Nov. 24, 1925 1,563,124

J. R. WALD

DIES

Filed July 10, 1925

FIG. 1

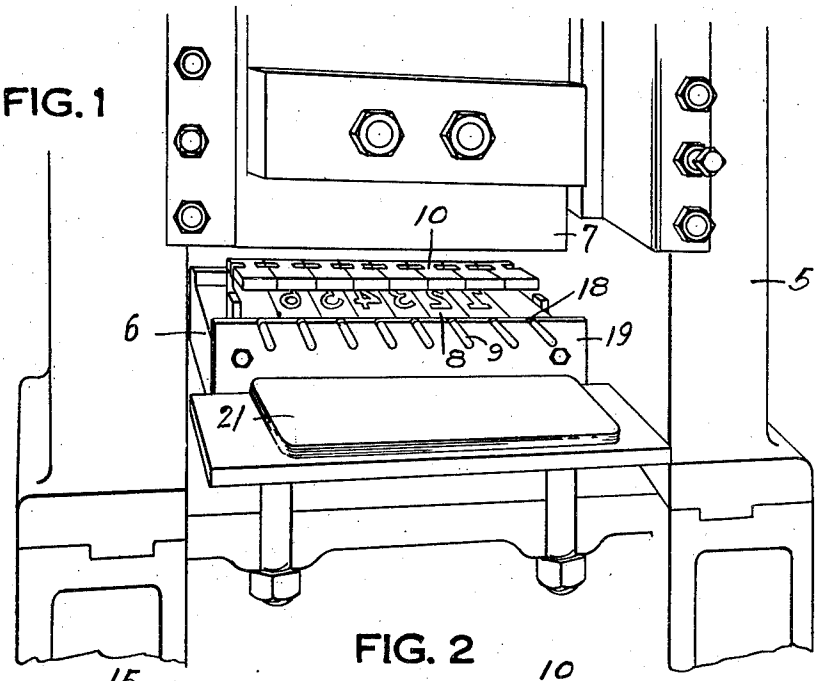


FIG. 2

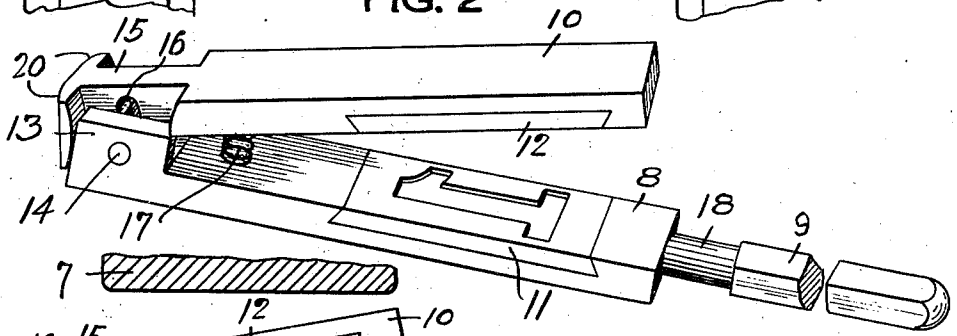


FIG. 3

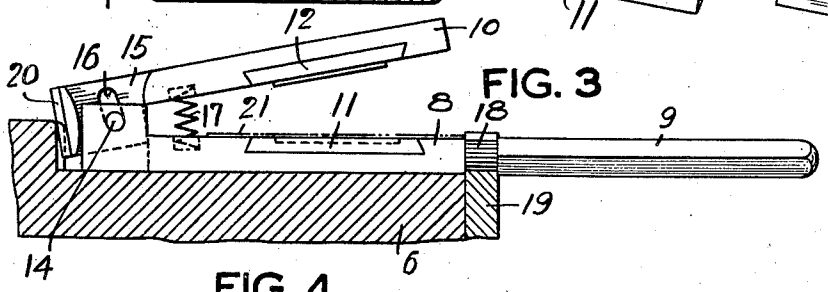
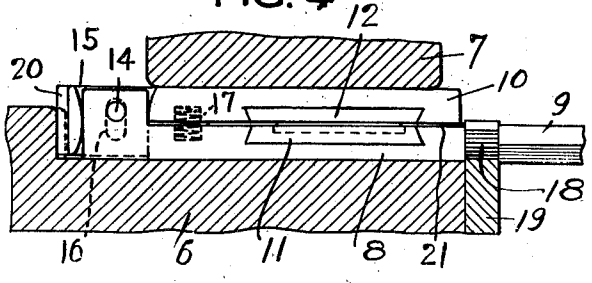


FIG. 4



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UNITED STATES PATENT OFFICE.

JOHN R. WALD, OF ANAMOSA, IOWA.

DIES.

Application filed July 10, 1925. Serial No. 42,704.

To all whom it may concern:

Be it known that I, JOHN R. WALD, a citizen of the United States, and a resident of Anamosa, in the county of Jones and State of Iowa, have invented a new and useful Improvement in Dies; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to improvements in die structures, and particularly to dies such as are employed for stamping automobile license plates and the like, although it is, of course, susceptible of use in other relations.

One object of my invention is to provide die holders that possess the advantages both of cooperating pivoted die holders or blocks, and of those structures wherein the die holders are moved toward one another in straight lines.

Another object of my invention is to provide improved means for supporting and guiding the die holders.

Still another object of my invention is to simplify and improve generally the structure and operation of dies and die holders.

One form which my invention may take is shown in the accompanying drawing, wherein Fig. 1 is a front elevational view of a portion of a die member containing my improved die holders; Fig. 2 is a perspective view, on an enlarged scale, of one of the die holders; Fig. 3 is a side elevational view of the die holder in open position, and Fig. 4 is a view thereof in closed or stamping position.

Heretofore die holders have been pivoted so as to have relative movement about a fixed axis, but as this arrangement necessitates movement to closed position through arcuate paths, there has been a tendency to crowd or push the license plate from stamping position, since the inner edge thereof is engaged by the downwardly moving die, previous to the complete closing of the dies. In other structures, the one die holder has been mounted on the bottom plate of the press and the other holder mounted upon a vertically movable plunger for movement toward and away from the bottom die holder. This latter arrangement presents difficulty in the way of guiding the dies into proper registry and conveniently changing the same, as well as possessing other objectionable features.

For purposes of illustration I have shown my dies as applied to a press 5 having a bottom plate or anvil 6 and a vertically movable plunger 7. The parts named may be of any ordinary or suitable form.

The die holder comprises a bottom member 8, which is provided with a handle 9, and a top member 10. A female die 11 has dove-tail connection with the member 8 and a male die member 12 has dove-tail connection with the member 10. This arrangement permits the replacement of worn dies without discarding the entire holder.

The bottom die member 8 is provided with upstanding lugs 13 through which a pivot pin 14 extends. The die holder 10 is provided with a narrow extension 15 having a slot 16 through which the pin 14 extends. The blocks 8 and 10 are normally held in expanded position by a spring 17.

The die holders are provided with reduced portions 18 that rest within curved recesses in a plate 19 that is bolted to the front of the press. The inner end of the die block 10 is beveled at its corners 20 to fit complementally shaped portions at the rear side of the anvil 6. The die holders are thus held in perfect alignment with the anvil and with one another. The dies as shown in Fig. 1 are opened ready to receive one or a pair of metal license plates 21, it being sometimes convenient to stamp both the front and rear plates at a single operation. It will be understood that the die holders are changed, one by one, to effect the proper sequence in numbering at successive operations of the press.

The reduced portions 18 may be omitted from the die holders and such holders maintained in alignment by contact with adjacent holders, or in any other desired manner. In cases where a blank space is desired between adjacent numbers, a blank die holder may be inserted in such space.

The hinge connection of the die holders permits of a flared opening therebetween, as shown more clearly in Figs. 2 and 3, so that the license plates may be readily inserted for stamping. Upon downward movement of the plunger 7 the die holder 10 is brought first into parallelism with the holder 8 and thereafter, by reason of the slot 16, is moved in a vertical line so that it will contact with a license plate upon the top face thereof, instead of first engaging

only the rear edge. The die holder 10 is guided in its downward movement both by the pin 14 and the cooperating shouldered portions of the two holders.

From the foregoing it will be seen that I provide an arrangement whereby the die holders can be quickly and accurately placed in proper position in the press, wherein the parts of the holder are so connected as to have relative movement both pivotally and rectilinearly, and which may be handled as a unit instead of separately.

I claim as my invention:

1. Die structure comprising a bottom holder and a top holder normally held in expanded position and having a pin-and-slot connection therebetween.

2. Die structure comprising a bottom holder and a top holder having pin-and-slot connection adjacent to one end thereof, and a spring interposed between their ends for normally maintaining them in expanded position.

3. Die structure comprising a bottom holder having an upwardly extending shoulder at its rear end, a top holder connected to said bottom holder and having a downwardly extending shoulder portion disposed behind said shoulder, and a pin-and-slot connection permitting relative vertical movement of said holders.

4. Die structure comprising a bottom holder having an upwardly extending shoulder at its rear end, a top holder connected to said bottom holder and having a downwardly extending shoulder portion disposed behind said shoulder, and a connection permitting relative vertical movement of said holders, the shouldered portion of the upper die holder being provided with a guiding surface at its rear side, by means of which it may be accurately positioned within a die press.

5. Die structure comprising a bottom holder having an upwardly extending shoulder at its rear end, a top holder connected to said bottom holder and having a downwardly extending shoulder portion disposed behind said shoulder, and a connection permitting relative vertical movement of said holders, the shouldered portion of the upper die holder being provided with a guiding surface at its rear side, by means of which it may be accurately positioned within a die press, and the bottom holder being provided with a guiding surface adjacent to its front end, for cooperation with a complementary surface of a die press.

In testimony whereof I, the said JOHN R. WALD, have hereunto set my hand.

JOHN R. WALD.