

K. ENGEL.
MANUFACTURE OF BOOTS AND SHOES.
APPLICATION FILED JAN. 23, 1911.

1,055,622.

Patented Mar. 11, 1913.

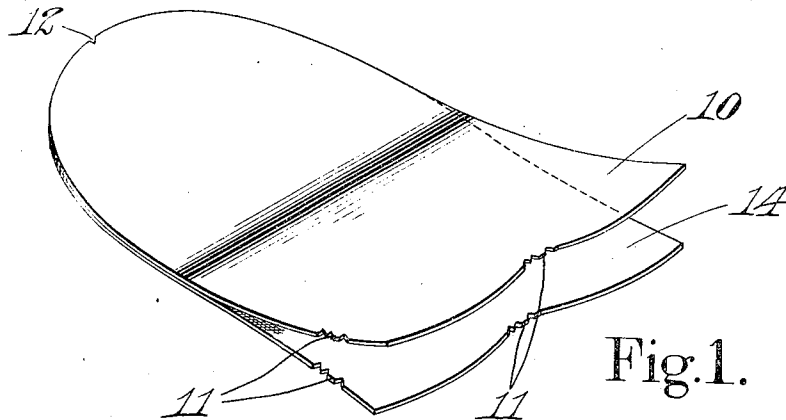


Fig. 1.

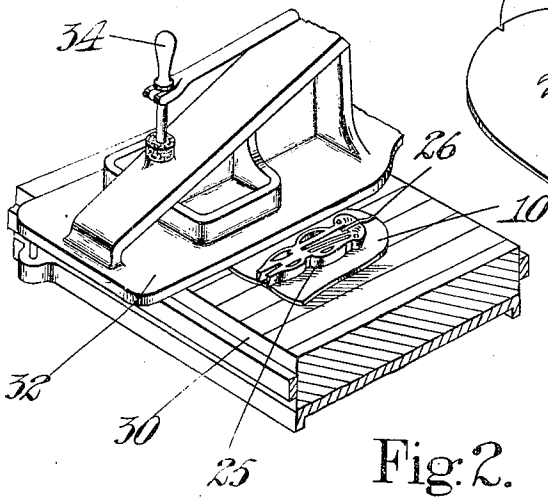


Fig. 2.

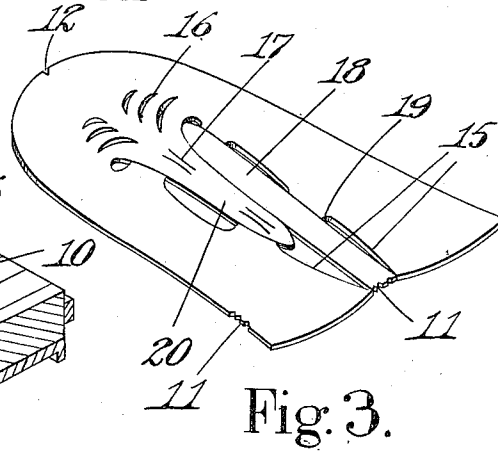


Fig. 3.

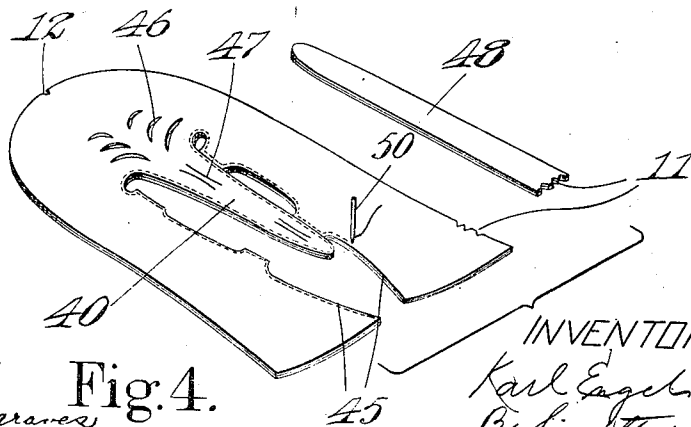


Fig. 4.

WITNESSES:

Elizabeth C. Cook

A. Blanche Hargraves.

INVENTOR

Karl Engel

By his Attorney,

Nelson W. Howard

UNITED STATES PATENT OFFICE.

KARL ENGEL, OF ARLINGTON, MASSACHUSETTS, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

MANUFACTURE OF BOOTS AND SHOES.

1,055,622.

Specification of Letters Patent.

Patented Mar. 11, 1913.

Application filed January 23, 1911. Serial No. 604,166.

To all whom it may concern:

Be it known that I, KARL ENGEL, a citizen of the United States, residing at Arlington, in the county of Middlesex and State of Massachusetts, have invented certain Improvements in the Manufacture of Boots and Shoes, of which the following description, in connection with the accompanying drawings, is a specification, like reference characters on the drawings indicating like parts in the several figures.

This invention relates to a novel method of producing blanks for the uppers of boots and shoes and, while it may be practised to good advantage in producing any blank having a cut out portion or perforations, or both, the invention relates more particularly to a method of producing a vamp having a tongue formed integrally therewith for use in sandals or the like.

Heretofore vamps for sandals have been died out singly by dies which cut the contour of the vamp and also formed the throat portion thereof at the same operation, and subsequently a tongue has been stitched into the throat portion. In practising my invention, however, the contour of the blank is cut out in one operation and the throat portion is cut out in a subsequent operation leaving a tongue formed integrally with the vamp and projecting into the throat portion. Preferably the throat and tongue will be cut by a suitably shaped die and at the same operation perforations for purposes of ornamentation or ventilation may be also cut in the blank.

In blanks for sandals as heretofore produced, it has been customary to locate the tongue substantially symmetrically with respect to the edges of the throat, that is spaced equally from the sides thereof. I have discovered, however, that a displacement of the tongue in the blank to one side of the throat is not noticeable in the finished shoe and that by locating the tongue adjacent to one side of the throat it is possible to cut out a small entire blank, which may be used in other parts of the shoe, from the side of the throat opposite to the tongue, thus utilizing material which would otherwise have value only as scrap. An important step in my invention, accordingly, con-

sists in dying out from a previously formed blank a throat portion having projecting into it as part of the blank a tongue unsymmetrically disposed with respect to the edges of the throat.

The present invention may be practised with particular advantage in producing a lined blank. Formerly a blank and the lining therefor have been separately formed and then stitched together and, in case a perforated blank was required, the perforations in the lining have been formed by a knife operating in the sewing machine, the knife cutting through the lining as the needle traversed the margin of the perforations in the blank. In producing a lined blank in accordance with my invention the outline of the upper blank will be died out and lining material attached to the blank so formed. The throat, tongue and perforations are then formed simultaneously by the use of a suitably shaped die and subsequently the lined blanks may be stitched about the marginal edges of the died out portions. This mode of operation which includes, as a step, dying out portions from a lined blank, results in a cleaner cutting of the design and more accurate alinement of the perforations in the blank and lining than has been possible by the methods heretofore practised, wherein the perforations were formed in the lining subsequently to those in the blank. It also reduces the expense of producing the complete lined and perforated blanks.

In producing right and left blanks, such as the vamps above discussed, it is necessary to form similar but reversely shaped perforations or cut out portions in each of said blanks and where this is effected simultaneously with the operation of dying out the marginal edges of the blank, it is necessary to construct separate interior right and left dies for this purpose. In practising the present invention, however, in one of the ways in which it may be carried out, it is proposed to form similar but reversely arranged ornamentations or cut out portions simultaneously in a pair of right and left blanks by the use of a single die. To this end, a pair of previously formed blanks may be superposed with similar surfaces adja-

cent to each other, and both blanks completed at a single operation. The same procedure may be followed in producing lined vamps of the design above described, the previously formed and lined blanks being superposed, preferably with their lined surfaces adjacent to each other and the throat, tongue and perforations died out simultaneously in both blanks.

10 Preferably in practising my novel method, size indicating notches will be formed at two points in the contour of the main blank and the small blank will be so disposed as to include in its contour one of said points
15 so that the size of the shoe in which the small blank is to be used will be apparent on inspection after it has been severed. Another advantage incident to this step is apparent in those cases where the smaller
20 blank is formed by die cutting, as the die may then be readily and accurately located in proper position upon the main blank by the aid of one or both sets of notches in its margin.

25 In carrying out the method herein disclosed I employ, preferably, a die of novel construction having cutting blades shaped to form the marginal edges of the throat and a loop-shaped tongue-cutting portion
30 connecting said blades and disposed adjacent to one of them. This die, however, is not claimed herein, but forms the subject-matter of my co-pending application Serial No. 564,638, filed June 2, 1910.

35 For purposes of illustration the steps in producing a pair of lined and perforated vamps for sandals will be described in detail but it is to be understood that the invention is not limited to the production of
40 such blanks but may be advantageously practised in the production of other blanks having ornamental or other cut out portions formed within their outer contours.

In the accompanying drawings, which
45 illustrate one manner of practising my invention,—Figure 1 is a view in perspective of a vamp blank with a blank of lining material partially attached; Fig. 2 is a view in perspective, on a reduced scale, illustrating the operation of dying out the center
50 portion of a blank; Fig. 3 is a view in perspective of a right blank after the dying out operation; Fig. 4 is a similar view of a left blank, lined and partially stitched, with
55 the strap blank removed.

In carrying out my novel method a blank 10 of upper leather is first produced. Preferably the blank is died out in a clicking press by the use of a suitable die though the
60 manner of forming this blank is not of particular importance in that it constitutes merely one step of the invention. Size indicating notches 11 are formed at two places in the contour of the blank and where a die
65 is employed for dying out the blank these

notches may be formed simultaneously with the dying out operation by providing suitable indentations in the cutting edge of the die. A center indicating notch 12 may also be cut in the toe portion of the vamp at the same time. The throat and tongue are then
70 formed in the blank by the use of a suitably shaped die. The throat comprises an open-ended recess 15 and the tongue 20 projects into the throat as an integral part of the blank. The tongue 20, instead of being
75 disposed centrally of the throat 15, as heretofore, is arranged obliquely with respect to the axis of the blank, adjacent to the inner side of the throat and spaced from the other
80 or outer side of the throat. By this arrangement of the tongue it is possible to cut out a strap 18 from the space left between the tongue and the outer side of the throat. In forming the throat and tongue portion of the
85 vamp slits 17 may be cut in the tongue for the passage of cross straps in the finished shoe and ornamental perforations 16 may be formed in the toe portion. Transverse
90 tongues 19 to which cross straps may be stitched are also formed in the marginal edges of the throat.

In forming the throat, tongue and strap there is preferably employed a die having blades arranged to cut out the marginal
95 edges of the throat and a looped shaped connecting blade so arranged as to form a tongue located adjacent to one side of the throat. If ornamental perforations are desired they may be formed by the same die
100 and to this end the die is provided with separate cutting portions of closed contour. A die 25 of this character is shown in Fig. 2 of the drawings and is described at length in my co-pending application hereinbefore
105 identified. In practice, the blank 10 is placed upon the cutting bed 30 of a clicking press and the die 25 is properly located upon the blank. The position of the die is determined by a gage member 26 which
110 should register with the center indicating notch 12, while the rear end of the die may be located centrally by the aid of the size indicating notches 11 in the rear edge of the blank. The arms 32 of the clicking press
115 is then swung vertically over the die and, upon depression of the starting handle 34, the arm descends forcing the die through the blank.

The vamp shown in Fig. 3 is intended for
120 a right sandal and the tongue is displaced toward the left or inner side of the throat. A left vamp is shown in Fig. 4, the tongue being displaced toward the opposite side of the throat. A pair of vamps of this character, or any pair of blanks having similar
125 but reversely shaped cut out portions may be produced simultaneously in accordance with the present invention in the following manner. The outline of the pair of blanks
130

is first cut and the blanks are then alined and superposed with similar surfaces, preferably the flesh sides, adjacent to each other. The die 25 is then placed upon the uppermost blank, being located as above explained in connection with the single blank, and both blanks are completed at a single blow of the arm of the clicking press.

If a lined blank is desired the lining material is attached to the blank when its outline has been cut and before the throat or perforations are formed. A blank 14 of lining material, such as sheep skin, is cut out by the die previously used in cutting the outline of the blank of upper leather, or a die of similar contour, and the two blanks are then cemented together. The blanks may be cemented together over substantially their entire contacting areas or, if preferred, the central portions of the blanks alone may be cemented. It is essential merely that the proper relation of the two blanks should be established once for all and maintained during the subsequent supplementary dying-out operation and until the blanks have been stitched about the margins of the died out portions. After the cementing operation the throat 45, tongue 40, perforations 46 and a lined strap 48 are formed by the die 25 as in the case of the unlined blanks and subsequently the lined blank is stitched about the margin of the cut out portions, the needle 50 of a sewing machine being shown in Fig. 4. The lined strap blank 48 is also stitched about its edges in the same way.

A pair of mated, lined vamps may be produced simultaneously by superposing a pair of lined blanks with their lined sides adjacent to each other and locating the die 25 upon the uppermost blank as in the case of the unlined blanks. On depressing the arm of the clicking press a mated pair of lined vamps and a lined pair of straps are produced.

I have shown an integral die 25 designed to cut out the throat, tongue and perforations 16, 46 but it will be evident that a small separate die may be employed for cutting the perforations if so desired, or that the perforations may be omitted.

That feature of the invention which consists in arranging the tongue unsymmetrically in the throat is important, as already noted, in that it permits cutting out a strap from material which heretofore had value only as scrap and therefore improves greatly the economy in cutting the stock. This is particularly important in the present case as the vamps are usually cut where the leather is of the best quality. The displacement of the tongue, moreover, has no detrimental effect on the appearance of the finished shoe as in lasting the vamp at the shank the material adjacent to the tongue

on the inside of the shoe is pulled away from the tongue more than on the outside so that the unsymmetrical arrangement is not noticeable.

Having now described a preferred manner of practising my invention and one type of blank produced thereby, what I claim as new and desire to secure by Letters Patent of the United States is:—

1. In the manufacture of boots and shoes, the method which consists in forming a pair of right and left blanks, superposing said blanks with similar surfaces adjacent to each other and simultaneously dying out of both blanks open ended elongated recesses non-symmetrically disposed with respect to the axis of the blanks, thereby forming an oppositely arranged recess in the margin of a right and left blank respectively.

2. In the manufacture of boots and shoes, the method which consists in dying out a pair of right and left blanks, superposing said blanks with similar surfaces adjacent to each other, locating a non-symmetrically shaped die on the upper blank and simultaneously dying out from both blanks portions non-symmetrically disposed with respect to the axis of the blanks, thereby forming oppositely arranged cut out portions in the right and left blank respectively.

3. In the manufacture of boots and shoes, the method which consists in dying out a pair of right and left vamp blanks, superposing said blanks with their similar surfaces adjacent to each other, simultaneously dying out from each blank an elongated recess or throat into which projects a tongue formed integrally with the vamp and disposed adjacent to one side of the throat, and simultaneously with this operation cutting a pair of strap blanks from the material removed in forming the throat.

4. The method of producing a lined and perforated blank for a shoe which consists in forming a blank of upper leather and a corresponding blank of lining material, cementing together said blanks to establish them in the proper relation, dying-out a design in the interior of the attached blanks, and subsequently stitching said blanks together at the margins around the openings formed in said dying-out operation, the cement being so distributed as to cause the blanks to adhere at the margins of the openings during the stitching operation.

5. The method of producing lined and perforated blanks which consists in dying out a pair of right and left blanks, lining said blanks, superposing said lined blanks with similar surfaces adjacent to each other, dying out an unsymmetrical pattern simultaneously in both lined blanks, thereby forming a similar but reversely arranged

design in each, and subsequently stitching about the margin of the died out pattern.

6. The method of producing lined and perforated blanks which consists in forming a pair of right and left blanks from upper leather, forming a corresponding pair of right and left blanks from lining material, attaching each lining blank to its upper blank, superposing the lined blanks with their lined sides adjacent to each other, dying out an unsymmetrical pattern simultaneously in both lined blanks, thereby forming a similar but reversely arranged design in each, and subsequently stitching about the margin of the died out pattern.

7. The method of producing lined vamps and straps which consists in dying out a vamp blank of upper leather, lining said blank, subsequently cutting therein an open-ended elongated recess into which projects a tongue disposed adjacent to one side of

the recess and simultaneously with this operation dying out a lined strap from the material removed in forming said recess.

8. The method of producing vamps which consists in dying out a vamp blank of upper leather, lining said blank, subsequently cutting therein an open-ended recess into which projects a tongue disposed adjacent to one side of the recess and simultaneously with this operation slitting said tongue and dying out a blank having a width substantially equal to the length of the slits in said tongue.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

KARL ENGEL.

Witnesses:

HERBERT W. KENWAY,
JAMES R. HODDER.