

C. R. Joyce,

Cross Head Shifter.

No. 99,686.

Patented Feb. 8. 1870.

Fig. 1.

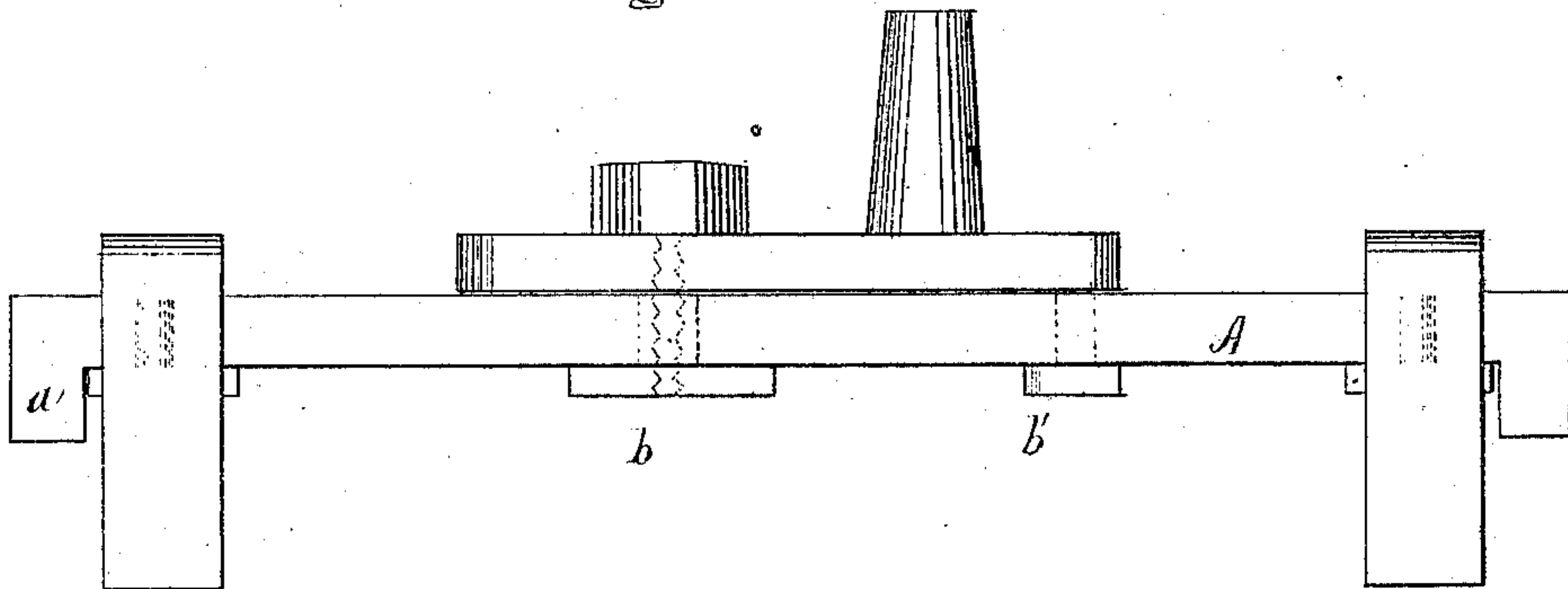


Fig. 2.

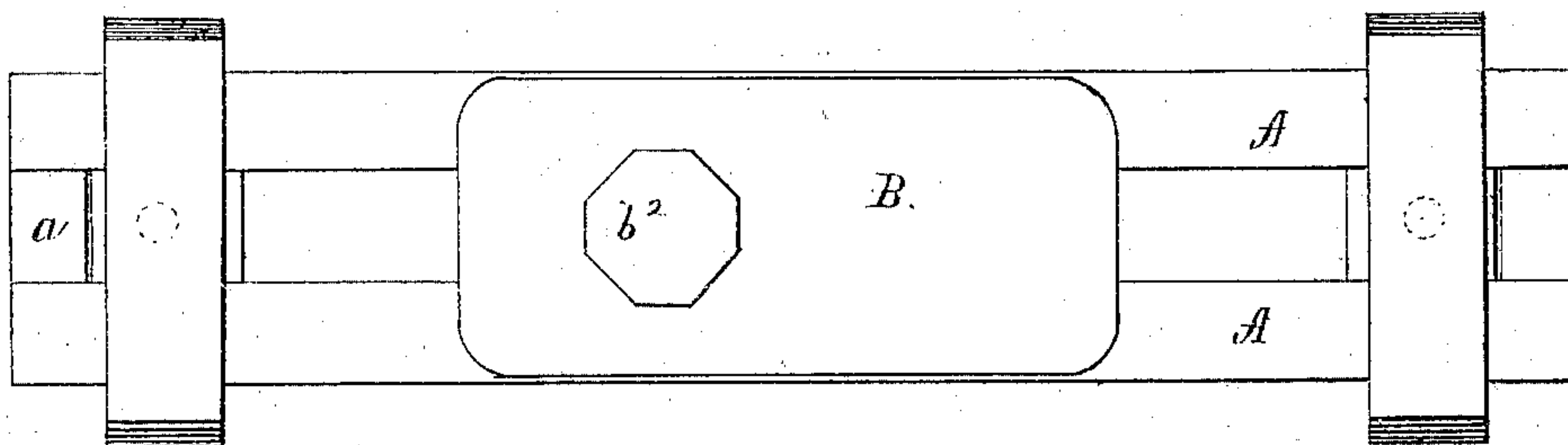
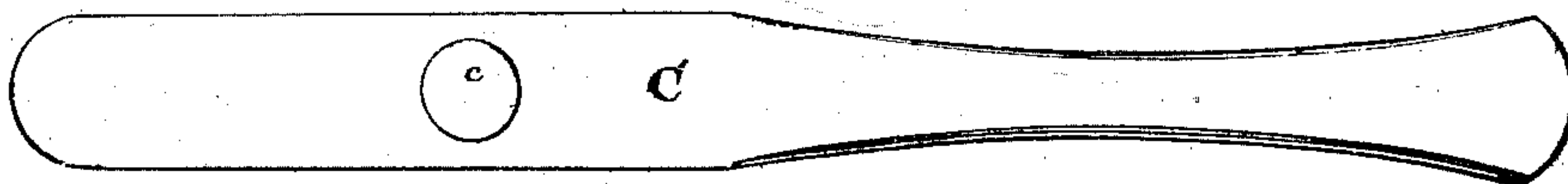


Fig. 3.



C. R. Joyce, Inventor

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Witnesses:

J. H. Piron

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by

United States Patent Office.

CHARLES R. JOYCE, OF ALEXANDRIA, VIRGINIA.

Letters Patent No. 99,686, dated February 8, 1870.

IMPROVEMENT IN CROSS-HEAD SHIFTER.

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, CHARLES R. JOYCE, of Alexandria, in the county of Alexandria, and State of Virginia, have invented a new and useful Improvement in Cross-Head Shifters; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention has for its object the production of a simple device for moving the cross-heads of locomotive-engines, for the purpose of filing the brasses, when they become worn; and, to that end, consists in the combination of parallel bars, with a sliding fulcrum and adjustable straps. The details of construction will be fully described hereinafter.

In the drawings—

Figure 1 represents a side elevation of my improved device;

Figure 2, a plan view; and

Figure 3, a plan view of the lever.

To enable others skilled in the art to make and use my invention, I will now proceed to fully describe its construction and operation.

A A represent parallel bars, which are secured together at the ends by means of the cross-bars *a a*.

B represents a sliding plate, secured to the bars A A, by means of the bolt *b* (which passes between them) and the guide *b*¹.

The bolt *b* is provided, at its upper end, with a nut, *b*², by means of which the plate is securely clamped to the bars A A, or loosened, so as to be free to slide thereon.

The plate B may be provided with a pin, *b*³, as shown in fig. 1, on which is placed the lever C, provided with the orifice *c*, for that purpose. This pin, however, is

not essential, as the plate itself can be used as a fulcrum.

D D represent straps or bands, consisting of the cross-bar *d* and arms *d'*, which are secured to the bars by means of bolts, as shown. These straps are adjustable upon the bars, and may be secured in any desired position, by means of the nuts upon the bolts.

The operation is as follows:

The bars A A are laid upon the top of one of the guides of the engine, the arms of the straps D extending down upon each side, to prevent them from moving laterally. The sliding plate B is now adjusted upon the bars, until it is brought into such relation with the cross-head that the lever C can be used advantageously to move it in the desired direction. The cross-head may now be shifted by means of the lever, and the sliding plate be readjusted for a new purchase. This operation should be repeated until the cross-head is moved far enough to permit the removal of the brasses.

The herein-described device is simple in all its parts, and can be applied to most of the forms of engines now in use.

Having thus fully described my invention,

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

The device described, consisting of the bars A A *a a*, sliding plate B, with bolt *b* and nut *b*², and straps D, when combined and arranged as described, for the purpose set forth.

This specification signed and witnessed, this 1st day of January, 1870.

CHARLES R. JOYCE.

Witnesses:

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