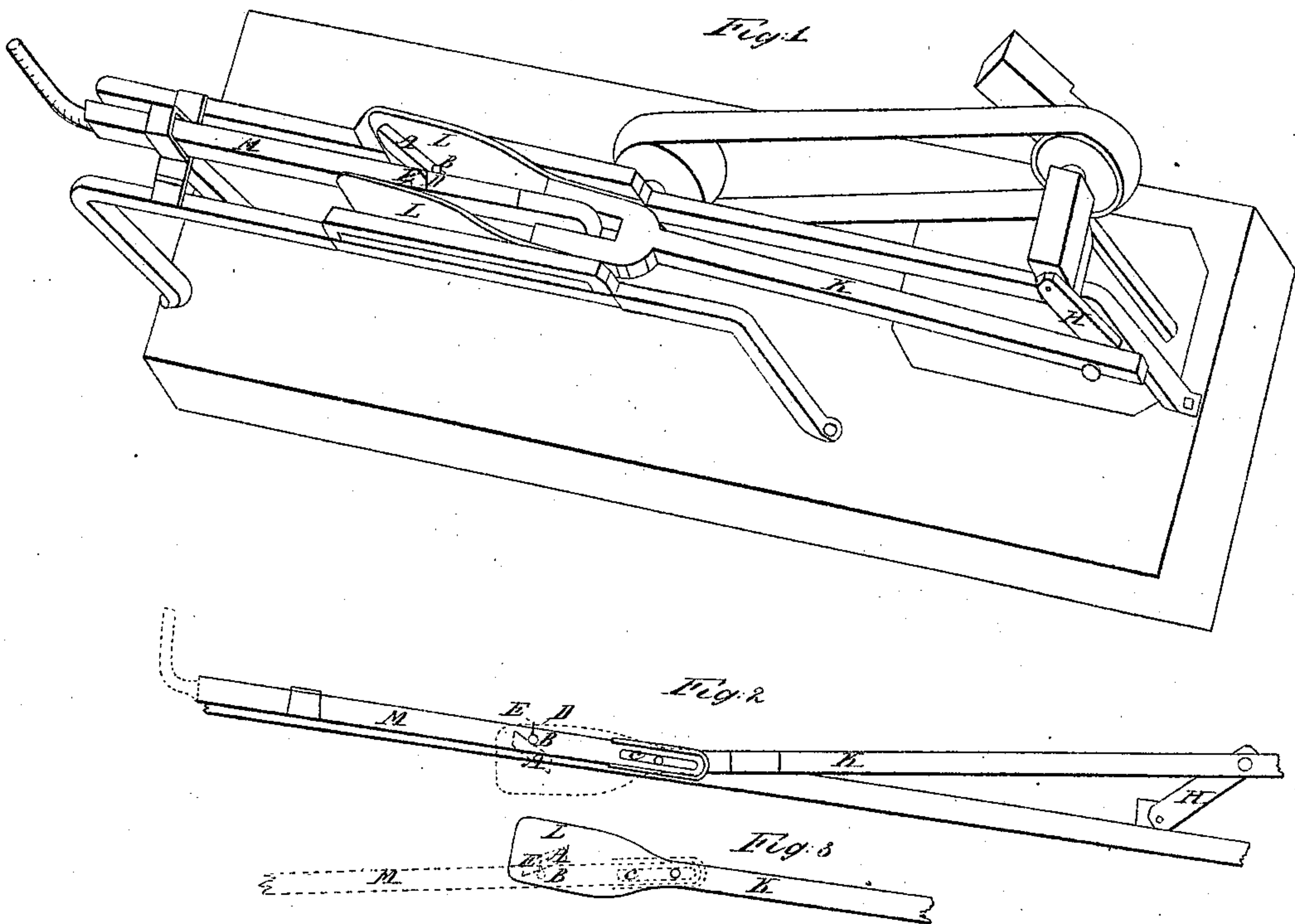


E. P. Curtiss,
Connecting Rod.

N^o 62,825.

Patented Mar. 12, 1867.



witnesses
H. B. Davis
Edwin E. Pratt

Inventor
Edward P. Curtiss

United States Patent Office.

EDWARD P. CURTISS, OF MADISON, WISCONSIN.

Letters Patent No. 62,825, dated March 12, 1867.

IMPROVEMENT IN CONNECTING PISTON-RODS FOR STEAM AND OTHER POWERS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, EDWARD P. CURTISS, of Madison, in the county of Dane, and State of Wisconsin, have invented a new and improved Mode of Connecting and Piston-Rods for Steam or other Powers, to avoid centres; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon.

The nature of my invention consists in providing the connecting-rod with suitable parallelograms at a certain distance from the pin passing through it to the guide-box, and the piston-rod with a slot at the outer end, and a pin to correspond with the parallelograms working upon the angular sides, forming a lever power forcing it past the centres.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation, making references, in so doing, to the letters and figures in the accompanying drawing, of which—

Figure 1 represents a perspective view.

Figure 2, a sectional view, showing the inward backward motion as the connecting-rod is raised over the centre.

Figure 3, a sectional view of the connecting-rod as it is forced past the centre on the inward forward motion.

I construct my connecting-rod K with suitable flanges L L on the inner end, to place two parallelograms, A A, with their shortest points on a line with the centre of the connecting-rod K, the thickness of the pin B above and below, as represented in figs. 2 and 3. I provide the piston-rod M with a suitable slot, C, in the outer end to allow the pin B to pass around the parallelograms A A; also with a movable pin, B, which coming in contact with the angular sides of the parallelograms A A forms a lever power which causes the outer end of the connecting-rod to raise or lower, as the case may be, according to the position of the crank H. I provide the pin B with a suitable pin, E, and slot D, to move it to the opposite side of the piston-rod M to reverse the motion. The parallelograms A A are placed at opposite angles from each other, and must be constructed in size and shape to correspond with the length of stroke, length of the slot C, and the distance of the pin B from the slot C. The longer the slot C, and the farther the pin B from the slot C, the more power is gained in passing the centres.

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

The parallelograms A A, the flanges L L that support them, the pin B that works on the angular sides of the parallelograms A A, the pin E, and slot D, which moves the pin B to the opposite side of the piston-rod M, which reverses the motion, and the slot C, which allows the piston-rod M more stroke for the pin B to pass around the parallelograms A A, coming in contact with their angular sides, forces the connecting-rod past the centres to work substantially as herein set forth.

EDWARD P. CURTISS.

Witnesses:

R. J. TAYLOR,

A. O. KENDALL.