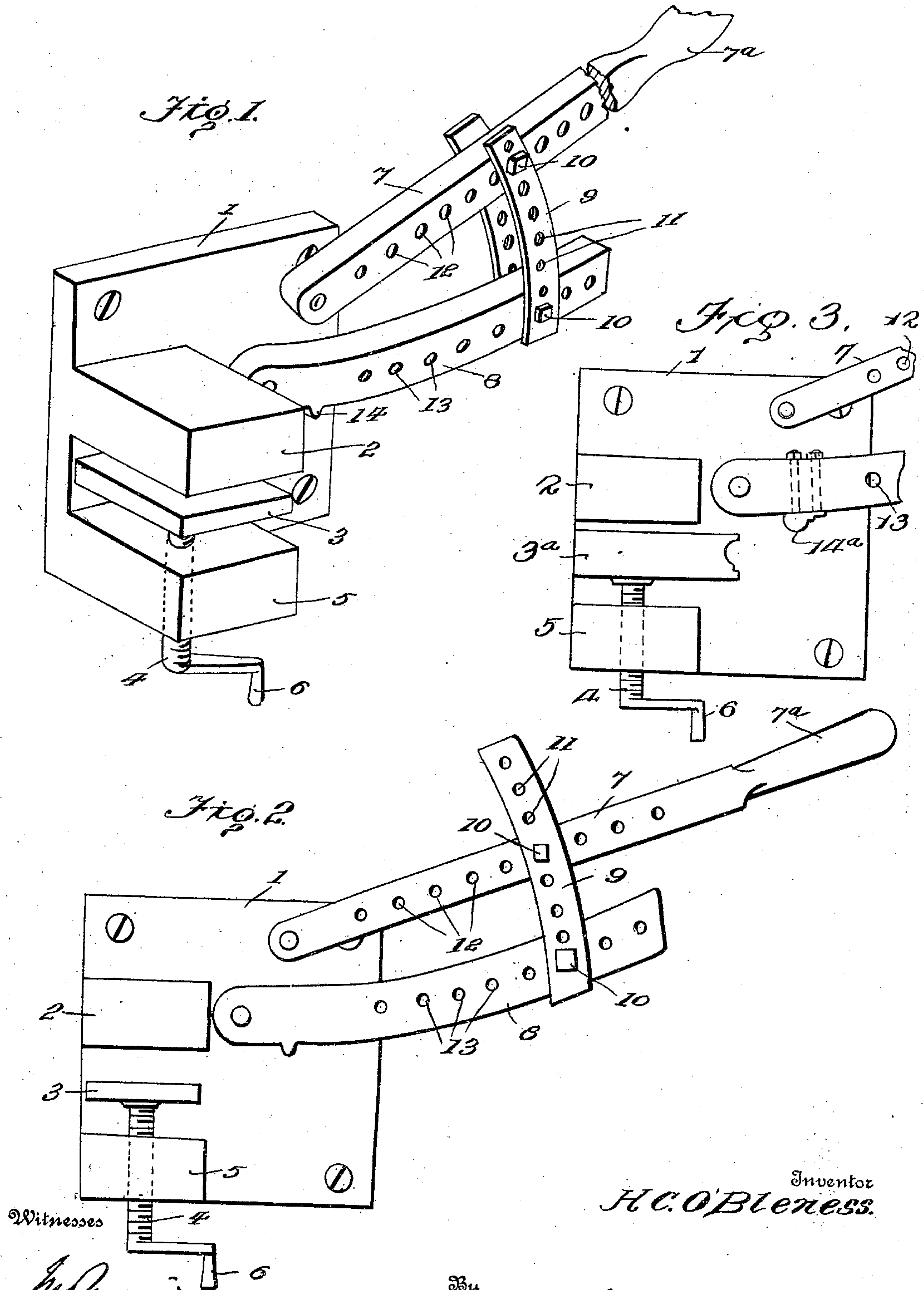


H. C. O'BLENESS.
FORMING MACHINE.
APPLICATION FILED DEC. 19, 1908.

928,616.

Patented July 20, 1909.



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By

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UNITED STATES PATENT OFFICE

HARRY C. O'BLENESS, OF ATHENS, OHIO.

FORMING-MACHINE.

No. 928,616.

Specification of Letters Patent.

Patented July 20, 1909.

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To all whom it may concern:

Be it known that I, HARRY C. O'BLENESS, citizen of the United States, residing at Athens, in the county of Athens and State of Ohio, have invented certain new and useful Improvements in Forming-Machines, of which the following is a specification.

The present invention relates to certain new and useful improvements in the construction of those machines which are utilized for the bending and forming of metal or like material, and the object of the invention is the provision of a simple and inexpensive device of this character embodying novel means for clamping the bar, or other member to be operated upon, rigidly in position, and for bending the same in the required manner.

The invention further contemplates a metal-forming machine which is durable and compact in its construction, so that it can be readily transported from place to place, and which comprises a system of compound levers so arranged and connected that the leverage of the machine can be varied as required.

With these and other objects in view that will more fully appear as the description proceeds, the invention consists in certain constructions and arrangements of the parts that I shall hereinafter fully describe and claim.

For a full understanding of the invention and the merits thereof, and to acquire a knowledge of the details of construction, reference is to be had to the following description and accompanying drawing, in which:

Figure 1 is a perspective view of a metal-forming machine embodying the invention; Fig. 2 is a front elevation of the same; and, Fig. 3 is a perspective view showing a modification in which the movable jaw and forming arm are constructed to constitute the opposite members of a die, portions of the device being removed.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawing by the same reference characters.

Specifically describing the present embodiment of the invention, the numeral 1 designates the base which is preferably formed of metal, a clamp or vise for holding the member being operated upon, being mounted upon one side of the base, and a system of levers for bending the member

being mounted upon the opposite side of the base. The clamp comprises a fixed jaw 2 which is preferably integral with the base, and a movable jaw 3 which is engaged by the end of a clamping screw 4 threaded in an ear 5 projecting from the base. The outer or lower end of the clamping screw 4 is provided with a crank handle 6, and by turning this crank handle, the movable jaw 3 can be moved toward the fixed jaw 2 or away therefrom to grip the member to be operated upon, or release the same as required.

Pivotaly mounted upon the opposite side of the base plate 1 to that provided with the clamp, is one end of a primary lever 7 and also one end of a secondary lever 8. The free end of the primary lever 7 is formed with a handle 7^a to which the power for operating the forming machine is applied, and the two levers are connected by the bars or links 9 which are applied to the opposite sides thereof and are pivotaly connected thereto by means of pins or bolts 10. These bolts 10 are designed to pass through any selected one of a series of openings 11 in the links 9, the upper bolt also passing through any selected one of a series of openings 12 in the primary lever 7, while the lower bolt also passes through any selected one of a series of openings 13 in the secondary lever 8. In this manner, it will be obvious that the compound leverage obtained can be readily adjusted as required by the size and nature of the member being operated upon. The secondary lever 8 is provided at an intermediate point in its length, and preferably somewhat adjacent its pivot point, with a laterally projecting forming arm 14 which is designed to engage the member being operated upon.

In the operation of the device, the bar or other member to be bent, is clamped between the fixed jaw 2 and the movable jaw 3 of the device, with the portion thereof to be bent projecting beyond the vise and under the levers. The primary lever 7 is then swung downwardly by manual means, and the forming arm 14 of the secondary lever is caused to engage the projecting end of the bar to bend the same downwardly as required.

It will be obvious that should it be found desirable, the movable jaw of the device could be so constructed as to form one of the members of a die, and the forming arm con-

5 constructed so as to form the opposite member
of the die, thereby enabling the various
forms and shapes to be obtained in the fin-
ished product, as required. Such a modifica-
tion is shown in Fig. 3 in which the numeral
14^a designates the forming arm and the
numeral 3^a the movable jaw of the clamp,
the said members being so constructed as to
coöperate with each other to impart the
10 necessary shape to the member being oper-
ated upon.

Having thus described the invention, what
I claim is:

15 In a forming machine the combination of
a base, an ear carried at one corner of said
base, a fixed jaw mounted on said base in
parallel with said ear, a clamping screw car-
ried by said ear, a movable jaw disposed

upon the inner end of said screw for co-
operation with said fixed jaw, a primary le- 20
ver mounted at the opposite corner on said
base, a secondary lever pivoted adjacent said
primary lever on said base, a handle formed
on said primary lever to operate the same,
links adjustably disposed between said levers 25
for communicating motion between the same
and a forming arm projected laterally from
said secondary arm adjacent the inner end
of the same for engaging a material to be
operated upon.

In testimony whereof I affix my signature
in presence of two witnesses. 30

HARRY C. O'BLENESS. [L. s.]

Witnesses:

WESLEY B. LAWRENCE,
PERLEY B. LAWRENCE.