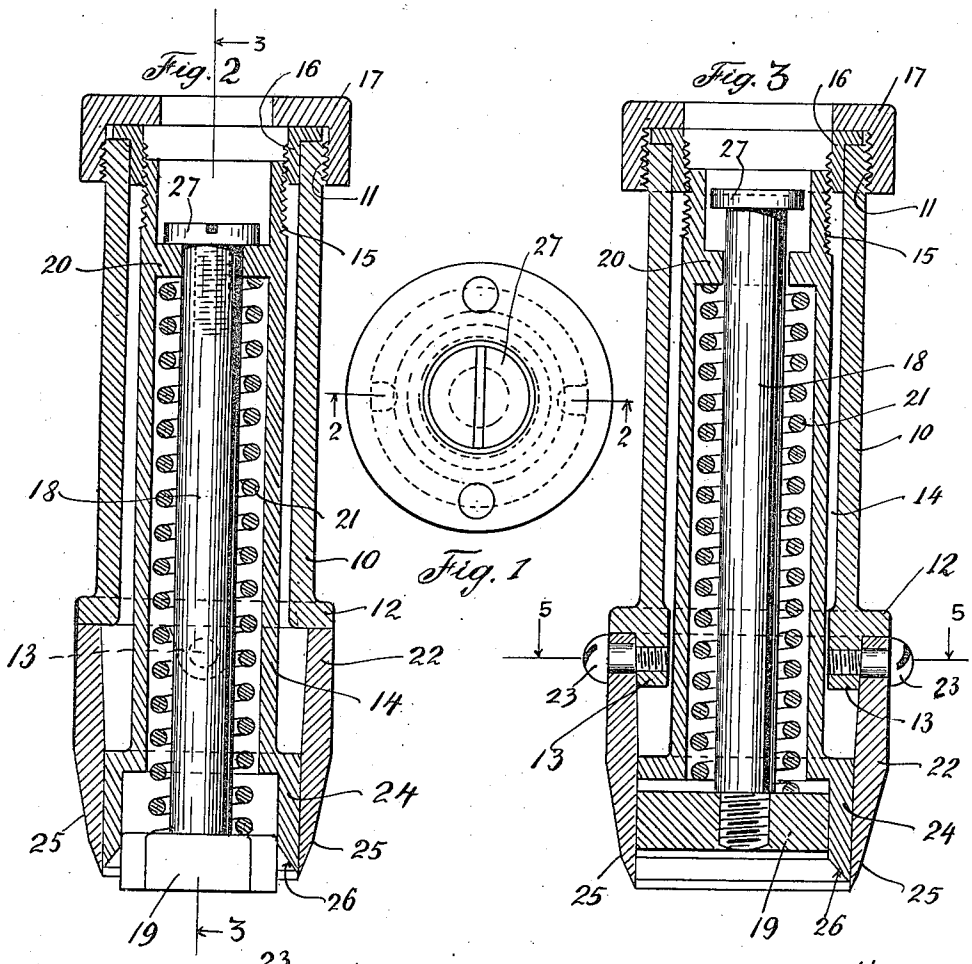
A. GEIGER.

CUTTING DIE.

APPLICATION FILED MAY 5, 1914.

1,129,478. Patented Feb. 23, 1915.



WITNESSES

Frank Miller

Charles Wanke

INVENTOR

Adolph Geiger

By Robt. Hoey

Atty.

UNITED STATES PATENT OFFICE.

ADOLPH GEIGER, OF ROCHESTER, NEW YORK.

CUTTING-DIE.

1,129,478. Specification of Letters Patent. Patented Feb. 23, 1915.

Application filed May 5, 1914. Serial No. 836,540.

To all whom it may concern:

Be it known that I, ADOLPH GEIGER, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented new and useful Improvements in Cutting-Dies, of which the following is a specification.

This invention relates to dies in general, but particularly to dies for cutting and forming top lifts for shoe heels.

The herein-described die is primarily intended to produce beveled, smooth top lifts in a manner that not only economizes stock but creates a uniformity of the product. Heretofore in the manufacture of top lifts the die used was such that it caused the lifts to pucker in the center and thus lose their original shape, thickness, and contour, a condition which necessitated the use of machinery to remedy.

It is, therefore, the object of the present invention to form the top lifts so that each lift is a finished product at the completion of the operation of the die, thereby eliminating the use of any additional machinery.

With the above-noted and other objects in view, this invention consists in the construction, combination, and arrangement of parts all as hereinafter more fully described, claimed, and illustrated in the accompanying drawings in which—

Figure 1 is a top plan view of the die forming the subject-matter of the present invention; Fig. 2 is a vertical longitudinal section taken along the line 2—2, Fig. 1; Fig. 3 is a similar view taken along the line 3—3, Fig. 2, with the positions of the parts changed; Fig. 4 is a bottom plan view of the die illustrating the cutting and forming elements; Fig. 5 is a horizontal section taken on the line 5—5, Fig. 3; Fig. 6 is a plan view of a lift formed by the die; and Fig. 7 is a section therethrough along line 7—7, Fig. 6.

A tubular handle 10 constructed of any suitable material is provided upon the outer side of one terminal with the threads 11, while the opposite end has a horizontal shoulder 12 formed thereupon. Lugs 13 project from the handle 10 adjacent to the flange or shoulder 12 and are provided for the attachment of a die thereto.

A tubular auxiliary handle 14 is mounted within the handle 10 and has one end 15 exteriorly threaded for the reception of an adjusting nut 16, which is formed with an external horizontal flange at its upper edge whereby it rests upon the adjacent terminal of the handle 10. Threaded upon the threaded end 11 of the handle 10 is a counter nut 17, which bears upon the nut 16 and locks the same in place. By this arrangement the handles 10 and 14 are locked together so that they may have a relative bodily adjustment. Mounted for reciprocation in this auxiliary handle 14 is a plunger-rod 18, which carries a piston or clamp 19 at its lower end. This piston or clamp 19 is arranged to bear on the stock while the top lift is being cut and formed to insure the production of a smooth and uniform article. The plunger rod 18 operates through a partition 20 in the auxiliary handle 14, and is surrounded by a spring 21 interposed between the partition 20 and the piston or clamp 19. This spring tends to force the piston or clamp 19 against the stock while it is being operated upon by the dies.

The cutting-die 22 rests against the shoulder 12 of the handle 10 and is rigidly held in place by the screws 23 which pass through the die and are threaded into the orifices of the lugs 13 formed on the handle 10. This cutting die 22 is hollow in formation for the accommodation of the forming die 24 and the piston or clamp 19. The outer end thereof is provided with a cutting edge 25 which is formed by beveling the die outwardly. This cutting edge 25 and in fact the entire die 22 conforms to the contour of the top lift and merely severs the same from the stock, not performing any of the forming thereof. The lower end of the auxiliary handle 14 bears a forming die 24 thereon which is provided on three sides with the inwardly-beveled cutting-edge 26.

The cutting edge 25 of the die 22 operates just in advance of the cutting edge 26 of the forming die 24, so that the top lift is cut from the stock just prior to the forming or beveling thereof. In Fig. 2 the function of the follower or plunger 19 is illustrated, showing how, under the influence of the spring 21, it projects and bears upon the stock thus preventing any bulging or unevenness thereof. The movement of the rod 18 carrying the follower or plunger 19 is assisted by a removable stop 27 attached to the free end thereof, which bears against the partition 20 when the rod reciprocates under the influence of the spring 21.

By the present construction the die or punch may be taken apart for adjustment or replacement of parts, grinding the dies, etc. The die 22, which is under the greater strain, may be readily replaced in case of damage without readjusting the device or changing the handle 10.

I claim as my invention:

1. The combination with a plurality of tubular handles one within the other, of a rod extending through said handles, a plunger or follower carried by said rod, and means set for operation by the relative movement of said handles and said rod whereby the rod and plunger or follower may be projected from said handles.

2. The combination with a plurality of adjustably interconnected handle dies carried by said handles, a rod mounted for movement in said handles, a plunger or follower carried by said rod, and spring means placed under tension by the relative movement of the handles and rod, whereby the follower or plunger is projected through the dies aforesaid.

3. The combination with a plurality of adjustably interconnected handle dies carried by said handles, the relative adjustment of said handles adjusting the dies, a rod extending through the inner of said handles, a follower or plunger mounted on said rod, and a spring interposed between the inner of said handles and said rod, said spring being placed under tension by the relative movement of the handles and rod to project the follower or plunger from the the dies.

4. The combination with a plurality of adjustably interconnected handle dies carried by said handles, the relative adjustment of said handles adjusting the dies, a shoulder on the interior of the inner handle, a rod extending through said inner handle, a follower or a plunger mounted on said rod, and coöperating with said dies, and a spring interposed between said follower or plunger and the shoulder aforesaid.

5. The combination with an outer handle, of an adjusting nut loosely mounted within said handle, a lock for retaining said adjusting nut in position, an inner handle having adjustable connection with said adjusting nut, and dies carried by the said handles.

6. The combination with an outer handle, of an adjusting nut loosely mounted within said handle, a counter nut threaded on the terminal of the outer handle for locking the adjusting nut in position, and an inner handle having threaded engagement with the adjusting nut.

7. The combination with an outer handle, of an adjusting nut loosely mounted within said handle, a counter-nut threaded on the terminal of the outer handle for locking the adjusting nut in position, an inner handle having an adjustable connection with said adjusting nut, dies carried by said handles, a rod mounted for reciprocation in said inner sleeve, and a plunger or follower carried by said rod.

8. The combination with an outer handle, of an adjusting nut loosely mounted within said handle, a counter nut threaded on the terminal of the outer handle for locking the adjusting nut in position, an inner handle having an adjustable connection with said adjusting nut, dies carried by said handles, a bearing within said inner handle, a rod mounted for reciprocation in said inner handle and through the bearing aforesaid, and a plunger carried by said rod.

9. The combination with an outer handle, of an adjusting nut loosely mounted within said handle, a counter nut threaded on the terminal of the outer handle for locking the adjusting nut in position, an inner handle having an adjustable connection with said adjusting nut, dies carried by said handles, a bearing within said inner handle, a rod mounted for reciprocation in said inner handle and through the bearing aforesaid, a plunger or follower carried by said rod and resting within said dies, and a spring interposed between said plunger or follower and the bearing aforesaid.

In testimony whereof, I have hereunto affixed my name in the presence of two witnesses.

ADOLPH GEIGER.

Witnesses:
ALLEN C. HATCH,
JOHN BORNKESSEL.