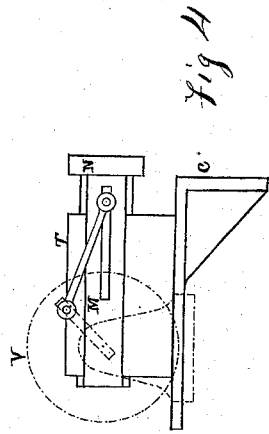
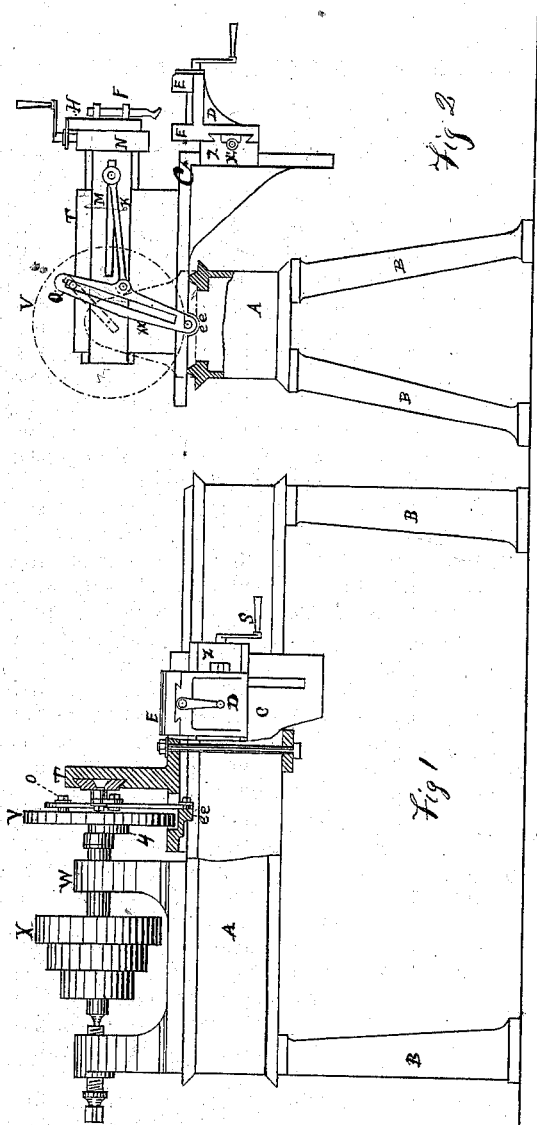


W. E. CASS.

Improvement in Metal Shaping Machines.

No. 130,016.

Patented July 30, 1872.



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# UNITED STATES PATENT OFFICE.

WILLIAM EARLE CASS, OF NEWARK, NEW JERSEY.

## IMPROVEMENT IN METAL-SHAPING MACHINES.

Specification forming part of Letters Patent No. 130,016, dated July 30, 1872.

*To all whom it may concern:*

Be it known that I, WILLIAM EARLE CASS, of the city of Newark, county of Essex, in the State of New Jersey, have invented new and useful Improvements in Combined Lathe and Shaping-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a side elevation of my improved combined lathe and shaping-machine. Fig. 2 is an end view of the same with portions of the head and bed of the lathe removed to display the arrangement of the shaper in position. Fig. 3 is a top view. Fig. 4 is a view of the main part of the shaper attachment, as shown in Fig. 2, with the exception of a different driving connection, which may be preferred in some cases.

The object of my invention is the production of a shaping-machine of which an ordinary lathe may be made to form a part, so as to enable said devices to be furnished at a much less cost than would be possible were each complete within itself, and also to cause them to occupy less room; and it consists, principally, in the peculiar combination of devices for communicating motion to the sliding bar which supports and carries the tool-block.

Letters of same name and kind refer to like parts in each of the figures comprised in the drawing; thus,

A is the lathe-bed; B B, legs; C, bed or base of the shaper; E E, jaws of vise; F, tool; H, slide part of the tool-block; J, handle or crank to operate cutting-tool; K, connecting-rod; M, slide; N, head-block; O, rocker-arm; P, feed-rod; R, ratchet; S, crank; T, guide for the slide M; V, face-plate; W, head; X, cone-pulley; 4, eccentric.

To enable others skilled in the art to make and use my invention, I will describe the same.

I apply my attachment to any ordinary engine-lathe, preferring this to the hand-lathe for its greater width, to which the same may be attached by the usual means of bolting or clamping. The bed or base of the attachment is made of a suitable width and thickness to

make a solid and firm bearing on the lathe-bed; said bed being provided with a drop-face at right angles with the top, to which it is attached, the carriage Z, and jaws E E, with their connections, usual in ordinary shaping-machines, for which I claim no new features. The top of said bed is provided with an elevation, serving as a guide for the slide *m*, both of which are clearly shown in Figs. 2 and 4. This elevation may form a part of, or may be separate from the bed, and be attached by suitable means, the latter, in many cases, being more convenient in fitting up. Connected to and forming a part of said bed or base is an ear, clearly shown in Figs. 1 and 2, at *e e*, to which the rocker-arm *o* is pivoted at its lower end by bolts. This rocker-arm, which is slotted, extends upward and parallel with the face of the wheel-plate V, which is provided with a pin, which enters the said slot for the purpose of transmitting motion to the slide M through the medium of the parallel rod K, which is attached near the center of the rocker-arm, as shown in Fig. 2. These connections are made of wrought or cast iron. I would remark that the wheel-plate V is provided with a slot, for the purpose of adjusting the position of the crank-pin, which engages and operates in the slot of the rocker-arm; thus the position of the pin in the wheel V determines the throw of the slide M. In Fig. 1, at 4, is an eccentric formed on the wheel V, which operates the feed-rod P, which is connected with the ratchet R, constituting the medium through which the feed-motion is applied to the screw which moves the carriage D in the usual manner.

Heretofore the lack of shaping-machines for use in small workshops has been felt to a large extent in consequence of the excessive cost of such machines when complete within themselves. Thus the advantages obtained by my invention are the combination of parts heretofore existing in other machines with new additions, in such a manner that a material reduction in cost is secured, and a corresponding reduction gained in the space necessary for their proper use.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. The combination of the slotted face-plate V, adjustable crank-pin, rocker-arm O, rod K, connected to the rocker-arm, and the tool-slide M, substantially as specified.
2. The combination, with the subject-matter of the preceding claim, of the lathe-shears and head, the work-holding device, and mechanism to impart movement to said device, substantially as set forth.

WM. EARLE CASS. [L. S.]

Witnesses:

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J. A. CODY.