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STEREOTYPE CASTING MOLD.

APPLICATION FILED SEPT. 15, 1903.

989,815.

Patented Apr. 18, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

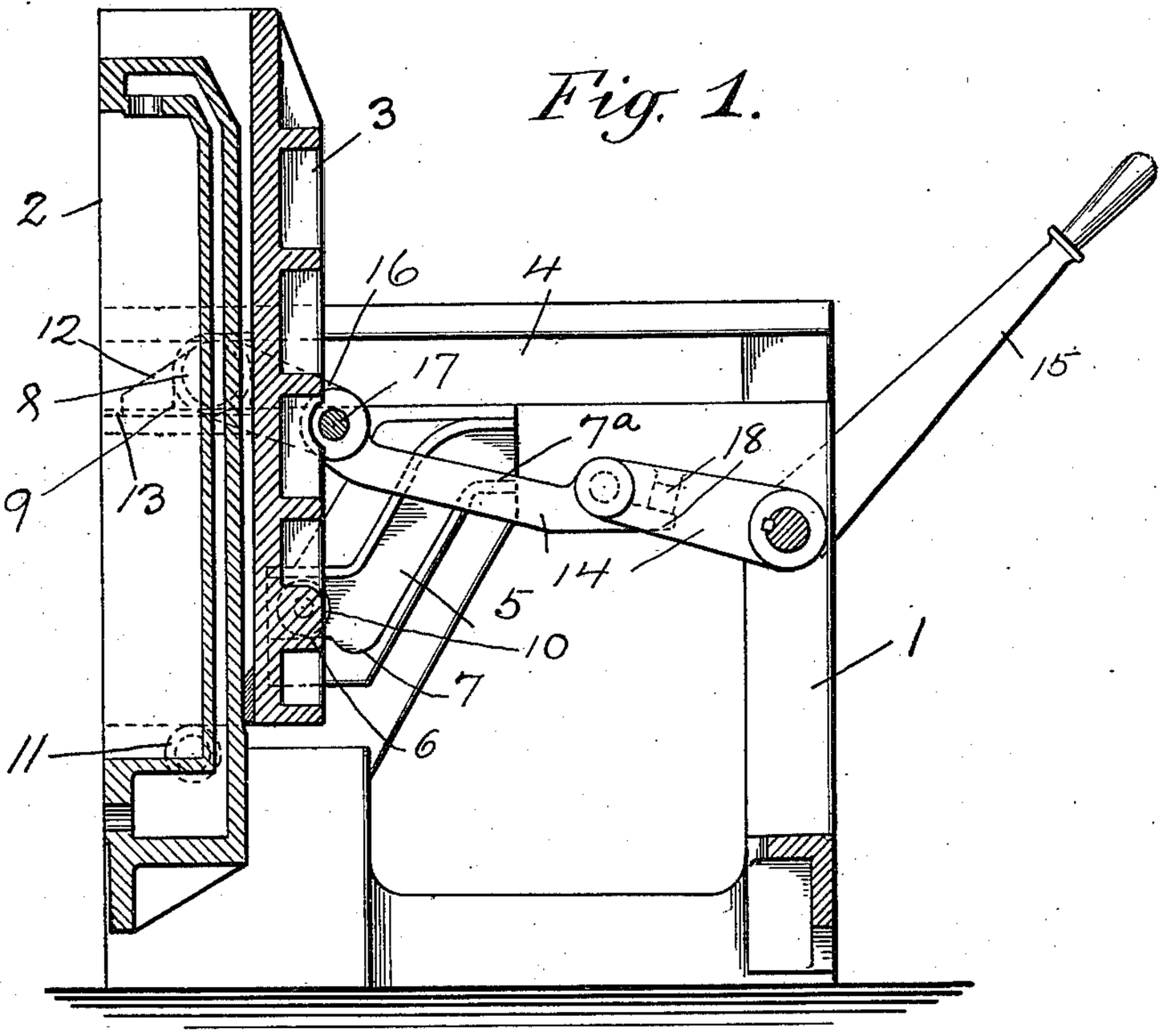
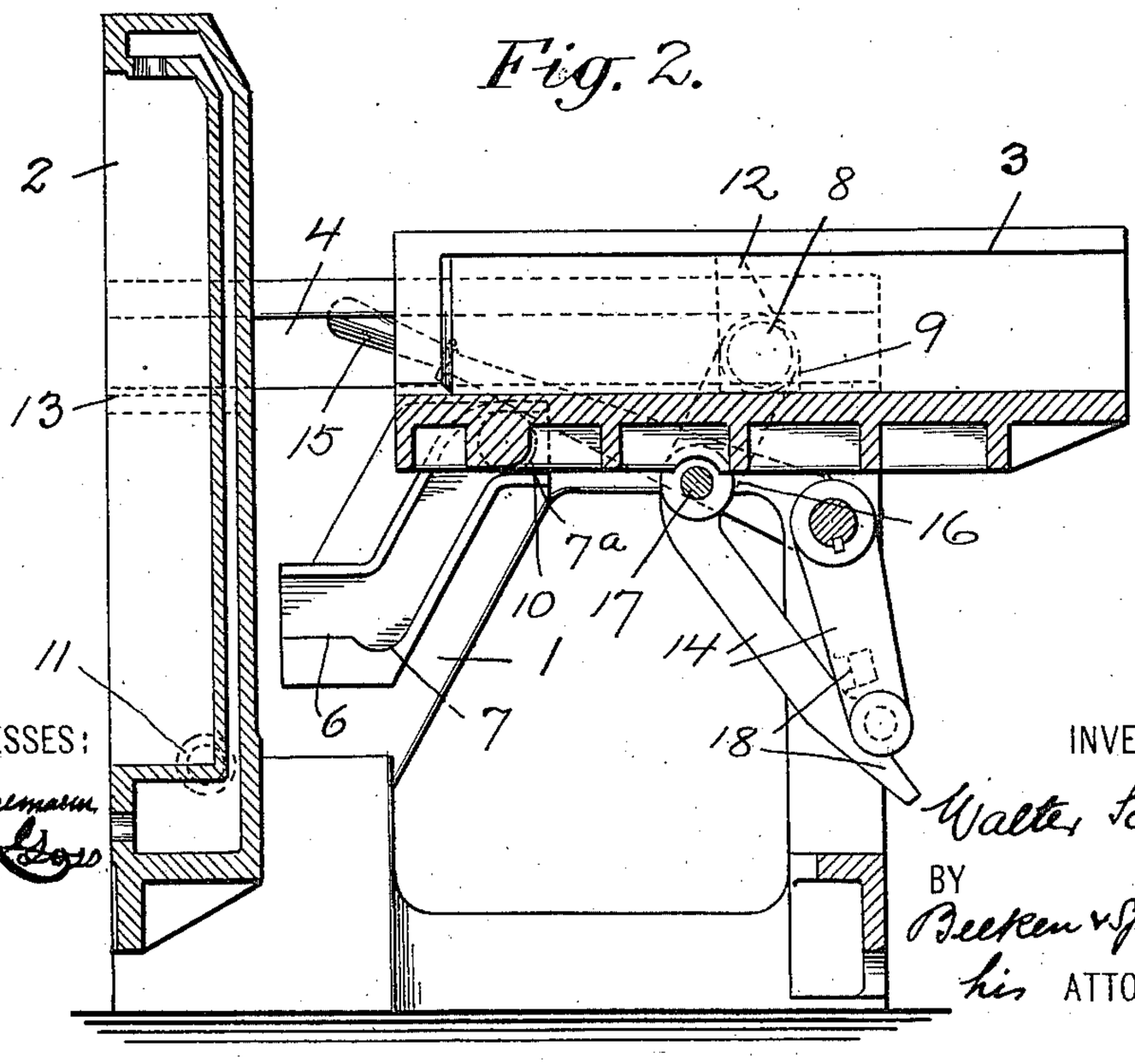


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

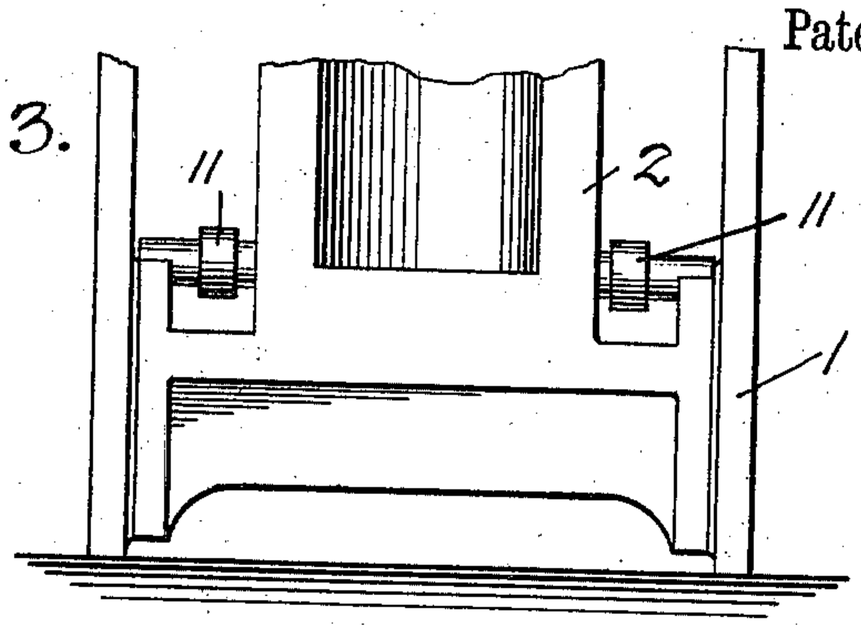


Fig. 4.

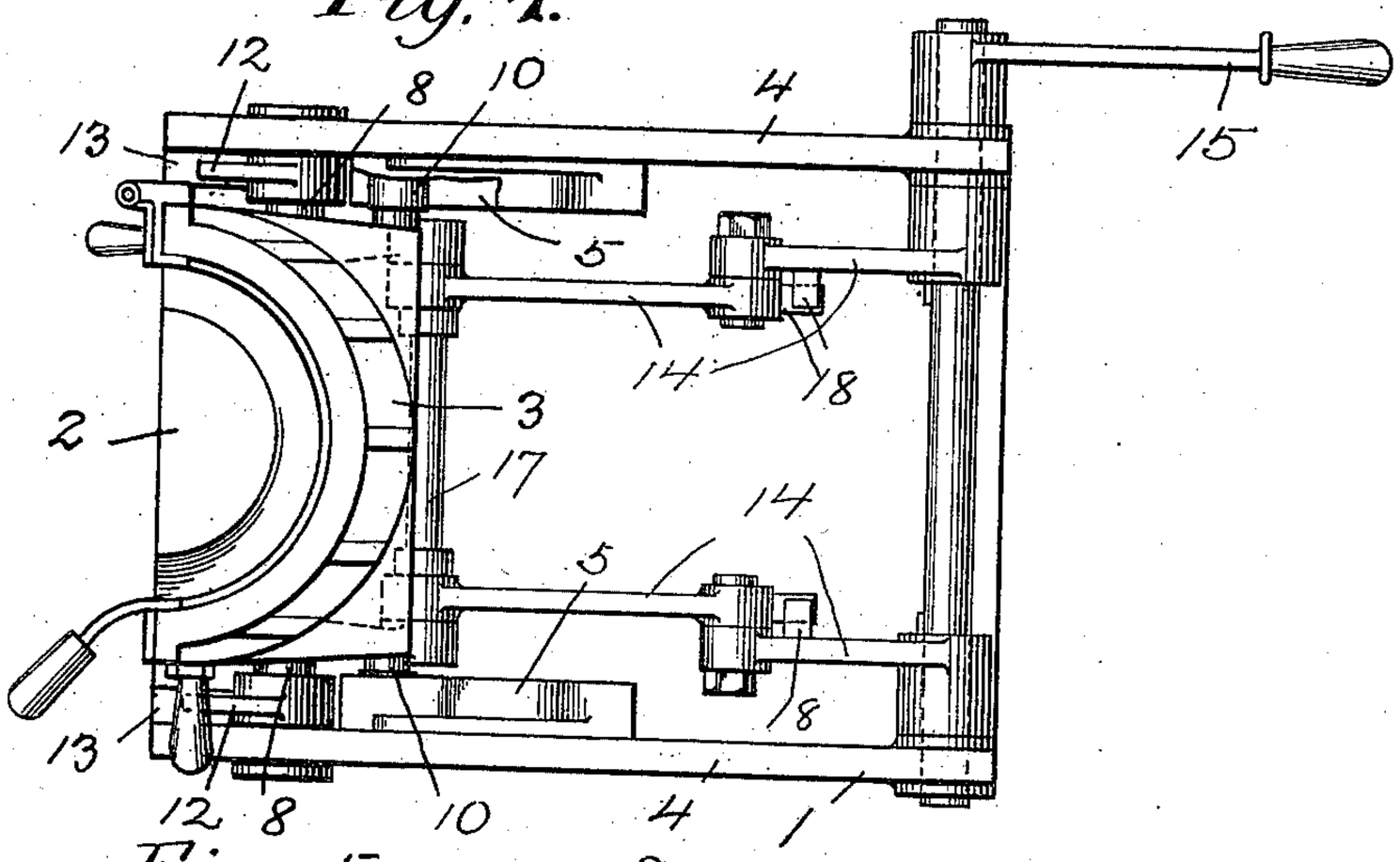
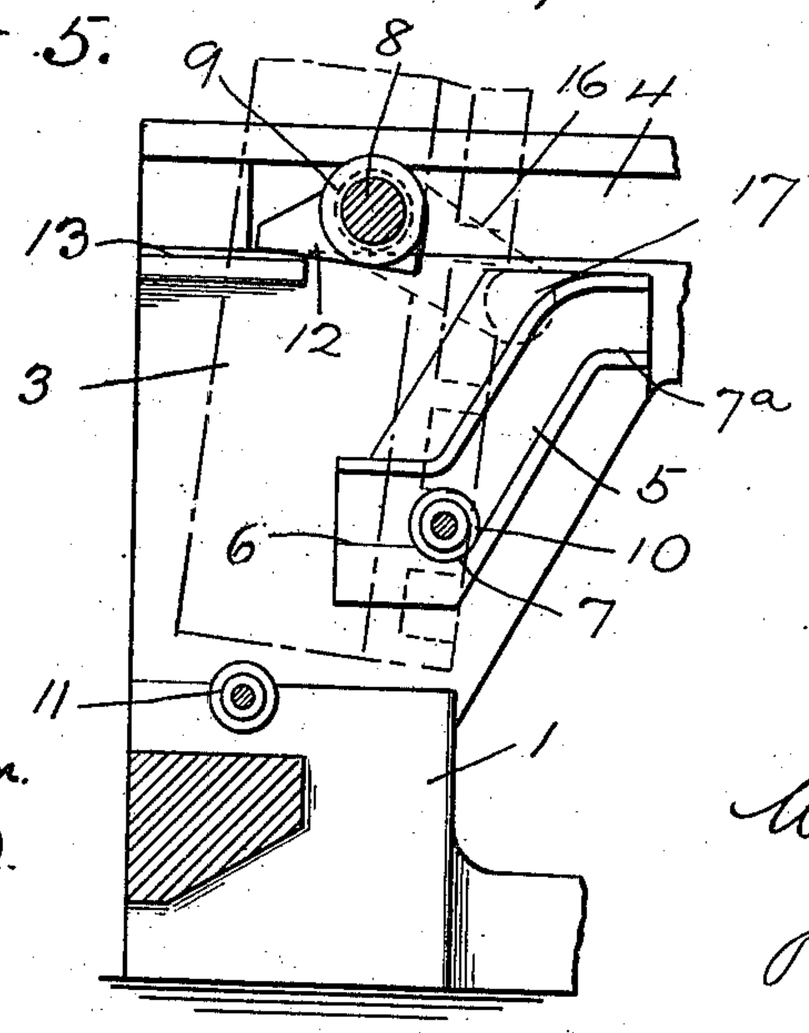


Fig. 5.



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WALTER SCOTT, OF PLAINFIELD, NEW JERSEY; ISABELLA SCOTT AND DAVID JOHN SCOTT EXECUTORS OF SAID WALTER SCOTT, DECEASED.

STEREOTYPE-CASTING MOLD.

989,815. Specification of Letters Patent. Patented Apr. 18, 1911.

Application filed September 15, 1903. Serial No. 173,229.

To all whom it may concern:

Be it known that I, WALTER SCOTT, a citizen of the United States of America, and a resident of Plainfield, Union county, New Jersey, have invented certain new and useful Improvements in Stereotype-Casting Molds, of which the following is a specification.

My invention relates generally to stereotype casting molds, and has more particular reference to the mechanism for moving the drag toward and away from the cope.

The broad principle involved in the present invention resides in carrying the drag away from the cope uninterruptedly, by imparting a movement to the said drag first in a straight direction while maintaining it substantially parallel with the said cope—which latter is fixed in an upright position—and then by imparting a movement which brings the drag into a horizontal position about halfway between the upper and lower end of the cope, and vice versa into working contact with the said cope. The drag is also self balancing, no weights being required to give the proper balance to the same. Means involving these principles are not claimed broadly in the present application, having been previously shown and claimed by me in an application filed on the 3rd day of July, 1901, Ser. No. 66,975. The present application is therefore limited to a novel specific means embodying the above principles. Nevertheless, I do not wish to be understood as limiting myself to the exact structure shown, as changes of construction may be made within the scope of the claims without departing from the spirit of the invention.

In the drawings: Figure 1 is a sectional side view of a machine embodying my invention and showing the drag closed in working contact with the cope. Fig. 2 is a view similar to Fig. 1 but showing the drag in its open position. Fig. 3 is a fragmentary view of the lower part of the cope. Fig. 4 is a plan view of Fig. 1. Fig. 5 is a fragmentary view showing the drag just after it has left its position parallel to the cope.

Similar characters of reference indicate corresponding parts in the different views.

1 indicates a suitable framework carrying the different parts comprising the machine.

2 is a cope of any suitable construction fixed in an upright position on the framework, in the present instance in a substantially vertical position.

3 denotes the drag of any suitable construction.

4 is a substantially straight and horizontal track or guideway on the framework on both sides of the cope and drag. On either side of the machine is also a downwardly inclined track or guideway 5 terminating at its lower end in a straight horizontal portion 6 between which and the inclined track there is a recess 7, and terminating at its upper end also in a straight horizontal portion 7ª. The drag is pivoted substantially halfway between its upper and lower ends by means of the pivots 8 which travel in the horizontal tracks 4 by extending into and moving with the boxes 9 sliding in the said tracks. The drag further carries at its lower end a pin 10 on either side extending into the downwardly inclined tracks 5 and traveling in the same.

Suitable means are provided for supporting the lower end of the drag when the mold is closed. In the present instance two or more stationary rolls 11 are provided on either side of the cope on which the lower end of the drag rests when it comes into working contact with the cope, and stops 12 are provided on the pivots of the drag which rest upon the ledges 13 located adjacent to the cope when the drag is in the said working contact with the cope. It will thus be seen that the foregoing means serve to guide and swing the lower end of the drag as it moves toward the cope, and supports the said drag as it is turned into an upright position parallel with the cope, and while it moves in a straight direction against the cope. Suitable means, as the toggle 14 actuated by the handle 15, are further provided for operating the said drag, being attached to the same by means of the links 16 fastened with one end to the pivots 8 and with

the other end to the shaft 17. Stops as 18 are located on the toggle for limiting the movement positively when the drag has arrived in working contact with the cope so as to prevent any further movement of the toggle from pulling the drag away from the cope again.

In practice, assuming the drag to be in its closed position, as shown in Fig. 1, the lower end of the cope will rest upon the rolls 11, while the stops 12 on the pivots 8 will rest upon the ledges 13, and the pins 10 will rest upon the lower straight horizontal portions 6 of the track 5, which lower horizontal portions are located a distance above the bottom or recess 7 of the said inclined track 5. When in this position, the drag is in a vertical position parallel with the cope and in working contact with the same. A movement of the handle 15 to the left will move the drag backward away from the cope maintaining it in a position parallel with the cope for a short distance so that the ribs on the cast plate will be at liberty to disengage with the grooves in the cope. This movement is caused by the lower end of the drag sliding over the stationary rolls 11, the pins 10 traveling in the lower horizontal portions 6 of the track 5 and the pivots 8 traveling in the horizontal tracks 4 by the boxes 9 sliding in the same. Upon the continued movement of the handle 15 the pins 10 will enter the recesses 7 as shown in Fig. 5 moving the drag into a position at an angle to the cope and lifting the lower end of the said drag up from the stationary rolls 11 and the stops 12 up from the ledges 13. Upon operating the handle 15 still farther the pivots 8 will travel in the straight horizontal tracks 4 by the boxes 9 sliding along in the same, while the pins 10 will travel in the inclined tracks 5 until they reach the upper straight horizontal portion 7^a terminating the same when the drag will have assumed the position shown in Fig. 2 where it is in a horizontal position substantially halfway between the upper and lower end of the cope. A reverse movement of the handle 15 will move the drag into its closed position, the reverse order of movements taking place, and the stops 18 on the toggle positively limiting the movement so as to bring the drag into proper working contact with the cope.

The arrangement of the parts are preferably such as will cause the drag to be moved uninterruptedly in either direction, though it need not necessarily be uninterrupted. It will also be observed that the drag is self-balancing.

The words cope and drag used to denote the two parts composing the mold, are of course interchangeable as the order could be reversed, and the claims should be constructed accordingly.

Having thus described my invention, what I claim is:

1. In a stereotype casting mold, the combination with a cope fixed in an upright position, and a drag which is movable, of mechanism for carrying the drag from a horizontal position about halfway between the upper and lower end of the cope into an upright position substantially parallel with the said cope and then in a straight direction against the latter, comprising: a straight horizontal track on either side of the machine, an inclined track having a lower and an upper horizontal portion and a recess below the lower horizontal portion and interposed between the said inclined track and horizontal portion, means adapted to support the lower end of the drag when in a position parallel to the cope, pivots on the drag adapted to travel in the horizontal tracks, pins on the lower end of the drag adapted to travel from the upper horizontal portions, through the inclined tracks, into the reeesses and onto the lower horizontal portions of the same, and suitable stops for limiting the motion of the drag.

2. In a stereotype casting mold, the combination with a cope fixed in an upright position, and a drag which is movable, of mechanism for carrying the drag from a horizontal position about halfway between the upper and lower end of the cope into an upright position substantially parallel with the said cope and then in a straight direction against the latter, comprising: a straight horizontal track on either side of the machine, an inclined track having a lower and an upper horizontal portion and a recess below the lower horizontal portion and interposed between the said inclined track and horizontal portion, means adapted to support the lower end of the drag when in a position parallel to the cope, pivots on the drag adapted to travel in the horizontal tracks, pins on the lower end of the drag adapted to travel from the upper horizontal portions, through the inclined tracks, into the recesses and onto the lower horizontal portions of the same, suitable stops for limiting the motion of the drag, and toggles for operating the drag.

3. In a stereotype casting mold, the combination with a cope fixed in an upright position, and a self balancing drag which is movable, of mechanism for carrying the drag from a horizontal position about halfway between the upper and lower end of the cope into an upright position substantially parallel with the said cope and then in a straight direction against the latter, comprising: a straight horizontal track on either side of the machine, an inclined track having a lower and an upper horizontal portion and a recess below the lower horizontal portion and interposed between the said in-

clined track and horizontal portion, means adapted to support the lower end of the drag when in a position parallel to the cope, pivots on the drag located substantially halfway between the upper and lower end of the same adapted to travel in the horizontal tracks, pins on the lower end of the drag adapted to travel from the upper horizontal portions, through the inclined tracks, into the recesses and onto the lower horizontal portions of the same, and suitable stops for limiting the motion of the drag.

4. In a stereotype casting mold, the combination with a cope fixed in an upright position, and a self balancing drag which is movable, of mechanism for carrying the drag from a horizontal position about halfway between the upper and lower end of the cope into an upright position substantially parallel with the said cope and then in a straight direction against the latter, comprising: a straight horizontal track on either side of the machine, an inclined track having a lower and an upper horizontal portion and a recess below the lower horizontal portion and interposed between the said inclined track and horizontal portion, means adapted to support the lower end of the drag when in a position parallel to the cope, pivots on the drag located substantially halfway between the upper and lower end of the same adapted to travel in the horizontal tracks, pins on the lower end of the drag adapted to travel from the upper horizontal portions, through the inclined tracks, into the recesses and onto the lower horizontal portions of the same, suitable stops for limiting the motion of the drag, and toggles for operating the drag.

5. In a stereotype casting mold, the combination with a cope fixed in an upright position, and a drag which is movable, of mechanism for carrying the drag from a horizontal position about halfway between the upper and lower end of the cope into an upright position substantially parallel with the said cope, and then in a straight direction against the latter, comprising: a straight horizontal track on either side of the machine, an inclined track having a lower and an upper horizontal portion and a recess below the lower horizontal portion and interposed between the said inclined track and horizontal portion, means adapted to support the lower end of the drag when in a position parallel to the cope, pivots on the drag located substantially halfway between the upper and lower end of the same adapted to travel in the horizontal tracks, pins on the lower end of the drag adapted to travel from the upper horizontal portions, through the inclined tracks, into the recesses and onto the lower horizontal portions of the same, means for uninterruptedly operating the drag carrying mechanism, and suitable stops for limiting the motion of the drag.

6. In a stereotype casting mold, the combination with a cope fixed in an upright position, and a drag which is movable, of mechanism for carrying the drag from a horizontal position about halfway between the upper and lower end of the cope into an upright position substantially parallel with the said cope and then in a straight direction against the latter, comprising: a straight horizontal track on either side of the machine, an inclined track having a lower and an upper horizontal portion and a recess below the lower horizontal portion and interposed between the said inclined track and horizontal portion, means adapted to support the lower end of the drag when in a position parallel to the cope, pivots on the drag located substantially halfway between the upper and lower end of the same adapted to travel in the horizontal tracks, pins on the lower end of the drag adapted to travel from the upper horizontal portions, through the inclined tracks, into the recesses and onto the lower horizontal portions of the same, suitable stops for limiting the motion of the drag, and toggles for uninterruptedly operating the drag.

7. In a stereotype casting mold, the combination with a cope fixed in an upright position, and a self balancing drag which is movable, of mechanism for carrying the drag from a horizontal position about halfway between the upper and lower end of the cope into an upright position substantially parallel with the said cope and then in a straight direction against the latter, comprising: a straight horizontal track on either side of the machine, an inclined track having a lower and an upper horizontal portion and a recess below the lower horizontal portion and interposed between the said inclined track and horizontal portion, means adapted to support the lower end of the drag when in a position parallel to the cope, pivots on the drag located substantially halfway between the upper and lower end of the same adapted to travel in the horizontal tracks, pins on the lower end of the drag adapted to travel from the upper horizontal portions, through the inclined tracks, into the recesses and onto the lower horizontal portions of the same, means for uninterruptedly operating the drag carrying mechanism, and suitable stops for limiting the motion of the drag.

8. In a stereotype casting mold, the combination with a cope fixed in an upright position, and a self balancing drag which is movable, of mechanism for carrying the drag from a horizontal position about halfway between the upper and lower end of the cope into an upright position substantially parallel with the said cope and then

in a straight direction against the latter, comprising: a straight horizontal track on either side of the machine, an inclined track having a lower and an upper horizontal portion and a recess below the lower horizontal portion and interposed between the said inclined track and horizontal portion, means adapted to support the lower end of the drag when in a position parallel to the cope, pivots on the drag located substantially halfway between the upper and lower end of the same adapted to travel in the horizontal tracks, pins on the lower end of the drag adapted to travel from the upper horizontal portions, through the inclined tracks, into the recesses and onto the lower horizontal portions of the same, suitable stops for limiting the motion of the drag, and toggles for uninterruptedly operating the drag.

9. In a stereotype casting mold, the combination with a cope fixed in an upright position, of a drag movable toward and away from the same, a horizontal track on either side of the machine, pivots on said drag adapted to travel in said horizontal tracks, means for operating the drag, and guiding means for swinging the lower end of the drag as it moves toward the cope, and for supporting it as it is turned into an upright position parallel with the cope, and while it moves in a straight direction against the cope.

10. In a stereotype casting mold, the combination with a cope fixed in an upright position, of a drag movable toward and away from the same, a horizontal track on either side of the machine, pivots on said drag adapted to travel in said horizontal tracks, means for moving the said drag from a horizontal position about half-way between the upper and lower end of the cope and into working contact with the same, and guiding means for swinging the lower end of the drag as it moves toward the cope and for supporting it as it is turned into an upright position parallel with the cope and while it moves in a straight direction against the cope.

11. In a stereotype casting mold, the combination with a cope fixed in an upright position, of a drag movable toward and away from the same, a horizontal track on either side of the machine, pivots on said drag adapted to travel in said horizontal tracks, means for uninterruptedly operating the drag, and guiding means for swinging the lower end of the drag as it moves toward the cope, and for supporting it as it is turned into an upright position parallel with the cope and while it moves in a straight direction against the cope.

12. In a stereotype casting mold, the combination with a cope fixed in an upright position, of a drag movable toward and away from the same, a horizontal track on either side of the machine, pivots on said drag adapted to travel in said horizontal tracks, means for uninterruptedly moving the said drag from a horizontal position about halfway between the upper and lower end of the cope and into working contact with the same, and guiding means for swinging the lower end of the drag as it moves toward the cope and for supporting it as it is turned into an upright position parallel with the cope and while it moves in a straight direction against the cope.

13. In a stereotype casting mold, the combination with a cope fixed in an upright position, of a self-balancing drag movable toward and away from the same, a horizontal track on either side of the machine, pivots on said drag located substantially halfway between the upper and lower end of the same and adapted to travel in said horizontal tracks, means for operating the drag, and guiding means for swinging the lower end of the drag as it moves toward the cope, and for supporting it as it is turned into an upright position parallel with the cope, and while it moves in a straight direction against the cope.

14. In a stereotype casting mold, the combination with a cope fixed in an upright position, of a self-balancing drag movable toward and away from the same, a horizontal track on either side of the machine, pivots on said drag located substantially halfway between the upper and lower end of the same and adapted to travel in said horizontal tracks, means for moving the said drag from a horizontal position about halfway between the upper and lower end of the cope and into working contact with the same, and guiding means for swinging the lower end of the drag as it moves toward the cope and for supporting it as it is turned into an upright position parallel with the cope and while it moves in a straight direction against the cope.

15. In a stereotype casting mold, the combination with a cope fixed in an upright position, of a self-balancing drag movable toward and away from the same, a horizontal track on either side of the machine, pivots on said drag located substantially halfway between the upper and lower end of the same and adapted to travel in said horizontal tracks, means for uninterruptedly operating the drag, and guiding means for swinging the lower end of the drag as it moves toward the cope, and for supporting it as it is turned into an upright position parallel with the cope, and while it moves in a straight direction against the cope.

16. In a stereotype casting mold, the combination with a cope fixed in an upright position, of a self-balancing drag movable toward and away from the same, a horizontal track on either side of the machine, pivots

on said drag located substantially halfway between the upper and lower end of the same and adapted to travel in said horizontal tracks, means for uninterruptedly moving the said drag from a horizontal position about half-way between the upper and lower end of the cope and into working contact with the same, and guiding means for swinging the lower end of the drag as it moves toward the cope and for supporting it as it is turned into an upright position parallel with the cope and while it moves in a straight direction against the cope.

Signed at New York this 8th day of September 1903.

WALTER SCOTT.

Witnesses:
AXEL V. BEEKEN,
H. M. SEAMANS.