

No. 683,368.

Patented Sept. 24, 1901.

F. W. WOOD.
INGOT STRIPPER.

(Application filed Aug. 16, 1900.)

(No Model.)

WITNESSES

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UNITED STATES PATENT OFFICE.

FREDERICK W. WOOD, OF BALTIMORE, MARYLAND.

INGOT-STRIPPER.

SPECIFICATION forming part of Letters Patent No. 683,368, dated September 24, 1901.

Application filed August 16, 1900. Serial No. 27,030. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK W. WOOD, of Baltimore, in the State of Maryland, have invented a new and useful Improvement in Ingot-Strippers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation, partly broken away, of an ingot-stripper constructed in accordance with my invention. Fig. 2 is a partial elevation at right angles to that of Fig. 1, and Fig. 3 is a cross-section on the line III III of Fig. 1.

My invention relates to the class of vertical ingot-strippers wherein laterally-movable grips engage lugs or projections on the sides of the mold during the act of stripping. Heretofore in devices of this character the grips or jaws have been prevented from slipping from or otherwise disengaging the mold-lugs by recessing the lower shoulders of the lugs, and any partial breaking off of the lug, as occasionally happens on account of defective castings, will interfere with the continuous operation of the plant. It not infrequently happens that through carelessness on the part of the operator or through the location of the mold not being central with the stripper only one lug will be engaged, the other jaw or grip lying against the outer surface of the lug. This, if not noticed in time, results in upsetting the mold when the lifting mechanism is operated. When the mold contains a partially-solidified ingot, this is a very serious matter.

My invention is designed to provide a stripper in which the grips are positively and effectively prevented from spreading and disengaging from the lugs by means of the stripper itself, thus enabling the stripper to be used even where the lugs are partly broken off or where lugs without recesses are used. The invention also provides a further guard against spreading of the grips where recessed lugs are used, and it consists in a stripper having thereon a lock, which clamps the jaws in closed position during the stripping operation, this lock preferably acting automatically when the stripper-arms engage the mold-lugs.

In the drawings, in which I show my inven-

tion as applied to the general type of stripper shown in United States Letters Patent No. 526,094, granted to Henry Aiken and myself on September 18, 1894, 2 represents an overhead track, which may be a jib of a rotating or traveling crane, 3 being a movable trolley thereon and 4 the trolley-actuating motor.

5 is the mold-lifting cylinder, carried in upright position by the trolley and having an upwardly-projecting plunger 6, provided with a cross-head having depending rods 7, by which the lower cylinder 8 is carried. This lower cylinder is of greater cross-sectional area than the upper cylinder and has a piston or plunger 9, which projects from its lower end and is provided with a protecting-shoe 10, arranged to engage the top of the ingot in the mold.

11 is a pipe by which motive fluid may be supplied to the top cylinder, this pipe being jointed or otherwise constructed so that it will allow movement of the parts, and 12 and 13 are similar pipes entering the end portions of the lower cylinder and arranged to supply motive fluid to raise or depress its plunger.

14 shows the grips or jaws to engage the mold-lugs, and these are preferably pivoted, as shown, to the lower cylinder or any other convenient part of the lifting structure, and to cause them to be automatically opened and allow them to swing in the vertically-movable plate 15 is used, having shoulders against which the inclined portions of the jaws or grips bear and set around, this plate being raised and lowered by the head of the plunger, so that when lifted the plate shall act upon the inner inclined faces of the jaws or grips and spread them, and when lowered it shall allow them to close by gravity.

The parts thus described are shown and described in the patent above referred to and do not form a part of the present invention; but it will be noted that in the present case the pivoted jaws or grips are provided with outer inclined or beveled faces *aa*, which are engaged by the plate during the lowering of the plunger or stop, the plate reaching a portion of the grips formed, so as to lock them in inner or closed position when the plunger has been lowered to place. The jaws or grips in this case are therefore not only posi-

tively swung out upon lifting of the plunger, but are also positively forced in and locked during its lowering.

The advantages of my invention result from the use of means located on the stripper for locking the jaws or grips inwardly during the stripping action. As the mold-lugs often become worn and sometimes broken, this effectively prevents the danger resulting from disengagement of the jaws, as well as the interruption of the continuous operation, which continuity is an essential feature of the "car system" of casting ingots.

Many variations may be made in the form and arrangement of the stripper mechanism, as well as in the means for clamping the grips, since I consider myself the first to use means on the stripper for preventing their outward movement during the stripping action.

I claim—

1. An ingot-stripper having a plunger arranged to contact with the ingot, and a support having laterally-separable grips, mechanism for moving the support and plunger relatively to each other in a vertical direction to strip the ingot, and locking mechanism

located on the stripper and arranged to clamp the grips in engagement with the mold-lugs during the stripping operation; substantially as described.

2. An ingot-stripper having a holding-down stop for the ingot and a lifting-motor connected with laterally-separable grips, arranged to engage projections on the mold, and locking mechanism located on the stripper arranged to prevent disengagement of the grips during the stripping operation; substantially as described.

3. An ingot-stripper having a holding-down stop for the ingot, a lifting-motor connected with laterally-separable grips arranged to engage projections on the mold, and locking mechanism located on the stripper and arranged to automatically lock or clamp the grips in engagement with the mold-lugs during the stripping operation; substantially as described.

In testimony whereof I have hereunto set my hand.

FREDERICK W. WOOD.

Witnesses:

THOS. KELL BRADFORD,
WM. R. KING.