April 22, 1924. 1,491,464

C. COOMER

SHIM STAMPING MACHINE

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Fig. 1.

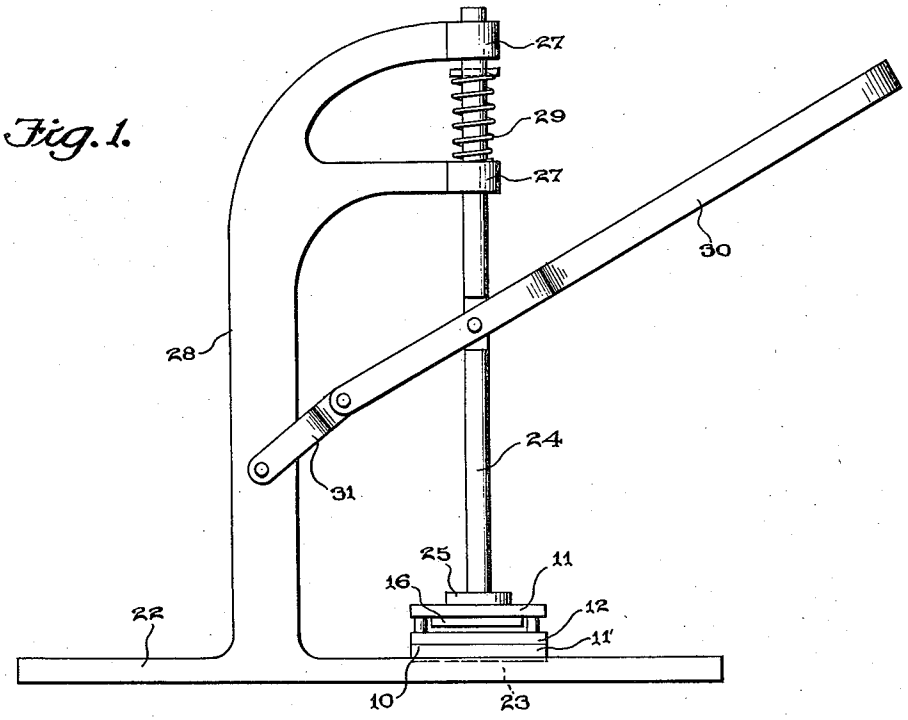


Fig. 2.

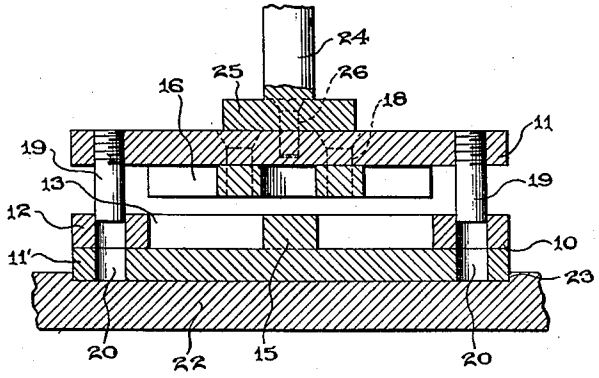
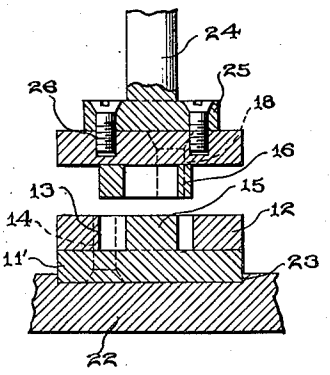


Fig. 3.



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Fig.4.

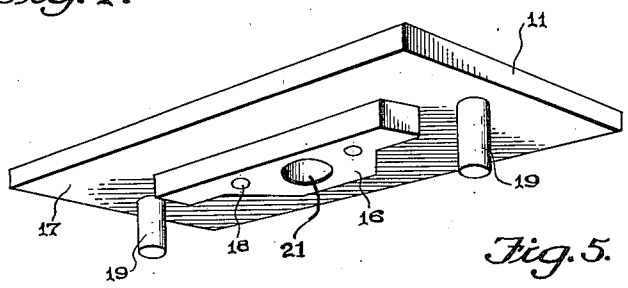


Fig.5.

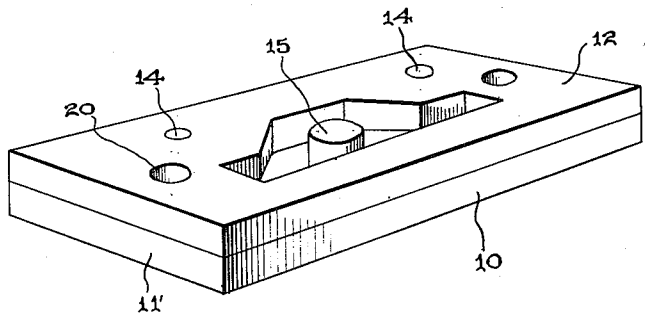


Fig.6.

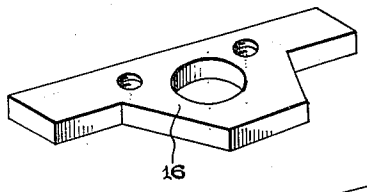
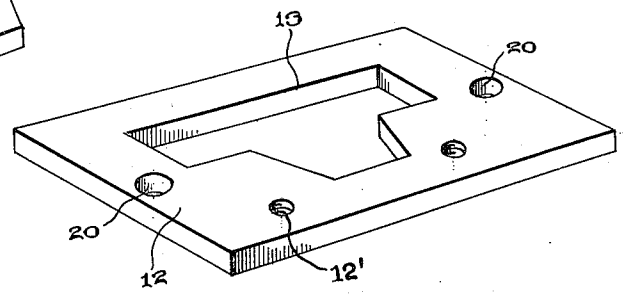


Fig.7.



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UNITED STATES PATENT OFFICE.

CLAUDE COOMER, OF BILLINGS, MONTANA.

SHIM-STAMPING MACHINE.

Application filed March 10, 1923. Serial No. 624,213.

To all whom it may concern:

Be it known that I, CLAUDE COOMER, a citizen of the United States, residing at Billings, in the county of Yellowstone and State of Montana, have invented new and useful Improvements in Shim-Stamping Machines, of which the following is a specification.

This invention relates to improvements in stamping machines and has for an object the provision of a machine of this character which is simple in construction and easy to operate.

One of the principal objects of the invention is the provision of a novel form of die which is especially adapted for stamping shims for engine and similar bearings, the construction permitting of the ready substitution of new cutting elements when desired.

With the above and other objects in view, the invention further includes the following novel features and details of construction, to be hereinafter more fully described, illustrated in the accompanying drawings and pointed out in the appended claim.

In the drawings:—

Figure 1 is a side elevation of a stamping machine constructed in accordance with the invention.

Figure 2 is an enlarged vertical transverse sectional view showing the manner of mounting the dies.

Figure 3 is a transverse section of the same.

Figure 4 is a detail perspective view of the male member of the die.

Figure 5 is a similar view of the female member.

Figure 6 is a detail perspective view of the removable cutting element for the male member of the die.

Figure 7 is a similar view of the removable cutting element of the female member.

Referring in detail to the drawings, wherein like characters of reference denote corresponding parts, the reference character 10 indicates the female member of the die and 11 the male member.

The female member includes a plate 11′ and a plate 12, the latter being provided with an opening 13 whose edges define cutting edges, so that the plate 12 defines a cutting element for the female member of the die. The opening 13 is shaped to conform to the shape of the usual shim used in the bearings of internal combustion engines, but this shape may be varied as desired and the size of the opening may also be varied, the plate 12 being removable so that other plates having openings of different shapes or sizes may be substituted. For this purpose, the plates 11 and 12 are provided with registering openings 12′ for the reception of screws 14 which threadedly engage the openings 12′. In addition, the plate 11′ carries a stud 15 which extends within the opening 13 the edges at one end of this stud defining cutting edges arranged on substantially the same plane as the plane of the cutting edges of the opening 13.

The male member 11 is also provided with a cutting element in the form of a block 16, whose edges define cutting edges. This block is shaped to conform to the shape of the opening 13 and has a working fit therein. The block 16 is removably secured to a plate 17 by means of screws 18, so that this block, like the plate 12 may be changed as desired.

Carried by the plate 17 and preferably located at each end thereof are studs 19 which engage and operate within openings 20 provided in the female member 10.

It will be apparent that when the two members of the die are brought together and pressure applied, the cutting edges will provide a clean cut through a metal sheet placed between the die members, so that a shim of the configuration of the opening 13 and having an opening conforming to the size and shape of the stud 15 will be provided, the said stud being adapted to enter an opening 21 provided in the block 16. The edges of the opening 21 also define cutting edges.

Various means may be provided for operating the die, one means comprising a machine which includes a base 22 having a socket or seat 23 therein for the reception of one member, for example the female member 10 of the die. The member 10 will thus be held in place in a manner to permit of its ready removal. The male member 11 of the die is removably secured to a rod 24 while a head 25 at the lower end of the rod is removably held in place by means of a set screw 26. The rod 24 is guided in spaced arms 27 located at the upper end of the standard 28, the latter rising from the base 22. A spring 29 is mounted upon the rod 24 and acts to normally hold the male member of the die elevated. Pivotally secured to the rod 24 is an operating lever 30 and one end of this lever is pivotally secured to one end

of a link 31, the opposite end of the said link being pivotally secured to the standard 28. By pressing downward upon the outer end of the operating lever 30, the male member of the die will be caused to enter the female member and perform the cutting action previously described.

The invention is susceptible of various changes in its form, proportions and minor details of construction and the right is herein reserved to make such changes as properly fall within the scope of the appended claim.

Having described the invention what is claimed is:—

A die comprising a female die member including a plate, a second plate removably secured to the first mentioned plate and having an opening therein whose edges define cutting edges, a male member including a plate, a block removably secured to the last mentioned plate and shaped to conform to the shape of the opening in the female member, the edges of said block defining cutting edges for co-operation with the cutting edges of the opening in the female member and means carried by one member and operatively engaging the other member to provide a guide and a stud carried by the first mentioned plate of the female member and extending into the opening of the latter for entrance into an opening provided in the block of the male member.

In testimony whereof I affix my signature.

CLAUDE COOMER.