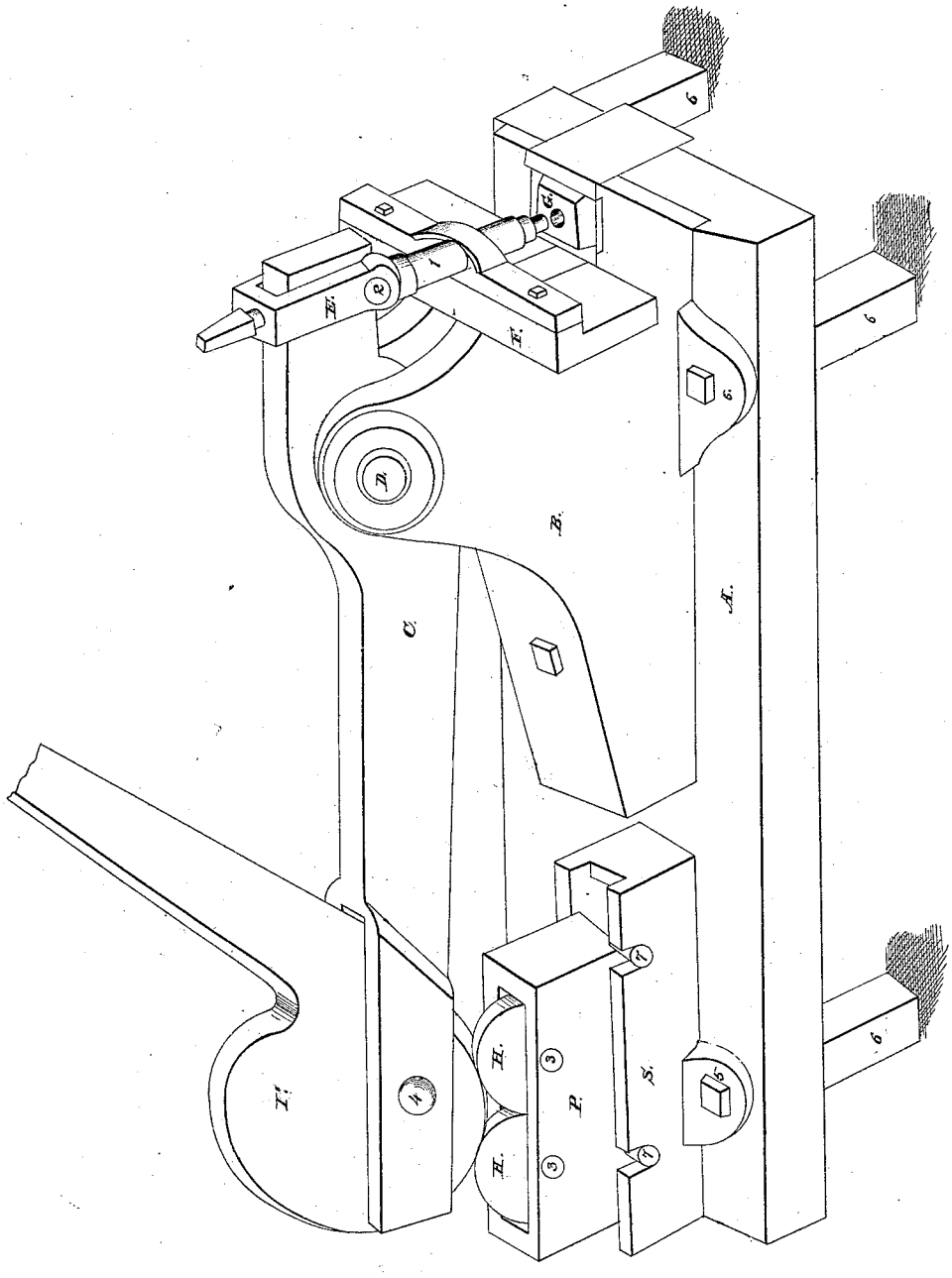
S. H. Brown,

Metal Punch,

No. 1288. Patented Aug. 14, 1839.



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UNITED STATES PATENT OFFICE.

SAMUEL H. BROWN, OF WHEELING, VIRGINIA.

MACHINE FOR PUNCHING METAL.

Specification of Letters Patent No. 1,288, dated August 14, 1839.

To all whom it may concern:

Be it known that I, SAMUEL H. BROWN, of the city of Wheeling, in the county of Ohio and State of Virginia, have invented a new and useful Improvement in Lever Punching, Shearing, and Pressing Machines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, making a part of this specification, which is a perspective view.

A is a bench made with four legs, (on which it stands,) one being placed or framed near to each corner, upon which the machine is made fast with screw-bolts that pass through the lugs 5—5 of the bottom plate and bench board. The bolts are made in the usual manner with a head and nut on each.

B, is a casting. The bottom of this part is the before mentioned bottom plate that rests upon the stool or bench. This plate has one lug or ear on each side toward the front end, with a hole that receives the bolt that connects the machine to the bench. There is also a bolt hole near the tail end of this plate, in which a like bolt to the before mentioned is put to assist in fastening the said plate to the bench. Upon the top side of the said plate are two uprights and forming a part of the same casting and at the bases nearly the length of the plates before mentioned and placed a sufficient distance back from the front end of the plate, to receive the die or lower cutter on which the thing to be operated is placed. Those uprights are broad at their base where they connect the plate and diminish toward the top. They stand lengthwise on the plate and rise perpendicular from its surface, leaving a parallel opening to receive the principal lever C. At the top of those uprights is a hole through each at right angles with the parallel opening and receives a bolt that supports the principal lever C at D. On the front edge of the uprights and a short distance from bottom plate up is a flange on the outside of each, projecting horizontally in the form of an ear or lug, with a bolt hole in each piece. To those flanges the punch guides F are made fast with screw bolts. Those bolts are made of a sufficient length to pass through the guide plates and flange with a head and nut in the usual way.

C is the principal lever and is constructed of a sufficient length in front of the bolt D so as to receive the clevis E near the end, and to extend back a sufficient distance from the bolt hole D to give the required power that may be needed and has a curve on top and bottom forming a goose neck at the bolt hole D so as to elevate the front end to make room to receive the clevis. The back or tail end extends back so as to reach and cover in part the friction rollers and is made with an open or open end mortise cut parallel. Through the cheeks or sides of this mortise is a bolt hole to receive a bolt that passes through. In this mortise the cam of the eccentric cam lever is placed. There is a hole in this cam to match the hole in the mortise. Bolt 4 is made of a sufficient length to pass through the mortise and cam and keeps the cam to its proper place and forms that connection with the principal lever. The principal lever is to be of the exact thickness so as to fill the parallel opening formed by the before described uprights so as to free.

D is a large bolt that passes through the before described uprights and principal lever and makes the pivot on which the lever moves and makes the connection, the bolt to be made round with a head on one end and a key hole in the joint.

E is a clevis made with a parallel opening so as to stride over the front end of the principal lever the flat way, extending from top to the lower edge, the lower ends of the clevis to have holes one in each, so as to receive a bolt or T head to pass through under the lower edges of the principal lever. On the top of the clevis that part which rests on the upper edge of the lever has a hole which is screw tapped in which is a set that holds the clevis to place and brings the bolt or T head in contact with the lever at 2.

1 is the piston rod. To the top of the piston there is a right angle called the T head. Both the piston and T head are round. The part of the piston that works in the guide F is to be parallel the points of the T head that works in the clevis to be round to fit the holes in the clevis points at 2, and the top to be rounded that has its bearing with the lever. In the lower end or point of the piston there is an opening or hole the length way so as to insert the punch, die, &c. There is also a small key

hole that passes immediately over the upper end of before mentioned hole at right angle through the piston to receive a key or punch to loosen and remove the punch, die, &c., the punch, die, &c., to be made to suit such purposes as to perform the operation required.

F is the punch guide that keeps the piston to place. The guide is made in two pieces that extend across the uprights that support the principal lever and connect to the flange or lugs on the front of the uprights by means of screw bolts that pass through bolt holes and match the holes in the mentioned flange or lug. In the middle of the punch guide is a semicircle or opening the perpendicular way in each piece and to be of an exact parallel, so as to fit the piston rod and so that when placed together one bearing against the lugs or flanges and back of the piston rod, the other in front of the rod, they form a round hole for the rod to work and makes the attachment with the machine.

G is the lower die plate. The bottom or bed plate has an opening that receives the die, &c., which must be made to suit the kind of die that may be required and the die to vary to answer the different purposes required.

H H, the carriage, is an oblong box open at top and bottom. The opening is parallel each way. The carriage contains two friction rollers in the opening, one in front of the other. The axles of the rollers rest on the journals made in the sides of the carriage box. The rollers are round at their verge and have flat sides, with an axle passing through from side to side. On the verge of this set of rollers the cam of the cam lever acts.

3—3, are the axles of the described rollers; P, the carriage box.

S is an oblong box with a parallel opening, open at top and bottom, and is made with a lug on each side with a bolt hole to admit of screw bolts to attach the box to the before mentioned bench at the back end and immediately under the carriage box P and to be of width and length to receive the carriage box and to allow the carriage to vibrate back and forth without leaving the rollers. The rollers in this are two, one placed at each end of the inside of the opening, with their necks resting on journals made on the top edge of the box at 7—7.

I, is the cam lever. This lever has a broad flat end with the edge or verge round. The hole through (4) is placed off from the center, so as to make an eccentric motion, and is near the connection of the lever with cam. This lever is connected to the principal lever at 4, as before described.

6, 6, 6 are the feet or legs of the bench.

I do not claim the employment of a cam lever for operating the punch, &c., nor do I claim the lessening of friction by means of friction rollers simply, but

What I do claim and desire to secure by Letters Patent is—

The arrangement of the rollers as herein described in combination with the cam lever, that is to say, placing the two rollers on which the cam acts in a box or carriage which travels on another set of rollers in the manner described.

SAMUEL H. BROWN.

Witnesses:
JACOB STROOP,
J. H. SEWELL.