

Nov. 25, 1930.

J. A. PARKER

1,782,999

DIE

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3 Sheets-Sheet 1

Fig. 1.

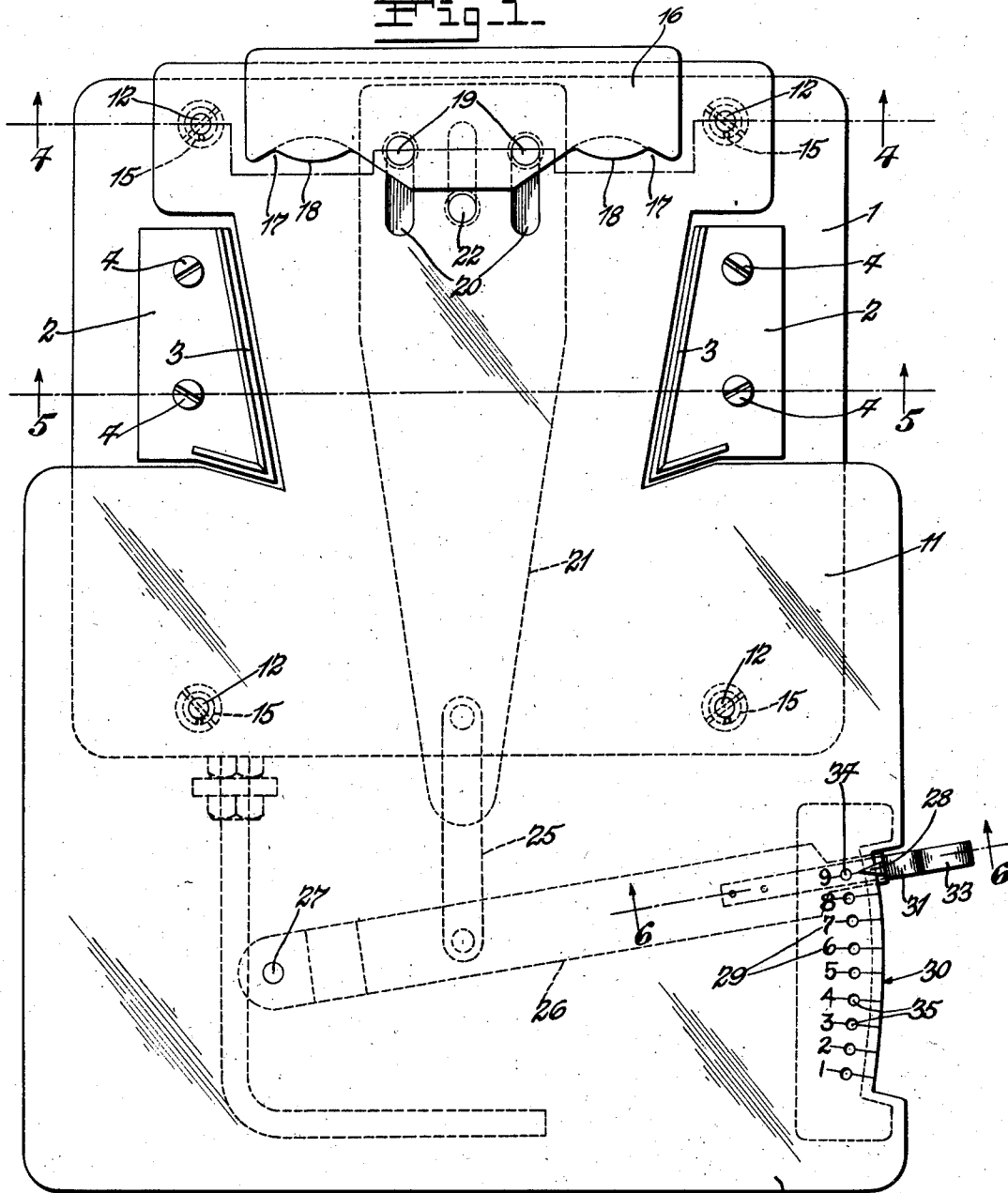
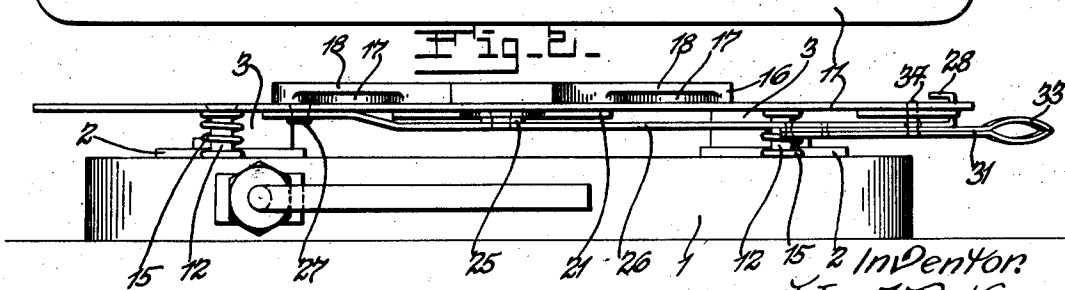


Fig. 2.



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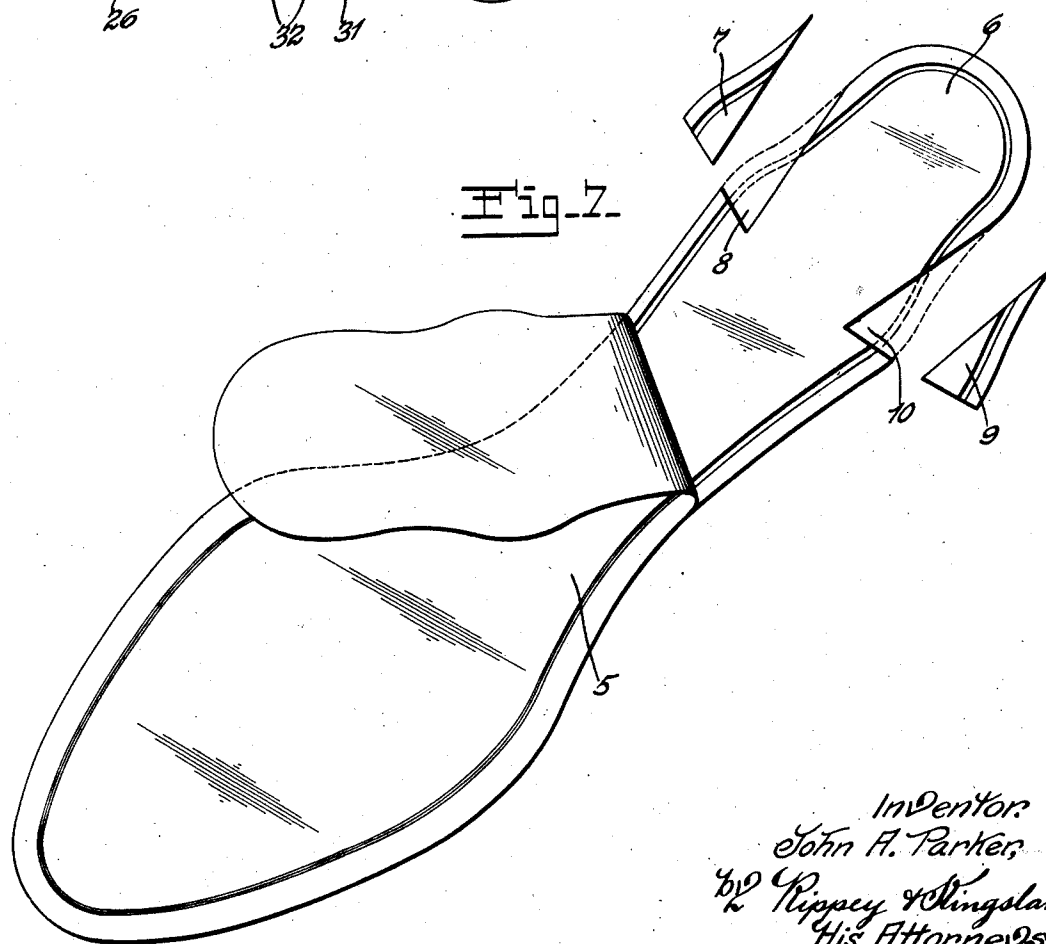
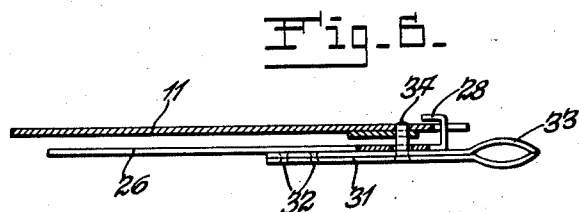
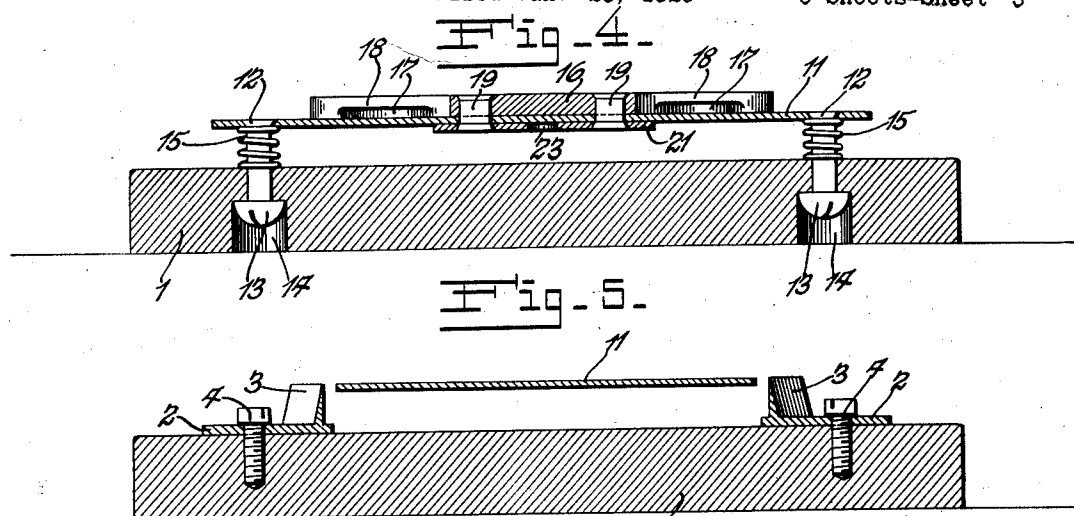
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3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

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DIE

Application filed January 25, 1929. Serial No. 335,001.

This invention relates to dies for use in cutting out soles to proper shape for attachment to the shoes.

This invention has special reference to a die designed and adapted for use in shaping the heel seats of shoe soles of the type disclosed in my companion application Serial No. 335,002, filed January 25, 1929, for method of forming outsoles.

10 An object of the invention is to provide an improved die for use in practicing the method of my said application and which is equipped with means for centering or locating the sole upon the die so that when pressure is applied to the sole the die will be operated effectively to cut notches in the side edges of the sole in order to complete the formation of the heel seat.

20 Another object of the invention is to provide an improved die having means for locating the sole thereon in proper relationship to the cutter so that when the device is operated the cutter will sever exactly the required amount of material from the side edge of the sole.

25 Another object of the invention is to provide an improved die of the type and character mentioned having adjusting means and a gage controlled thereby for adjusting and gaging soles of different sizes in proper relationship to the cutters.

Other objects will appear from the following description, reference being made to the accompanying drawings in which,

35 Fig. 1 is a plan view of my improved die. Fig. 2 is a front elevation.

Fig. 3 is a bottom plan view with parts broken away to disclose better the device for adjusting the gage.

40 Fig. 4 is a cross sectional view approximately on the line 4—4 of Fig. 1.

Fig. 5 is a cross sectional view approximately on the line 5—5 of Fig. 1.

45 Fig. 6 is a sectional view approximately on the line 6—6 of Fig. 1.

Fig. 7 is a perspective view showing a shoe sole having parts cut away by my improved die to form a heel seat.

Specifically, the present invention relates to a die for cutting away marginal portions

of a sole at the heel seat, though it will be apparent from the following description that the die may be varied so as to perform other cutting operations and that the invention is by no means restricted to the specific form of cutter or to a cutter for operating at any definite point on the sole. For it will be apparent that the design and shape of the cutter may be widely varied and that the cutter may be made to operate upon any portion of the sole. Further, the invention may be used for other purposes and to operate upon other work than shoe soles and in describing the specific embodiment of the invention shown I do not restrict myself to such specific embodiment.

The die shown is portable and is designed and adapted for use in machines having plunger or pressure applying devices which may be operated to press upon the work on the die so as to depress the work and the platen or support upon which the work is mounted so as to engage the work with cutting devices. The present invention is not concerned with the type of such machine, as machines of different types for such purposes are well known, and the die, the subject matter of the present invention, may be used in different types of such machines.

The die shown comprises a rigid but portable base 1. A pair of cutters, each comprising a base portion 2 and an angular upwardly extending flange 3 having its upper edge sharp so as to constitute a cutter, are detachably secured to the base 1 by screws 4. These cutters are arranged in spaced relationship so that the work may first be operated upon one of said cutters and then upon the other so as to cut notches in the sides of the work. For instance, as shown in Fig. 7, a shoe sole 5 has been operated upon by my improved die to perform essential operations in the shaping and finishing of the heel seat 6 of the sole. That is to say, the shoe sole is so located and placed upon the die that at one operation of the machine a piece 7 is cut from one side of the sole to form a notch 8, after which the shoe is moved and located for operation upon the other cutter whereby a piece 9 is cut from the opposite side of the sole to form a notch 10.

While this is a highly useful operation of the die in the making of shoe soles of the type shown, the invention may be varied without departure from the nature and principle thereof by using other shapes and types of cutters.

A plate 11 constituting a platen or work support is mounted above the base 1, being rigidly secured to the upper ends of guide stems 12. The guide stems 12 for sliding movements through holes in the base 1 and have heads 13 on their lower ends received for operation within recesses 14 in the under side of the base. Springs 15 encircle the stems 12 having their lower ends seated upon the base 1 and their upper ends pressing against the under side of the platen or work support 11. These springs are effective to uphold the platen or work support 11 and to actuate the same to the full extent permitted by the heads 13. That is to say, the springs 15 support the platen or work support 12 in a plane approximately even with the plane of the upper edges of the cutters 3.

A gage 16 is mounted upon the inner end of the platen or work support 11 and has in its forward edge a pair of notches or recesses 17, one of said notches or recesses being adjacent to each of the cutters 3. A lip 18 projects forwardly above each notch 17 and is designed and intended to extend over the marginal portion of the end of the shoe sole or other work to assist in holding the work in proper position for operation of the machine. Thus in order to operate upon the sole shown in Fig. 7 to cut out the pieces 7 and 9 the rear end of the sole is inserted in one of the notches 17 below the lip 18. In this position the sole extends over the cutter 3 so that when pressure is applied to the sole to depress the sole and the work support 11 said cutter 3 will cut out the pieces 7 or 9, depending upon the location of the sole. Pressure is then released and the sole is moved to the other notch 17 adjacent to the other cutter 3 and the machine is again operated.

In the embodiment of the invention shown the die is designed and adapted to accommodate work of different lengths, that is to say, shoe soles of different lengths. The intermediate portion of the gage 16 is rigid with the upper ends of a pair of pins 19 which project downwardly through longitudinal slots 20 in the platen or work support 11. The lower ends of the pins 19 are rigid with a slide 21 located for front-to-rear sliding movements below the platen or work support 11. A pin 22 rigid with the platen or work support 11 extends through a slot 23 (Fig. 3) near the rear end of the slide 21 and has a head 24 on its lower end for supporting said slide for sliding movements. The slots 20 and 23 are parallel.

The forward end of the slide 21 is pivotally connected by a link 25 with a lever 26

having its inner end mounted on a pivot 27 rigid with the front portion of the platen or work support 11. The lever 26 extends laterally beyond the side edge of the platen or work support 11 and is bent upwardly and rebent to form a pointer 28 cooperating with a graduated scale 29. The marginal portion of the platen or work support 11 along which the pointer 28 is operative comprises an arcuate edge 30 that is concentric with the axis of the pivot 27. This scale 29 is coordinated with the gage 16 so that the position of the pointer 28 with respect to said scale 29 indicated to the operator the position to which the gage 16 should be moved to accommodate the shoe sole or other work of the size to be operated upon.

A combined latch device and handle for the lever 26 is provided, the same comprising a pair of resilient strips 31 having their inner ends attached to the lever 26 by rivets 32 and having their outer ends bent to form an appropriate handle 33. The intermediate portion of this handle supports a pin 34 that projects upwardly through the lever 26 for insertion into and withdrawal from holes 35 near the arcuate edge 30. Thus the inherent resiliency of the handle device 31 holds it in position in which the pin 34 is engaged in one of the holes 35. And the resiliency of said devices 31 permits said devices to be bent to disengage the pin 34 from the hole 35 and thereby permit movement of the lever 26 to shift the gage 16 to its different adjusted positions.

From the foregoing it must be apparent that when it is desired to use the die the work is inserted first in one of the notches 17 under the lip 18 and pressure is applied to cause the adjacent cutter 3 to cut the work. Then the pressure is removed and the work is moved to the other notch 17 over the adjacent cutter 3 and pressure is again applied. The gage 16 may be shifted to different adjusted positions by the described manipulation of the lever 26, the scale 29 indicating the positions to which the gage 16 should be moved for the different sizes of work. The construction, arrangement and relationship of the parts may be varied without departure from the nature and principle of the invention. I do not restrict myself in these or other unessential respects, but what I claim and desire to secure by Letters Patent is:—

1. A die comprising a base, a work supporting plate, springs for supporting the work supporting plate above the base, cutters rigid with the base, and spaced gage parts supported by said supporting plate for gaging the work in one position with one edge toward one of said cutters and in another position with the opposite edge toward another cutter.

2. A die comprising a base, a work supporting plate, springs for supporting the

work supporting plate above the base, cutters rigid with the base, spaced gage parts supported by said supporting plate for gaging the work in one position with one edge toward one of said cutters and in another position with the opposite edge toward another cutter, and means for adjusting said gage parts in different positions for different classes of work.

3. A die comprising a base, a work support, means for supporting the work support above the base for movement toward and from the base, a die element attached to the base, a gage mounted for sliding movements to different adjustments on the work support, means for guiding said gage, means for moving said gage to its different adjustments, and a device cooperating with said last named means to hold the gage in its different adjustments.

4. A die comprising a stationary die element, a movable support for the work, a gage movably mounted on said support, a lever for moving said gage to different positions, and a scale with which said lever cooperates to indicate the proper positions of the gage for different sizes of work.

5. A die comprising a stationary die element, a movable support for the work, a gage movably mounted on said support, a lever for moving said gage to different positions, a scale with which said lever cooperates to indicate the proper positions of the gage for different sizes of work, and means for holding said lever from accidental movement.

6. A die comprising a rigid die element, a movable support for the work, a gage mounted on said support, an actuator for moving said gage to different adjusted positions on said support, and a releasable latch device for holding said actuator from accidental movement.

7. A die comprising a rigid die element, a work support, means for supporting said work support for movement toward and away from said die element, a movable gage on the upper side of said work support, and means on the opposite side of said work support for moving said gage to different adjusted positions for work of different sizes.

8. A die comprising a rigid die element, a work support, means for supporting said work support for movement toward and away from said die element, a movable gage on the upper side of said work support, means on the opposite side of said work support for moving said gage to different adjusted positions for work of different sizes, and means indicating the position to which said die element should be moved for work of definite sizes.

9. A die comprising a rigid die element, a work support, springs supporting said work support in position to receive work extended over said die element, a gage supported by said work support, and a device for adjust-

ing the gage in different positions for work of different sizes.

10. A die comprising a base, a pair of spaced die elements rigid on said base for cutting duplicate parts from the opposite sides of the work, a support for the work, springs supporting said support in position for location of the work on said support in a location in which the work extends over either of said die elements, a gage at the upper side of said support, and means in connection with said gage for engaging an end of the work to hold the work in different positions first for operation of one lateral side of the work upon one of said die elements and then for operation of the opposite lateral side of the work upon the other die element.

11. A die comprising a base, a pair of spaced die elements rigid on said base for cutting duplicate parts from the opposite sides of the work, a support for the work, springs supporting said support in position for location of the work on said support in a location in which the work extends over either of said die elements, a gage at the upper side of said support, means in connection with said gage for engaging an end of the work to hold the work in different positions first for operation of one lateral side of the work upon one of said die elements and then for operation of the opposite lateral side of the work upon the other die element, and means between said work support and said base for holding said die element in different adjusted positions for work of different sizes.

12. A portable die comprising a base, a work support, springs on the base supporting said work support above the base for movement toward and from the base, a die element rigid on the base, a gage mounted for sliding movements to different adjustments on the work support, means for guiding said gage, and means for moving said gage to its different adjustments.

13. A portable die comprising a base, a work support, springs on the base supporting said work support above the base for movement toward and from the base, a die element rigid on the base, a gage mounted for sliding movements to different adjustments on the work support, means for guiding said gage, means for moving said gage to its different adjustments, and a device cooperating with said last named means to hold the gage in its different adjustments.

14. A die comprising a rigid base, a die element attached to said base, a movable support for the work, a gage movably mounted on said support, a slide between said base and said support, means connecting said gage and said slide, a lever having one end pivoted to said support, a link pivotally connecting said slide with said lever whereby said lever

will move said slide and thereby said gage, and means preventing accidental movement of said lever.

15. A die comprising a rigid base, a die element rigid on said base, a movable support for the work having slots therein, a gage movably mounted on said support, a slide between said base and said support, connections from said gage to said slide extending through said slots and guiding said gage and slide in their movements, and a device for operating said slide to move said gage to different adjustments.

16. A die comprising a rigid base, a die element rigid on said base, a movable support for the work having slots therein, a gage movably mounted on said support, a slide between said base and said support, connections from said gage to said slide extending through said slots and guiding said gage and slide in their movements, a device for operating said slide to move said gage to different adjustments, and means cooperating with said device to prevent accidental movement of said gage.

17. A die comprising a rigid base, a pair of spaced die elements for cutting duplicate parts from the opposite side edges of the work, means holding said die elements rigid on said base, a support for the work, springs between said base and said support and supporting said support above said base, a gage element mounted on the upper side of said support, and means in connection with said gage element for engaging an end of the work to hold the work in different positions first for operation of one lateral side of the work upon one of said die elements and then for operation of the opposite lateral side of the work upon the other die element.

18. A die comprising a rigid base, a pair of spaced die elements for cutting duplicate parts from the opposite side edges of the work, means holding said die elements rigid on said base, a support for the work, springs between said base and said support and supporting said support above said base, a gage element mounted on the upper side of said support, means in connection with said gage element for engaging an end of the work to hold the work in different positions first for operation of one lateral side of the work upon one of said die elements and then for operation of the opposite lateral side of the work upon the other die element, and means for holding said gage element in different adjusted positions for work of different sizes.

19. A die comprising a rigid cutter, a work support for supporting the work for operation against the cutter, a gage for the work at the upper side of said support having a recess in one edge for receiving one edge of the work located on said support in proper position for operation toward the cutter, a part in connection with said gage arranged

to extend over and hold the work on said support, and an actuator supported at the underside of said support for adjusting said gage in different positions for work of different sizes.

20. A die for cutting shoe soles comprising a die element for cutting the edges of the shoe soles, a support for the soles, a gage at the upper side of said support having a recess in one edge for engaging one edge of the shoe soles and gaging the work for proper operation of said die element, a part projecting from said gage over said recess and arranged to engage upon the upper side of the shoe soles, a device at the underside of said support for moving said gage longitudinally toward the front and rear of said support to different adjustments for soles of different sizes, and means for guiding the operator in the operation of said device to different adjusted positions for soles of different sizes.

21. A portable die comprising a die element for cutting shoe soles, a support for the soles, a gage at the upper side of said support for engaging one edge of the soles and locating the soles for proper operation of said die element, means for holding the soles upon said support at said gage, a device mounted at the underside of said support for adjusting and holding the gage in different adjusted positions between the front and the rear of said support to accommodate soles of different sizes, and means cooperating with said device indicating the proper positions of said device for adjusting and holding said gage in its different adjustments.

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