

No. 864,976.

PATENTED SEPT. 3, 1907.

J. R. MAIN.
STAMPING DIE.

APPLICATION FILED SEPT. 17, 1906.

Fig. 1.

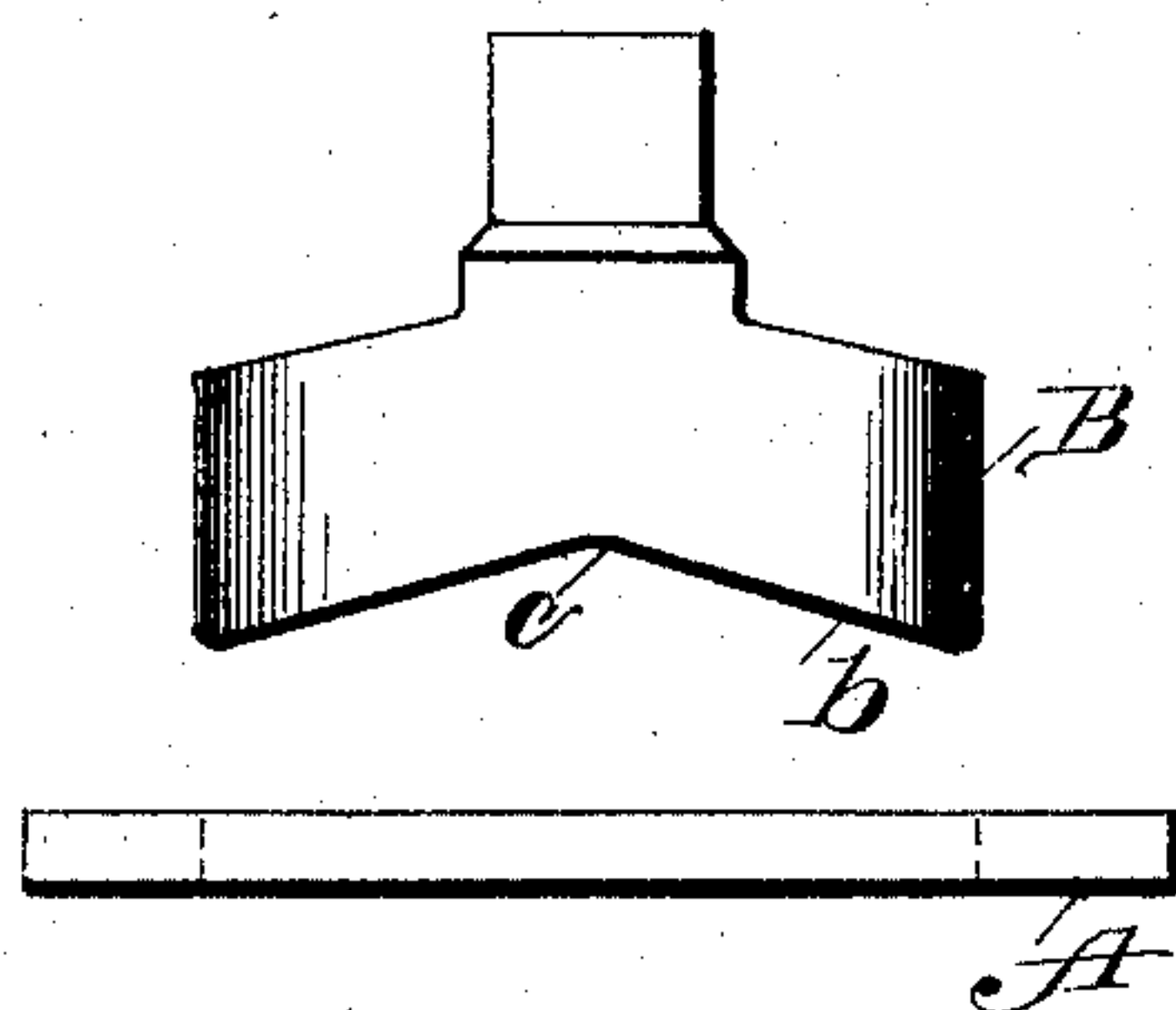


Fig. 2.

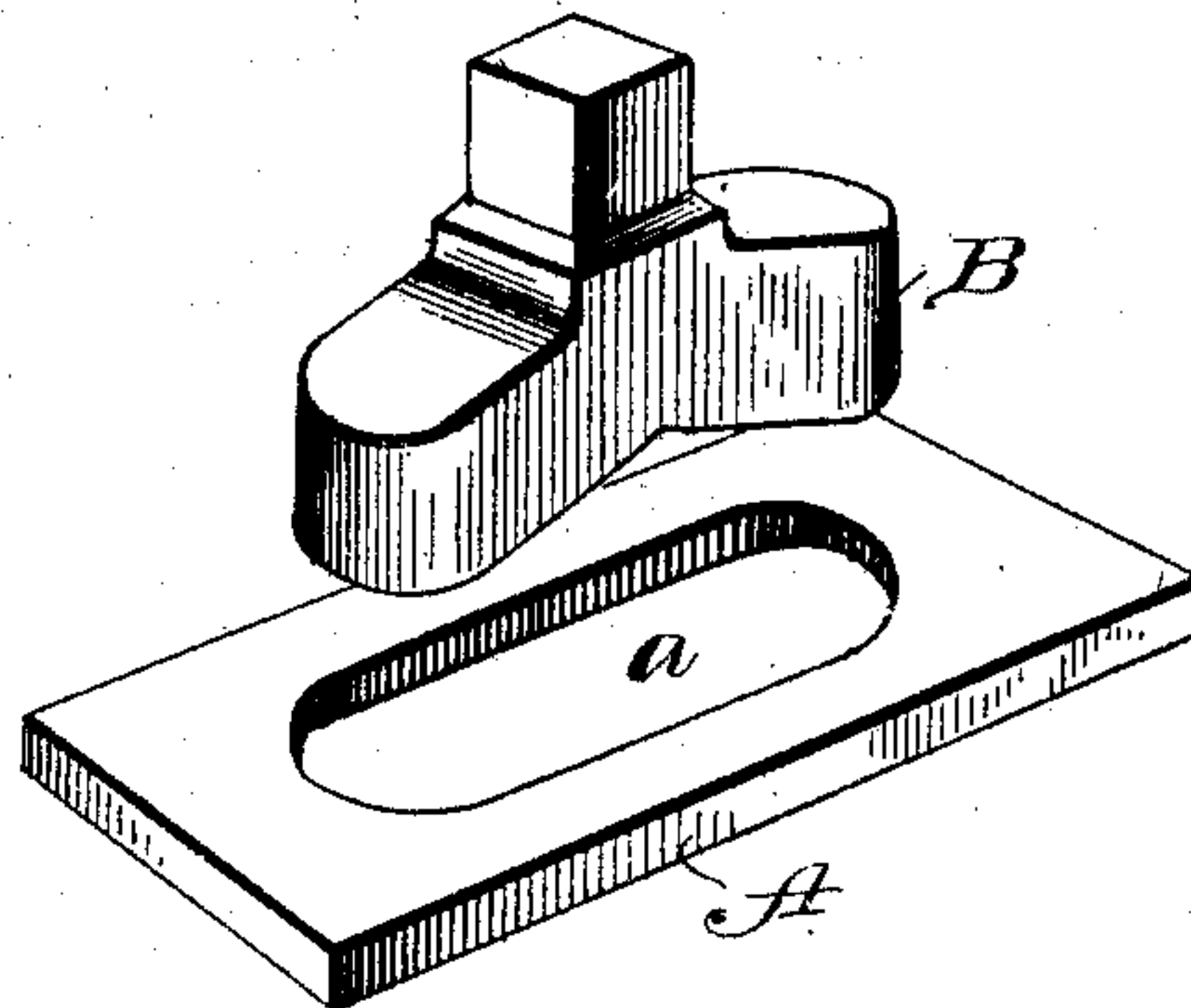


Fig. 3.

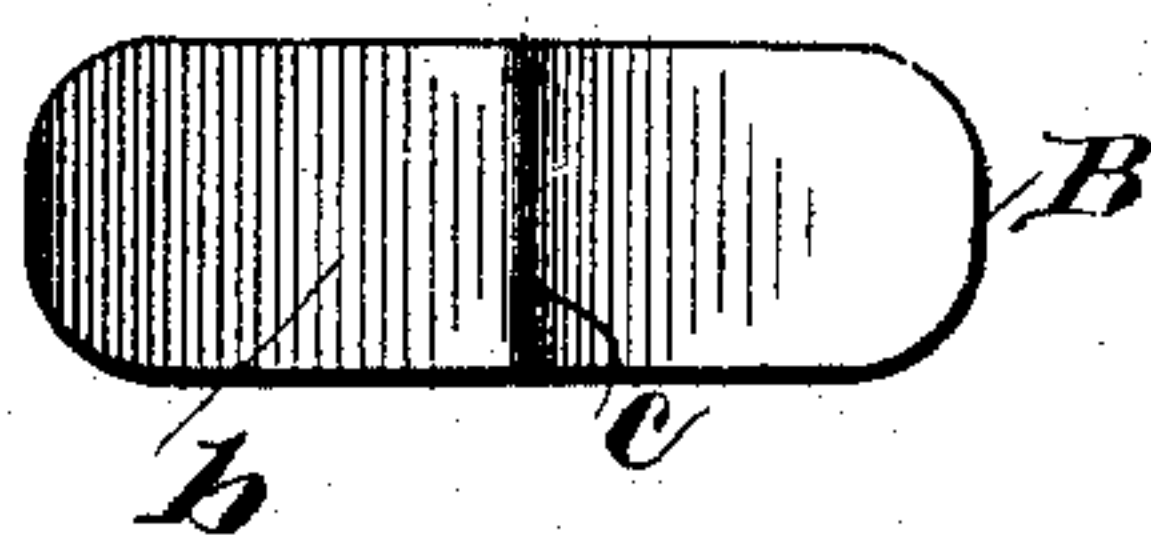


Fig. 4.

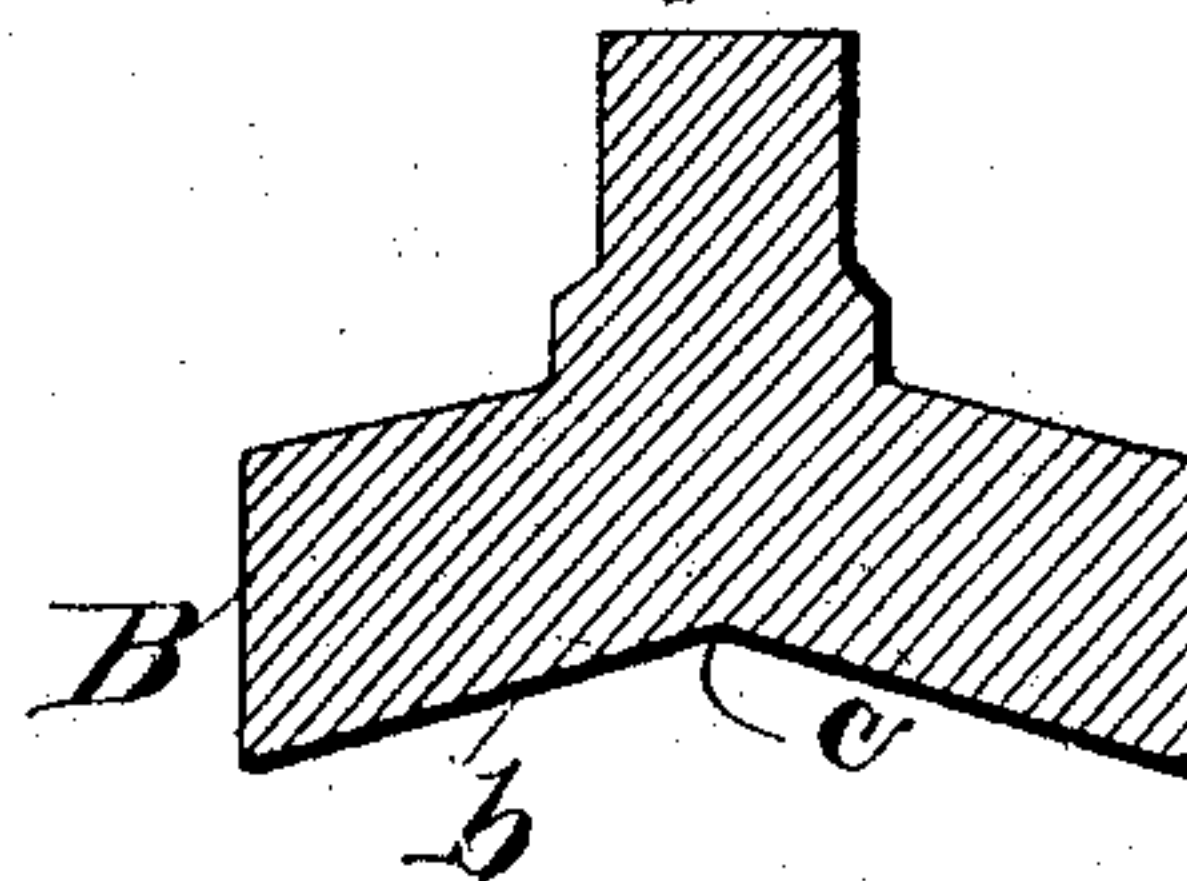
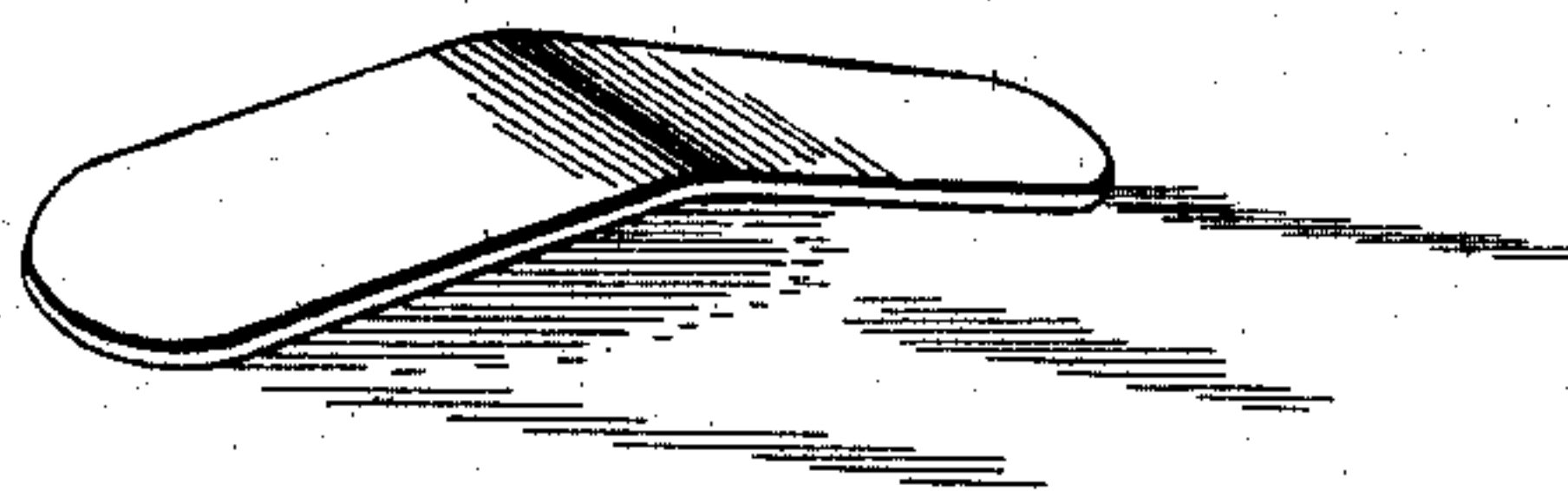


Fig. 5.



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JAMES R. MAIN, OF PITTSBURG, PENNSYLVANIA.

STAMPING-DIE.

No. 864,976.

Specification of Letters Patent.

Patented Sept. 3, 1907.

Application filed September 17, 1906. Serial No. 334,906.

To all whom it may concern:

Be it known that I, JAMES R. MAIN, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented
5 new and useful Improvements in Stamping-Dies, of which the following is a specification.

My invention relates to stamping dies such as are employed in sheet-metal working; and it contemplates the provision of a die constructed with a view of cutting
10 and bending a sheet in one operation, and of making a drawn or shear cut as contradistinguished from a dead stamp.

With the foregoing in mind, the invention will be fully understood from the following description and
15 claim when the same are read in connection with the accompanying drawings, forming part of this specification, in which:

Figure 1 is a view showing a die constructed in accordance with my invention in proper working position
20 above a die-block. Fig. 2 comprises disconnected perspective views of the die and die-block. Fig. 3 is an inverted plan view of the die. Fig. 4 is a longitudinal vertical section of the same. Fig. 5 is a perspective view of a sheet-metal strip cut and shaped
25 through the medium of my improvements.

Similar letters designate corresponding parts in all of the views of the drawings, referring to which:

A is a die-block for sheet-metal working, having an aperture *a* of the shape shown or of any other shape that
30 it is desired to give pieces of sheet-metal; the wall of the said aperture being vertical and extending to and disposed at a right angle to the upper side of the die-block A.

B is my novel die for cooperating with the block A in
35 the production of the bent pieces of sheet-metal. The said die B is similar in outline to the aperture *a* of the die-block and of a size to snugly occupy said aperture; and it is peculiar in that it has vertical sides while its underside is shaped in the direction of its length to form
40 an obtuse angle—i. e., has two flat portions *b* inclined downward from its transverse center to its ends.

In the practical use of my improvements, a sheet of metal is placed on the block A over the aperture *a*, and the die B is forcibly depressed into the said aperture *a*.
45 When this operation is carried out, it will be apparent that the edges of the die B will make a drawn and consequently easy cut, and that in addition to cutting the piece of metal in the shape desired, the die will bend the piece of metal into obtuse angle form. This latter is

due to the fact that the die B begins to cut at its ends, 50
and that subsequent to the cutting of the end portions of the piece of metal, said end portions are shoved ahead of the ends of the die with the result that the piece of metal is bent as shown. In other words, my device is adapted to cut out blanks having flattened ends, 55
and by beginning the cutting at the ends of the dies and continuing it progressively toward the center thereof, each portion of the blank as it is cut is forced down away from the body of the material and gets a set which results in a bent blank when finally severed. 60
The ability of the device to turn out an angular blank such as shown in Fig. 5, as distinguished from one curving from the center and tending to form a ring, is due to the fact that the portions *b* of the underside of the die are disposed at an obtuse angle to each other and are 65
flat and free from projections throughout.

One of the pieces of sheet-metal cut and bent through the medium of my improvements is shown in Fig. 5. The said pieces are designed to be used to advantage in steel mills for clamping together small packs of tin or
70 sheet steel. In thus using the pieces of sheet-metal, the same are laid upon a table or the like, and a pack of tin or steel sheets is laid upon the inner arms of the pieces. With this done, the outer arms of the pieces are bent upward, inward and downward through the 75
medium of a hammer, so as to assure the sheets of the pack being tightly clamped between the lower and upper arms of the bent pieces.

The construction shown and described constitutes the preferred embodiment of my invention, but I desire it understood that in practice such changes or modifications may be made as fairly fall within the scope of my invention as claimed. 80

Having described my invention, what I claim and desire to secure by Letters-Patent, is: 85

An apparatus for stamping and bending a sheet of metal in one operation, comprising a die block having an aperture *a* the wall of which extends downward at a right angle from the upper side of the block, and a cutting die, shaped in outline to enter and snugly occupy the said
90 aperture, having vertical sides and also having an under side made up of oppositely disposed flat faces inclined downward at an obtuse angle from the line of separation of said faces, as set forth.

In testimony whereof I have hereunto set my hand in
95 presence of two subscribing witnesses.

JAMES R. MAIN.

Witnesses:

JOSEPH A. HUTCHISON,
G. W. COURSIN.