J. F. Mc CUTCHEN.

Eccentric-Rods for Steam-Engines.

No. 137,227. Patented March 25, 1873.

Fig. 1.

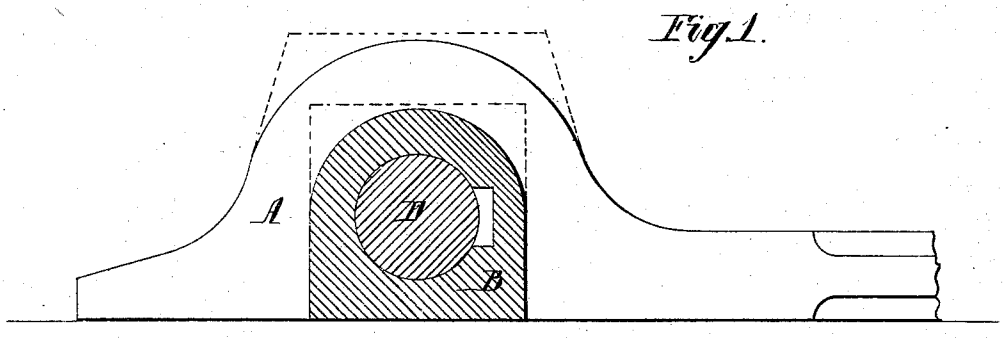



Fig. 2.

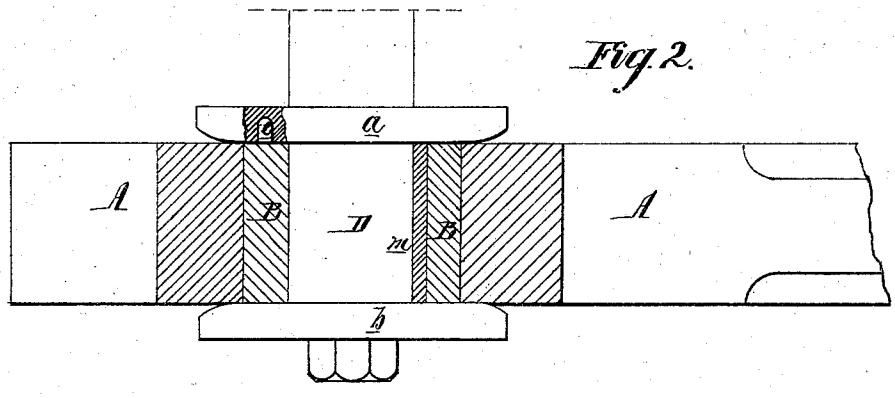



Fig. 3.

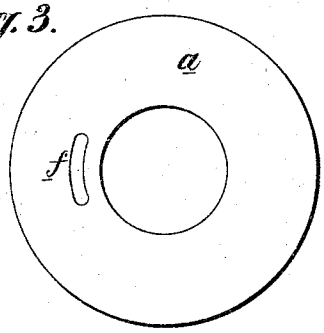
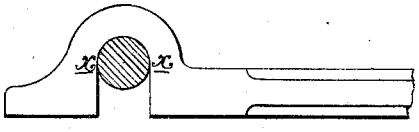



Fig. 4.




Witnesses.
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W. T. Hutchinson

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# UNITED STATES PATENT OFFICE.

JOHN F. McCUTCHEN, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN ECCENTRIC RODS FOR STEAM-ENGINES.

Specification forming part of Letters Patent No. **137,227**, dated March 25, 1873.

*To all whom it may concern:*

Be it known that I, JOHN F. McCUTCHEN, of the city and county of Philadelphia and State of Pennsylvania, have invented an Improvement in Eccentric-Rods for Steam-Engines, of which the following is a specification:

The object of my invention is to obviate the undue wearing of the ends of eccentric-rods where they bear on the pins of valve-levers in steam-engines, the wear of the pins themselves being also diminished by my invention.

I attain these results by adapting the end A of the eccentric-rod to a block, B, in which the pin D of the valve-lever has its bearing, as shown in Figure 1. This block B as well as part of the rod A fits snugly between the fixed collar *a* and detachable collar *b* on the pin D, as shown in the sectional plan, Fig. 2, and the end of the eccentric-rod can be elevated above and freed from the block, and readjusted to the same. In order to prevent the block from turning beyond a given distance on the pin D, after the eccentric-rod has been raised, a small pin, *e*, on the block, Fig. 2, enters a segmental recess, *f*, Fig. 3, in the fixed collar *a*, this recess being of sufficient length to permit the turning of the pin in the block to the limited extent demanded by the vibrating of the valve-lever, and yet so restricted in length as to prevent the block from being displaced to any undue extent when the eccentric-rod is elevated.

As ordinary eccentric-rods have a simple recess or socket fitting directly on the pin of the valve-lever, as shown in Fig. 4, a rapid wearing of both pin and rod, especially of the latter at the points *x x*, necessarily occurs, and it will be evident that this is obviated by my invention, the circumferential bearing of the pin preventing undue wearing of the same, and the intervention of the block preventing all wear on the rod.

If desired, the shape of the block and end of the eccentric may be as shown by dotted lines in Fig. 1.

A key, *m*, may be inserted in a groove in the block, and may be set up from time to time by packing-strips at the back.

I claim as my invention—

1. A block, B, adapted to and entirely surrounding the pin D of a valve-lever, and fitted to the end of an eccentric-rod, all substantially as set forth.

2. The combination of the pin *e* of the block B with the segmental recess *f* of the collar *a*, substantially as and for the purpose described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN F. McCUTCHEN.

Witnesses:

WM. A. STEEL,

JOHN K. RUPERTUS.