(No Model.)

2 Sheets—Sheet 1.

R. T. WALKER.

LADLING DEVICE.

No. 581,949. Patented May 4, 1897.

Fig. 1.

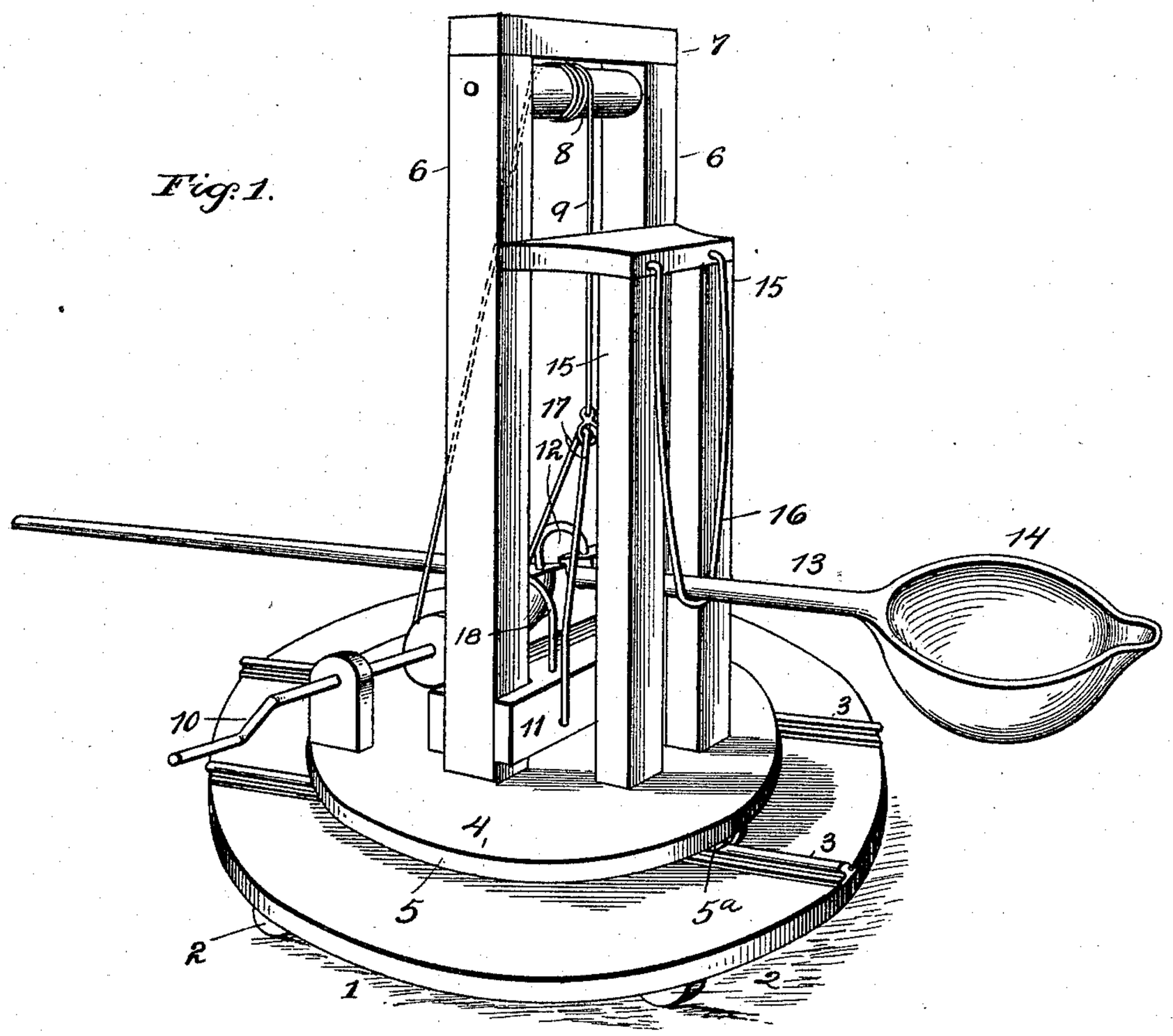
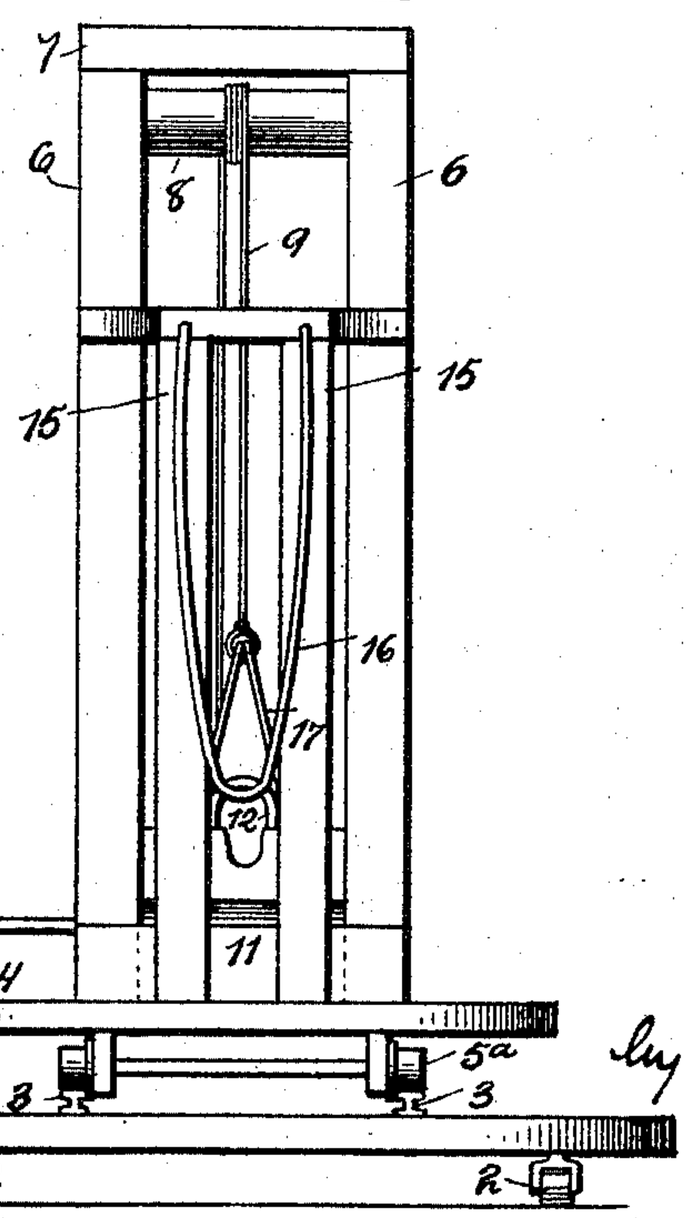


Fig. 2.



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(No Model.)

2 Sheets—Sheet 2.

R. T. WALKER.

LADLING DEVICE.

No. 581,949. Patented May 4, 1897.

Fig. 3.

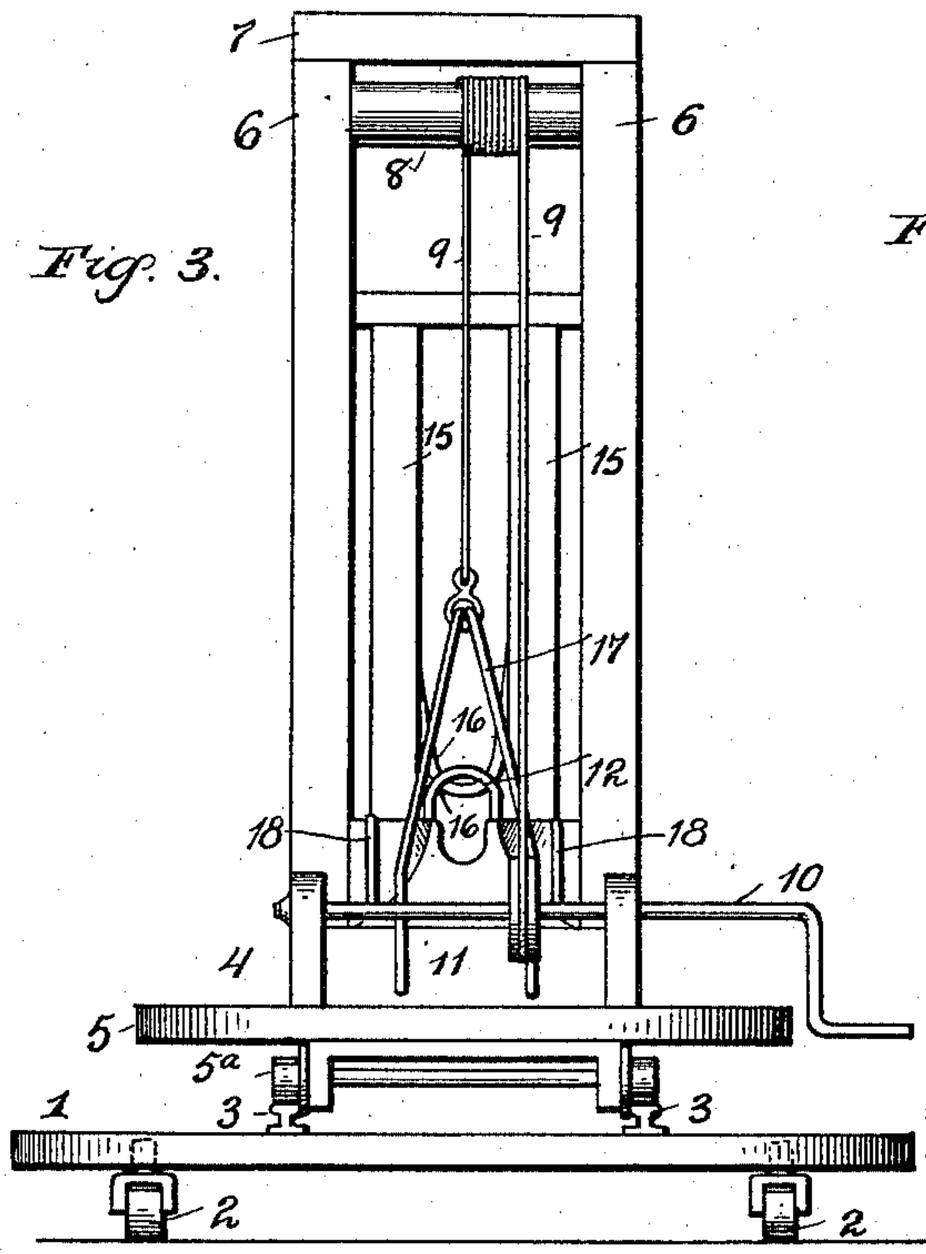


Fig. 4.

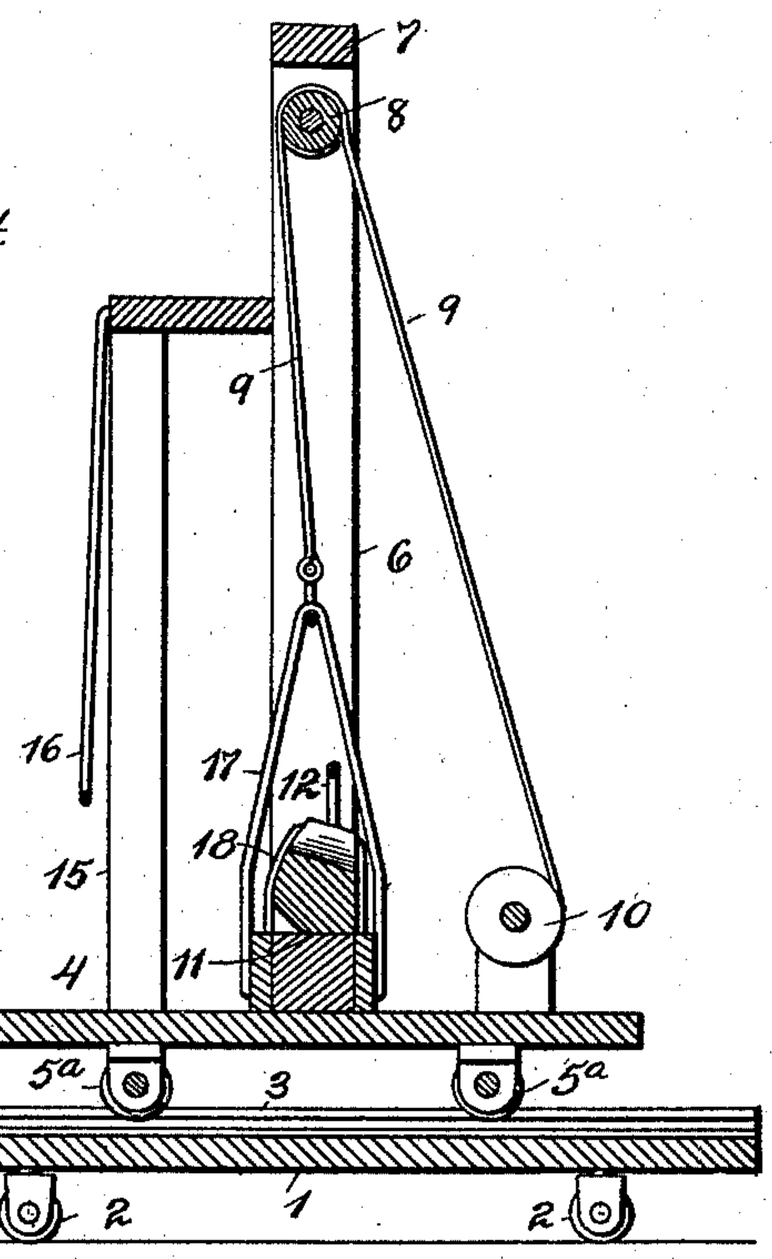


Fig. 5.

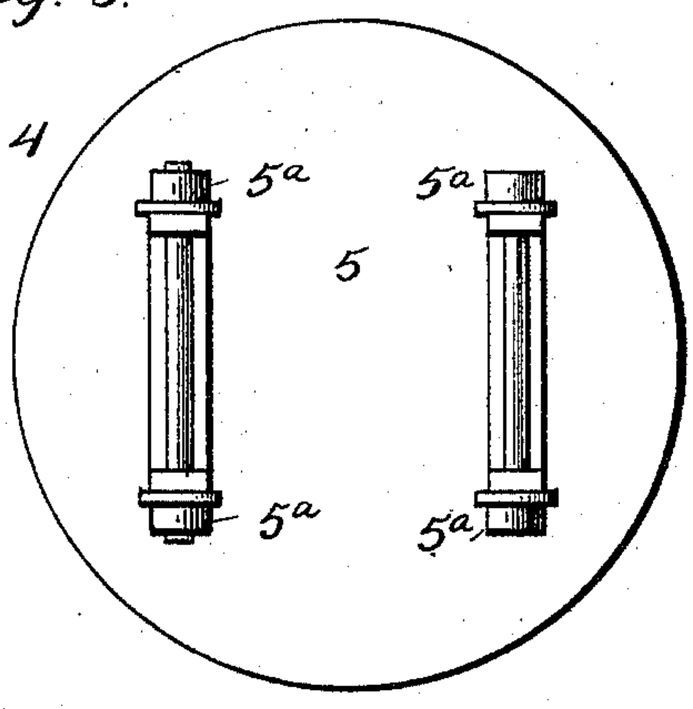
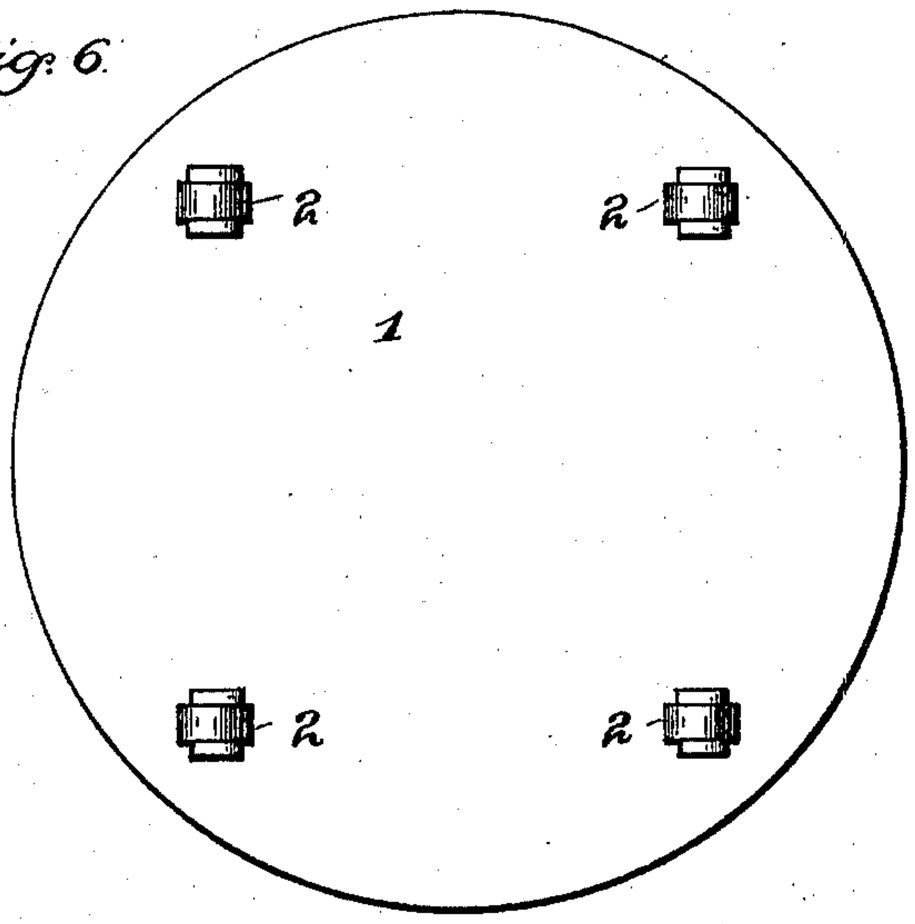


Fig. 6.



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UNITED STATES PATENT OFFICE.

ROBERT T. WALKER, OF BALTIMORE, MARYLAND.

LADLING DEVICE.

SPECIFICATION forming part of Letters Patent No. 581,949, dated May 4, 1897.

Application filed June 24, 1896. Serial No. 596,702. (No model.)

To all whom it may concern:

Be it known that I, ROBERT T. WALKER, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Ladling Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

In the ladles heretofore employed for removing molten metal from the tanks in which it is melted it has required six or eight men to manage the same. I propose to overcome the difficulty experienced with the old form of ladles by providing a ladle-frame and a carriage therefor operated by any suitable power and requiring only one or two men to dip the molten metal from the tanks.

My invention consists of a plate of metal mounted upon suitable rollers, whereby it may be conveniently shifted from one place to another, a trackway upon the upper surface of said plate, and a ladle-supporting frame made up of a base sliding on said trackway, a ladle-pole having a ladle secured to one end thereof pivotally mounted in said frame, and means for raising and lowering said pole.

The invention also consists in other details of construction and combinations of parts, which will be hereinafter more fully described and claimed.

In the drawings forming part of this specification, Figure 1 represents a perspective view of my device complete. Fig. 2 is a front elevation. Fig. 3 is a rear elevation. Fig. 4 is a vertical longitudinal section. Fig. 5 is a bottom plan view of the ladle-supporting frame. Fig. 6 is a similar view of the supporting-plate.

Like reference-numerals indicate like parts in the different views.

My invention is particularly designed for use in refining establishments for copper in which the copper is first melted, afterward formed into ingots, then rolled out in sheets, and the electrolytic process applied for separating the precious metals therefrom. In such cases the copper is melted in suitable tanks on the inside of a furnace, the doors of which furnace through which the molten metal is dipped being from two to four feet in diameter.

My invention resides particularly in the means for inserting and removing the ladle through these doors and is made up of a plate 1, mounted upon suitable casters or rollers 2 2, by means of which it may be moved from place to place, and having upon its upper surface a pair of tracks 3 3, upon which moves a suitable ladle-supporting frame 4. This frame is itself made up of a base 5, having wheels or rollers 5^a thereon engaging the tracks 3, as clearly shown. Extending upwardly from a point near the center of the base 5 are a pair of upright beams 6 6, having a cross-head 7 connecting them at their upper ends. At a point just below the cross-head 7 is mounted a roller 8, around which passes a chain or cable 9, connected at one end to a winch or windlass 10, mounted at the rear end of the base 5. Moving in suitable guides between the uprights 6 6 is a block 11, having a loop or staple 12 in its upper surface through which projects the ladle-pole 13, having a ladle 14 secured to its outer end and adapted to be projected through the openings in the furnace. The forward end of the pole 13 passes through upright guides 15 15 and is supported by a looped rod or bar 16, secured at its upper end to the uprights 15. The block 11 is connected, through suitable rods or bars 17, with the other end of the chain or cable 9. The said block may, if desired, be made of two parts, in which case they are held firmly together by means of the strips 18.

In using my device the plate 1 is moved upon its rollers so that it is brought just in front of one of the doors or openings in the furnace. The ladle-supporting frame is then shifted along the track 3 either by hand or by any other suitable motive power, so that the ladle 14 on the end of the pole 13 passes through said door or opening, and the rear end of the pole 13 is elevated by turning the windlass 10, which, through the cable 9 passing over the pulley 8 and connecting with the block 11, raises said block and depresses the forward end of the pole 13, carrying the ladle 14. When in this position, the pole 13 is turned

in its bearings on the block 11, so that the ladle 14 is filled with molten metal. The winch or windlass 10 is then reversed, raising the forward end of the pole 13, and the frame is shifted back upon the track 3, bringing the ladle 14 to the outside of the furnace.

It will be seen from the foregoing that I have devised an extremely simple and cheap device for the purpose, which can be operated at a great saving by reason of the fact that less than half the number of men are required to ladle out the molten metal than would be required under the old method of procedure.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a device of the character set forth, the combination with a base-plate having rollers upon its under side and tracks upon its upper side, of a ladle-supporting frame having rollers or wheels upon its lower side moving on said tracks, a pair of uprights on said frame, a block slidingly mounted in said uprights, a ladle-pole mounted to turn in said block, a ladle upon the inner end of said pole and means for raising and lowering said block, as and for the purpose described.

2. In a device of the character set forth, the combination with a base-plate having rollers upon its under side and tracks upon its upper side, of a ladle-supporting frame having rollers or wheels upon its lower side moving on said tracks, a pair of uprights on said frame, a roller mounted in the upper end of said uprights, a heavy block mounted to slide between said uprights, a windlass, a chain or cable connecting said block and said windlass and passing around said roller, a ladle-pole mounted to turn in said block, a ladle upon the inner end of said pole and a support or fulcrum for said pole at a point between the forward end thereof and its point of connection with said block, as and for the purpose described.

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

ROBERT T. WALKER.

Witnesses:

LUCY M. GRAVES,

REEVE LEWIS.