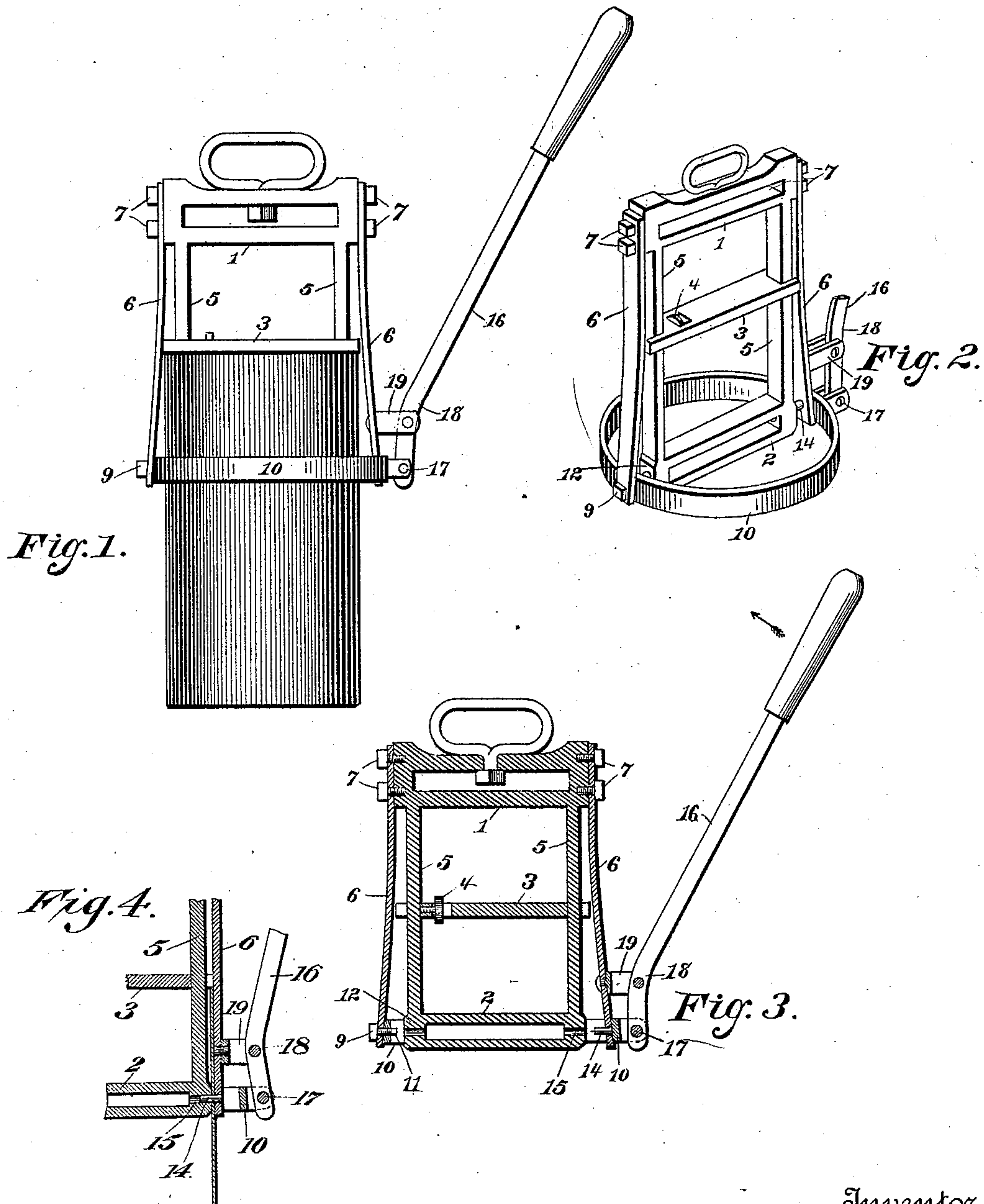


(No Model.)

C. ESHLIMAN.
STOVEPIPE PUNCHING MACHINE.

No. 529,025.

Patented Nov. 13, 1894.



Witnesses

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UNITED STATES PATENT OFFICE.

CHRISTIAN ESHLIMAN, OF GLENWOOD, IOWA.

STOVEPIPE-PUNCHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 529,025, dated November 13, 1894.

Application filed January 4, 1894. Serial No. 495,704. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAN ESHLIMAN, of Glenwood, county of Mills, State of Iowa, have invented certain new and useful Improvements in Stovepipe-Punching Machines, of which the following is a specification, reference being had to the accompanying drawings.

The object of my invention is to produce an improved device for quickly, conveniently and accurately cutting the holes in a stove pipe which form the bearings for a damper to be contained within the same. By the ordinary manual process of punching damper bearings the holes are apt to deviate from the true diameter, and the damper, in turning, to be caused thereby to strike against the sides of the pipe.

By my invention the holes may be punched perfectly true and uniform.

In the accompanying drawings: Figure 1 is a side elevation of a section of stove pipe with my machine in place. Fig. 2 is a perspective view of my machine detached. Fig. 3 is a central vertical section through the body of the machine. Fig. 4 is a detailed sectional view showing the relation of the lever 16, the spring arm 6 and the ring 10.

Referring to the figures on the drawings: 1 indicates a frame which is preferably made of metal and which preferably embodies a cross piece 2 formed therewith or combined therein. This frame is designed to go inside of a stove pipe to be punched. It may be supported by the end of the pipe by means of the projecting ends of a gage piece 3, adjustably supported as by screws 4 to the side piece 5 of the frame. 6 indicates spring metal arms secured as by bolts 7 to the upper end of the frame and extending nearly parallel with the side piece toward the lower end of the frame. One of these arms may be secured as by a bolt 9 to an outside ring 10 and the end of the bolt may extend into the inside of the ring to form a punch 11 in which case it is made of hardened steel.

12 indicates a die preferably of steel adapted to receive the punch 11. The other spring arm is provided with a punch 14 adapted to enter the die 15 carried in the opposite frame side piece.

In addition to the punching mechanism

herein described I employ suitable actuating mechanism for simultaneously driving the punches into their respective dies. For example, I employ a handle 16 pivotally carried upon the ring 10, as indicated at 17. The handle is preferably bent, as indicated at 18 and at its bend is pivotally fastened to a yoke 19 which may impinge against the side of the adjacent arm, or may be loosely fastened thereto. The lower extremity of the handle is secured by any suitable means to the ring 10, as illustrated.

The operation of my device is as follows: The machine having been placed in position upon a stove pipe, the location of the punch upon the pipe being determined by the adjustable gage piece, the upper end of the handle is swung toward the machine. The effect thereof is to force the punch 14 carried upon the spring arm 6 against the pipe, further movement being prevented thereby. The pivotal connection between the handle and the yoke becomes the fulcrum, and the lower end of the handle, to which is secured the ring 10, swings outwardly, the punch 11 being thereby urged against the opposite side of the pipe through the medium of the ring. It will now be seen that continued pressure upon the handle will be met by the opposing resistances of the two punches and as sufficient pressure is applied the punches will simultaneously perforate or puncture the pipe.

What I claim is—

1. In a stove pipe punching apparatus, the combination with a frame adapted to be inserted into a stove pipe, and a plurality of movable arms provided with punches, of a single lever connected at its extremity and at a point intermediate of its ends through intermediate mechanism, with the movable arms, respectively, and adapted by its movement to simultaneously actuate the arms in opposite directions, substantially as specified.

2. The combination with a frame adapted to be inserted into a stove pipe and provided with dies, of a plurality of spring metal arms terminally secured thereto, and provided upon their opposite extremities with punches adapted to co-operate with the dies, and a single lever connected at its extremity, and at a point intermediate of its ends through intermediate mechanism with the spring arms, re-

spectively, and adapted by its movement to actuate said arms in opposite directions, substantially as specified.

3. The combination with a frame adapted
5 to be inserted into a stove pipe provided with movable arms, and an adjustable gage piece, of a single lever operatively connected at its extremity, and at a point intermediate to its ends through intermediate mechanism
10 with the movable arms, respectively, and adapted by its movement to actuate said arms in opposite directions, substantially as specified.

4. The combination with a frame provided
15 with dies, spring metal arms terminally secured, and provided with punches upon their free ends, and an adjustable gage piece, of a single lever operatively connected at its extremity and at a point intermediate of its ends
20 through intermediate mechanism with said spring metal arms, respectively, and adapted by its movement to actuate said arms in opposite directions, substantially as specified.

5. The combination with a frame piece and spring metal arms, of a ring secured to one
25 of the arms, a punch thereon, a handle secured to the ring and in operative relation with the second spring metal arm, a punch secured to said last named arm and dies co-operating with the punches, substantially as
30 and for the purposes specified.

6. The combination with a frame piece and spring metal arms, of a ring secured to one
of the arms, a punch thereon, a handle secured to the ring and in operative relation
35 with the second arm, a punch secured to said last named arm, dies co-operating with the punches and an adjustable gage piece upon the frame, substantially as specified.

In testimony of all which I have hereunto
40 subscribed my name.

CHRISTIAN ESHILIMAN.

Witnesses:

M. H. BYERS,

C. E. DEAN.