

JAMES M. RITER.
Improvement in Machines for Punching and Shearing
Metallic-Plates.

No. 128,250.

Patented June 25, 1872.

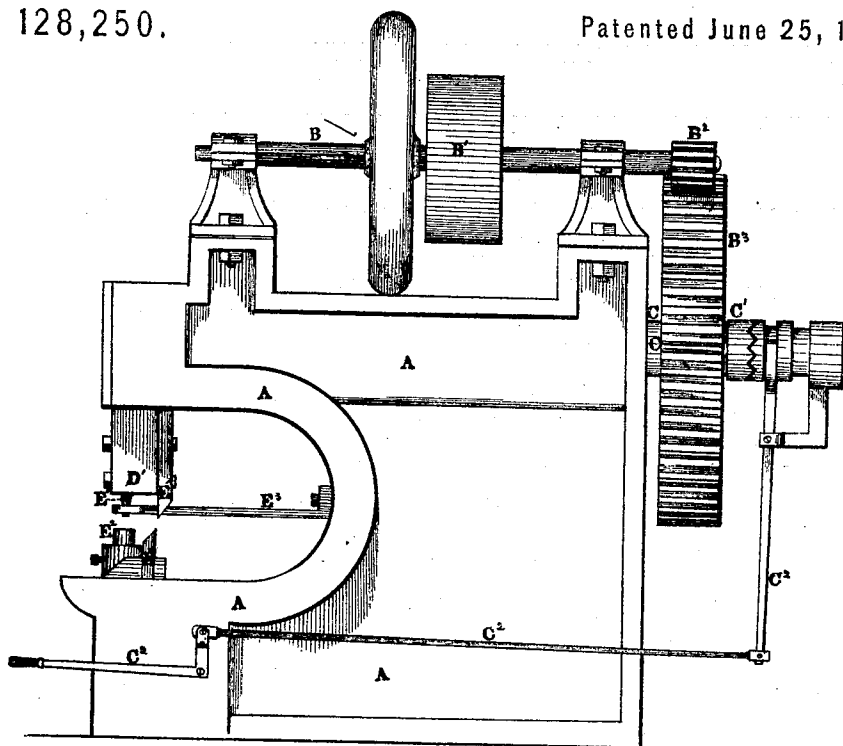


FIG. 1

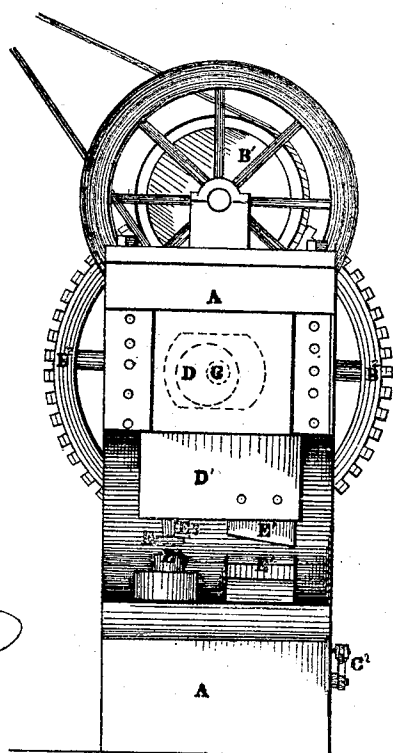


FIG. 2

Witnesses.

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UNITED STATES PATENT OFFICE.

JAMES M. RITER, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN MACHINES FOR PUNCHING AND SHEARING METALLIC PLATES.

Specification forming part of Letters Patent No. 128,250, dated June 25, 1872; antedated June 8, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, JAMES M. RITER, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Punch and Shear; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a side, and Fig. 2 is a front, elevation of my improved machine.

In the manufacture of steam-boilers and other articles of riveted plate or sheet metal, it has been customary first to shear the plate to the required form, and then, on a separate machine, to punch the rivet-holes. This operation involves the construction of two machines, as well as the handling of the iron twice. My improvement consists in combining a punch and shear in one machine, on one ram or sliding mandrel, in such way that, being simultaneously operative, they shall at the one motion both shear and punch the plates or sheets to be operated on. My machine is especially designed for use in connection with devices described in Patent No. 58,676, granted 9th October, 1866, to L. J. Farquhar and myself, but may be used advantageously alone or with other guiding-machines.

To enable others skilled in the art to make and use my improvement, I will proceed to describe its construction and mode of operation.

The frame A is of the usual or any known construction. By means of the shaft B, band-wheel B¹, pinion B², and gear-wheel B³ power

is communicated to the main driving-shaft C. The usual clutch device C¹ and shifting arms and lever C² are employed so as to secure an intermittent motion, at pleasure, in the punch and shear. On the forward end of the shaft C is a cam or eccentric, D, which works in a suitable box or yoke in the sliding mandrel D'. In the lower end of this mandrel D', and relatively so that the line of punching will be the required distance inside the path of the shear, is a punch, E, and also a shear or pair of shears or cutters, E¹. The punch-block E² is of the usual construction, as also the stripper E³. The mandrel D' receives from the eccentric D the usual up-and-down motion.

The operation of the machine is the same as that of the ordinary separately-made punch and shearing machines, except that the line of work for both operations is first laid out, and both operations are carried on simultaneously, the length of cut at each stroke being, of course, equal to the distance from one punch-hole to the next.

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

The combination of the cam or eccentric D, mandrel D', punch E, shears E¹, punch-block E², and stripper E³, arranged, substantially as described, with reference to shearing and punching continuously the edges of metallic sheets.

In testimony whereof I, the said JAMES M. RITER, have hereunto set my hand.

JAMES M. RITER.

Witnesses:

W. N. PAXTON,
JAMES I. KAY.