(No Model.)

J. G. HODGSON.

DIE FOR CUTTING PLANCHETS FROM SHEET METAL.

No. 375,354. Patented Dec. 27, 1887.

Fig. 1.

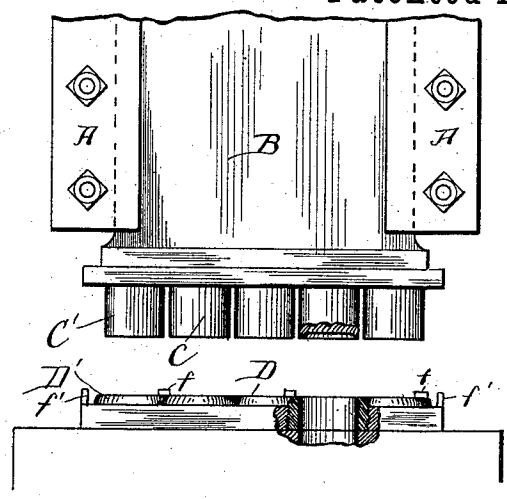


Fig. 2.

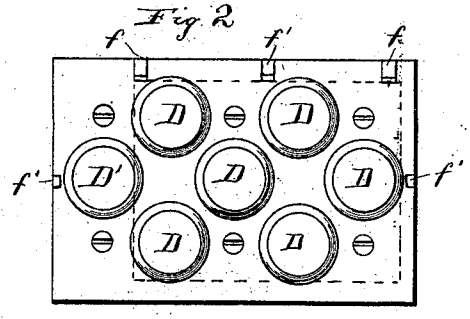


Fig. 3.

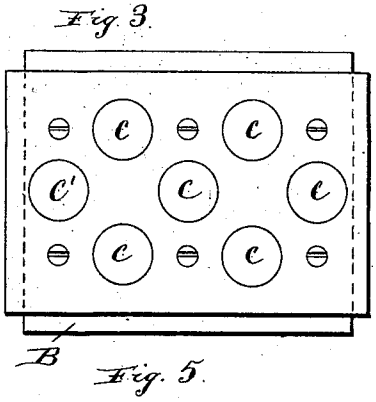


Fig. 4.

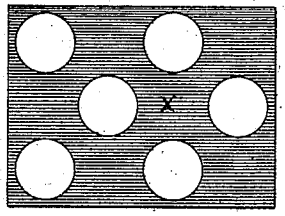
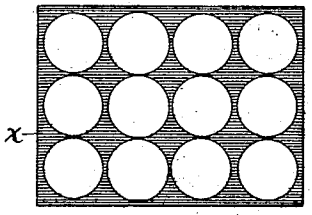


Fig. 5.



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UNITED STATES PATENT OFFICE.

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DIE FOR CUTTING PLANCHETS FROM SHEET METAL.

SPECIFICATION forming part of Letters Patent No. 375,354, dated December 27, 1887.

Application filed October 25, 1887. Serial No. 253,280. (No model.)

To all whom it may concern:

Be it known that I, JOHN G. HODGSON, a citizen of the United States, residing in Maywood, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Gang-Dies for Cutting Out Sheet-Metal Blanks, of which the following is a specification.

My invention relates to improvements in gang-dies for cutting out sheet-metal blanks, shown and described in Letters Patent of the United States No. 304,352, of September 2, 1884, to S. E. Norton, and in Letters Patent No. 361,286, of April 19, 1887, granted to myself, and wherein each alternate blank is cut from the sheet at the first stroke of the gang-die press and the remaining half of the blanks cut from the sheet at the second stroke of the press, the sheet being reversed or adjusted after the first stroke, so as to bring the uncut alternate blanks into position under the dies for the second stroke. In said prior patents the reversal or adjustment of the sheet for the second stroke is effected by taking the sheet out and turning it end for end after the first alternate half of its blanks have been cut out by the first stroke of the gang-die press. This taking of the sheet out and turning it end for end for the purpose of reversing it, so as to bring the uncut or remaining alternate half of the blanks into position, requires considerable time in the practical operation of such alternately-arranged gang-die presses.

The object of my invention is to provide means or a method of reversing the sheet or bringing the second alternate half of its blanks into position under the dies without turning the sheet end for end after the first alternate half of the blanks have been cut out. This result I effect in a very simple way, and thereby materially facilitate the operation of the process and greatly increase the capacity of the gang-die press. In my invention the gang-die press is provided with an additional or supplemental male and female die, which is not used or makes no cut at the first stroke of the press, but cuts out a blank at the second stroke, at which time the pair of dies at the opposite extremity of the gang makes no cut, the sheet being simply slipped endwise the diameter of one blank after the first stroke of the press. In this way or by this means the reversal or adjustment of the sheet for the second stroke of the alternately-arranged gang-dies is effected without turning it end for end.

In the accompanying drawings, which form a part of this specification, and in which similar letters of reference indicate like parts, Figure 1 is a side elevation of a set of gang-dies suitable for use in practicing my invention. Fig. 2 is a plan view of the female dies. Fig. 3 is a bottom view of the male dies. Fig. 4 is a plan view of the sheet after each alternate head or blank has been cut out by the first stroke of the gang-die press, and Fig. 5 is a similar view of the sheet after the remaining half of the heads or blanks have been cut out by the second stroke of the press.

In said drawings, A represents the guides of the press, in which the movable head B reciprocates.

C represents the series or gang of male dies, and D the series or gang of female dies, the dies being arranged with alternate spaces between them equal to the diameter of the dies, so that at each stroke of the press only each alternate head or blank will be cut from the sheet.

C′ is the additional or supplemental male die, and D′ is the additional or supplemental female die at one end of the gang of dies, and which makes no cut at the first stroke of the press.

In operation the sheet x, from which the heads or blanks are to be cut, is for the first stroke of the press placed in the position indicated by the dotted lines in Fig. 2, and the first alternate half of the heads cut out, the pair of dies C′ D′ making no cut, as the sheet does not project over or between these dies. After the first stroke of the press the sheet x is simply moved lengthwise the diameter of one of the dies, thus bringing it into position under or between the supplemental pair of dies C′ D′, which for the second stroke constitutes part of the cutting-gang of dies, while the opposite end pair of dies of the gang C D makes no cut. By this method a slight longitudinal movement or adjustment of the sheet serves to reverse its position in relation to the alternately-arranged gang of dies, so that the second alternate half of the heads or blanks will be properly cut out at the second stroke of the

press. In placing the sheet *x* under the gang of dies one of its side edges should rest or abut against the side guides, *f*, and at one end against one of the end guides, *f'*.

The press and dies may be of any well-known construction—as, for example, that shown and described in the prior patents before referred to.

I claim—

The combination, with a gang of alternately-arranged male and female dies, of a supplemental or additional pair of male and female dies arranged in the gang at one end thereof, said supplemental pair of dies making a cut at one stroke, but no cut at the other stroke, of the press, substantially as specified.

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