T. JAMES.

Ingot Mold-Stripper.

No. 199,553. Patented Jan. 22, 1878.

Fig. 1.

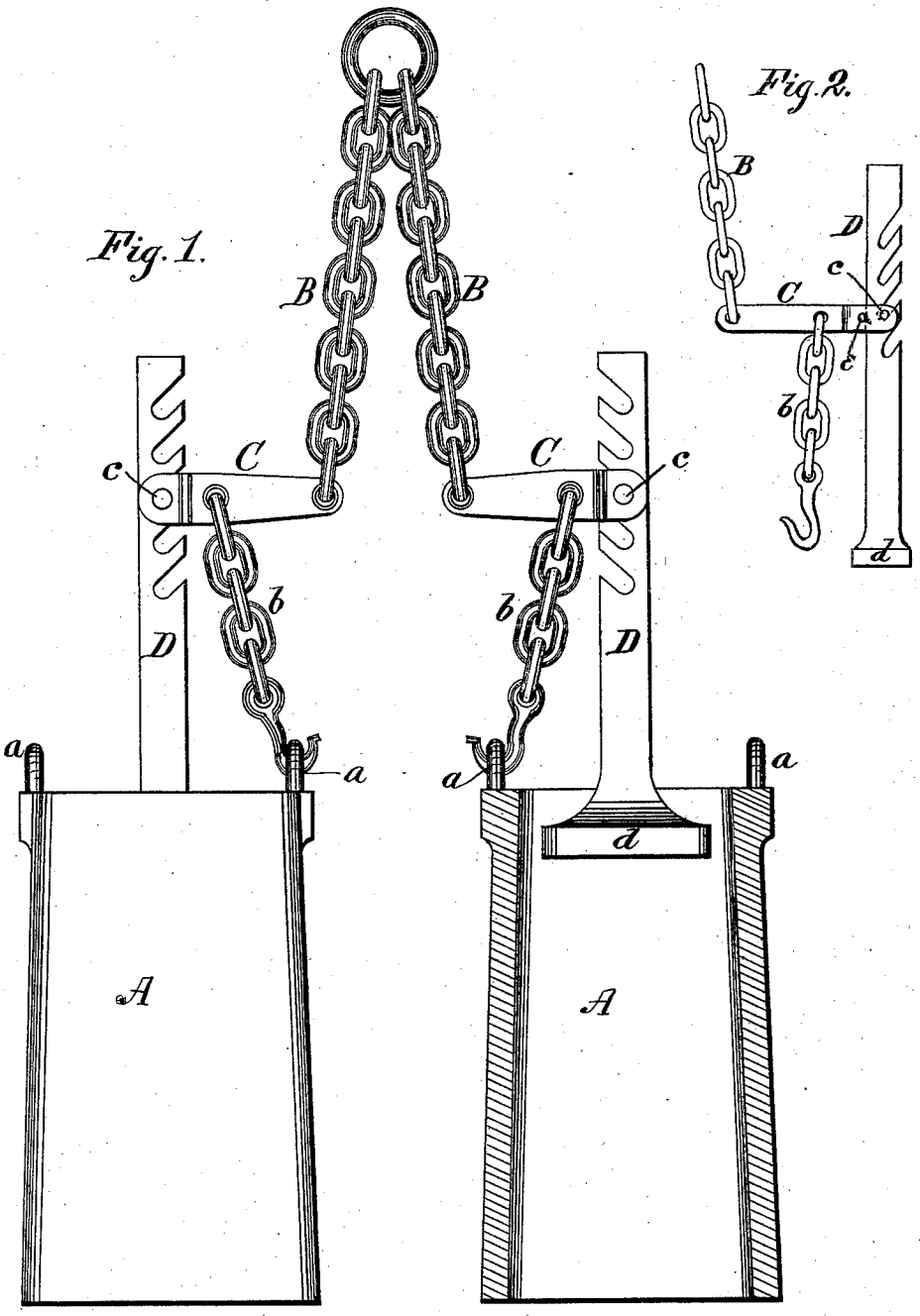

Fig. 2.

Witnesses

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THOMAS JAMES, OF BRADDOCKS, PENNSYLVANIA.

IMPROVEMENT IN INGOT-MOLD STRIPPERS.

Specification forming part of Letters Patent No. **199,553,** dated January 22, 1878; application filed November 19, 1877.

To all whom it may concern:

Be it known that I, THOMAS JAMES, of Braddocks, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Ingot-Mold Strippers; and I do hereby declare the following to be full, clear, and exact description of the same, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a front elevation, partly sectional, showing my invention as applied in duplex form to a pair of ingot-molds. Fig. 2 is a modification.

This invention relates to devices for stripping molds; and consists in parting the chain of a hoisting apparatus and attaching its upper portion to the end of a lever, its lower portion to an intermediate point of the lever, and leaving the other end of the lever to effect the ejection of the ingot from the mold in the effort to lift; and further consists in the construction and arrangement of parts, substantially as hereinafter fully described and claimed.

Heavy ingots, such as those used in making rails, girders, &c., are usually cast in iron molds, and after casting are removed from the molds by attaching the crane-hook to a bail on the mold and hoisting it till the ingot drops out of the open bottom of the mold. But frequently, and especially when the molds, through use, have become rough, the ingot will not drop out, but clings to the mold, and recourse is had to the blows of a heavy sledge in order to strip the mold of its ingot. This is liable to crack or break the mold, and, besides giving unnecessary trouble to the workmen, causes a waste of valuable time—a serious thing in a large Bessemer plant, for instance, where the blows succeed each other rapidly and the pit must be kept well cleared.

To obviate these difficulties I proceed as follows:

A designates an ingot-mold, having one or more bails, *a*. I part the hoisting-chain of the crane near its end, B designating the upper portion, and *b* the lower. I attach the end of part B to the end of a bar or lever, C, and to a point on lever C intermediate between its ends I attach the lower part *b* of the chain. The lever C at its other end is bifurcated to embrace a plunger, D, which may have an enlarged base, *d*, or not. Plunger D has several inclined slots in one edge to form an adjustable seat for a pin, *c*, which crosses the bifurcation of lever C.

The plunger may be inserted in the lever, either as shown in Fig. 1, or with slots facing the other way, as in Fig. 2, in the latter case being held in position by a pin, *e*, inserted in the lever at the rear edge of the plunger.

Thus constructed the operation is as follows: Chain *b* is hooked to the bail of the mold, and the plunger resting upon the top of the ingot is adjusted in the lever, so that when pin *c* is in its proper slot the lever will be about horizontal. Now the crane is put in motion, and pulls upward on the lever at that end; but as the opposite end of the lever rests in the slot of the plunger which rests upon the ingot, which, in turn, rests upon the ground, it follows that the plunger end of lever C cannot move downwardly. Consequently it becomes a fulcrum, and the chain *b* pulls with great force upon the mold, which must give way. All this takes but an instant's time to accomplish.

I prefer the arrangement of the plunger as shown by Fig. 1, because, after being used, the plunger falls to the ground, and is out of the way until an ingot is found refractory, when it is readily adjusted. Thus time is saved and breakage of molds avoided.

The device may be attached in duplicate, as shown in Fig. 1, though this is not necessary.

I claim as my invention—

1. As a means of stripping molds, a lever inserted in the tackle of a hoisting apparatus, which tackle is attached to the mold and provided with means of bearing upon the contents of the mold, substantially as described.

2. The combination of chains B and *b*, lever C, and plunger D, substantially as described.

3. The combination of chain B, chain or grapple *b*, lever C, bifurcated at one end, and having cross-pin *c*, with plunger D, provided with one or more inclined open slots, substantially as specified.

In testimony whereof I have hereto set my hand this 6th day of November, 1877.

THOMAS JAMES.

Witnesses:
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