Dec. 17, 1935. H. E. EDWARDS 2,024,916

MARKING DIE

Filed June 9, 1932

Fig. 1.

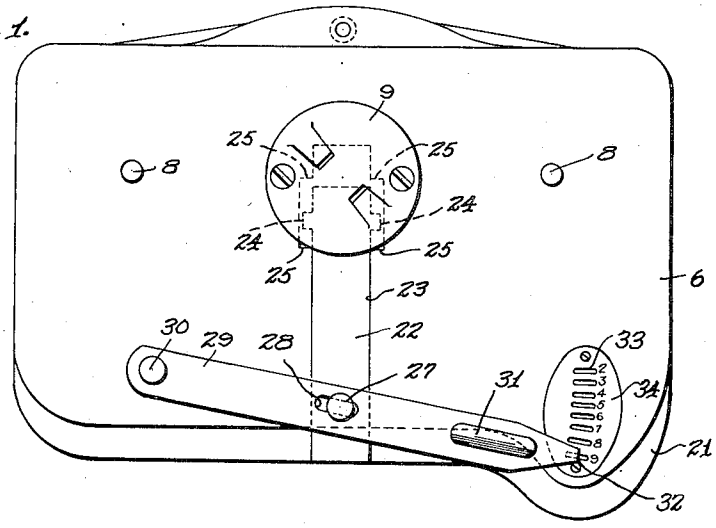
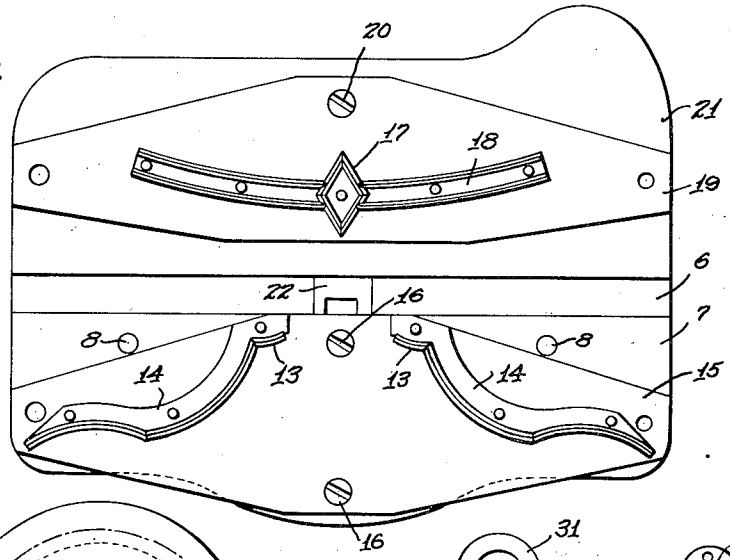


Fig. 2.



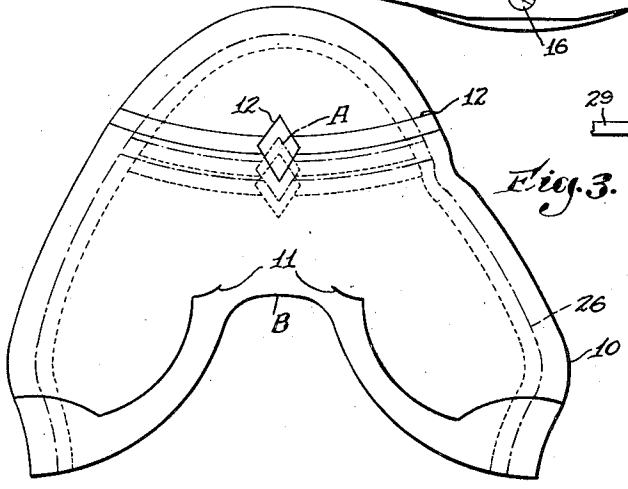


Fig. 3.

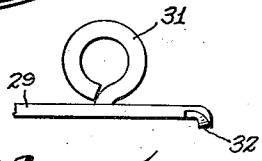


Fig. 5.

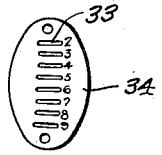


Fig. 4.

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UNITED STATES PATENT OFFICE

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MARKING DIE

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7 Claims. (Cl. 101—373)

The present invention relates to marking devices which are used in the manufacture of shoes to mark upper blanks, such as vamps, tips, quarters, foxing and straps, with lines for use as guides in subsequent hand and machine operations. The guide lines may indicate the center lines of the blanks, the lap of one blank over an adjacent blank, or the location of collars, imitation tips, overlays, underlays, perforations, embossings, ornamental cut-outs and stitches.

Shoe upper blanks in a series of the different sizes and widths of the same style, which have a common portion of their peripheries held to the same grade, are called center graded to distinguish them from regular graded upper blanks, the peripheries of which have no common portion of any extent. In marking these shoe upper blanks, both center and regular graded, it is often desirable to place two spaced marks thereon, one of which is fixed for all the blanks in the series and the other one of which is varied in accordance with the size of the blank, the second mark being fixed for only the blanks of the same size in the series. One instance of this occurs in the marking of quarters, the front mark being fixed and the rear mark being varied as the length of the quarter varies in order to locate the front edges of the foxing the proper distance for the size of the shoe from the rear end thereof. Another instance occurs in the marking of vamps, the rear mark being fixed to locate a collar, for instance, adjacent the throat uniformly for all the blanks in the series and the front mark being varied to locate an imitation tip, for instance, the proper distance for the size of the shoe from the front end thereof.

The principal object of the present invention is to provide a single die for producing spaced marks throughout a series of shoe upper blanks of the same style.

To the accomplishment of this object, and such others as may appear hereinafter, the various features of the present invention reside in certain devices, combinations and arrangements of parts hereinafter described and then set forth broadly and in detail in the appended claims which possess advantages readily apparent to those skilled in the art.

The various features of the present invention will be readily understood from an inspection of the accompanying drawing illustrating the best form of the invention at present known to the inventor, in which,

Figure 1 is a view of the die in plan;

Fig. 2 is a view in underside plan;

Fig. 3 is a view in plan of a shoe upper vamp having marks thereon for the locations of a collar and an imitation tip, respectively, two smaller vamps in the series of the same style being shown in construction lines;

Fig. 4 is a detail view in plan of the removable scale plate, and

Fig. 5 is a detail view of the detent end of the slide operating arm.

In the illustrated embodiment of the invention, the die comprises two flat plates 6 (Fig. 1) and 7 (Fig. 2) secured together, back to back. The top of the plate 6 is provided with pins 8 and a disk 9 by means of which the die is connected detachably to the cross-head of the marking machine disclosed in my Patent No. 1,796,686, March 17, 1931 or my Patent No. 1,881,399, October 4, 1932, depending upon whether the blank to be marked is center or regular graded.

Referring to Fig. 3, the shoe upper blank 10 is provided with a mark 11 forming a guide line for the location of a collar on the blank in a subsequent operation and with a mark 12 forming guide lines for the location of an imitation tip on the blank.

The mark 11 is made by a marker 13 (Fig. 2) projecting from one edge of a pair of brass strips 14 secured to a flat plate 15. The plate 15 is secured by the screws 16 to the plate 7 so that the plate 15, with its marker, may be removed readily as a unit from the plate 7 and replaced by another plate 15 having a marker 13 of different configuration thereon.

The mark 12 is made by a marker 17 projecting from a brass strip 18 secured to a flat plate 19. The plate 19 is secured by the screw 20 to a flat plate 21 so that the plate 19, with its marker, may be removed readily as a unit from the plate 21 and replaced by another plate 19 having a marker 17 of different configuration.

The plate 21 is secured to a slide 22 (Fig. 1) received in a way 23 cut into the plate 6. The slide 22 slides beneath the plate 7, the slide being slotted (Fig. 2) to embrace loosely the screw 16. The movement of the slide is limited in both directions by lateral lugs 24 (Fig. 1) which engage shoulders 25 formed in the plate 6 by widening the way 23 adjacent its blind end.

When the die is inserted in either of the machines disclosed in my patents hereinbefore identified, the cross-head first is swung back-

ward to press the markers 13 and 17 against the ink pad and then the cross-head is swung forward to press the inked markers against the blank supported in the machine. If the markers 13 and 17 are properly spaced apart the supported vamp 10 will receive the marks 11 and 12 in the correct location to act as guides in the subsequent application of the collar and imitation tip, respectively. If the next succeeding smaller sized vamp 26 (Fig. 3) in the series of upper blanks of the same style then is inserted in the machine and marked, it is apparent, from an inspection of Fig. 3, that the mark 12 would be located too close to the toe end of the vamp 26 and too far away from the throat thereof.

Stated in another way, if each vamp in the series of upper blanks of the same style is considered as being provided with a tip line, the tip heights, that is, the distance between the feet of the lead lines A and B (Fig. 3) vary uniformly as the vamps in the series decrease in size. It follows therefore that if the mark 12 is located properly at the tip line on the vamp 10 the mark 12 will miss the tip line on the vamp 26 by the difference between the tip height on the vamp 10 and the tip height on the vamp 26.

In order to correlate the markers to compensate for the variation in tip heights on the vamps of different sizes, the die is provided with means for shifting the marker 17 towards or away from the marker 13. To this end the slide 22 carries a pin 27, (Fig. 1). The shank of the pin 27 is embraced by the walls of a slot 28 formed in an arm 29 one end of which is pivoted on a pin 30 projecting from the plate 6. The pins 27 and 30 are provided with heads, the shoulders of which engage the arm 29. Near its free end the arm 29 is provided with a finger-piece 31 by means of which the arm 29 may be swung on its pivot to operate the slide 22.

In order to hold the slide 22 in its desired position of adjustment the free end of the arm 29 is formed as a detent 32 (Fig. 5) which is pressed by the inherent elasticity of the arm 29 into one of a series of grooves 33 formed in a plate 34.

The grooves 33 are spaced apart a distance commensurate with the variation in tip heights between one size of vamp and the next succeeding size. As shown in Fig. 1 the plate 34 is provided with a scale indicating that the marker 17 may be shifted to accommodate the marking of vamps varying in size from 2 to 9.

While this tip height variation is practically uniform throughout the industry the die is not limited for operation on vamps and may be used for making other fixed and graduated marks such as the fixed front mark and the graduated foxing mark on the quarters in a series of the same style. The graduation of the foxing mark is different from the graduation of the tip height, and so in order to prevent undue complication in the die to enable it to be accommodated to the different graduations, the plate 34 may be removed as a unit and replaced by another plate provided with differently spaced grooves 33 and bearing the same or perhaps a different scale.

If the vamp 10 (Fig. 3) is a No. 9 the detent 32 is engaged with the No. 9 groove 33 in the plate 34, thus insuring that when the markers 13 and 17 are brought successively into engagement with the No. 9 vamps supported in the Edwards stitch marker, the collar and imitation tip guide lines will be located properly. If the vamp 26 is a No. 8 and is to be marked next the detent 32 is disengaged from the No. 9 groove by pulling up on the finger-piece 31 which is then moved to shift the slide 22 and correlate the markers 13 and 17 in accordance with the size of the vamp 26, the detent 32 being placed in the No. 8 groove in the plate 34. This insures that the vamp 26 will be provided with the marks 11 and 12 at the collar and tip line, respectively.

By use of the illustrated embodiment of the present invention in the Edwards marking machine, one part of all the blanks in the series of the same style and another part of only the blanks of the same size in said series may be marked in a uniform manner, provision for adjustment being made for moving the other part a predetermined distance towards or away from the fixed marker to mark uniformly the corresponding other parts of the blanks of another size in the series of the same style.

Nothing herein explained is to be interpreted as limiting the invention in the scope of its application to use in marking any particular type of shoe upper blank in connection with the particular marking machine or the particular mode of operation or both selected for purposes of illustration and explanation. While the particulars of construction herein set forth are well suited to one structural form of the invention, it is not limited to these details of construction, nor to the conjoint use of all its features, nor is it to be understood that these particulars are essential since they may be modified within the skill of the artisan without departing from the true scope of the actual invention, characterizing features of which are set forth in the following claims by the intentional use of generic terms and expressions, inclusive of various modifications.

What is claimed as new is:

1. A die having, in combination, a support, a marking member carried thereby, means for adjusting the marking member on its support including an inherently elastic arm carried by the support and provided with a detent, and a plate removably mounted on the support constructed to cooperate with the detent.

2. A die having, in combination, a support, a scale plate removably mounted on the support, a marking member carried by the support, and means for adjusting the marking member on its support including an inherently elastic arm carried by the support and provided with a detent adapted to register with the scale on the plate.

3. A die having, in combination, a support, a scale plate removably mounted on the support and provided with grooves, a marking member carried by the support, and means for adjusting the marking member on its support including an arm provided with a detent adapted to register with the grooves in the scale plate, said arm being inherently elastic to press the detent into said grooves.

4. In a die for marking a series of shoe upper blanks of the same style, the combination with a support, a marker secured thereto for placing a mark uniformly on all the blanks in the series, a slide movable on the support, a plate supported by the slide, and a marker secured to the plate for placing a mark uniformly on only the blanks of the same size in the series, of means movable over the support for

shifting the slide to position the second marker for placing a mark uniformly on only the blanks of another size in the series.

5. In a die for marking a series of shoe upper blanks of the same style, the combination with a support, a marker secured thereto for placing a mark uniformly on all the blanks in the series, a slide movable on the support, a plate supported by the slide, and a marker secured to the plate for placing a mark uniformly on only the blanks of the same size in the series, of means movable over the support cooperating with means carried by the slide for shifting the slide to position the second marker for placing a mark uniformly on only the blanks of another size in the series.

6. A die for marking a series of shoe upper blanks of the same style having, in combination, a support, a marker secured thereto for placing a mark uniformly on all the blanks in the series, a slide movable on the support, a plate supported by the slide, a marker secured to the plate for placing a mark uniformly on only the blanks of the same size in the series, said plate and the marker secured thereto being readily removable as a unit from the die, and means movable over the support for shifting the slide to position the second marker for placing a mark uniformly on only the blanks of another size in the series.

7. A die for marking a series of shoe upper blanks of the same style having, in combination, a support, a plate carried thereby, a marker secured to the plate for placing a mark uniformly on all the blanks in the series, a slide movable on the support, a plate supported by the slide, a marker secured to the plate for placing a mark uniformly on only the blanks of the same size in the series, at least one of said plates and the marker secured thereto being readily removable as a unit from the die, and means movable over the support for shifting the slide to position the second marker for placing a mark uniformly on only the blanks of another size in the series.

HERBERT E. EDWARDS.