

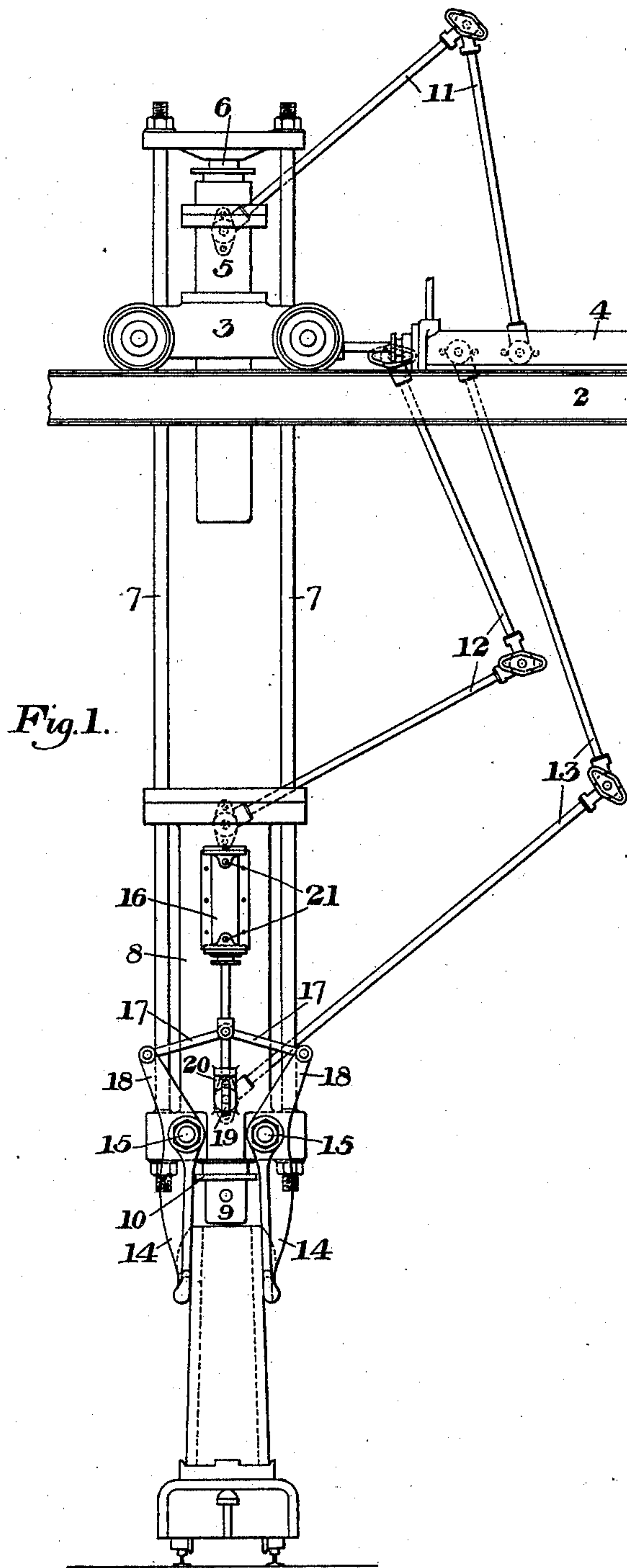
**No. 683,369.**

**Patented Sept. 24, 1901.**

**F. W. WOOD.**  
**INGOT STRIPPER.**

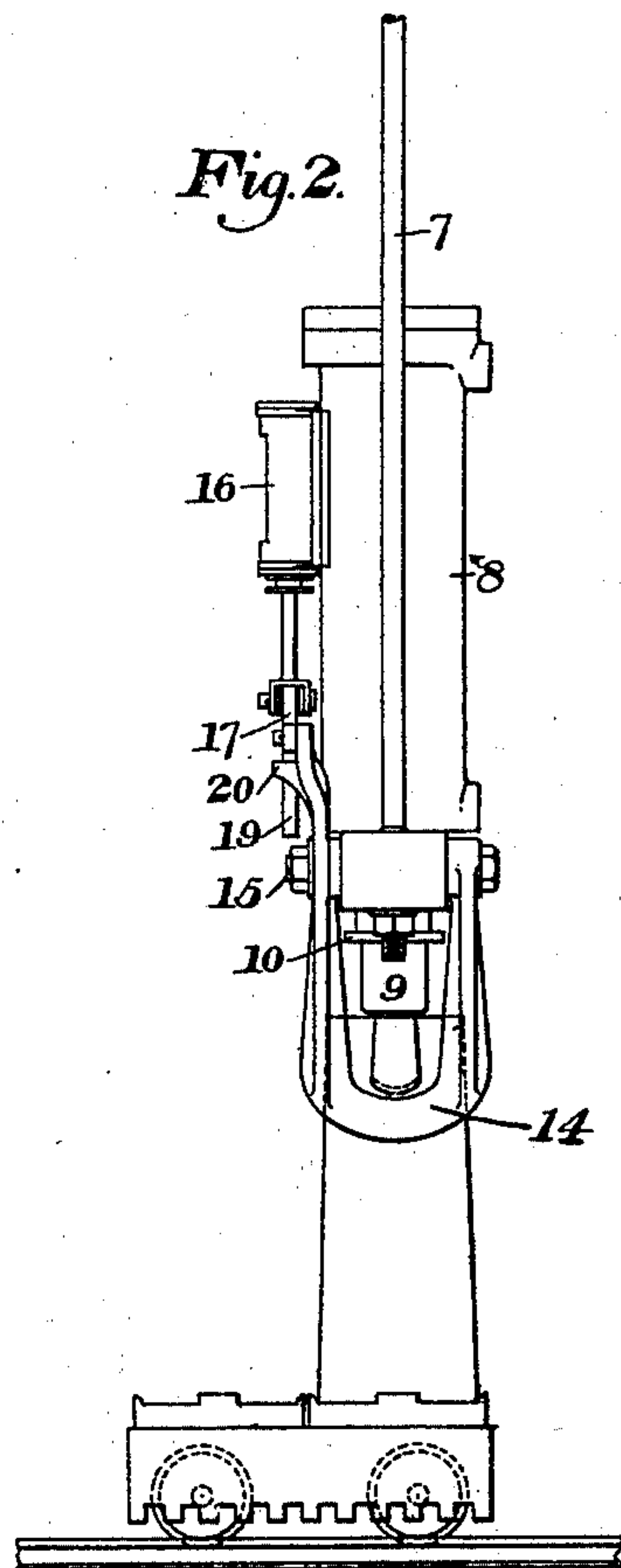
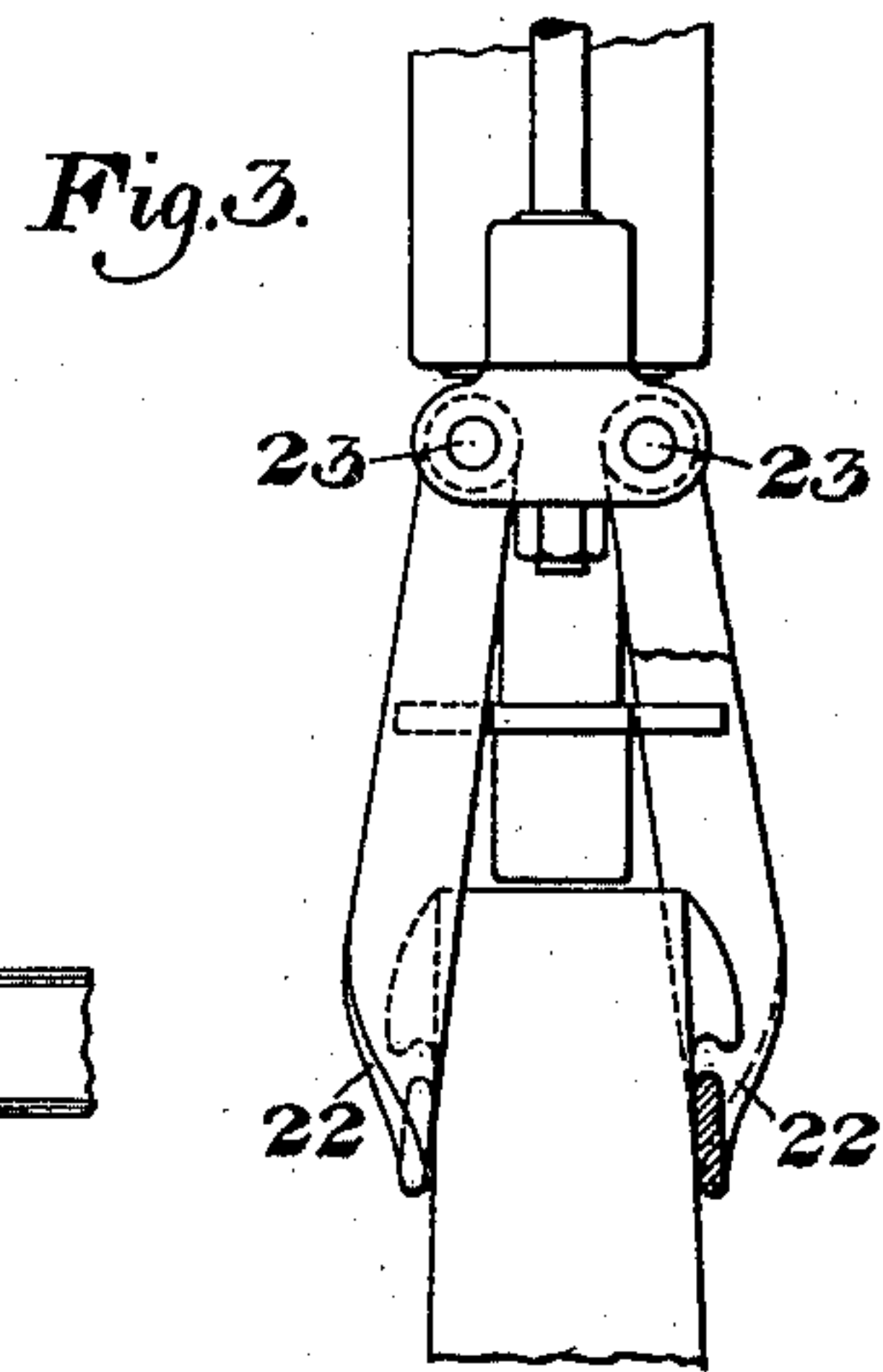
(Application filed Nov. 24, 1900.)

(No Model.)



## WITNESSES

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**INVENTOR**

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# UNITED STATES PATENT OFFICE.

FREDERICK W. WOOD, OF BALTIMORE, MARYLAND.

## INGOT-STRIPPER.

SPECIFICATION forming part of Letters Patent No. 683,369, dated September 24, 1901.

Application filed November 24, 1900. Serial No. 37,632. (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 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 partial side view showing another and simpler form of my improved stripper.

My invention relates to the class of vertical ingot-strippers wherein laterally-movable grips are employed, which engage lugs or projections on the mold during the stripping operation.

Heretofore in devices of this character the grips 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 also 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 loop 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 power mechanism for forcing or pressing the grips inwardly during the act of stripping, whether the said power mechanism consists of a motor with suitable connections for forcing the grips inwardly or in

loops or grips which are arranged to be drawn inwardly by the power applied to perform the act of stripping, or by other suitable mechanism for carrying out the said functions.

In the drawings, referring to the form of Figs. 1 and 2, I show my invention 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 being an overhead track, which may be the jib of a rotating or traveling crane, 3 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 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, and 14 are the loops or grips to engage the mold-lugs, being preferably pivoted to the lower cylinder at 15, as shown, or to any other convenient part of the lifting structure.

The parts above described are disclosed in the patent referred to and do not form a part of the present invention, which lies in means on the stripper for forcing the grips inwardly. In the form of Figs. 1 and 2 such means consists of a small hydraulic cylinder 16, secured to the side of the main lower cylinder and having its piston-rod connected by pivoted links 17 with upwardly-extending lever-arms 18 of the mold-engaging grips. The piston-rod is preferably provided with an extension 19, which moves through a guide 20, insuring the proper alinement of the parts. The small cylinder is provided with suitable inlet and outlet ports 21, which may be controlled by a valve or valves, and after the stripper has been lowered to place



and is ready for operation fluid is admitted to the upper end of the small cylinder, thus forcing the lever-arms outwardly and pressing the grips forcibly against the sides of the mold. This inward pressure may be maintained during the stripping operation, and pressure is then applied to the other end of the small cylinder to positively disengage the grips.

10 Instead of using a power-cylinder I may mount the grips or loops in such a way that the force applied for stripping will draw or press the grips inwardly during the stripping action. Thus in the form of Fig. 3 I  
15 show the grips 22 as pivoted at points 23, which are within vertical planes, passing through the points of engagement of the grips and the mold-lugs. This position of the pivots well within the vertical planes passing  
20 through the points of engagement of the grips and mold-lugs causes a part of the upward force in stripping to exert an inward-drawing movement upon the grips, thus forcing them in during the act of stripping.

25 The advantages of my invention result from the use of means on the stripper, whether in the form of a motor or other mechanism, whereby the grips are drawn or forced inwardly with a positive pressure during the  
30 stripping. As the mold-lugs often become worn and are sometimes broken, this prevents the danger resulting from disengagement of the grips. It also avoids the interruption in the continuous operation of the  
35 plant, which is an essential feature of the "car system" of casting ingots.

Many variations may be made in the form and arrangement of the stripper and the means for forcing or drawing the grips in-

wardly during stripping without departing 40 from my invention, as defined in the claims.

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 45 relatively to each other in a vertical direction to strip the ingot, and a source of power located on the stripper and having connections arranged to force the grips inwardly toward each other during the stripping operation; substantially as described. 50

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 a source of power located on the stripper and having connections arranged to force the grips inwardly toward each other during the stripping operation; substantially as described. 55 60

3. An ingot-stripper having a plunger arranged to contact with the ingot, 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, a fluid-actuated motor carried on and movable with the stripper mechanism, and connections between said motor and the grips arranged to force them inwardly toward each other during the stripping operation; substantially as described. 65 70

In testimony whereof I have hereunto set my hand.

FREDERICK W. WOOD.

Witnesses:

FELIX R. SULLIVAN,  
LOUIS A. KATZENBERGER.