

C. F. SULLIVAN.  
FORMER FOR SCREW DRIVER BLADES.  
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916,215.

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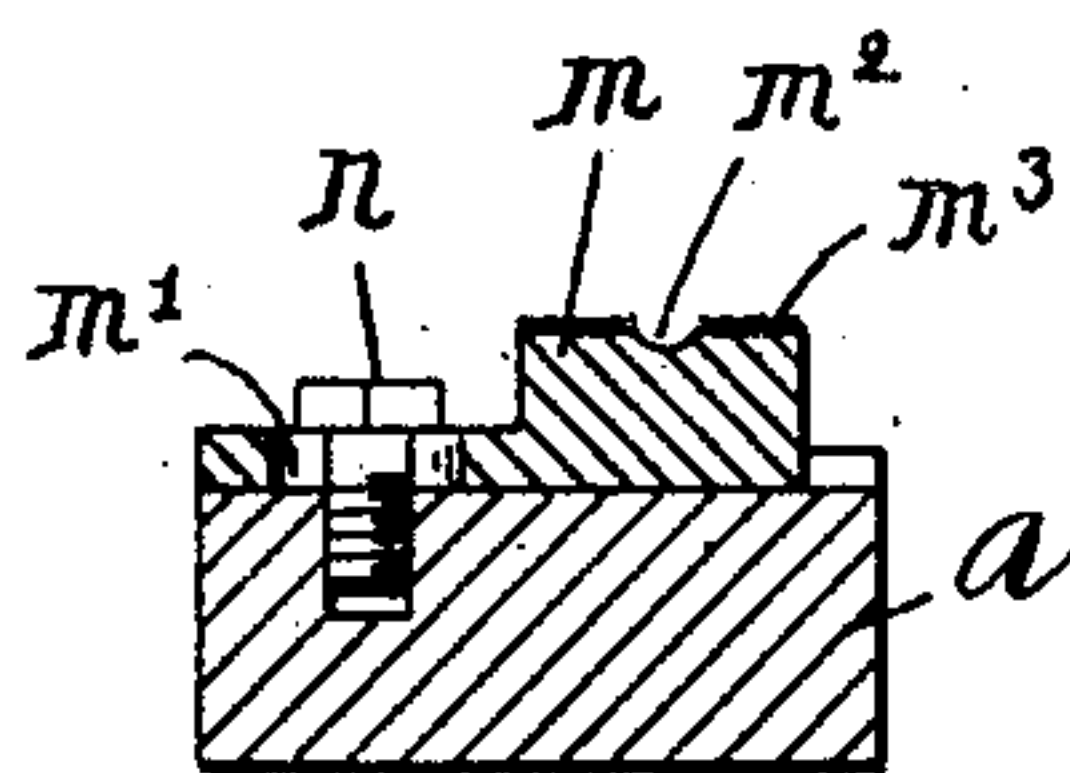
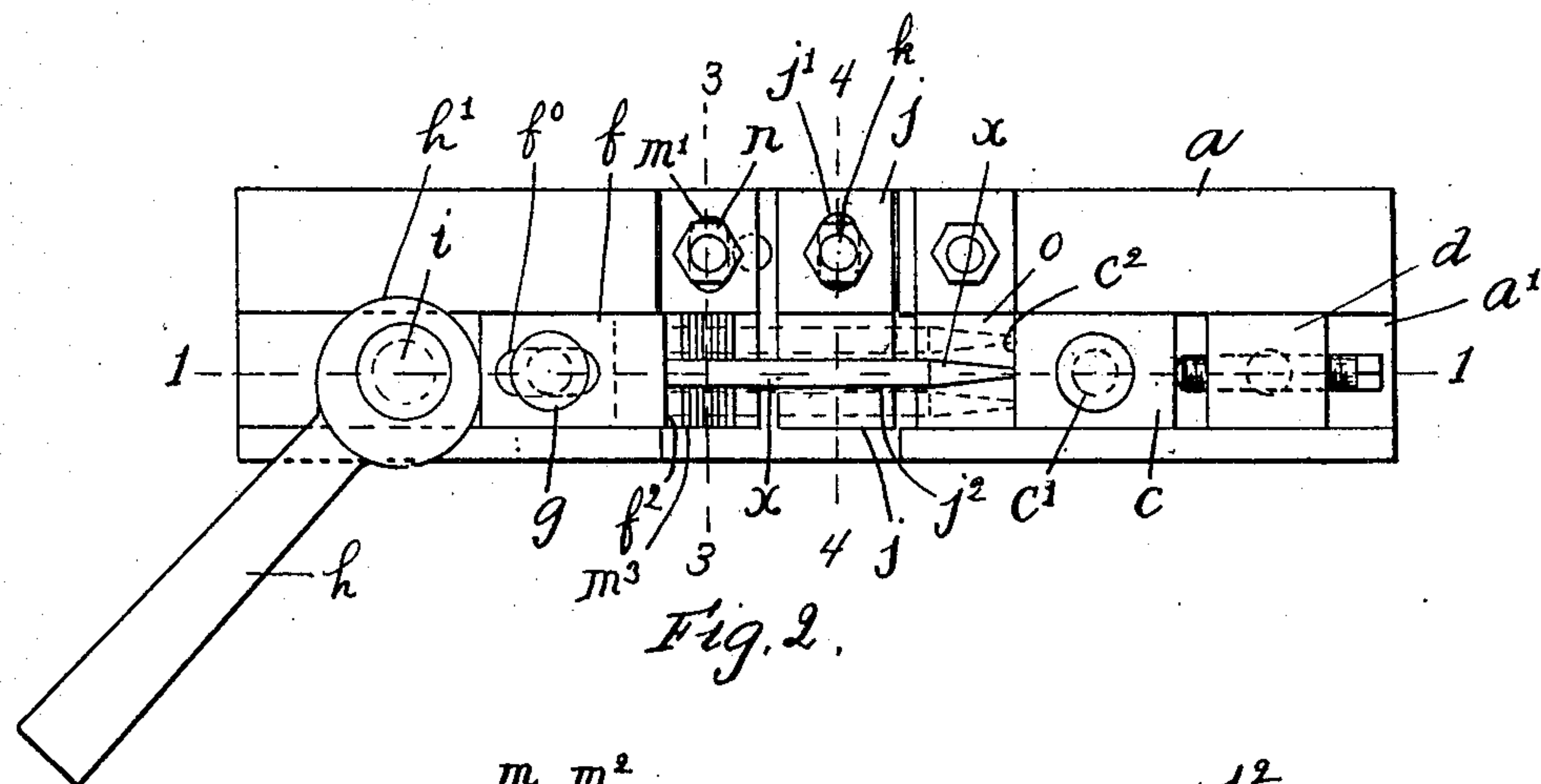
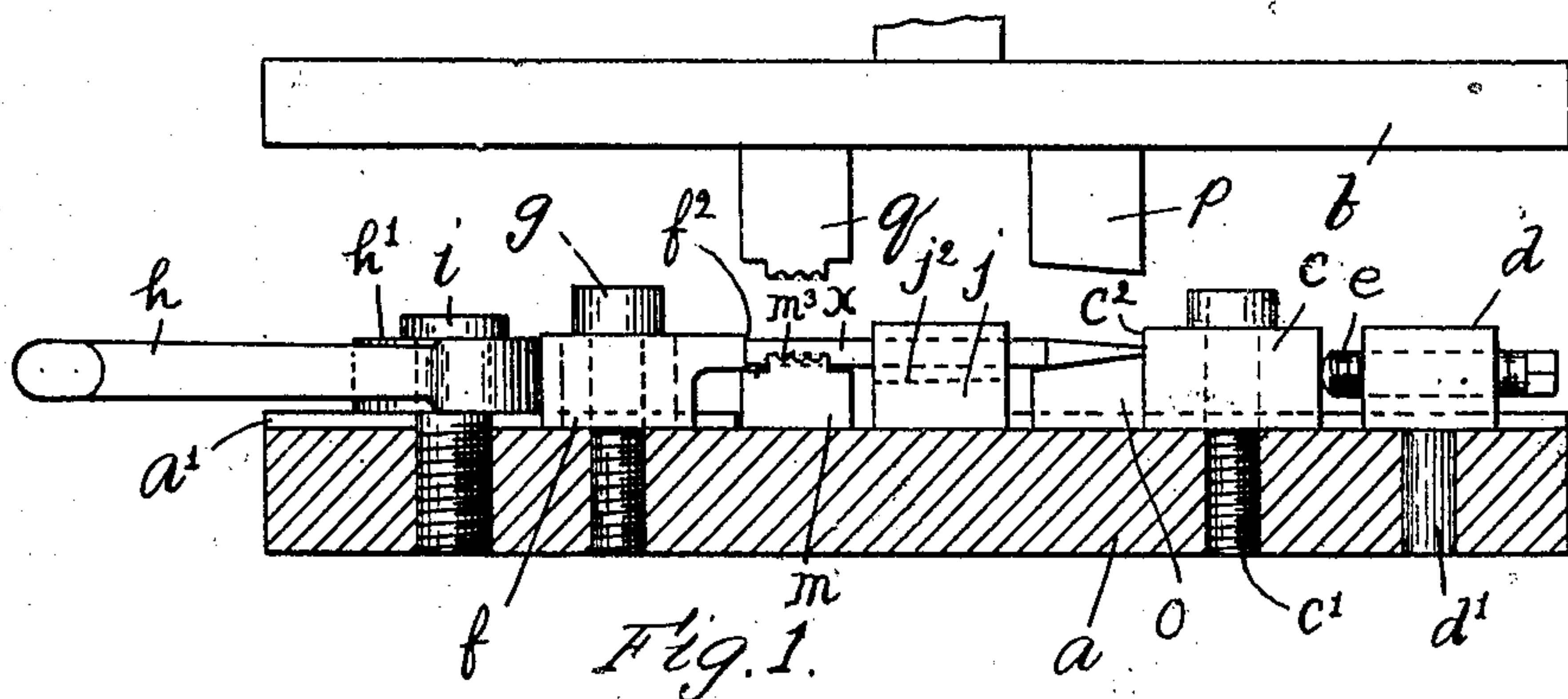


Fig. 3.

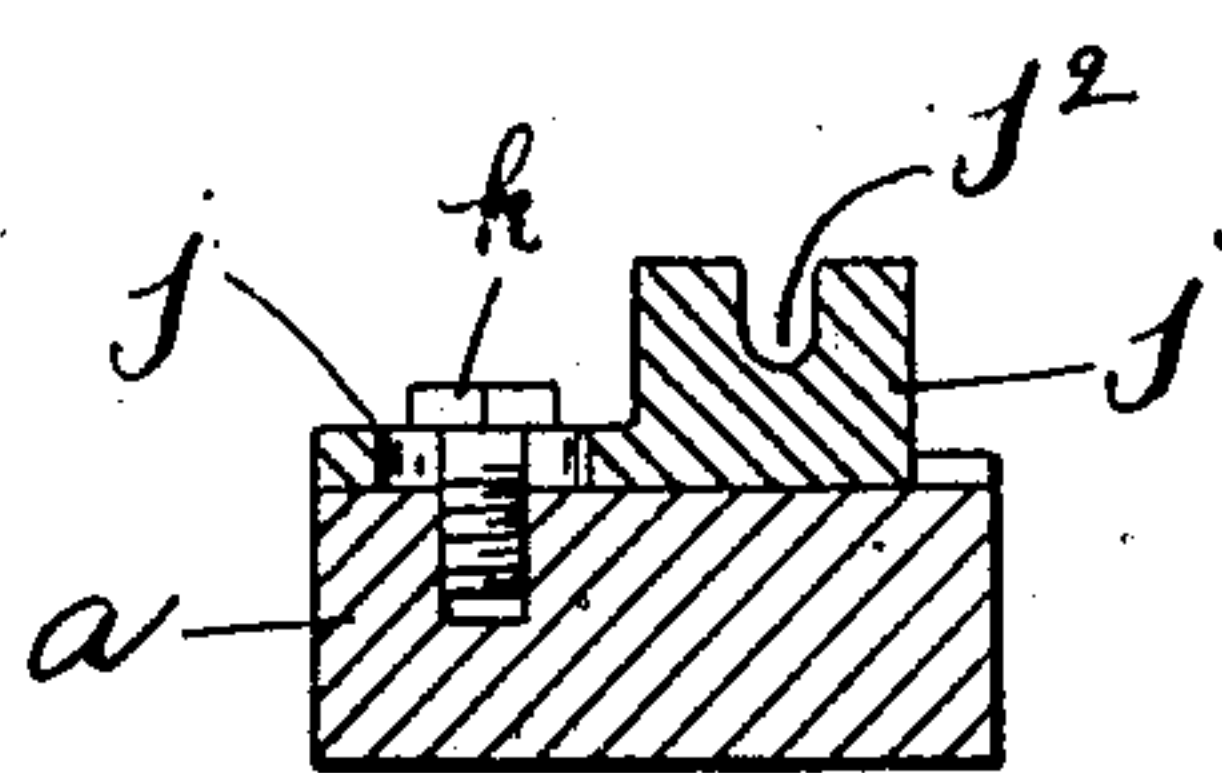


Fig. 4.

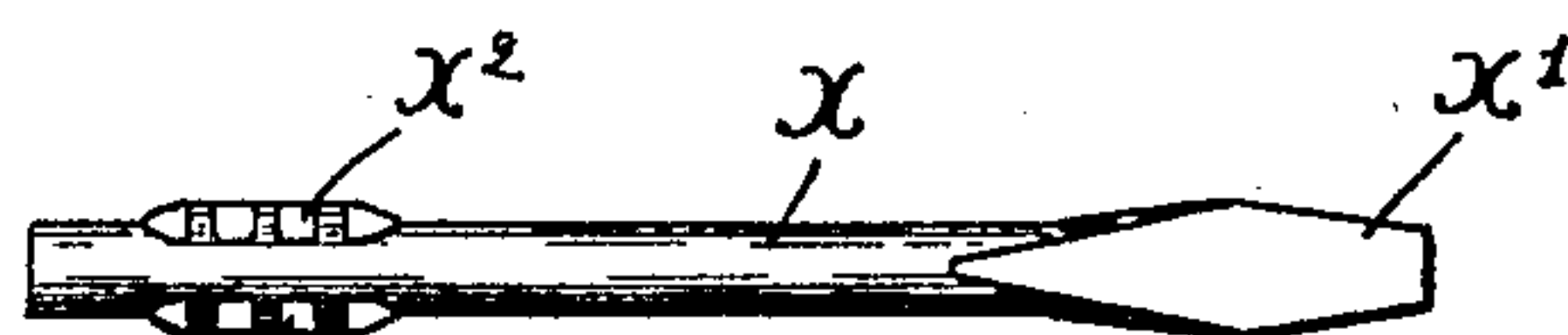


Fig. 5.

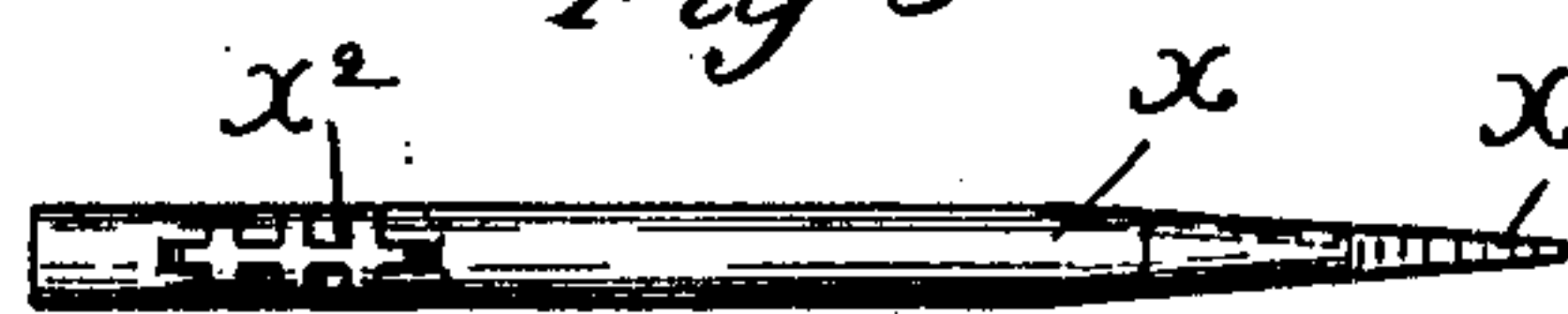


Fig. 6.

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# UNITED STATES PATENT OFFICE.

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## FORMER FOR SCREW-DRIVER BLADES.

No. 916,215.

Specification of Letters Patent.

Patented March 23, 1909.

Application filed April 20, 1908. Serial No. 428,017.

*To all whom it may concern:*

Be it known that I, CORNELIUS F. SULLIVAN, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Formers for Screw-Driver Blades, of which the following is a specification.

This invention relates to certain improvements in former plates or dies for making screw-driver blades, of the general character shown in my prior patent #562,934. In the apparatus shown in said prior patent, the blank is held between two abutments, both of which were adapted to be adjusted according to the length of the blank. In order that satisfactory results may be secured, it is necessary that the blank be held in fixed relation to the die when the blade is formed, and, as the blanks were likely to vary more or less in length, I have found that in employing the device described in said prior patent, unless the adjustable abutment was readjusted to correspond to the variations in the length of the blank, unsatisfactory results were secured. In said prior device the blank was necessarily acted upon when in one position on the die block, so that the latter became worn at such point and soon became useless. As these dies are expensive to manufacture, any means for prolonging the extent of use thereof is obviously desirable.

The objects of my invention are to provide means for holding the blank in position to be engaged by the dies which is adapted to be readily moved to hold the blanks firmly in position, whatever the variations may be in the lengths thereof within certain limits.

A further object of my invention is to provide means for holding the blank, so that different portions of the blade-forming dies may be employed, and the whole surface of the die may be used before it is necessary to supply a new one.

I accomplish these objects by the means shown in the accompanying drawing, in which,

Figure 1 is a side view of my improved device, partly in elevation and partly in cross section, on the line 1—1, of Fig. 2. Fig. 2 is a plan view of the base portion of the device. Figs. 3 and 4 are respectively cross sectional views on the lines 3—3 and 4—4 of Fig. 2. Figs. 5 and 6 are detail views of the finished article.

In the drawing *a* indicates the lower die holder or base, and *b* the upper die holder,

which is adapted to move vertically and to be forced downwardly upon the blank held by the lower dies in a manner well known in the art.

A stationary abutment *c* is mounted on the base *a*, said abutment having a screw *c'* which is threaded into the base. A reinforcing abutment *d* is also mounted on a shank *d'*, fitted in the base, and is provided with a screw *e*, which is threaded therein and is adapted to be turned firmly into engagement with the abutment *c*. A clamping member *f* is mounted between guideways *a'* upon the base *a*, in which it is adapted to slide toward and from the abutment *c*, a screw *g* being provided, which passes through a slot *f'* in the member *f* and is threaded into the base *a*, for holding the clamping member in position in the ways. A cam lever *h* is mounted on a pivot *i* threaded into the base *a*, said cam lever having an eccentric face *h'* adapted to engage the opposite end of the clamp member *f* from the abutment *c*, so that, when said lever *h* is swung forwardly the member *f* will be forced toward the abutment *c*, these parts together thus constituting a clamp having clamping faces *c''* and *f''*. A holder *j* is mounted upon the base-plate *a* between said abutments *e* and *f* and is secured thereon by means of a screw *k* which passes through a slot *j'* in the holder and is threaded in the base, so that said holder may be adjusted transversely of the base. Said holder is provided with a recess *j''*, adapted to receive the blank. A shank former die *m* is also mounted upon the base and is secured thereon by means of a screw *n* which passes through a slot *m'* in the die, so that said die may be adjusted transversely of the base. Said die *m* is provided with a semicircular recess *m''*, of less diameter than that of the blank, and transversely extending corrugations *m'''*. A die block *o* is mounted on the base *a* with one side in engagement with the face *c''* of the abutment *c'*, said die block having an inclined upper face corresponding to the inclination of the face to be formed on the screw-driver blade.

The upper die holder *b* is provided with a die block *p* corresponding to and disposed directly over the die block *o*, and also with a die block *q* corresponding to, and disposed directly over the die block *m*.

In employing my device for the purpose described, the cam-lever *h* is thrown to the



left, so that the blank, indicated at  $x$  in Figs. 1 and 2, and having a pointed end, as is customary, may be placed in the recess  $j^2$  of the holder  $j$ . The cam lever is then drawn forwardly, clamping the blank securely at its ends between the clamping faces  $c^2$  and  $f^2$ . In this position the tapered end of the blank will lie on the inclined die block  $o$  and its shank portion will lie in the die block  $m$ . The upper die holder then descends and forms the blade at the tapered end of the blank, and also the corrugated projections  $x^2$  on the shank thereof, as shown in Figs. 5 and 6. After this operation has been performed the lever  $h$  is released and the finished article removed.

In case the face of the die block becomes worn, or the abutment face  $c^2$  becomes indented, the holder  $j$  and die block  $m$  may be adjusted transversely in either direction, so that the block will be held in different positions on the die block  $o$ , as indicated in dotted lines in Fig. 2. In this way the whole surface of the die block and clamping face  $c^2$  may be used before new parts are supplied.

The corrugations in the flanges or projections  $x^2$  act to prevent the blade from being removed when inserted in a wooden handle.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. A former for the purpose described, comprising a base, a clamp comprising a stationary member and a movable member, a cam lever for forcing said movable member toward the stationary member to clamp a blank therebetween, and a die block disposed in front of the clamping face of said stationary member, substantially as described.

2. A former for screw-driver blades comprising a base, a stationary and a movable clamping member at opposite ends of the base between which the ends of the blank may be clamped, a die block having a flat inclined face stationarily held against the clamping face of said stationary member, a shank forming die and a blade holder disposed between said block and said movable member, said shank forming die and said holder being constructed for adjustment transversely of the base, substantially as described.

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

CORNELIUS F. SULLIVAN.

Witnesses:

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