

No. 629,632.

Patented July 25, 1899.

B. WESSELMANN.
METAL SHEARING MACHINE.

(Application filed Dec. 8, 1898.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

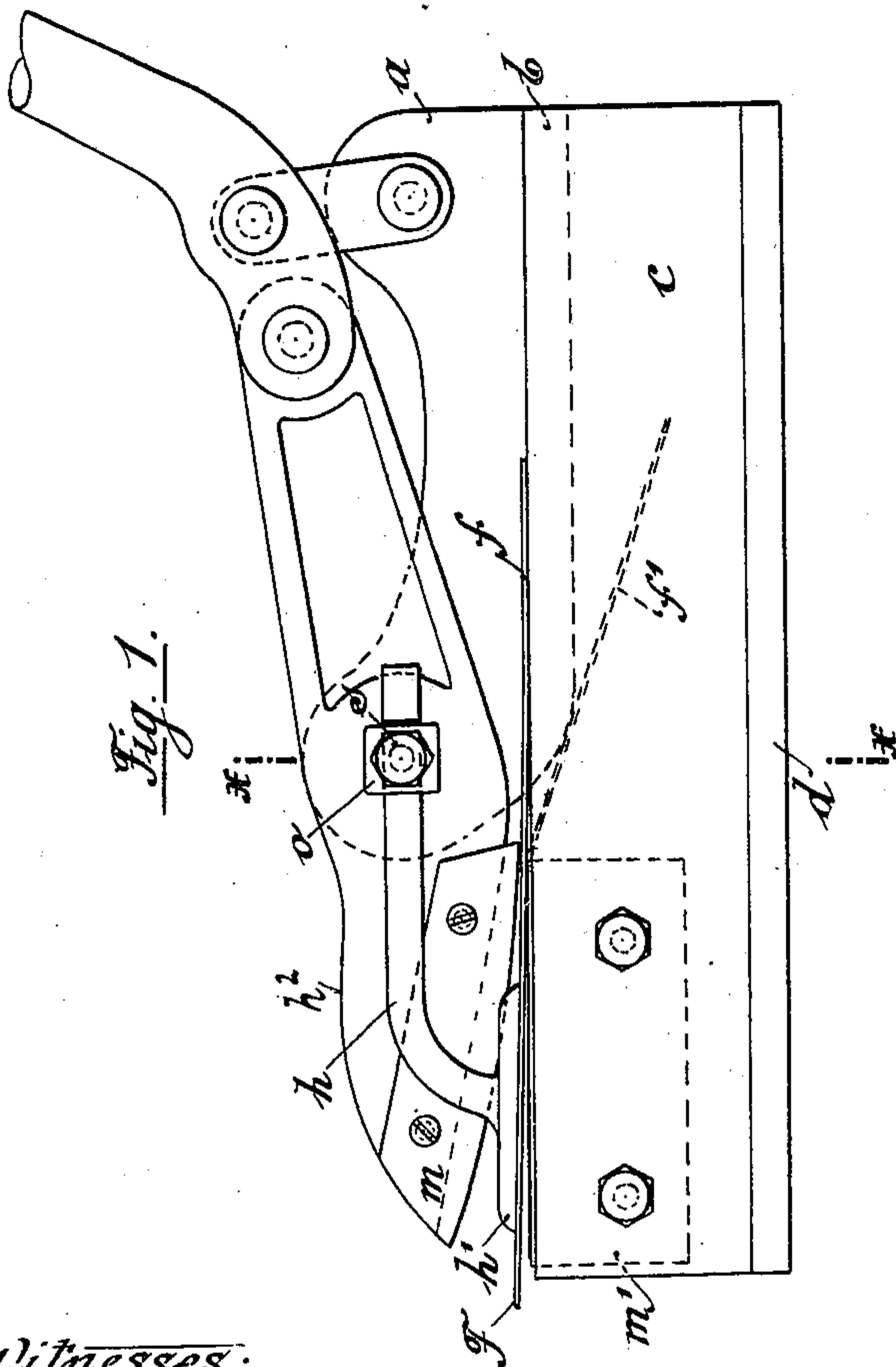


Fig. 2.

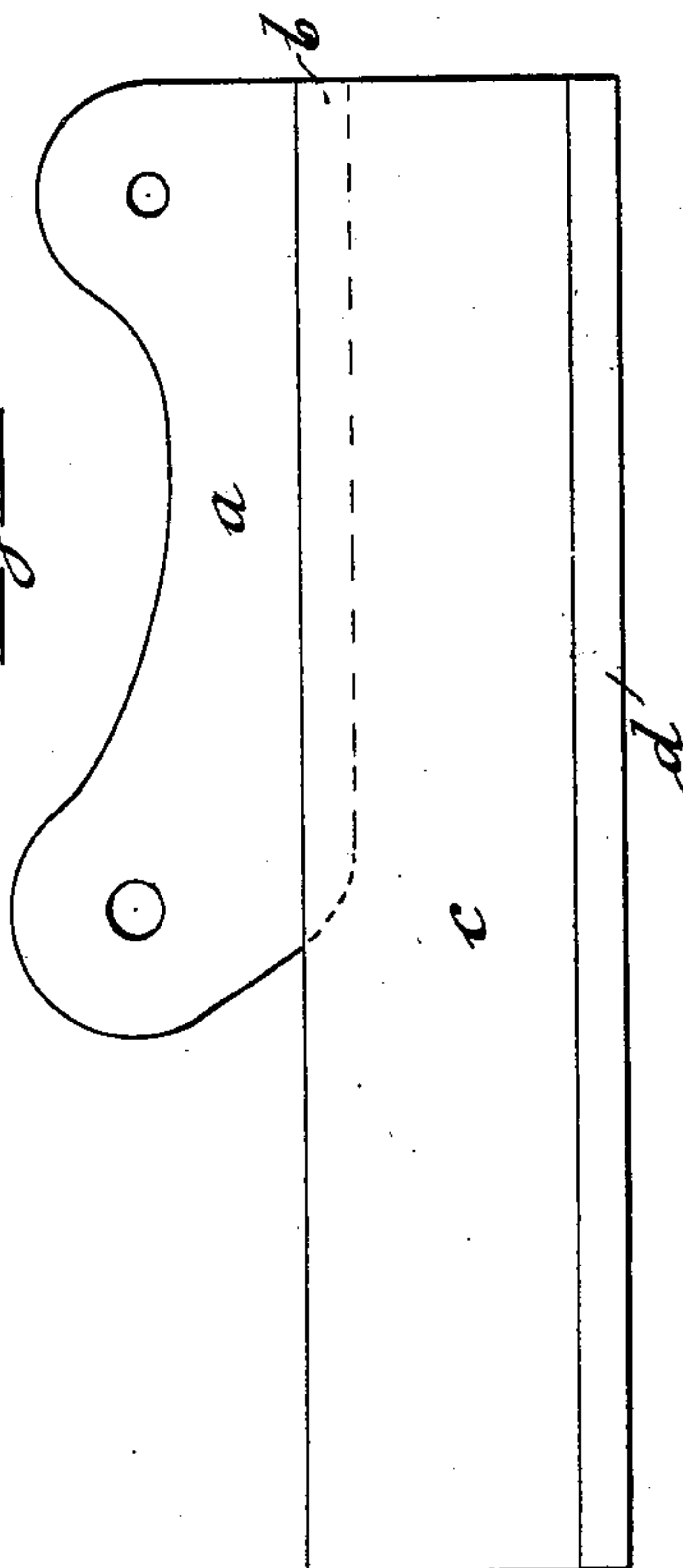


Fig. 3.

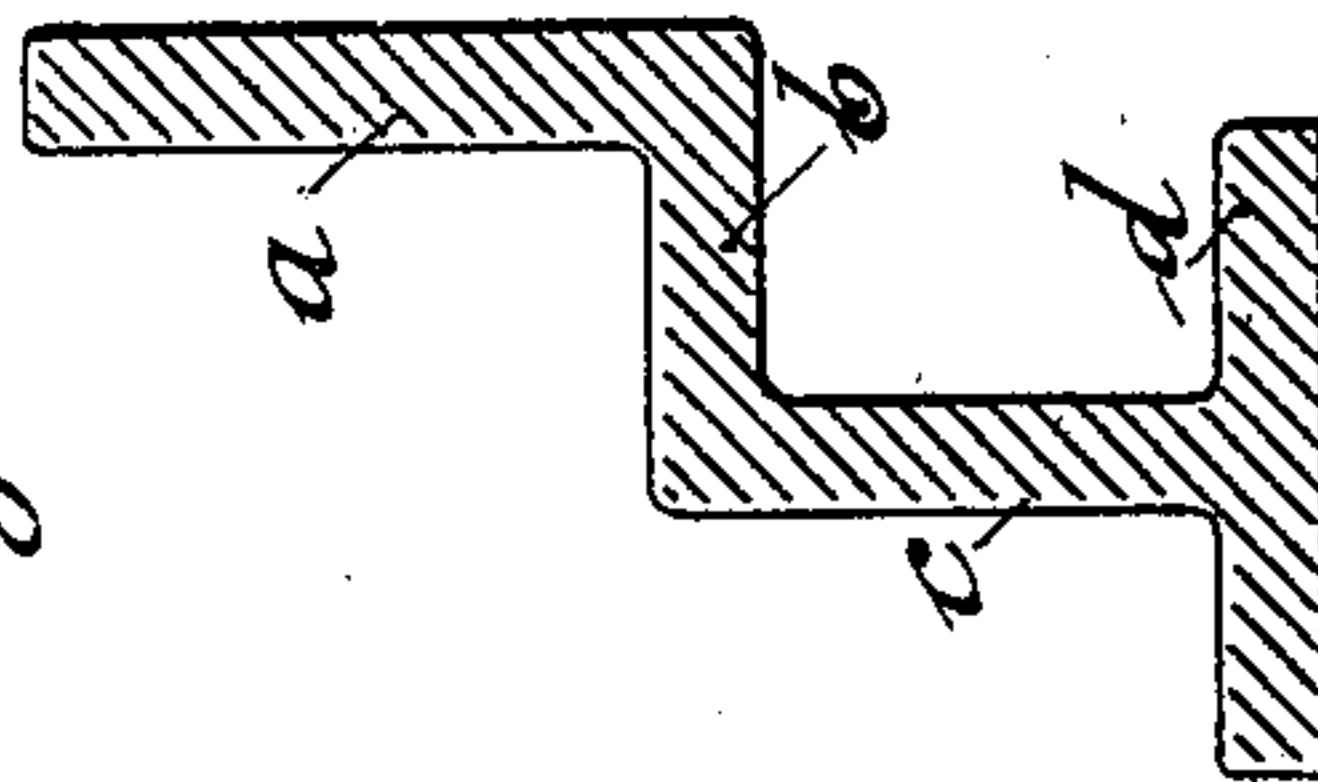
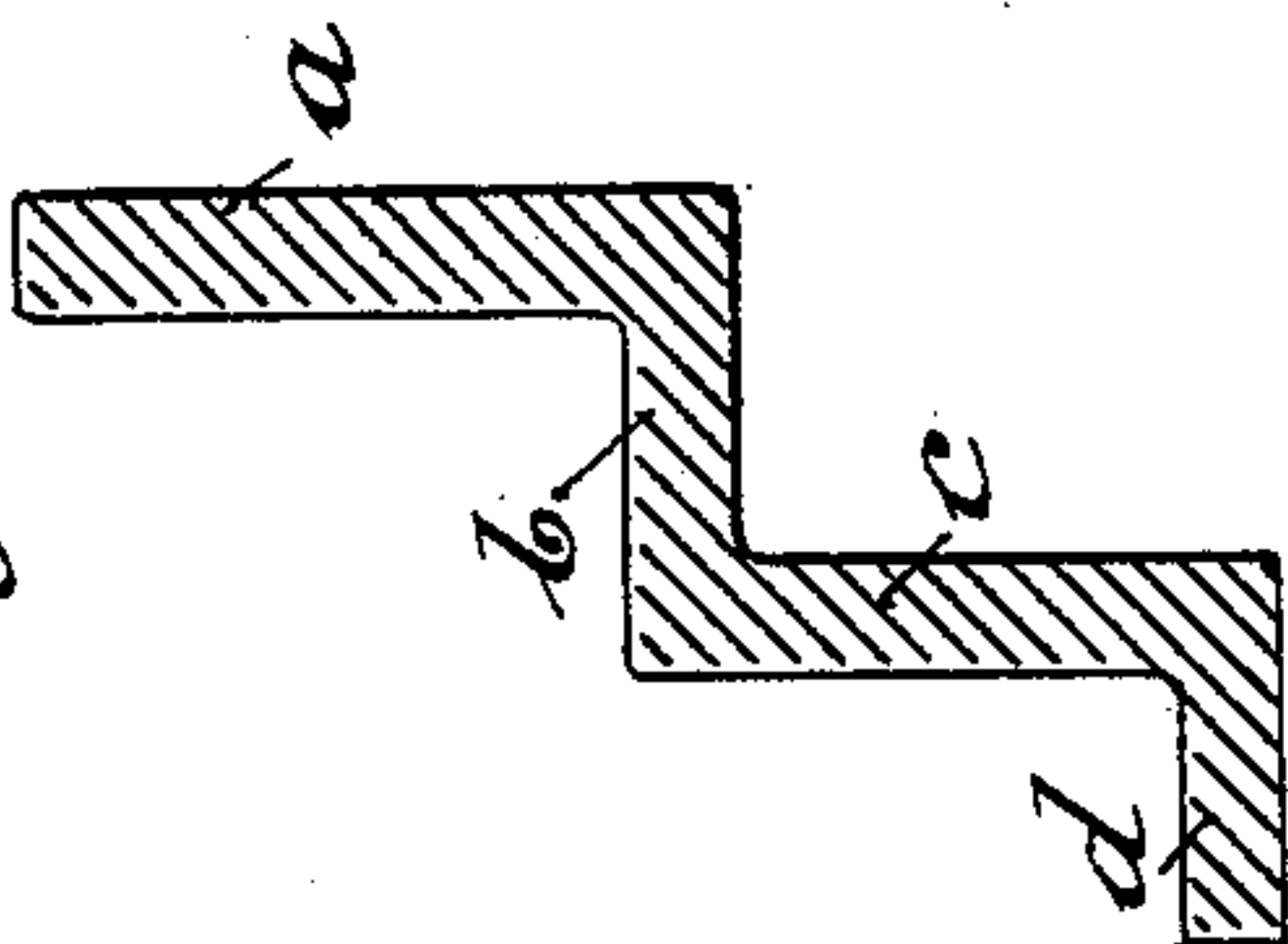


Fig. 4.



Witnesses:

b. Rob. Walder,
Carl Henzel.

Inventor:

Bruno Weselmann
Et.

No. 629,632.

Patented July 25, 1899.

B. WESSELMANN.
METAL SHEARING MACHINE.

(Application filed Dec. 8, 1898.)

(No Model.)

2 Sheets—Sheet 2.

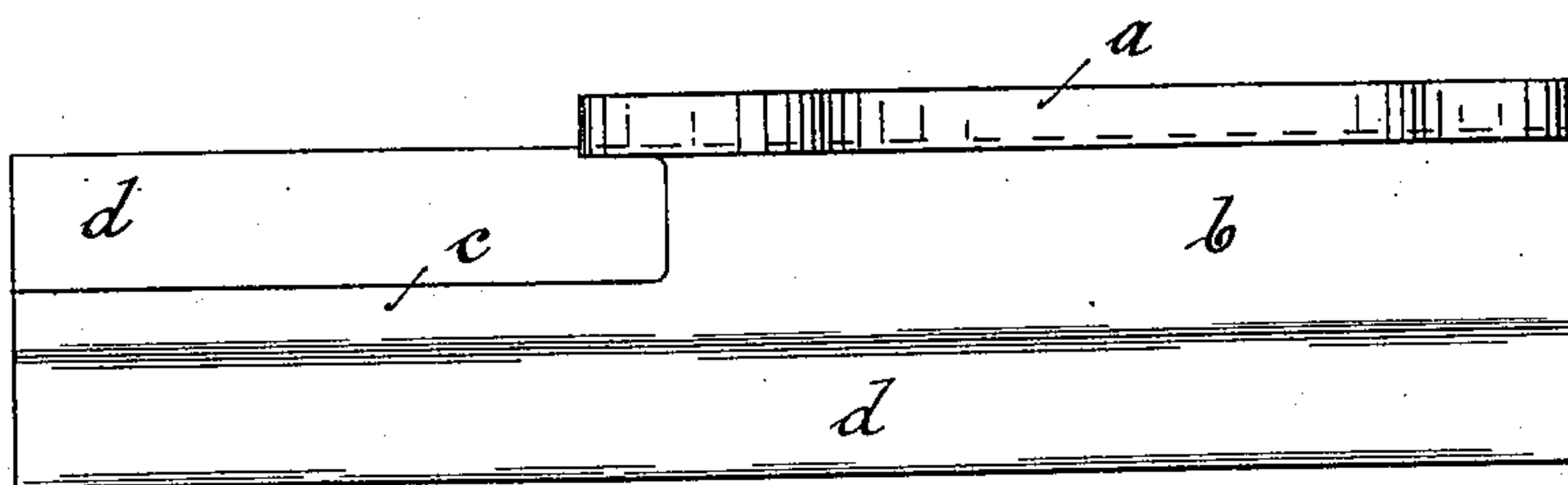


Fig. 2A.

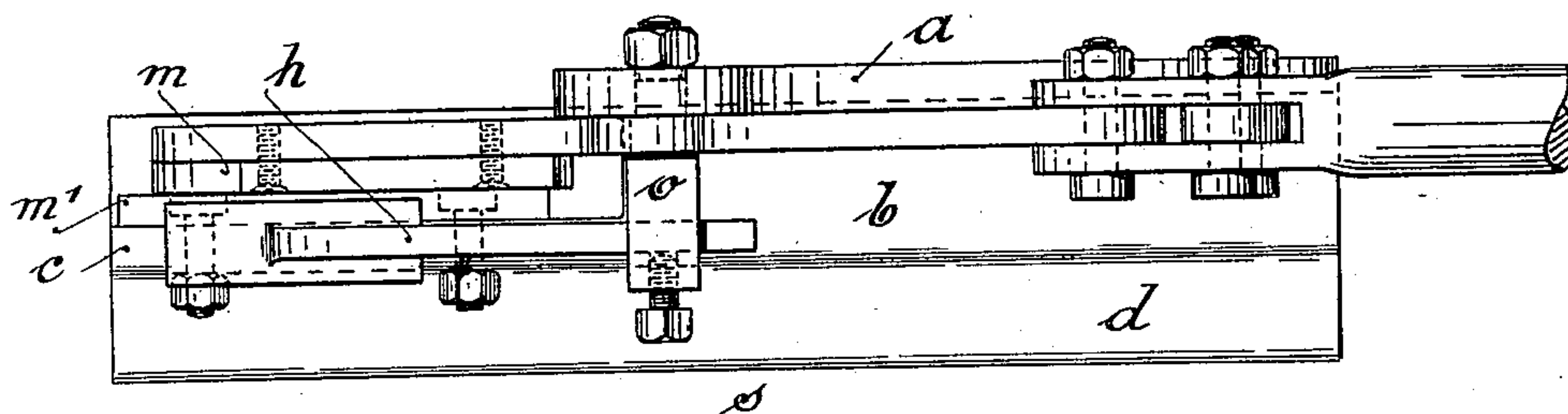


Fig. 1A.

Witnesses:

William Miller
Chas. E. Posen

Inventor:

Bruno Wesselmann

By Hauff + Hauff
Attorneys

UNITED STATES PATENT OFFICE.

BRUNO WESSELMANN, OF GÖTTINGEN, GERMANY.

METAL-SHEARING MACHINE.

SPECIFICATION forming part of Letters Patent No. 629,632, dated July 25, 1899.

Application filed December 8, 1898. Serial No. 698,652. (No model.)

To all whom it may concern:

Be it known that I, BRUNO WESSELMANN, a subject of the King of Prussia, Emperor of Germany, residing at 58 Friedländer Weg, Göttingen, in the Province of Hanover, Kingdom of Prussia, Germany, have invented new and useful Improvements in or Connected with Metal-Shearing Machines, of which the following is a specification.

10 The present invention has for its object an improved construction and shape of framing for a metal-shears and a device by which the work being cut may be led and held in correct position during the operation of cutting.

15 In the accompanying drawings, Figure 1 shows a side elevation of the metal-shearing machine. Fig. 1^A is a plan view of Fig. 1. Fig. 2 is a separate side view of the stand thereof. Fig. 2^A is a plan view of Fig. 2. 20 Figs. 3 and 4 indicate in sectional forms the rolled metal from which the stands are made. Fig. 5 shows a cross-section on the line *xx*, Fig. 1, looking toward the left.

25 In constructing a metal-shearing machine in accordance with my invention I form the stand or framing thereof from metal rolled to such a section that when the metal is cut into the required lengths the cut lengths simply require portions of the metal cut away to form 30 the entire framing.

The metal from which the improved stands or framing are to be made is rolled in the sectional form shown in Fig. 3 or in Fig. 4. A suitable length, which would vary according to the size of the shears, is cut from the piece. 35 To accommodate the fast blade *m'* of the shears, a part of the metal at one side of the upper part *a b* is cut away and the stand is complete, as is shown in Figs. 2 and 2^A.

40 The base *d*, which serves to support the stand, may be formed on each side of the portion *c*, as in Fig. 3, or on one side only, as shown in Fig. 4.

45 The cutting-blades *m* and *m'* are so arranged relatively to each other that the lever *h*², to which the blade *m* is secured, lies in an angular recess formed by the bent-back portion *a* of the stand, the fast blade *m'* being secured to the part *c* of the stand. By this 50 arrangement the cut parts *f f'* of the work *F* can both be led below the pivot-bolt *o* to the rear of the shears without occasioning any

excessive bending of the plate being cut. The passage of the work through the shears is thus greatly facilitated, as little friction 55 and springing of the cut parts of the work are set up. In addition to these advantages the stand is stronger by being formed out of one piece of metal, is lighter, and the method of construction is both simple and cheap. 60

h is a holder for the material being cut and is capable of adjustment by being passed through and held in the bolt *o* of the lever of the blade *m*. The holder *h* is bent downwardly and its free lower end may advantageously 65 be made in the form of a foot-plate *h'*, adapted to rest on the work *F*, and thus prevent the latter turning or being tilted upward by the pressure of the movable blade at the place where it is being cut. The vertical distance 70 of the under surface of the foot *h'* above the cutting edge of the blade *m'* is such as will admit the easy introduction of work of the greatest thickness to be cut by the shears. In cutting, the part of the work between the 75 blades thus lies beneath the holder *h*. The bolt *o* is prevented from turning in the shear-framing *a b c d*, and the horizontal arm of the holder is held in the bolt *o* by means of a set-screw *s*. It can thus be adjusted in any po- 80 sition desired.

By means of this invention malleable iron of suitable outline can be rolled into the required shape, and the operation of the blades is facilitated, as the horizontal web or branch 85 *b* can in the case of malleable iron be made so thin that the cut parts of the work in passing back or away from the blades are only slightly bent. The cutting operation is thus eased. This invention also offers facilities 90 for manufacture, since by simply cutting off varying lengths from a piece of malleable iron shear supports or bases of varying sizes can be obtained, it being merely necessary to cut out or concave the top edge of the web *a*, 95 as seen in Fig. 2, and to cut away at the upper front part of the web *b*, as seen to the left of web *a* in Figs. 2 and 2^A. The lever mechanism for the movable knife can then be applied to web *a*, and the fixed knife can 100 be applied to web *c*. It should also be noted that the lengths cut from the main piece of malleable iron can be adapted for right or left hand shears, as the cutting away of the

part *b* is done at one end or another. In cast frames, on the other hand, two patterns or forms would be necessary. In cast bases, moreover, the required strength cannot be attained without correspondingly thickening or strengthening the material. Especially the horizontal connection *b* would have to be of great thickness, so that it would materially obstruct the work, a disadvantage which is avoided in the above-named base of malleable iron. In addition to the malleable frame being strong and of light weight the manufacture thereof is cheap.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. A metal-shearing machine having a stand or frame comprising an upper vertical branch *a*, an intermediate horizontal branch *b*, a lower vertical branch *c* and a lower horizontal

branch *d*, said frame having a portion of the intermediate horizontal branch *b* and a portion of the upper vertical branch *a*, cut away, a stationary cutting-blade secured to the vertical branch *c* adjacent to said cut-away portion, a movable blade, and an operating-lever for the latter fulcrumed to the vertical portion *a* at the rear of the cut-away portion thereof, as and for the purpose set forth.

2. A metal-shearing machine comprising a frame *a b c d*, a bolt *o* non-rotatively secured to the frame, a blade *m* fulcrumed on the bolt, and a holder *h* adjustably secured to the fulcrum or bolt, substantially as described.

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

BRUNO WESSELMANN.

Witnesses:

HENRY HASPER,

EMIN L. GOLDSCHMIDT.