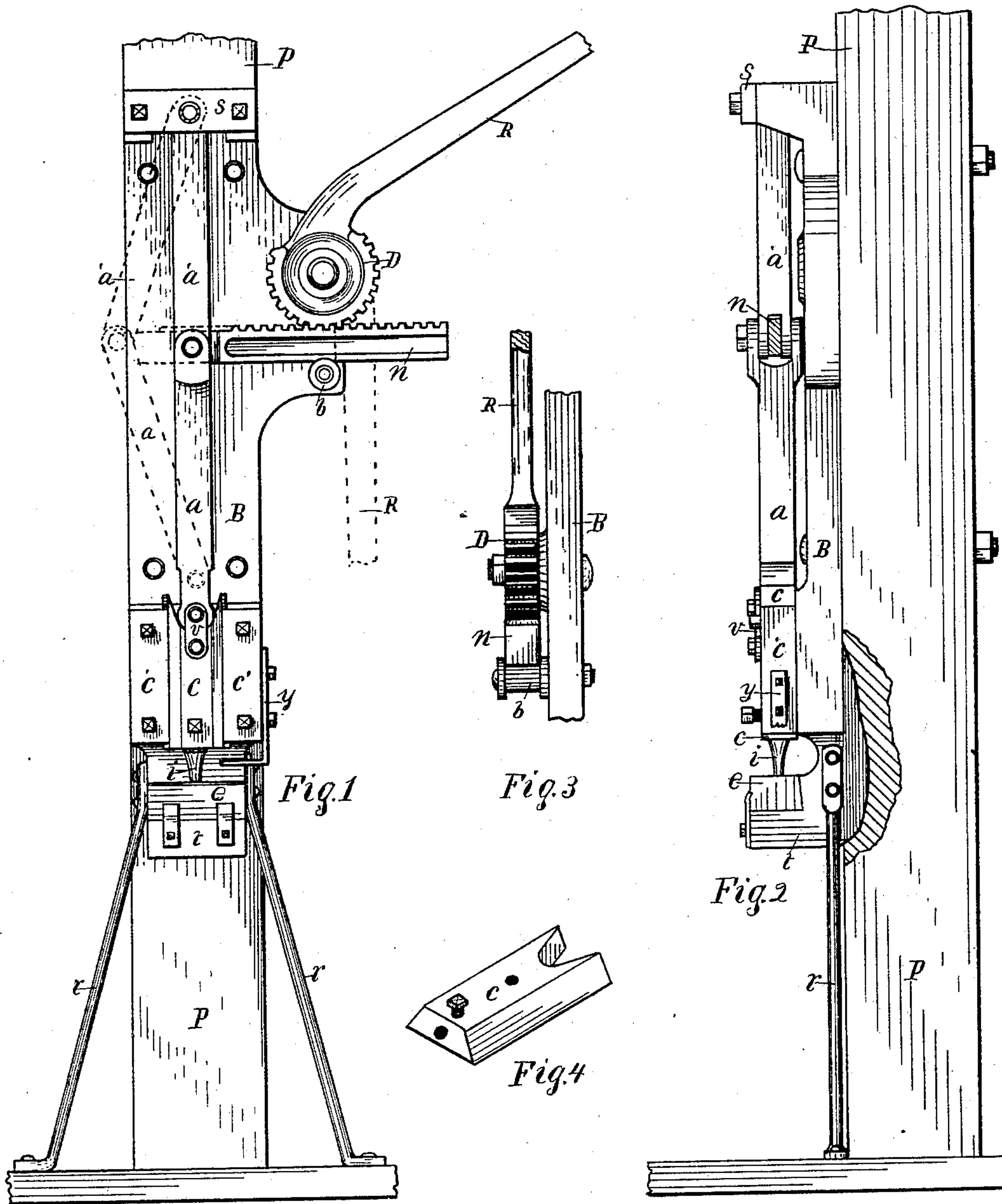


(No Model.)

E. W. STEWART.
PUNCHING MACHINE.

No. 362,190.

Patented May 3, 1887.



Witnesses
Geo. O. Bush
F. C. Battwick

Inventor.
E. W. Stewart
By Geo. F. Fustell
Att'y

UNITED STATES PATENT OFFICE.

ENOS W. STEWART, OF KALAMAZOO, MICHIGAN, ASSIGNOR TO THOMAS
W. STEWART, OF SAME PLACE.

PUNCHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 362,190, dated May 3, 1887.

Application filed April 21, 1884. Renewed April 7, 1887. Serial No. 234,100. (No model.)

To all whom it may concern:

Be it known that I, ENOS W. STEWART, of Kalamazoo, Michigan, have invented certain new and useful Improvements in Hand-Punches for Metals, of which the following is a description.

The object of my invention is to provide the operator having use for such a device, with an instrument that quickly and perfectly perforates the metal as desired.

The accompanying drawings represent my invention and its operation in use.

Similar letters of reference indicate corresponding parts.

In the drawings, Figure 1 represents my device set up in position for use—a face view thereof. Fig. 2 is a side view of the same; Fig. 3, a front view of that part of the device shown by D R B in Fig. 1, and Fig. 4 the punch-block C therein.

More particularly describing my invention, *a a'* represent toggle-bars pinioned at S, making a toggle or elbow joint in the center, and coupled with the punch-head at V, as shown in the drawings. The frame of the machine, B, is bolted or otherwise secured to the post P, stay-rods *r r* firmly holding the frame in place. Upon the lower end of the frame B rests the punch-plate C. The punch is shown by *i*, and is removably attached to the punch-block C, which is cut out at the top, as shown,

and slides up and down in the ways C C', as shown in the drawings.

To the joint in the toggle-bars *a a'* is attached a bar provided with teeth and extending horizontally, as shown in Fig. 1, being held by a spring-plate, B *b'*, or other suitable means, in position, and in gear with a segmental pinion, D, as shown in the drawings.

I operate my device by the arm or lever R attached to the segmental pinion D, the dotted lines R *u'* showing the position of the lever when the toggle-bars *a a'* are in the corresponding position indicated by the dotted lines, Fig. 1, and in the operation of punching pass to the opposite side of the center in the same way, so that by one stroke of the arm or lever R, up or down, the punch *i* is forced through the metal on the punch-plate C, making the perforation, and drawn back free to repeat the operation, as shown.

What I claim as my invention, and desire to secure by Letters Patent, is—

In a hand-punch, the combined use of toggles *a a'*, rack N, and segmental pinion D, constructed and operated substantially as set forth and described.

ENOS W. STEWART.

Witnesses:

O. T. TUTHILL,
F. C. BASTWICK.