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 FLEXIBLE DIE FOR FORMING COLLAR BLANKS.  
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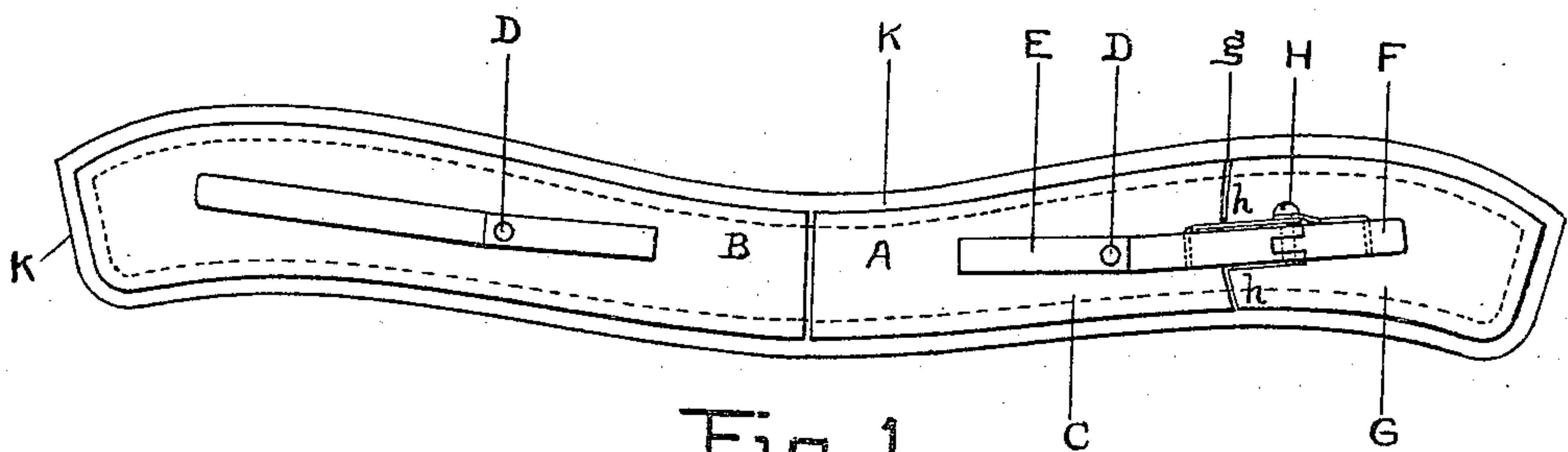


Fig. 1.

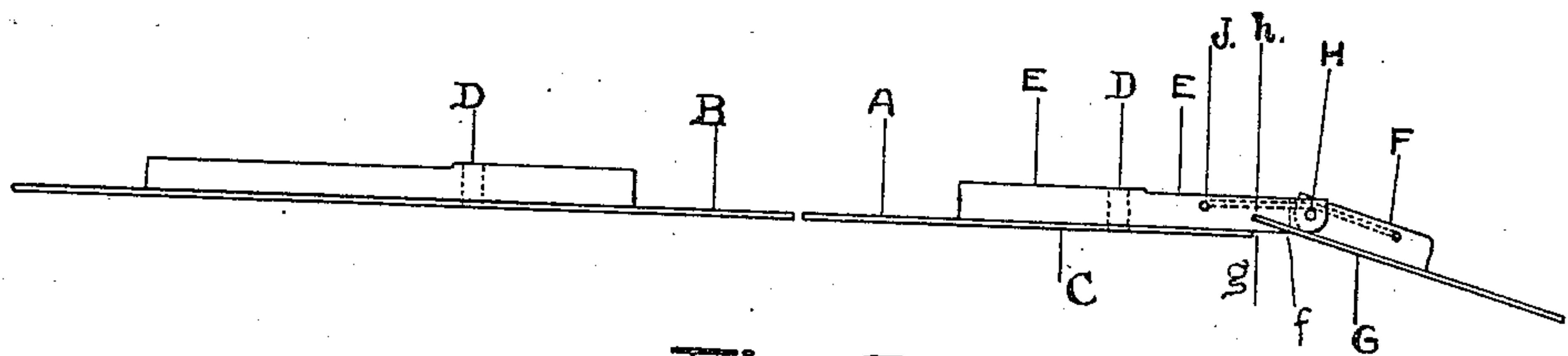


Fig. 2.

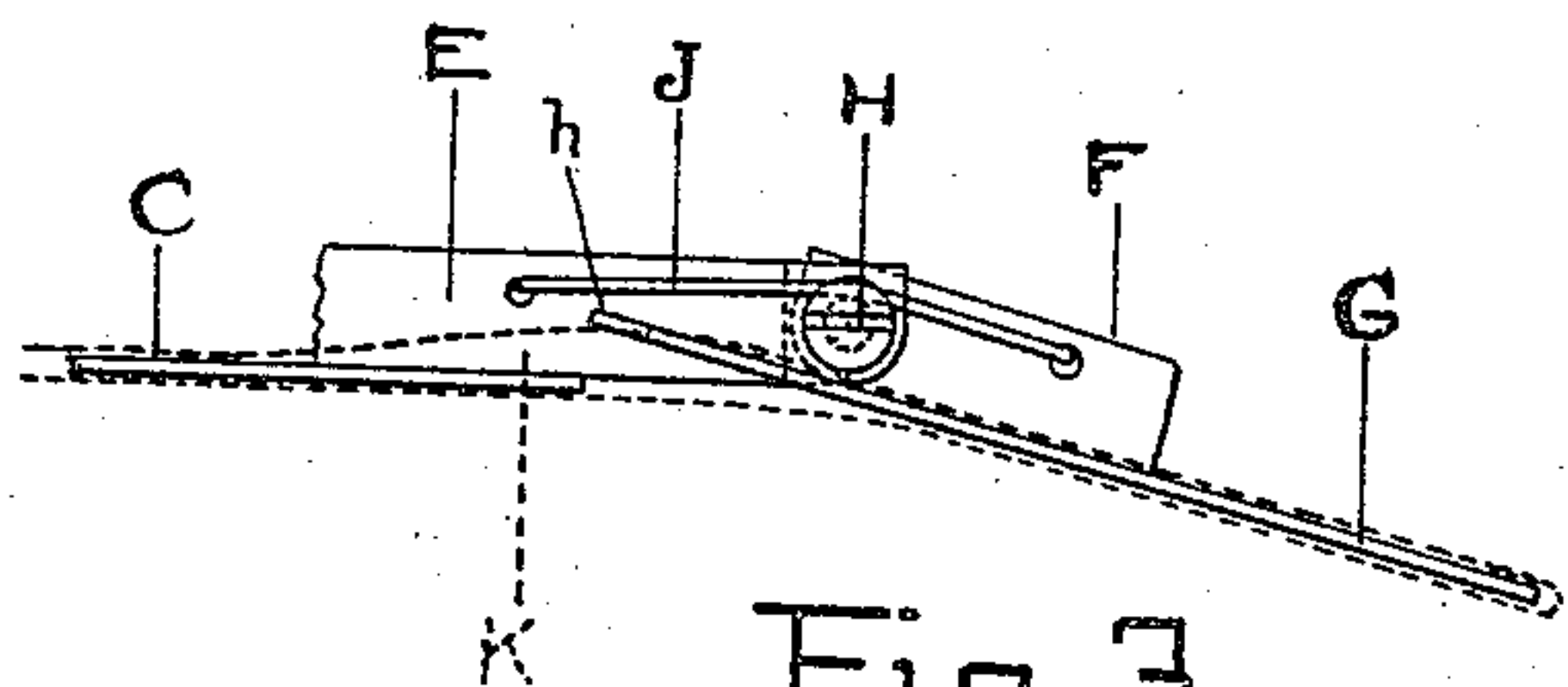


Fig. 3.

Witnesses  
*Lottie Prior*  
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 Atty.

# UNITED STATES PATENT OFFICE.

JOHN W. CONDON, OF TROY, NEW YORK, ASSIGNOR TO C. W. FERGUSON COLLAR COMPANY, OF TROY, NEW YORK, A CORPORATION.

FLEXIBLE DIE FOR FORMING COLLAR-BLANKS.

951,102.

Specification of Letters Patent.

Patented Mar. 8, 1910.

Application filed October 2, 1908. Serial No. 455,856.

*To all whom it may concern:*

Be it known that I, JOHN W. CONDON, a citizen of the United States, residing at the city of Troy, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in Flexible Dies for Forming Collar-Blanks, of which the following is a specification.

My invention relates to flexible dies for forming collar blanks, and the object of my invention is to provide a flexible die which may be used in the manufacture of collars, and from which the collar blank may be readily removed by the operator, together with such elements and combinations as are hereinafter more particularly set forth. I accomplish these objects by means of the mechanism illustrated in the accompanying drawing, in which:

Figure 1 is a plan. Fig. 2 a side elevation. Fig. 3 an enlarged side elevation taken near one end of the die, with parts broken away.

Similar letters refer to similar parts throughout the several views.

My die is composed of two parts, A and B, which are brought together, end to end, when the die is used in a collar folding or other machine, not shown.

To the thin metallic plate, C, I secure, or form integral with said plate, a strip E and preferably form an opening, D, through the strip E and plate C, for use in attaching the die to the folding machine or mechanism, not shown. Hinged to the strip, E, near one end thereof is a block, F, secured to the plate, G, which forms a continuation of the plate, C, being similar in thickness and width thereto, but separated therefrom at, g, some little distance back of the hinge, H, in the strip, E. Plate G is cut out beneath the strip, E, at f, forming heels, h, h, for the purpose of permitting the plate G to be rotated about the hinge, H, as shown in Fig. 2. The ends of the heels, h, h, on the plate G are cut at an angle to the axis of the plate, the inner edge of each heel extending farther from the body of the plate toward the die A than the outer edge; thus the angle formed by the end of the heel, h, and the edge thereof next to the plate E is an acute angle, as shown in Fig. 1. When the plate G is bent to assume the position shown in Fig. 3 the inner edge of the collar on the die will first come in contact with the portion of the end of the heel h which pro-

jects farther toward the die A than that portion thereof which is presented as the bending of the plate G is continued and thus the collar will be guided away from the die, following the direction given to it by the end of the heels, h, h.

For the purpose of keeping plate G in alinement with plate C and to return the plate G to such alinement after it has been forced therefrom I preferably employ a spring, consisting of a wire, J, secured to one side of the strip E and wound about the bolt forming part of the hinge H and secured to the side of the block F. As thus arranged when the plate G is in alinement with the plate C, as it is when it is placed upon the collar blank, K, and the edges of the collar blank are folded over the edges of the die, occupying when folded the position shown in dotted lines in Fig. 1, the die may be raised, by mechanism not shown, carrying the collar blank with it. The operator may remove the collar blank by bending downward the plate G and the collar blank will be forced away from the plate at the sides of the heel, h, of the plate G, which extends back of the bolt of the hinge, H, and operates as is shown in Fig. 3, where the dotted lines show the folded edge of the collar blank K.

An important part of my invention is the arrangement of the hinge portion of the die, to wit: the plate G with the cut away part forming the heel, h, which in the act of bending the die extends upward on each side of the strip E and detaches and separates from the edges of the plate C the collar blank K. If the die were constructed with the plate G meeting the plate C in the same line with the fulcrum of the hinge, H, when the plate G was bent the overlapping edges of the collar blank would not separate therefrom readily, and the operation of the die would be greatly impeded and its successful use prevented.

What I claim as my invention and desire to secure by Letters Patent is:

1. A flexible die for folding collars, composed of two parts or portions, one of said parts comprising a plate; a strip secured thereto and projecting from one surface thereof; a block hinged to said strip; a plate to which said block is secured; said last mentioned plate projecting on each side of said strip back of the fulcrum of the hinge



and provided with a work shedding edge  
formed at an obtuse angle with the fold de-  
fining edge, and so arranged that in its nor-  
mal position it will form, along the sides a  
5 continuation of said first mentioned plate,  
substantially as described.

2. A flexible die composed of two parts  
or portions, one of said portions provided  
with a part near one end adapted to be  
10 separated from said end by bending from its  
normal position; said bending portion pro-  
vided with a shedding edge formed at an  
obtuse angle to its fold defining edge, sub-  
stantially as described.

15 3. A flexible die comprising two plates,

together having a continuous fold defining  
edge; a means for hinging the two plates  
together; a work shedding edge on one of  
said plates formed at an obtuse angle with  
the fold defining edge operative when the 20  
plates are forced out of alinement; with a  
means for causing the plates to assume their  
normal position of alinement, substantially  
as described.

In testimony whereof I have affixed my 25  
signature in presence of two witnesses.

JOHN W. CONDON.

Witnesses:

JOHN R. PECK,  
JOS. B. O'BRIEN.