F. B. RICE.

BED-FRAMES FOR STEAM-ENGINES.

No. 187,984. Patented March 6, 1877.

Fig. 1.

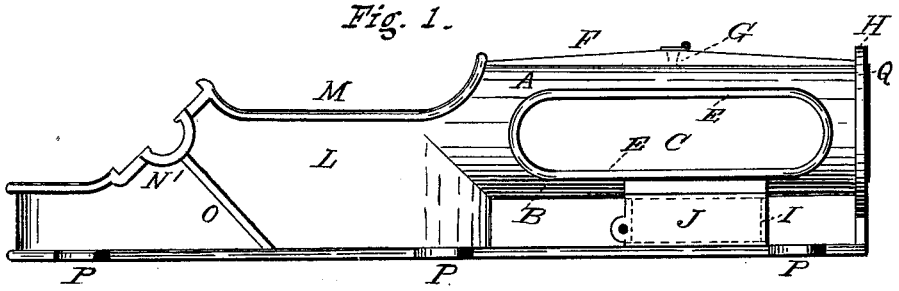


Fig. 2.

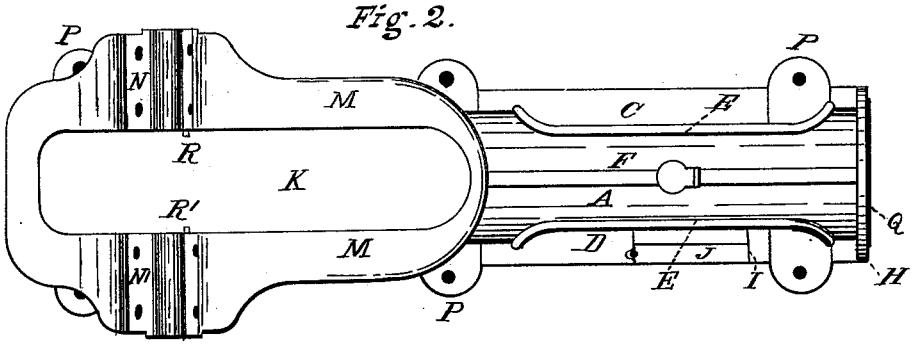
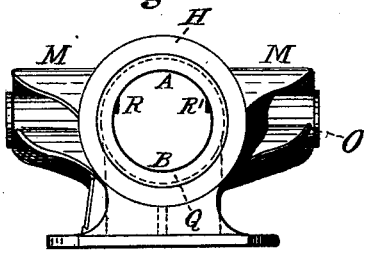


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

FREDERICK B. RICE, OF DUNKIRK, NEW YORK.

IMPROVEMENT IN BED-FRAMES FOR STEAM-ENGINES.

Specification forming part of Letters Patent No. **187,981**, dated March 6, 1877; application filed November 24, 1876.

To all whom it may concern:

Be it known that I, FREDERICK B. RICE, of Dunkirk, in the county of Chautauqua and State of New York, have invented certain new and useful Improvements in Bed-Plates for Steam-Engines, which improvements are fully set forth in the following specification, reference being had to the accompanying drawings.

The object of this invention is to produce a bed-plate having the greatest strength in proportion to the amount of material used, and so formed that it may be easily molded in a two-part flask, and so that it will require the least possible amount of fitting.

It consists of a double-crank bed-plate having cylindrical slideways, a cylinder-flange, two pillow-blocks, an oil-cup and tool-chest, and guide-pieces on the inner ends of the pillow-blocks, for the purpose of guiding the shaft and holding it truly in position while casting the lining of bearings, all so formed and combined that they may be molded in a two-part mold, and cast or formed in one piece, so as to afford a convenient means for a perfect alignment of all the parts, as follows: the cylinder, the slideways for the cross-head slides, and the crank-shaft, as will be more clearly hereinafter shown.

In said drawings, Figure 1 represents a side elevation; Fig. 2, a plan or top view, and Fig. 3 is a back-end view.

A B represent the cylindrical slides. C D are openings through the sides, having moldings E, for increasing the strength and adding to the appearance of the same. F is a rib for strengthening the slide A. G represents an oil-cup; H, the cylinder-flange. I is a tool-chest, to which a cover, J, may be connected by means of hinges, or it may be made to slide in place, as shown. K represents an opening or space for the connecting-rod and crank. L represents the sides inclosing said space, which is strengthened by the flange M. N N′ are the pillow-blocks. O is a rib for supporting them, and P represents the feet or parts by which the bed-plate is bolted in place. The pillow-blocks are arranged for babbitting the holes therein being formed by the mold. Q represents a narrow rib or fitting-strip on the cylinder-flange. R R′ are small projections on the pillow-blocks.

It will be readily seen that if the front parts of said projections are turned up, (which is done with the same tool that bores the slideways,) they will present a surface exactly at right angles to the bore of the slideways, and, consequently, at right angles to the bore of the cylinder when turned up and fitted to the flange H, and that if the inner sides of said projections be turned they will be in perfect line with the bore of said slideways and cylinder, thereby affording a more perfect and easy means of alignment for all the parts than the ordinary methods employed for that purpose, and also providing the means for conveniently holding the crank exactly at right angles to the line of the slideways and cylinder while lining the bearings with Babbitt or other equivalent material.

This bed-plate is so formed as to insure great strength in proportion to the amount of material used in its construction, all the parts being arranged so that it can be cast in one piece, and so that it will require but little fitting. It is placed upon the carriage of a lathe, with a suitable boring-bar in the centers, and is bored out, at the flange end, the length of the slides, also the two small projections R R′ on the pillow-blocks, all the same size. When the boring is finished, a facing-tool faces the narrow rib Q on the flange at one cut, and the main work is done, no machine-work remaining except the drilling of the holes for the cylinder-flange.

The pillow-blocks are cored, holes and all, and the inside faces of the same are made by means of a mandrel having flanges to fit between the projections R R′, the binders are put on, and Babbitt metal is run in, in the usual way.

I claim as my invention—

In a double-crank bed-plate, the cylinder-flange H, cylindrical slides A B, pillow-blocks N N′, and projecting pieces R R′, all combined and arranged substantially as and for the purposes specified.

F. B. RICE.

Witnesses:
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