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T. F. TYLER

ADJUSTABLE HANDLE FOR MACHINE DIES

Filed April 22, 1926

Fig. 1

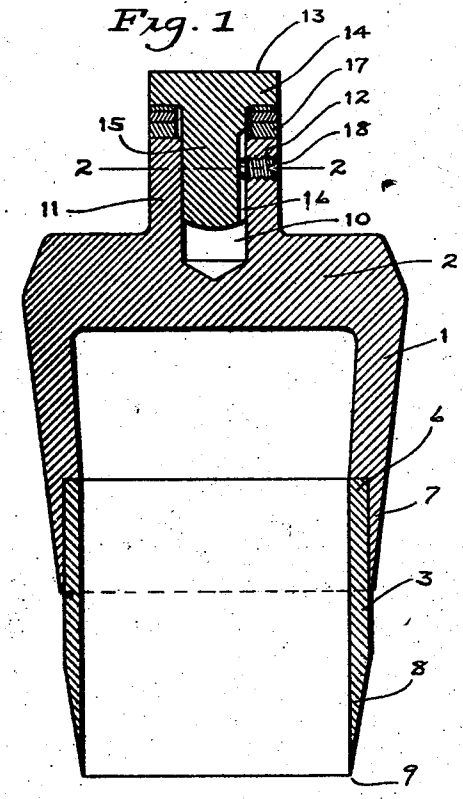


Fig. 3

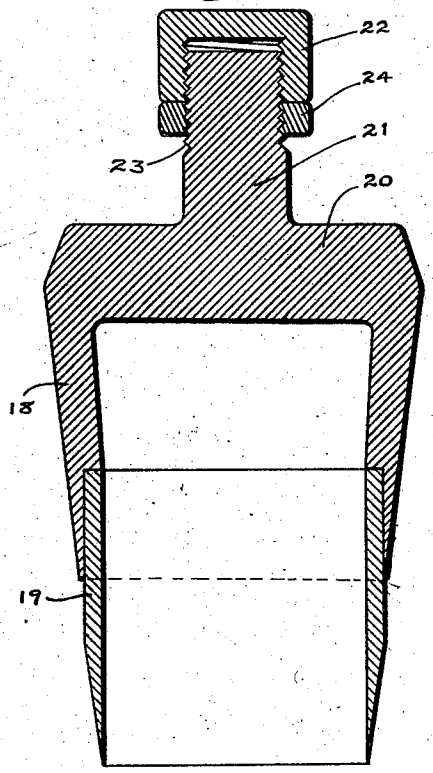


Fig. 4

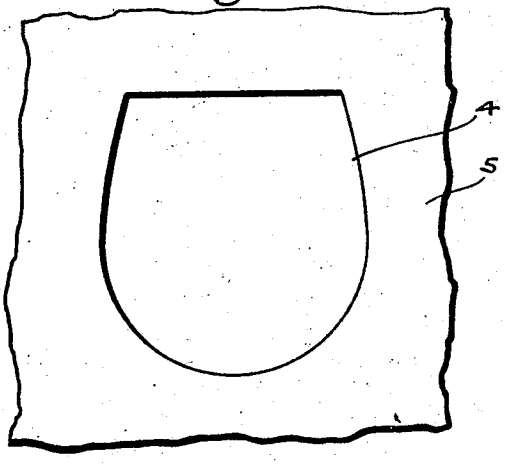
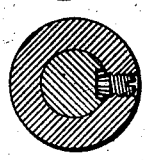


Fig. 2



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UNITED STATES PATENT OFFICE.

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ADJUSTABLE HANDLE FOR MACHINE DIES.

Application filed April 22, 1926. Serial No. 103,937.

This invention relates to a die structure employed in cutting heel lifts, soles, laps, etc., in the manufacture of shoes, but more particularly to an adjustable handle for the die structure.

The cutting dies, including the handle therefor, now employed for the purpose referred to, are one-piece structures, that is to say solid, as the handle is integral with the cutter. After the cutter becomes dull, it has to be ground off to sharpen the same, which makes the die structure shorter, then furthermore the handle thereof has to be heated and drawn out, but after completion the die structures are not of uniform length or height, as some are lower than the others, and in a majority of cases to obtain the proper length or height for the die structure, it necessitates the employment of a length of leather which is tied over the top of the die structure to increase the height of the latter, but as the leather quickly becomes worn and does not possess any lasting qualities for the purpose intended it has to be repeatedly replaced. The foregoing requirements are objectionable in that they entail a loss of time, are of considerable inconvenience in obtaining the proper height for the die structures and further increases the cost of maintenance. To overcome the foregoing objections is the primary aim of this invention, and to this end the invention has for its object to provide, in a manner as hereinafter set forth, a die structure including a sectional handle capable of being lengthwise adjusted to provide for the proper height of the die structure after the length of the cutter has been reduced by grinding off the same to sharpen it.

Further objects of the invention are to provide, in a manner as hereinafter set forth, a die structure which is comparatively simple in its construction and arrangement, strong, durable, compact, thoroughly efficient in its use, conveniently lengthened to provide for the desired height thereof, and readily installed in the machine, as well as being comparatively inexpensive to manufacture.

With the foregoing and other objects in view, the invention consists of the novel construction, combination and arrangement of parts as hereinafter more specifically described and illustrated in the accompanying drawings wherein is shown an embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which fall within the scope of the claims hereunto appended.

In the drawings wherein like reference characters denote corresponding parts throughout the several views:

Figure 1 is a vertical sectional view of a die structure in accordance with this invention.

Figure 2 is a section on line 2—2, Figure 1.

Figure 3 is a vertical sectional view of a modified form of die structure in accordance with this invention.

Figure 4 is a fragmentary view, in plan, of a piece of leather having a portion thereof removed by a die structure in accordance with this invention and with said portion forming a heel lift.

Referring to Figures 1 and 2 of the drawings 1 denotes the body portion of the die structure and which is open at its lower end and closed at its top, as at 2. The body portion forms a cutter receiver and the cutter, which is indicated at 3, is to be positioned within the open end of the body portion 1. The top 2 of the body portion 1 is of greater thickness than the remaining part of said body portion 1. The body portion 1 further conforms in contour to the shape of a cutter 3. The contour of the cutter 3 is of a shape to conform to the openings 4 formed in the piece of leather 5 or in other words the contour of the cutter 3 is shown as to provide a heel lift, but the shape of the cutter should conform to the contour of the article to be cut.

The lower part of the body portion 1 has its inner face cut away to form a shoulder 6 and a reduced lower terminal part 7. The cutter 3 is positioned against the inner face of the part 7 and abuts against the shoulder 4. The cutter 3 is of a height to depend a substantial distance below the lower edge of the body portion 1 and further is secured to the latter by any suitable means. The lower part of the cutter 3 is beveled as at 8 and the cutting edge of the cutter is indicated at 9.

The top 2 of the body portion 1, centrally thereof, is formed with a socket 10 and formed integral with the top 2 of the lower section 11 of the handle and said lower section is tubular and forms a continuation of the socket 10. The section 11 is formed with

a lateral opening 12 having the wall thereof threaded. Extending into the section 11 is the vertically adjustable upper section 13 of the handle. The upper section 13 includes a head 14 and a stem 15 formed with a lengthwise extending groove or channel 16. The channel 16 extends from the lower end of the stem 15 and terminates at a point removed from the inner face of the head 14. The section 11 is cylindrical in cross section and the stem is of like contour and snugly engages the inner face of said section 11. The head 14 corresponds in contour to the contour of the section 11 and is of the same diameter as the outer diameter of said section 11. The head 14 opposes the top edge of the section 11. When the section 13 is adjusted a spacing washer or a plurality of spacing washers 17 are interposed between the head 14 and the top edge of the section 11 and surround the upper portion of the shank 15. The section 13 is maintained in adjusted position by a set screw 18 having threaded engagement with a wall of the opening 16 and binding in the groove or channel 16. By the construction aforesaid, when the cutter 3 is ground off to reduce the length or height thereof, the handle can be lengthwise adjusted to provide for the proper height for the die structure.

Referring to Figure 3 of the drawings 18 denotes the body portion of the die structure, 19 the cutter and 20 the top of the body portion 18. The top 20 is not provided with the socket 10 and is solid throughout. The handle comprises a lower section 21 and an upper section 22. The section 21 is solid and further is cylindrical in contour and is formed integral with the top 20 centrally thereof. The upper part of the section 21 is peripherally threaded as at 23. The section 22 is in the form of an interiorly threaded cap nut of appropriate height and which threadedly engages with the threads 23 whereby the two sections of the handle are connected together. The manner of setting up the section 22 with respect to the section 23 provides for the lengthwise adjusting of the handle to obtain the necessary height for the die structure when the cutter 19 has been ground off. A stop nut 24 is carried by the section 21 below the section 22 and which has threaded engagement with the threads 23 of the section 21 and retains the section 22 in adjusted position and prevents the same from riding down on the section 21 when the section 22 has been adjusted.

It is thought the many advantages of a die structure, in accordance with this invention for the purpose referred to, can be readily understood, and although the preferred embodiment of the invention is as illustrated and described, yet it is to be understood that changes in the details of construction can be had which will fall within the scope of the invention as claimed.

What I claim is:

1. In a die structure for use in the manufacture of shoes, a cutter receiver in the form of a hollow body having an open inner and a closed outer end, a handle element, said element consisting of a pair of interengaging sections arranged exteriorly of said outer end and adjustable lengthwise relatively to each other to increase and decrease the length of said element exteriorly of said receiver, one of said sections being integral with the outer face of said closed end axially thereof, and means for maintaining said sections from movement when adjusted relatively to each other.

2. In a die structure for use in the manufacture of shoes, a cutter receiver formed of a hollow body having an open inner and a closed outer end, a handle element, said element consisting of a pair of interengaging sections arranged exteriorly of said outer end and adjustable lengthwise relatively to each other to increase and decrease the length of said element exteriorly of said carrier, one of said sections being integral with the outer face of said closed end axially thereof, and means threadably engaging the said section integral with said closed end and abutting against the other section for retaining the latter section adjusted relative to the said integral section.

3. In a die structure for use in the manufacture of shoes, a cutter receiver formed of a hollow body having an open inner and a closed outer end, a handle element, said element consisting of a pair of sections arranged exteriorly of said closed end and adjustable relatively to each other to increase and decrease the length of said element exteriorly of said closed end, one of said sections being integral with the outer face of said closed end, and means arranged exteriorly of said closed end for maintaining the sections in position when adjusted relatively to each other.

4. In a die structure for use in the manufacture of shoes, a cutter receiver in the form of a hollow body having an open inner and a closed outer end, a handle element, said element consisting of a pair of interengaging sections arranged exteriorly of said outer end and adjustable lengthwise relatively to each other to increase and decrease the length of said element exteriorly of said receiver, one of said sections being integral with the outer face of said closed end axially thereof, means for maintaining said sections from movement when adjusted relatively to each other, said body having its inner face, intermediate its ends, formed with a continuous shoulder against which the cutter is adapted to abut.

5. In a die structure for use in the manufacture of shoes, a cutter receiver formed of a hollow body having an open inner and a closed outer end, said handle consisting of a pair of sections arranged exteriorly of said closed end and adjustable relatively to each other to increase and decrease the length of said element exteriorly of said closed end, one of said sections being integral with the outer face of said closed end, means arranged exteriorly of said closed end for maintaining the sections in position when adjusted relatively to each other, said body having its inner face, intermediate its ends, formed with a continuous shoulder against which the cutter is adapted to abut.

6. A die structure for use in the manufacture of shoes, comprising a cutter receiver formed of a hollow body provided with an open inner and an imperforate closed outer end, a handle element, said element consisting of a pair of sections arranged exteriorly of said closed end and adjustable relatively to each other to increase or decrease the length of the handle element exteriorly of said carrier at the closed end thereof, one of said sections being integral with the outer face of said closed end, and means for maintaining the relative positions of the said sections when adjusted relatively to each other.

In testimony whereof, I affix my signature hereto.

THADDEUS F. TYLER.