J. F. BLACK.

ROLLING-MILL TENDERS.

No. 194,403. Patented Aug. 21, 1877.

Fig. 1.

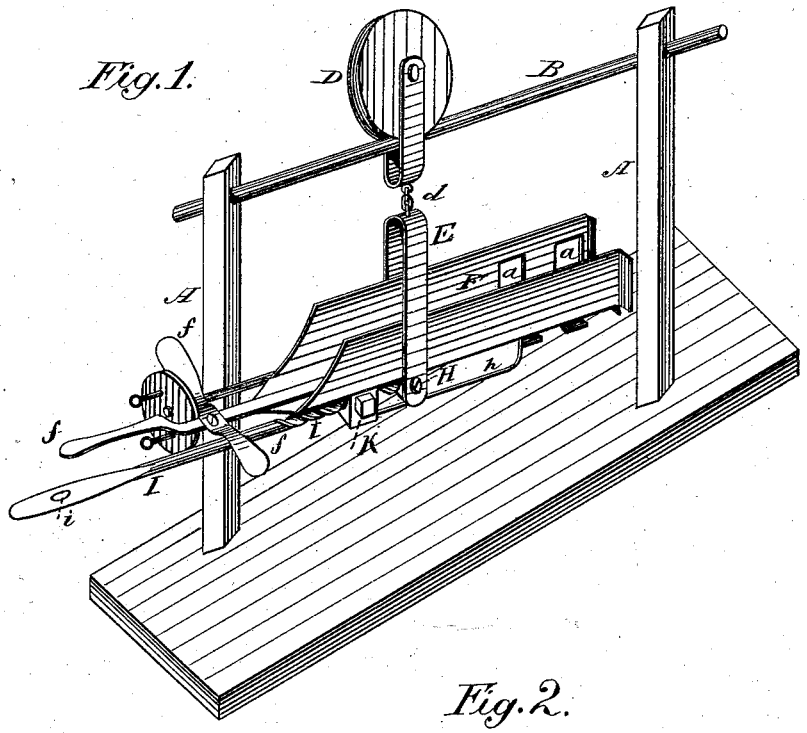


Fig. 2.

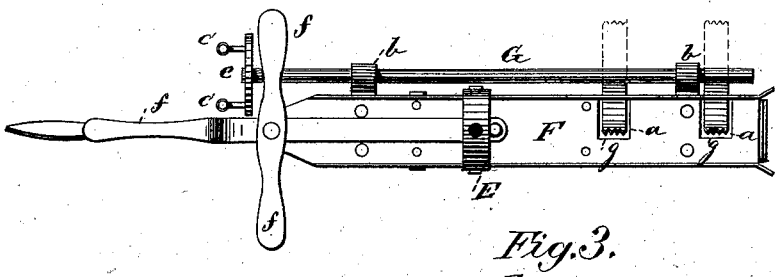
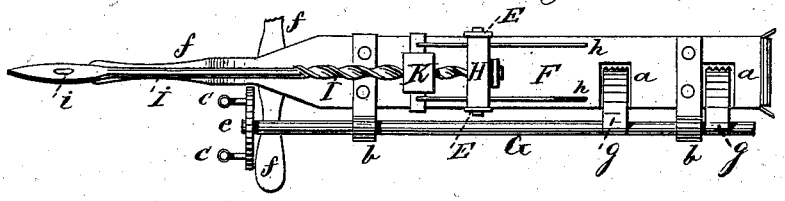


Fig. 3.



Attest:

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UNITED STATES PATENT OFFICE.

JAMES F. BLACK, OF OSHKOSH, WISCONSIN.

IMPROVEMENT IN ROLLING-MILL TENDERS.

Specification forming part of Letters Patent No. **194,403**, dated August 21, 1877; application filed March 6, 1877.

To all whom it may concern:

Be it known that I, JAMES F. BLACK, of Oshkosh, in the county of Winnebago and State of Wisconsin, have invented certain new and useful Improvements in Rolling-Mill Tenders; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view, showing the standards, cross-beam, and pulley for operating my device. Fig. 2 is a top plan, and Fig. 3 is a bottom plan.

Similar letters of reference indicate corresponding parts in all the figures.

This invention relates to that class of devices used in rolling-mills for the purpose of handling the heated bars of iron and conducting them into the rolls; and it consists in the construction and arrangement of parts, as hereinafter more fully described, and pointed out in the claims.

In the drawing, A A are the standards or uprights, secured firmly in the ground, one just outside of the furnace and the other opposite to the end of the rolls. The uprights A A are united by a cross-beam, B, the latter occupying an oblique position, reaching from the furnace to the rolls. D is a pulley, which runs upon beam B between uprights A A. Upon the pulley D is hung, by a heavy chain, *d*, the bail E, which forms a hinged bearing for the apparatus which holds and operates the bar of iron. This apparatus consists of an oblong rectangular box or chute, F, having arms or handles *f* projecting from its rear end, and having rectangular slots (denoted by *a*) in the fore part of its bottom and one of its sides. *b b* are arms or brackets projecting sidewise from the box F, and forming bearings for the rotating rod G. The latter is provided with curved clutches or "cats-paws" *g g*, which move within the slots *a a* on the side and bottom of the box F. The rod G may be rotated by means of handles *c*, affixed upon the disk *e* at the end of the rod. The bail E is hinged upon a block, H, which slides on guide-rods *h h* affixed upon the bottom of box F, as shown in Fig. 3. I is a screw, which passes through the screw-threaded block K, affixed upon the bottom of the box F, and is pivoted, at its forward end, in the sliding block H. The screw I may be turned either way by levers or crow-bars inserted through the bail or eye *i*.

From the foregoing description the operation of this apparatus will be readily understood. The heated bar of iron having been placed in the box or chute F, this is rolled by means of the pulley D and beam or rail B in front of the rolls, being kept suspended opposite to that set which it is desired to use. When this position has been attained the box F is advanced against the rolls by operating the screw I, the bar of iron being turned within the box by the cats-paws *g g*, operated as described. During this operation the box F is readily kept in its position and guided by means of the handles *f*.

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

1. The combination of the box or chute F, having guide-rods *h h*, with the bail E, sliding block H, and operating-screw I, substantially as and for the purpose hereinbefore set forth.

2. The combination of the box or chute F, having slots or cut-outs *a a*, with the rotating rod G, having cats-paws *g g*, substantially as and for the purpose hereinbefore set forth.

3. The improved rolling-mill tender herein described, consisting of a box or chute, F, bail E, sliding block H, operating-screw I, and rotating turning-rod G, the whole constructed and arranged for operation substantially as and for the purpose herein shown and specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JAMES F. BLACK.

Witnesses:

C. D. CHURCH,

A. C. VANDEWATER.