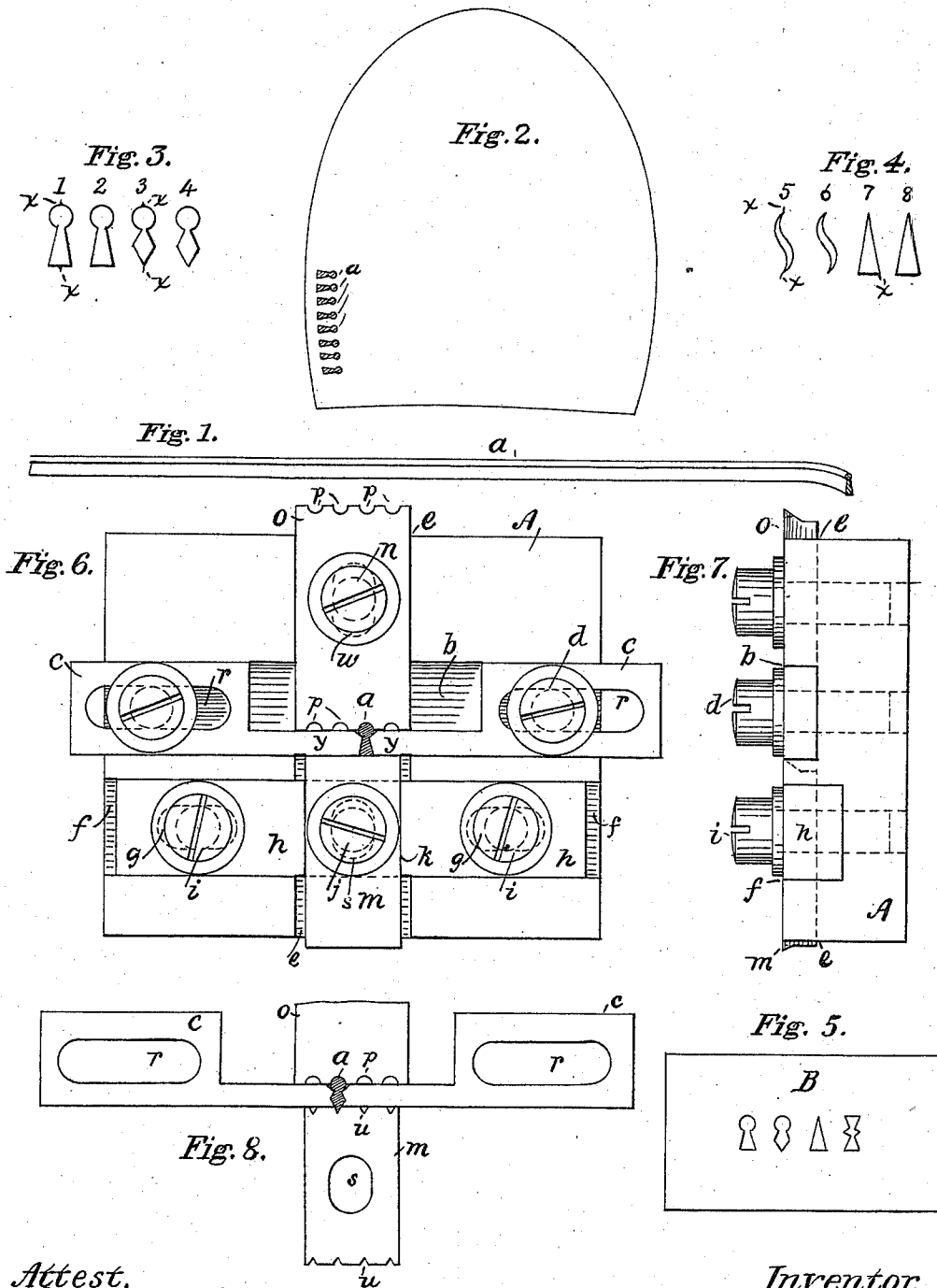


(No Model.)

M. J. GLAVIN.
SMOOTHING AND FINISHING DIE.

No. 577,577.

Patented Feb. 23, 1897.



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UNITED STATES PATENT OFFICE.

MAURICE J. GLAVIN, OF BOSTON, MASSACHUSETTS.

SMOOTHING AND FINISHING DIE.

SPECIFICATION forming part of Letters Patent No. 577,577, dated February 23, 1897.

Application filed October 29, 1896. Serial No. 610,413. (No model.)

To all whom it may concern:

Be it known that I, MAURICE J. GLAVIN, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Smoothing and Finishing Dies, of which the following is a specification.

The present invention relates to smoothing and finishing dies employed in removing the wire or feather or tang-shaped edges left on metal rods after they leave the rolls through which they are drawn to give them the required shape or cross-section. When such rods are drawn through a pair of rolls, it is impossible to prevent the metal, especially if it is soft like zinc or brass, from being squeezed out between the rolls and forming a thin feather on each side thereof. To remove this "feather-edge," it has been customary to pull the rod through a solid die or a die made in a block of steel the exact size and shape of the finished rod. After a little use the die becomes enlarged or distorted and useless and a new one has to be employed.

The object of my invention is to provide a combination die by means of which rods of any cross-section may be finished by changing one or more of its working parts, and in which each set of parts for a rod of particular cross-section will consist of multiple dies, whereby when one die becomes worn an adjustment can be quickly made to bring a new die into use.

I have elected to show my invention in connection with the rods used as nails for the heels of boots and shoes. It is now customary to secure the outer lift on a shoe-heel by nails, of some soft metal, placed close to each other, the nails being cut from the rods at the time they are inserted. For the sake of novelty these nails are made in a variety of cross-section, and in consequence thereof many dies are required to finish the rods.

In the accompanying drawings, Figure 1 represents a short length of nail-rod, natural size. Fig. 2 represents the face of a shoe-heel, showing nails inserted in one side thereof, natural size. Figs. 3 and 4 are cross-sections of nail-rods drawn three times natural size. Fig. 5 is a face view of a common or solid nail-rod die. Figs. 6 and 7 are respectively a plan and edge view of my improved

die drawn twice natural size, and Fig. 8 is another representation of the same.

1, 3, 5, and 7 of Figs. 3 and 4 are cross-sections of nail-rods, each showing a feather-edge *x* on each side as they come from the rolls, and 2, 4, 6, and 8 are similar cross-sections, showing their appearance after the rods have been drawn through the finishing-dies.

Fig. 5 represents a solid steel die in which holes of the cross-section of the rods drawn twice natural size are cut through. When these holes become enlarged by rods being drawn through them, the dies are useless and are destroyed.

Referring to Figs. 6 and 7, A is a steel base-piece having a groove or slot *e* cut straight across it and two slots *b* and *f* cut at right angles thereto, the slots *e* and *b* being of the same depth, while *f* is nearly twice their depth. A bar *h* slides in the slot *f* and is provided at each end with elongated screw-holes *g g*, through which the screws *i i* pass into threaded holes in the base A. By means of the elongated holes *g* the bar *h* can be adjusted lengthwise and secured by the screws. Through the central part of the bar *h* is a slot *k*, in which is secured by the screw *j*, which is threaded into the bar *h*, the die *m*, having an elongated hole *s*, by means of which it can be adjusted up or down. The die *o* has an elongated hole *w*, through which the screw *n* passes into a threaded hole in the base A.

c c are adjustable holders, guides, or supporters in the groove or slot *b* and are provided with slots *r* in their ends, through which screws *d d* extend into threaded holes in the base A. Their inner ends *y y* extend between the dies *o* and *m*, as shown.

a in Fig. 6 represents the end of a nail-rod which is being finished. The die *o* has a multiple of half-round notches in each end, one of which incloses the head of the rod, while the die *m* is straight across both ends. The guides or supporters *c c* are in the same plane as the dies *o* and *m* and are adjusted to the sides of the rod. While the dies and supports are in the position shown the rod *a* is drawn through and the feathers *x x* are shaved off by the dies *o* and *m*. Should any particular notch *p* become worn, the guides or supports *c c* are slid along in the slot *b* to support the rod at an adjoining cutting-notch

p, and when all the notches *p* are worn the die is turned around and those on the opposite end used.

When a rod is to be finished having a cross-section which is rounded or pointed at both ends, the lower die is made with multiple notches cut in its ends, as shown in Fig. 8. In this case the utility of the adjustability of the bar *h* is perceived. The die *m* is secured to the bar, and to provide that the notches *u* shall coincide with *p p* in the die *o* the bar is moved to the right or left, as the case may be.

The holding-screws *n*, *d*, *i*, and *j* are all provided with washers under their heads, as shown.

The rod *a* is rolled and finished in lengths of one hundred feet or more and coiled on reels, from whence it is slowly uncoiled when the short lengths used for nails or slugs are cut off as they are forced into the leather.

A special feature of advantage in my invention of the multiple dies over those now in use is that when worn by use they can be re-formed and resharpened for use again.

Having now described my invention, I claim—

1. A finishing-die for metal rods consisting of two flat steel cutting-dies adjustable to and from each other, and of adjustable guides or supports for the rods.

2. A compound finishing-die for metal rods consisting of two flat steel cutting-dies adjustable to and from each other one or both of which are multiple dies, and of adjustable guides or supports for the rods in the same plane with the dies.

3. A compound die for finishing metal rods consisting of a suitable base in which are secured two flat steel cutting-dies adjustable to and from each other one or both of which are multiple dies, and two adjustable guides or supports for the rods in the same plane with the dies, as set forth.

4. A compound die for finishing metal rods consisting of a suitable base in which are secured two flat steel cutting-dies adjustable to and from each other one or both of which are multiple dies, and one being adjustable at right angles to the other, and two adjustable guides or supports for the rods in the same plane with the dies, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 28th day of October, 1896.

MAURICE J. GLAVIN.

Witnesses:

J. H. FLANAGAN,
GEO. WILLIS PIERCE.