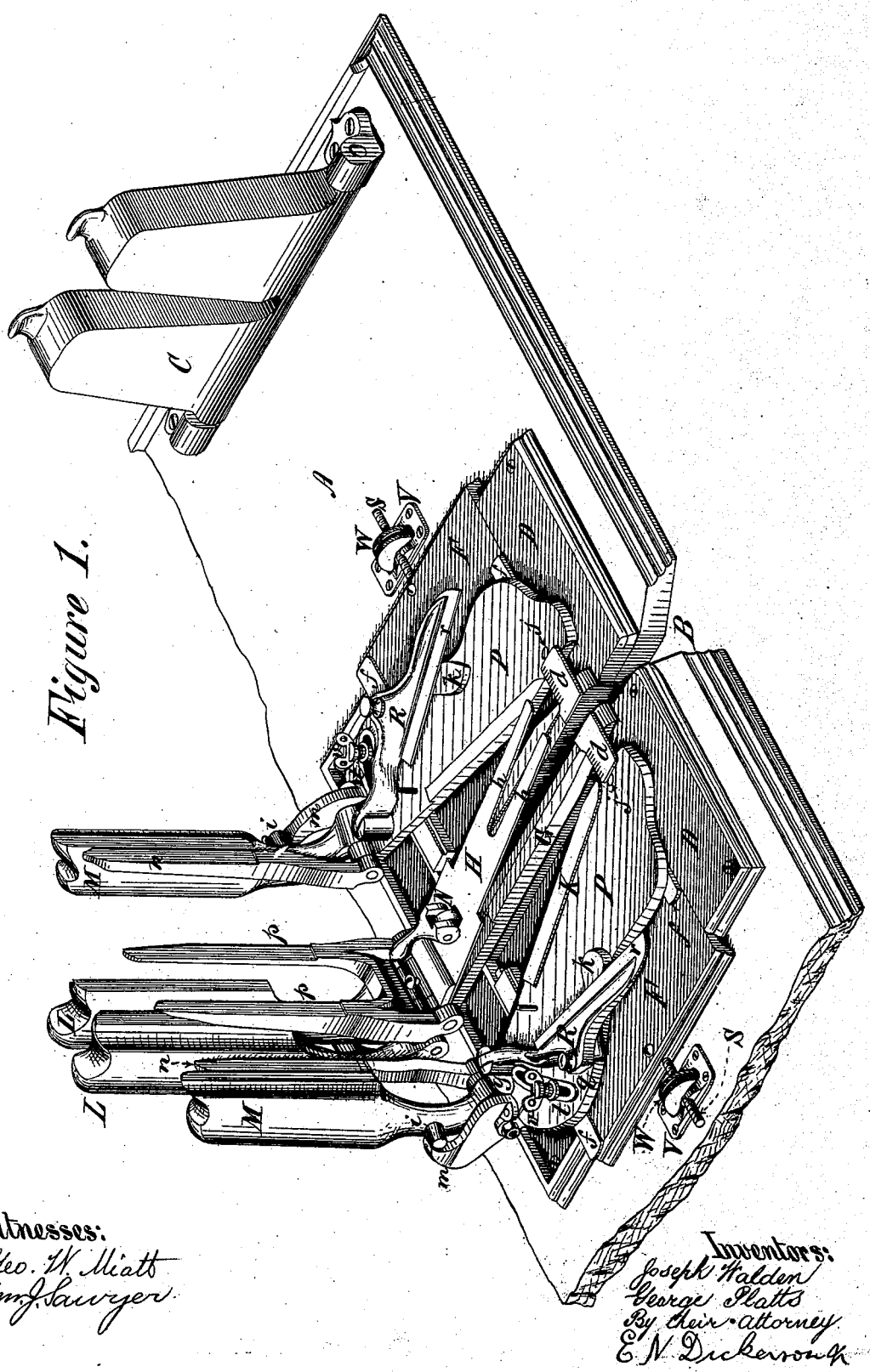
4 Sheets—Sheet 1.

J. WALDEN & G. PLATTS.

Shoe-Upper Fitting-Machine.

No. 209,732. Patented Nov. 5, 1878.

Figure 1.



Witnesses:
Geo. W. Miatt
Wm. J. Sawyer

Inventors:
Joseph Walden
George Platts
By their attorney
E. N. Dickerson & Co

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Figure 2.

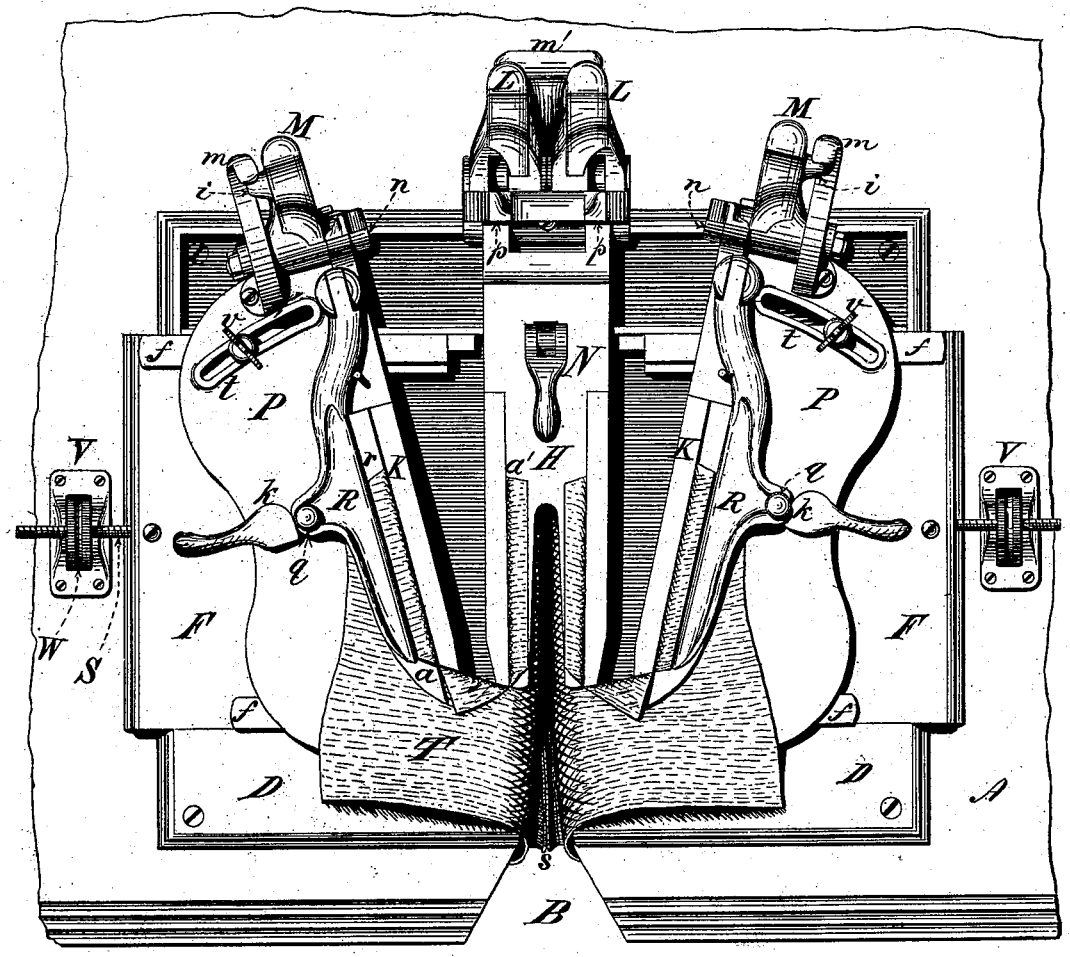

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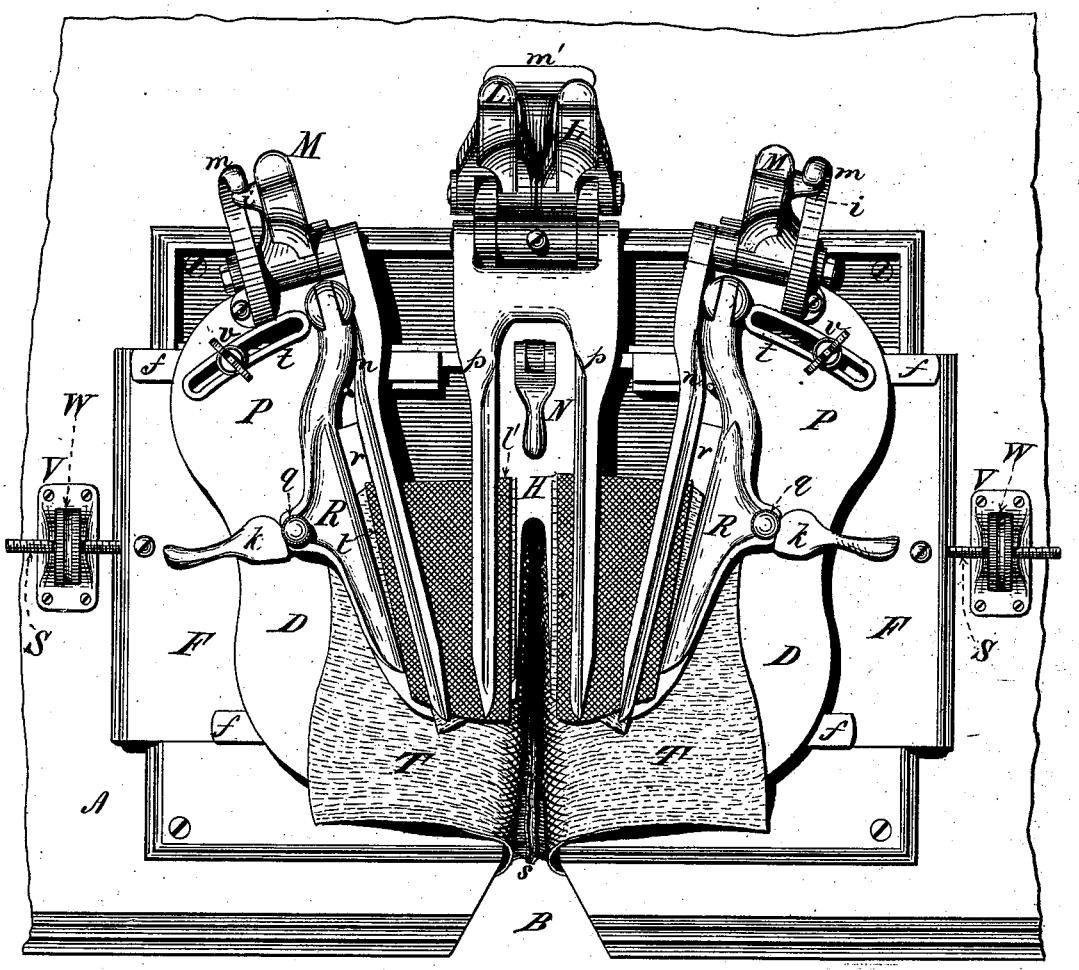
Figure 3.



Witnesses:
Leo. H. Miatt
Wm J. Sawyer

Inventors:
Joseph Walden
George Platts
By their attorney
C. N. Dickerson Jr

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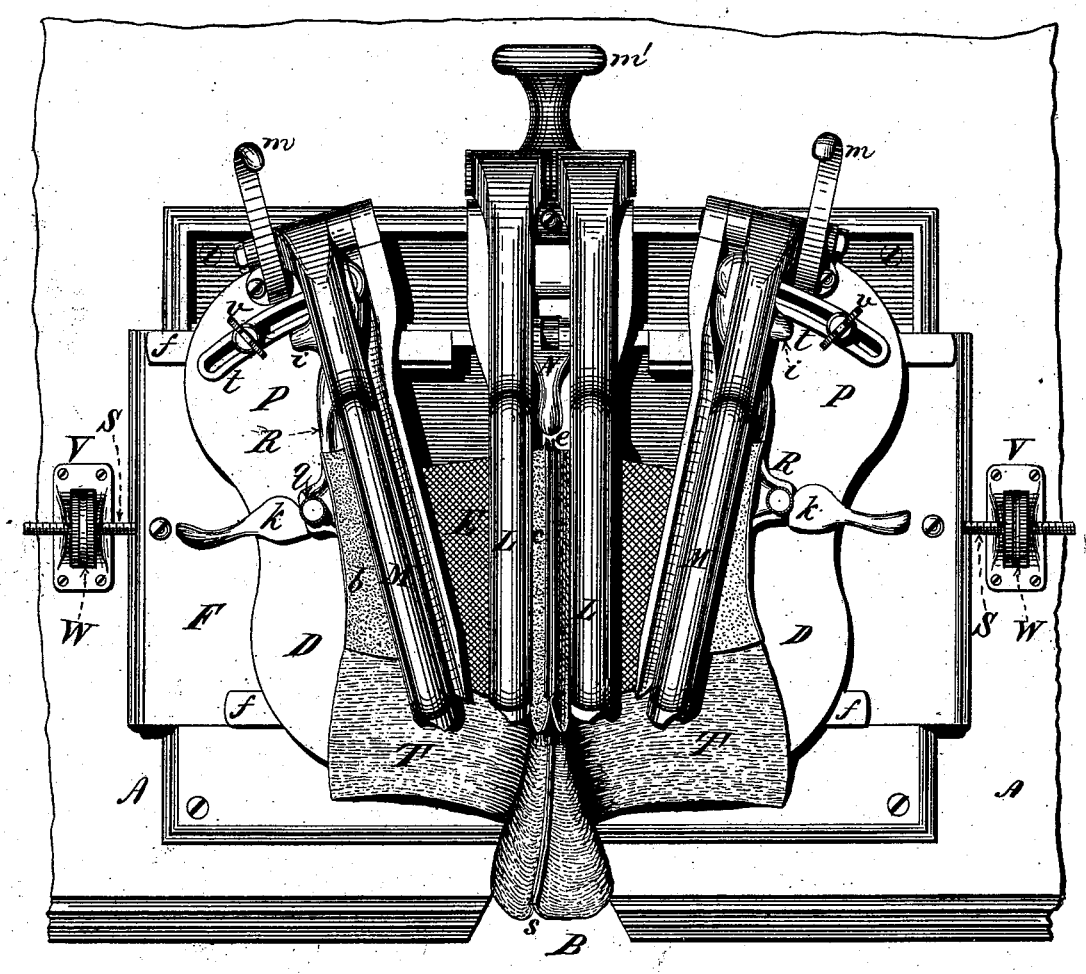
Figure 4.



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UNITED STATES PATENT OFFICE.

JOSEPH WALDEN AND GEORGE PLATTS, OF NEWARK, NEW JERSEY.

IMPROVEMENT IN SHOE-UPPER-FITTING MACHINES.

Specification forming part of Letters Patent No. **209,732**, dated November 5, 1878; application filed March 13, 1878.

To all whom it may concern:

Be it known that we, JOSEPH WALDEN and GEORGE PLATTS, of the city of Newark, State of New Jersey, have invented a new and useful Improvement in Shoe-Fitting Machines, of which the following is a full, true, and exact description, reference being had to the accompanying drawings.

Our invention relates to mechanism for gumming and fastening together the lining and gores of leather uppers of shoes.

The object of our improvement is to insert between the folded lining and the upper-leather of elastic shoes the elastic goring, and to paste it there ready for stitching.

Our invention is constructed to fit exactly any number of shoes in precisely the same manner, so that after the machine has been adjusted to fit a gore of one size and angle it will continue to fit all the shoes provided with that gore in precisely similar manner, and our apparatus is made adjustable, so as to fit shoes the gores of which are of different widths or of different angles. These results we accomplish by means of the folding-blades, guides, clamps, and weights, clearly shown. By means of this mechanism both gores are fitted at once, which has never before been possible.

Our invention is clearly shown in the accompanying drawings, in which—

Figure 1 represents the machine with the weights, clamps, and folding-blades elevated. Fig. 2 represents the first step in the process, in which the lining is clamped in the machine and folded ready for the application of the elastic gores. Fig. 3 represents the elastic gores laid upon the lining and held in position by suitable clamps. Fig. 4 represents the final step of the process, in which the leather uppers for the front and back of the shoe are pasted on the lining and elastic gores, and are held in position by heavy weights.

Our machine is precisely similar on both sides, and therefore we shall describe but one-half.

Our machine consists, generally, of a bed-plate, A, to which the various portions are attached. Upon this bed-plate A is pivoted a double weight, C, under which the uppers are laid after they are fitted, as will be hereinafter described. A narrow triangular opening, B, is cut through the bed-plate A. On top of the table, and provided with a corresponding opening, is the metallic plate, D, which serves to support the various parts of the machine. Sliding within this plate D, by means of guides, is an adjustable plate, F, which can be adjusted laterally in the plate D by means of a screw, S, which is operated by means of a hand-wheel, W, turning in a socket, V. On both sides of the central hole B are the stationary folding-edges G, by means of which the front edges of the lining are folded. Pivoted to the frame is the clamp H, provided with the two arms *h*, which correspond and meet the folding-edges G. These arms *h* and the corresponding edges G are not exactly parallel, but are somewhat tapered, forming a very acute angle with each other, so as to enable the material after it has been folded to be readily drawn away endwise from beneath the clamp. This clamp H is thrown down by means of the cam-lever N, and when thrown down holds the lining firmly between itself and the folding-edges G, and serves at the same time to fold the edges of the lining ready for the reception of the gore. Pivoted on the adjustable frame F by a pivot, *j*, is the swinging frame P, swinging in the arc of a circle, and provided with a slot, *t*, and set-screw *v*. By loosening the set-screw *v* the plate P can be swung in the arc of a circle, so as to determine the angle between it and the central folding-edges G of the machine, whereby gores of different angles can be fitted. This swinging plate P rests upon the slides *f*, attached to the adjustable frame F, and slides freely upon them. Pivoted to the back of the plate P is the folding-clamp R, provided with a handle, *q*, and a folding-blade, *r*. This clamp has a lateral and vertical movement, and can be acted upon by the clamp *k* when thrown into its forward position. When thrown forward it folds the back edge of the lining, and holds the lining in position ready for the reception of the gore. Pivoted to the plate D are the clamps *p*, which clamps, when swung down, correspond with the folding-edges G. Pivoted to the swinging plate P is the corresponding clamp *n*, which corresponds to the

folding-edge *k*. This clamp serves to hold the forward and back edges of the elastic gores in position when placed in the machine.

Pivoted to the back of the plate D is the weight L, adapted to be brought down upon the leather after it has been placed upon the elastic gore, and adapted, when lowered, to fill the space between the inner edge of the clamp *p* and the edge of the hole B. In other words, the edge of the weight L, when lowered, corresponds exactly with the spring-clamp *h*. When raised, the weight L is supported on the rest *m'*. Pivoted on the swinging plate P is the corresponding weight M. When elevated, this weight is supported on the stationary arm *m* by means of the stud *i*. The edge of this weight, when lowered, exactly covers the folding-blade *r* of the swinging clamp R.

Fast to the plate D is the scale *d*. By means of this scale the lateral adjustment of the sliding plate F, adjustable by means of the hand-wheel W, can be determined, so as to correspond with any width of gore.

The back way *f* might also be provided with a scale, to determine the angular adjustment of the plate P.

The operation of our machine can now be understood. The apparatus is first adjusted laterally by means of the screws W to correspond to the width of the gore to be inserted. Then the swinging plates P are adjusted to correspond with the angle of the gore. This being done, the lining is placed upon the machine beneath the spring-clamp H. The lining is, of course, properly cut, as are the other parts to be fitted. It is laid upon the machine with the two gore holes or spaces for the insertion of the gore corresponding exactly to the inner edges of the folding-plates K and G, the toe of the lining being pressed down out of the way into the opening B cut through the apparatus. The cam-lever N is operated, whereby the spring-plate H and the arms *h* are brought down upon the lining, clamping it firmly against the stationary part of the machine. Then the folding-clamps R are swung in against the folding-plate K by means of the handles *q*, and are forced against the edges of the plates K by means of the cam-clamps *k*. Then the edges of the lining are folded back over the folding-plates R and the spring clamp-arms *h*. This operation is clearly shown in Fig. 2, where the outer fold is represented by *a* and the inner fold by *a'*. This folding may be done either by a tool or by hand. The seam of the lining *s* is shown pressed down in the opening B.

The lining is now ready for the reception of the elastic gores. This operation is shown in Fig. 3. The edges of the elastic gores are thoroughly gummed, and are then laid so as to correspond with the folded edges of the lining, as is clearly shown in the drawing. Then the clamps *p* and *n* are placed upon the elastic gores, holding them firmly in position, and exposing the inner and outer edges, *l'* and *l*, for the reception of the leather upper. It is plain that this upper might be of other material besides leather.

The apparatus being in the position shown in Fig. 3, the leather to be gummed is placed in the machine. The center portion, *c*, Fig. 4, which forms the toe of the shoe, has its edges placed so as correspond with the exposed edge *l'* of the gore E. The two back quarters *b*, which are to form the heel, are placed with their edges corresponding with the edges *l* of the gore E. Then the weights L and M are thrown down, thereby clamping and pressing together the leathers *b* and *c* and gore E and the lining T. This operation is shown in Fig. 4. In this operation the front seam, *e*, of the leather *c* is drawn up between the weights L. Then the seam *s* of the lining T is drawn up so as to correspond with the seam *e*. The weights L M are then thrown up. The clamp *p* and *n* are raised. The clamps R are thrown back so as to rest on the clamp *k*. The spring-clamp H is raised by throwing back the cam-lever N, and the fitted shoe-upper can be removed from the apparatus, when it should be placed under the weights C, Fig. 1, so as to complete the operation.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. In a shoe-upper-fitting machine, the clamps arranged in pairs, substantially as shown and described, whereby the two gores of a shoe are simultaneously fitted without changing the position of the parts, all substantially as set forth.

2. A shoe-fitting machine, arranged substantially as described, with the means, substantially as herein shown and described, for laterally adjusting the folding-clamp of the machine according to the varying widths of the gores to be fitted, in combination with the means, substantially as herein shown and described, for angularly adjusting said folding-edge according to the varying angles of the gores to be fitted, all substantially as herein set forth.

3. A shoe-fitting machine having a sliding plate, which carries a swinging plate provided with the folding-edge, whereby the location of said edge may be adjusted for operation both laterally and angularly, substantially as described.

4. A shoe-fitting machine adapted to fit two gores simultaneously, and provided with an opening in the table, into which the lining is drawn out of the way of the operating parts of the machine, substantially as described.

5. A shoe-fitting machine adapted to fit two gores simultaneously, provided with a clamp having a slot or opening, into which the leather is drawn out of the way of the operating parts of the machine, substantially as described.

6. A shoe-fitting machine adapted to fit two gores simultaneously, provided with an opening in the table and a corresponding opening in the clamp, for the removal from the operating parts of the machine in opposite direc-

tions of the lining and leather, substantially as described.

7. A shoe-fitting machine provided, first, with clamps for holding the lining and edges for folding it upon; second, with independent clamps for holding the gore when in position; and, third, with independent weights adapted to press together the lining, the gore, and the leather, each of these parts being pivoted to the machine, and constructed so that when they are lowered upon the material they will always come to the same place on the plate on which the material is held, substantially as described.

8. In a shoe-fitting machine, a pivoted adjustable plate, P, having attached to it a folding-blade to fold the lining, a clamp to clamp the gore, and a weight to press together the lining, the gore, and the leather, substantially as described.

9. In a shoe-fitting machine provided with a laterally-adjustable edge, determining the width of the gore, a scale to determine the adjustment of such plate, substantially as described.

10. In a shoe-fitting machine, a folding-blade, over which the lining is folded, and which is adapted to be drawn laterally from beneath the folds so made, substantially as described.

11. In combination with a folding-blade adapted to be forced against a folding-edge, the cam-lever *k*, substantially as described.

12. In a shoe-fitting machine, two independent clamps adapted to clamp and hold the two edges of the gore, two independent clamps adapted to hold the gore after it is placed in position, and two independent weights adapted to press and hold together the lining, the gore, and the leather, substantially as described.

JOSEPH WALDEN.
GEORGE PLATTS.

Witnesses:
S. F. SULLIVAN,
WM. J. SAWYER.