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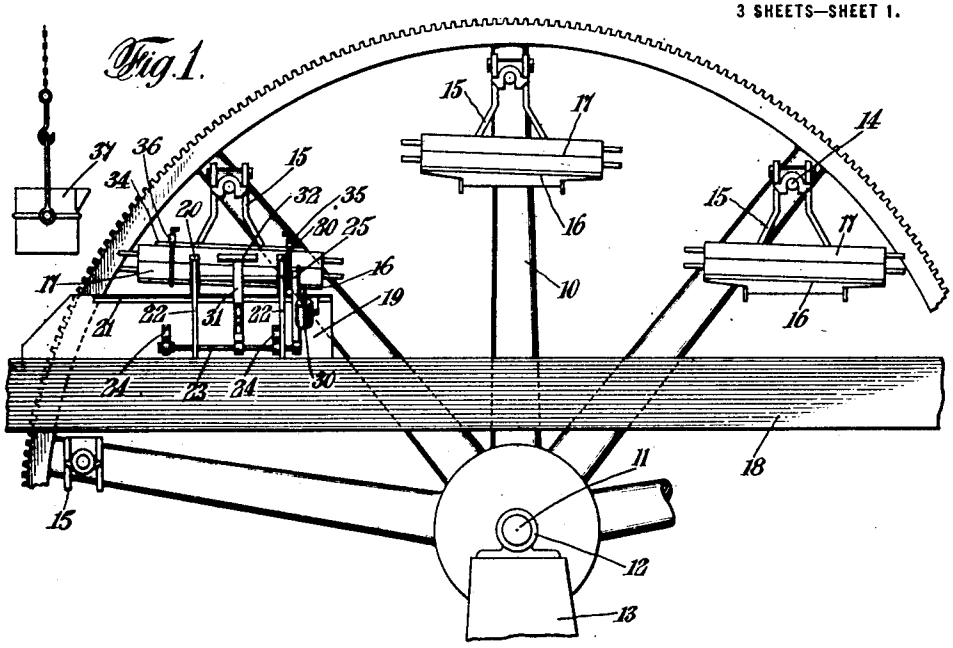
LOCKING MECHANISM FOR ROTARY CASTING MACHINES.

APPLICATION FILED DEC. 14, 1916. RENEWED JAN. 26, 1921.

1,398,134. Patented Nov. 22, 1921.

3 SHEETS—SHEET 1.

Fig. 1.



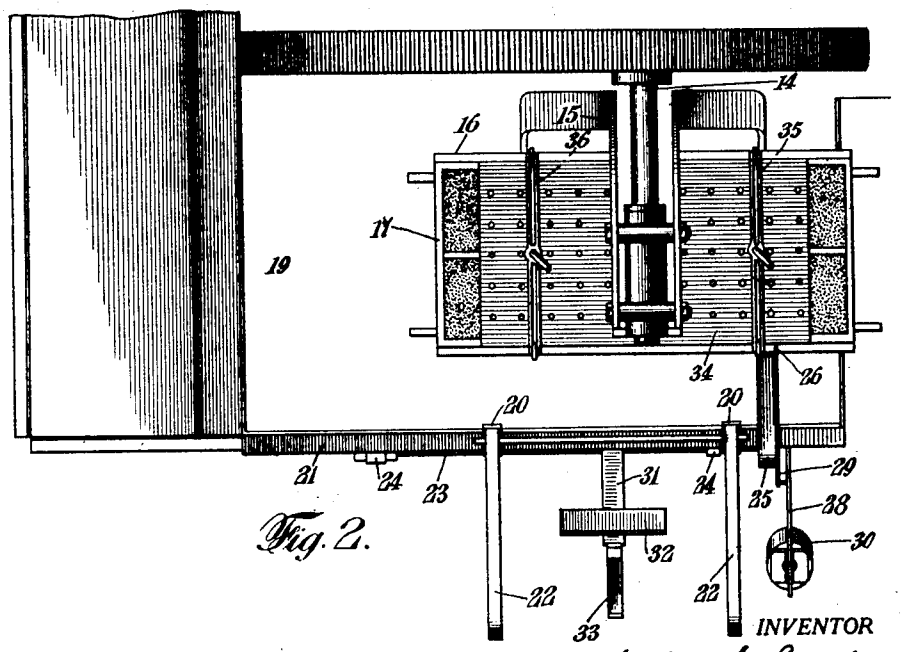


Fig. 2.

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3 SHEETS—SHEET 2.

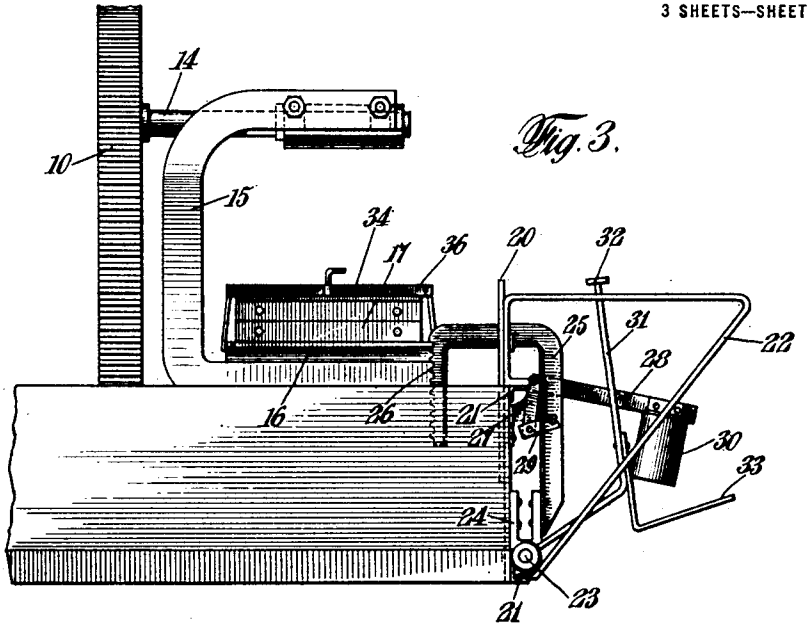


Fig. 3.

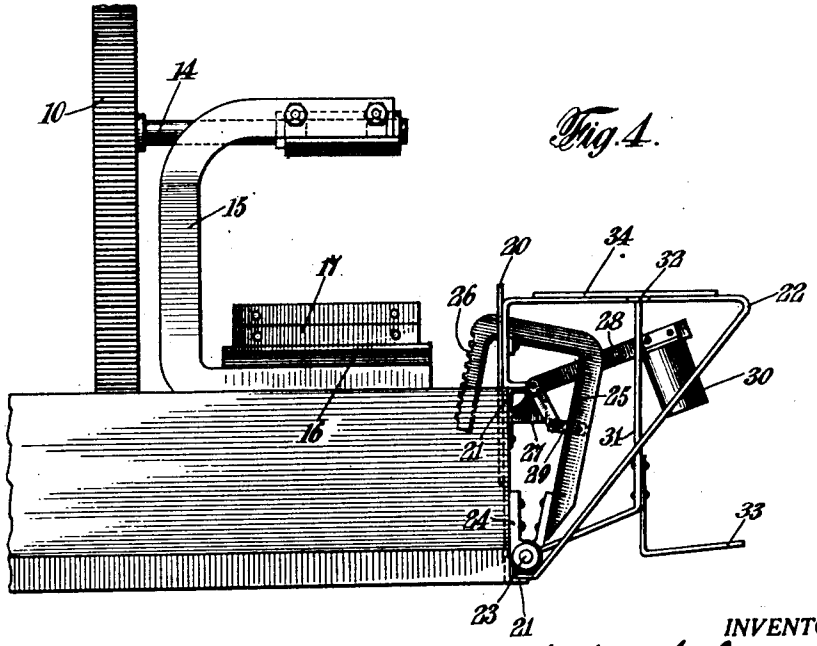


Fig. 4.

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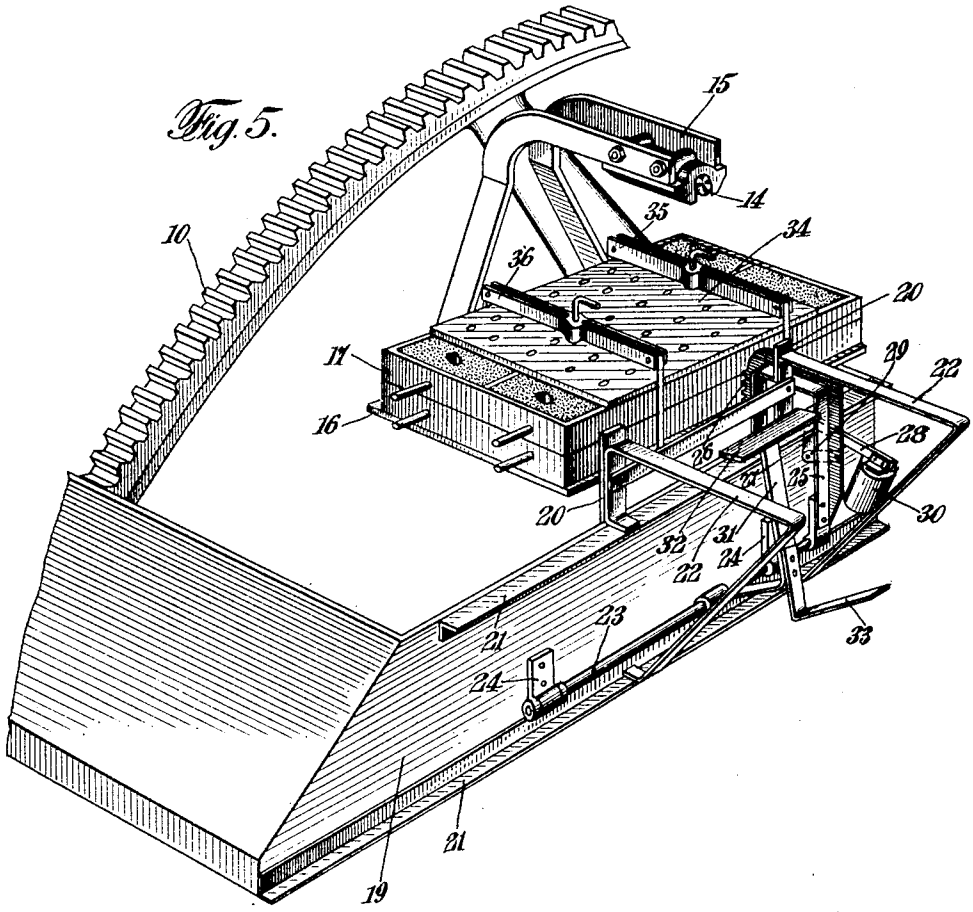
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3 SHEETS—SHEET 3.

Fig. 5.



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LOCKING MECHANISM FOR ROTARY CASTING-MACHINES.

1,398,134. Specification of Letters Patent. Patented Nov. 22, 1921.

Application filed December 14, 1916, Serial No. 137,038. Renewed January 26, 1921. Serial No. 440,220.

To all whom it may concern:

Be it known that I, ARCHER A. LANDON, a citizen of the United States, residing at Buffalo, Erie county, in the State of New York, have invented certain new and useful Improvements in Locking Mechanism for Rotary Casting-Machines, of which the following is a full, clear, and exact specification.

My invention relates to improvements in locking mechanism for securing or holding the supports arranged upon a movable carrier or member, and the same has for its object more particularly to provide a locking mechanism whereby to hold the mold supports of a revoluble casting machine duly secured to position to permit of the loading or unloading of the molds thereon, or to permit of the performing of any operation necessary or incidental to the operation of casting.

One of the objects of the invention is to provide mechanism which is adapted to hold the mold support against movement relatively to the carrier.

Another object is to provide mechanism which will hold the mold support against movement relatively to the carrier during the pouring of the molten metal within the mold.

Another object is to provide mechanism by means of which the mold support may be held at any desired angle.

Another object is to provide mechanism by means of which the mold support may be so held that the mold supported thereon will be inclined sufficiently to permit the molten metal which is poured therein to flow freely within the mold thus insuring that it will be completely filled.

Another object is to provide locking mechanism which will be maintained in its inoperative position by means of a suitable weight, such as the top for a mold, and which will be caused automatically to assume its locking position when the weight is removed.

Other objects of the invention will in part be obvious and in part be pointed out hereinafter.

To the attainment of the aforesaid objects and ends, my invention consists in the novel details of construction, and in the combination, connection and arrangement of parts hereinafter more fully described and then pointed out in the claims.

In the accompanying drawings showing an illustrative embodiment of the invention—

Figure 1 is a view in side elevation showing one form of a mold support locking mechanism embodying my invention in connection with a rotatable casting machine;

Fig. 2 is a plan view of the mechanism in locking engagement with a mold support;

Fig. 3 is an end view thereof, the parts being shown in their operative or locking positions;

Fig. 4 is a view similar to Fig. 3, the parts being shown in their inoperative or unlocking positions, and

Fig. 5 is a perspective view thereof, the parts being shown in their operative positions.

Referring to the drawings the mold support locking mechanism is shown, by way of illustration, in connection with a revoluble casting machine of the type shown and described in my co-pending application, Serial No. 788,050, filed September 4, 1913. This type of machine comprises a revoluble carrier 10 supported in a vertical position upon a shaft 11 having its ends journaled in bearings 12 supported upon suitable pedestals 13. Mounted upon the carrier 10 at regular intervals and extending laterally therefrom are a series of arms 14 upon which are pivotally supported brackets or hangers 15 which are provided at their lower free ends with platforms 16 upon which the molds 17 are carried. The upper surfaces of the platforms are inclined so that the molds will be supported in such position thereon as to cause the molten metal which is poured into the mold openings to flow freely within the molds and completely fill the same.

As described in the above mentioned application, the carrier 10 is intermittently rotated to bring the mold supports succes-

sively into a plurality of positions to enable the casting operations to be performed in a substantially continuous manner. At the first one of these positions of the mold support the prepared mold is placed thereon, at the second position the molten metal is poured into the mold, and at the third position the mold containing the casting is removed from the support.

The mold support locking mechanism forming the subject of this invention is so located as to be in operative relation to the mold supports when they reach the second, or pouring position, shown at the left in Fig. 1.

Extending upwardly from the floor 18 is a partition 19 to which are secured two uprights 20, 20 and two horizontally extending members 21, 21 preferably formed of angle irons. Secured to and supported by the uprights 20, 20, and the horizontal members 21, 21, are a pair of angular brackets 22, 22, whose upper portions extend outwardly from the partition 19 and lie in the same horizontal plane and serve as a support for the top plate of the mold as hereinafter described. A rock shaft 23 is rotatably supported in bearings 24, 24 mounted upon the partition 19, and secured to the rock shaft and rotatable therewith is a locking arm 25 which extends upwardly and inwardly and terminates in a downwardly extending free end portion which is provided with a series of recesses 26 any one of which is adapted to engage the edge of the platform 16 of each of the mold supports. Pivotally mounted upon a bracket 27 is a bell crank lever 28 having one arm connected to the locking arm 25 by a link 29. The other arm of the bell crank lever 28 carries a weight 30 adjacent its outer end which weight tends to so rotate the bell crank lever 28 as to cause the locking arm 25 to assume its inner or locking position, as indicated in Figs. 3 and 5.

Secured to the rock shaft 23, and extending upwardly therefrom, is a lever 31 provided at its upper end with a plate 32. The length of the lever 31 is such that, when the locking arm 25 is in its operative or locking position, the plate 32 will be positioned above the plane of the upper portions of the brackets 22, as indicated in Fig. 3. Upon depressing the lever 31, as hereinafter described, to such an extent that the plate 32 will be moved downward into the same plane as that of the upper portions of the brackets 22, 22 the rock shaft 23 will be rotated to cause the locking arm 25 to move outwardly whereby the teeth 26 on the free end thereof will be carried out of engagement with the platform 16, as indicated in Fig. 4. A foot pedal 33 for retracting the locking arm 25 is secured to the lever 31 intermediate the ends thereof.

The operation of the mechanism is as follows:—

The top plate 34 of the mold, when not in use, rests upon the upper horizontal portions of the brackets 22, 22, and engages the plate 32 and holds the same, and the lever 31 in depressed position, as shown in Fig. 4; it being understood that the weight 30 is not sufficiently heavy to lift the top plate 34 from its position of rest. As above described, when the lever 31 is thus depressed the locking arm 25 is held in its inoperative or retracted position. When the mold support carrying the prepared mold reaches the position at which the pouring of the metal into the mold is to be effected, the top plate 34 is lifted from the brackets 22, 22, placed upon the mold 17 and secured in position thereon by the usual clamps 36, 36. As the plate 34 is lifted from the brackets 22, 22, and out of engagement with the plate 32 on the lever 31, the weight 30 will actuate the bell crank 28 to cause the locking arm 25 to move into its locking position in which position one of the recesses 26 thereon will engage the edge of the platform 16 thereby locking the mold support against movement during the pouring operation. The mold support may be held in any one of a plurality of inclined positions depending upon which one of the series of recesses 26 is permitted to engage the platform. As the locking arm moves to its locking position the rock shaft 23 will be rotated and the lever 31 will be raised. After the molds are poured the operator presses with his foot upon the pedal 33 thereby depressing the lever 31, and rotating the rock shaft 23 to retract the locking arm 25. While maintaining his foot upon the pedal the operator unclamps the top plate 34 and places it in place upon the brackets 22 whereupon the operator may remove his foot from the pedal as the engagement of the plate 32 with the top plate 34 will hold the locking arm in its inoperative position as above described.

The carrier 10 is then rotated to bring the next mold support and the mold carried thereby into pouring position whereupon the operation is repeated.

Having thus described my said invention, what I claim and desire to secure by Letters Patent is:—

1. In a machine of the character described, the combination of a carrier, and a support mounted thereon and free to move with respect thereto, with means movable in a plane at an angle with the plane of movement of the carrier for holding the support against movement relatively to the carrier, substantially as specified.

2. In a machine of the character described, the combination of a carrier, and

a support mounted thereon and free to move with respect thereto, with means free from connection with the carrier and movable in a plane at an angle with the plane of movement of the carrier for holding the support against movement relatively to the carrier, substantially as specified.

3. In a machine of the character described, the combination of a carrier and a support mounted thereon and free to move with respect thereto, with means free from connection with said carrier for holding the support in any one of a plurality of inclined positions and against movement relatively to the carrier.

4. In a machine of the character described, the combination of a carrier and a support mounted thereon and free to move with respect thereto, with a member having a recess adapted to engage the support to hold it against movement relatively to the carrier, said member being free from connection with said carrier, substantially as specified.

5. In a machine of the character described, the combination of a carrier and a support mounted thereon and free to move with respect thereto, with a member having a plurality of recesses any one of which is adapted to engage the support to hold it against movement relatively to the carrier, said member being free from connection with said carrier, substantially as specified.

6. In a machine of the character described, the combination of a carrier and a support mounted thereon and free to move with respect thereto, with a locking member adapted to hold the support against movement relatively to the carrier, said locking member being free from connection with said carrier, and means to move the locking member into its support-holding position, substantially as specified.

7. In a machine of the character described, the combination of a carrier and a support mounted thereon and free to move with respect thereto, with a locking member adapted to hold the support against movement relatively to the carrier, said locking member being free from connection with said carrier, and automatically operated means to move the locking member into its support-holding position, substantially as specified.

8. In a machine of the character described, the combination of a carrier and a support mounted thereon and free to move with respect thereto, of a locking member adapted to hold the support against movement relatively to the carrier, means adapted to be controlled by a weight to maintain the locking member inoperative, and means to render the locking member operative when said first-mentioned means is free from the controlling action of the weight, substantially as specified.

9. In a machine of the character described, the combination of a carrier and a mold support mounted thereon and free to move with respect thereto, with a locking member adapted to hold the mold support against movement relatively to the carrier, means adapted to be controlled by the top plate of a mold to maintain the locking member inoperative, and means to render the locking member operative when said first-mentioned means is free from the controlling action of the top plate, substantially as specified.

10. In a machine of the character described, the combination of a carrier and a mold support mounted thereon and free to move with respect thereto, with a locking member adapted to hold the mold support against movement relatively to the carrier, a support for the top plate of a mold, means controlled by the top plate, when on said support, to maintain the locking member inoperative, and means to render the locking member operative when the top plate is moved from the support, substantially as specified.

11. In a machine of the character described, the combination of a carrier and a support mounted thereon and free to move with respect thereto, with a locking member adapted to hold the support against movement relatively to the carrier, said locking member being free from connection with said carrier, means normally urging the locking member into operative position, and means to move the locking member into its inoperative position, substantially as specified.

12. In a machine of the character described, the combination of a carrier and a support mounted thereon and free to move with respect thereto, with a rock shaft, a locking member secured thereto and adapted to hold the support against movement relatively to the carrier, and means for rocking the rock shaft to move the locking member into and out of its operative position, substantially as specified.

13. In a machine of the character described, the combination of a carrier and a support mounted thereon and free to move with respect thereto, with a rock shaft, a locking member secured thereto and adapted to hold the support against movement relatively to the carrier, means to move the locking member into its operative position, and a lever secured to the rock shaft to rotate the same to move the locking member to its inoperative position, substantially as specified.

14. In a machine of the character described, the combination of a carrier and a

mold support mounted thereon and free to move with respect thereto. with a rock shaft, a locking member secured thereto and adapted to hold the mold support against movement relatively to the carrier, means normally urging the locking member into operative position, a support for the top plate of a mold, and a lever secured to the rock shaft having a free end portion adapted to extend above said top plate support when the locking arm is in its operative position; said lever serving in being depressed to rock the rock shaft to move the locking member into inoperative position, the free end of said lever being adapted to engage the top plate of a mold when positioned upon said top plate support whereby to hold the lever in its depressed position and the locking member in its inoperative position, substantially as specified.

Signed at the city of Buffalo, Erie county, in the State of New York, this 17th day of February, one thousand nine hundred and sixteen.

ARCHER A. LANDON.

Witnesses:
CONRAD A. DIETERICH,
CHAS. E. HANBACH.