

No. 788,295.

PATENTED APR. 25, 1905.

M. WEIXLER.
PORTABLE PUNCHING MACHINE.
APPLICATION FILED JAN. 18, 1904.

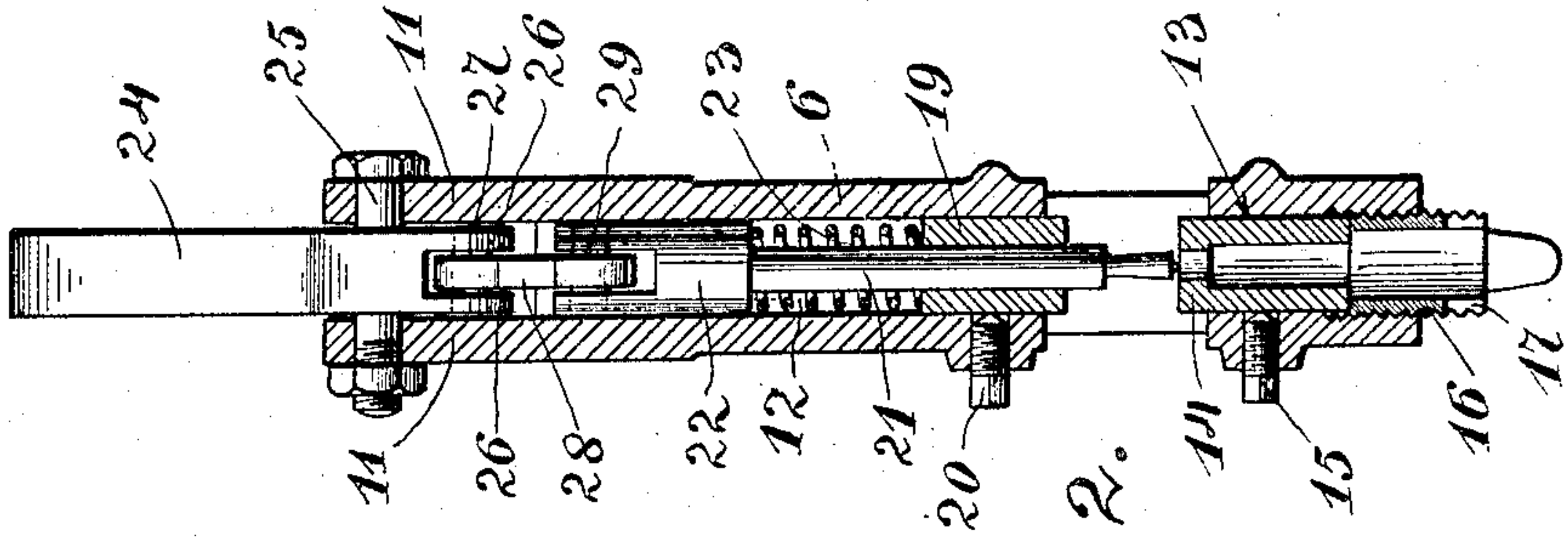


Fig. 2.

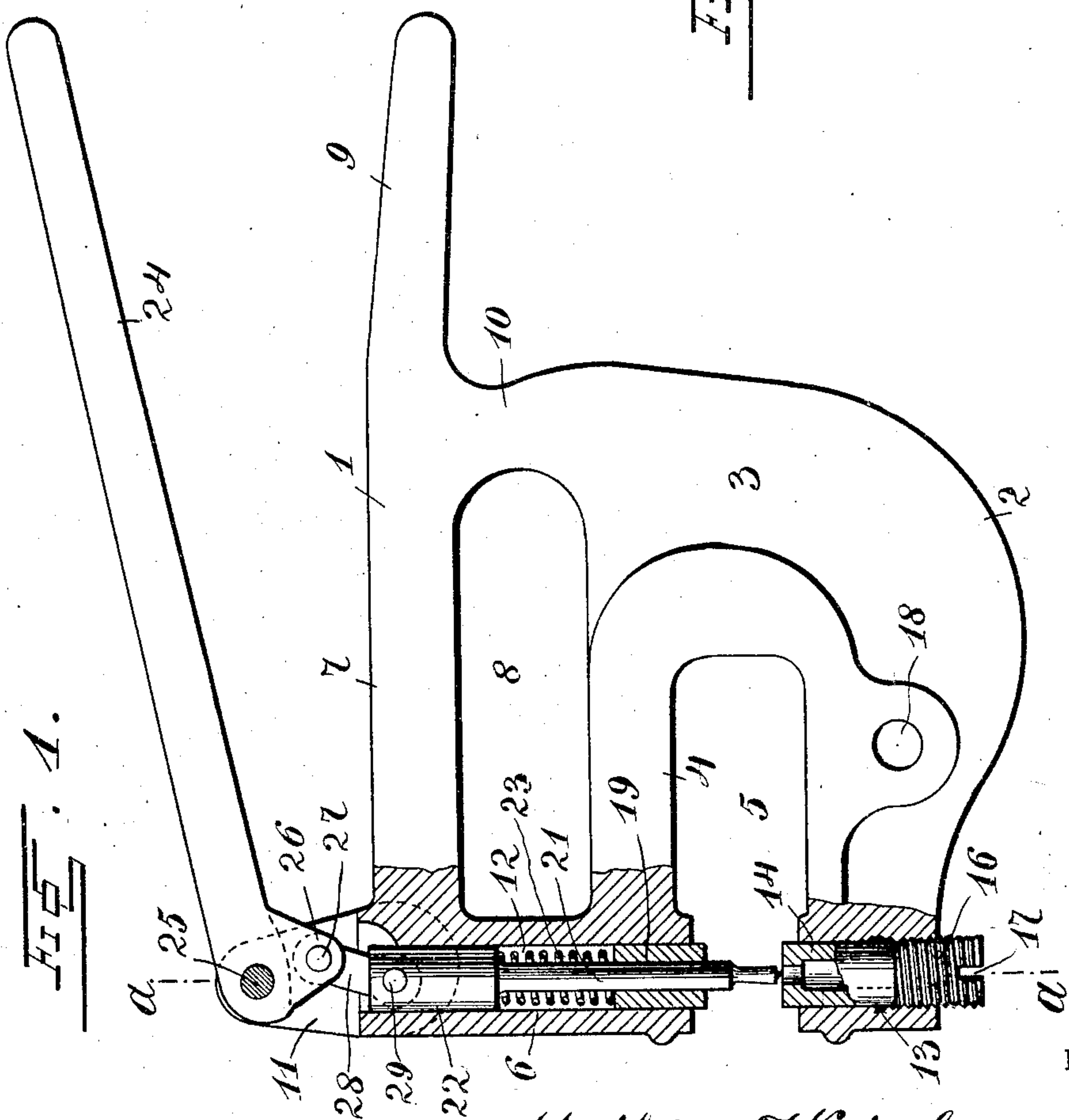


Fig. 1.

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UNITED STATES PATENT OFFICE.

MATHIAS WEIXLER, OF LOUISVILLE, KENTUCKY.

PORTABLE PUNCHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 788,295, dated April 25, 1905.

Application filed January 18, 1904. Serial No. 189,567.

To all whom it may concern:

Be it known that I, MATHIAS WEIXLER, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Portable Punching-Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention is an improved portable or hand punching-machine for punching holes in copper, brass, iron, soft steel, and other metals; and it consists in the construction, combination, and arrangement of devices hereinafter described and claimed.

One object of my invention is to effect improvements in the construction of the frame whereby it is balanced when the machine is being operated by the hand of the operator to enable the machine to be readily operated by one hand and without undue fatigue, leaving the other hand of the operator free for employment in manipulating the metal.

A further object is to provide an adjustable guide and stripper for the punch.

A further object is to provide an adjustable and readily-removable die with which the punch coacts.

In the accompanying drawings, Figure 1 is an elevation, partly in section, of a hand or portable punching-machine embodying my improvements. Fig. 2 is a detail sectional view of the same, taken on the plane indicated by the line *a a* of Fig. 1.

The frame 1 of my improved punching-machine is of the form shown and in practice is preferably a casting. From its base 2, at one end thereof, rises a standard 3, from which extends an arm 4, that is disposed in line with and at a suitable distance above the base 2, so that a clearance-opening 5 is formed between the base and said arm. A tubular head 6 is formed at the outer end of the arm 4 and extends upwardly therefrom. A handle-arm 7 extends from the upper portion of the said head, is spaced a suitable distance from the arm 4 to form an opening 8, and projects a suitable distance beyond the standard, as at 9. The stand-

ard has an upper extension 10, which connects it to the handle-arm, and the head is formed at its upper end with a pair of upstanding ears 11, suitably spaced apart. The bore 12 of the tubular head, which is of cylindrical form, extends also through the outer end of the arm 4. The base-arm 2 has a similar bore 13, which is coincident with the bore 12.

In the upper portion of the bore 13 is a tubular cylindrical die 14, which is adjustable therein in the direction of the length of the die, and the latter is secured at any suitable adjustment by a set-screw 15. A tubular sleeve 16 is screwed into the lower end of the bore 13, extends downwardly from the outer end of the base-arm, and has notches 17 in opposite sides for the insertion of a screw-driver or similar implement used in attaching or detaching said sleeve. The base-arm has a transverse opening 18.

In the lower portion of the bore 12 of the head is a cylindrical tubular punch guide and stripper 19. The same is adjustable endwise toward and from the die and is secured at any suitable adjustment by means of a set-screw 20.

The punch 21 operates in the bore of the guide and stripper 19 and has a head 22 of enlarged diameter, which operates in the bore 12. A coiled extensile spring 23 on the stem of the punch bears between the head 22 and the tubular punch guide and stripper 19.

A hand-lever 24 is pivotally mounted between the ears 11 by a bolt 25 and has lugs 26 projecting from the under side thereof, between which lugs is pivoted by a pin 27 a link 28, the lower end of which is pivotally connected, as at 29, to the head of the punch.

The punch may be operated by means of the lever 24, as will be readily understood, which lever may be operated by one hand. The provision of the handle-arm 7, which may be readily grasped by the fingers, enables the lever to be readily operated.

The construction of the frame is such that the same is balanced when the machine is in operation. The provision of the clearance-opening 5 adapts the machine for use in punching holes around the sides of an opening in sheet metal. The adjustable die and the adjustable punch guide and stripper may be set

at any desired distance apart, according to the thickness of the sheet metal on which the machine is employed. The punch guide and stripper not only serves as a guide for the
5 punch, but engages and holds the metal sheet as the punch is drawn therefrom after punching a hole therein, thus serving to strip or detach the sheet from the punch. It will be observed by reference to the drawings that the
10 operating end of the punch is of less diameter than the stem thereof, so that a shoulder is formed which coöperates with the tubular guide and stripper in disengaging the punch from the work.

15 Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A punching-machine having a frame provided with a tubular die, movable in the direction of its length, a tubular head spaced
20 from the die, a tubular guide and stripper in said head, opposite the die and adjustable toward and from the latter, a punch operating in the bore of the tubular guide and stripper
25 and the bore of the die and extending into the tubular head of the frame, means to operate the punch, means to secure the movable die, and means to secure the movable tubular

guide and stripper, whereby they may be set and held at any required adjusted position, 30
said guide and stripper when thus adjusted being immovable by the punch.

2. A punching-machine having a frame provided with a tubular die, movable in the direction of its length, a tubular head spaced 35
from the die, a tubular guide and stripper in said head, opposite the die and adjustable toward and from the latter, a punch operating in the bore of the tubular guide and stripper and the bore of the die and extending into the 40
tubular head of the frame, means to operate the punch, means to secure the movable die, and means to secure the movable tubular guide and stripper, whereby they may be set and held in any required adjusted position, 45
said guide and stripper when thus adjusted being immovable by the punch, the latter having a working end of less diameter than the bore of the tubular guide and stripper, substantially as described. 50

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

MATHIAS WEIXLER.

Witnesses:

HENRY BLAUFUSS,
JACOB SIEBERT.