

No. 854,520.

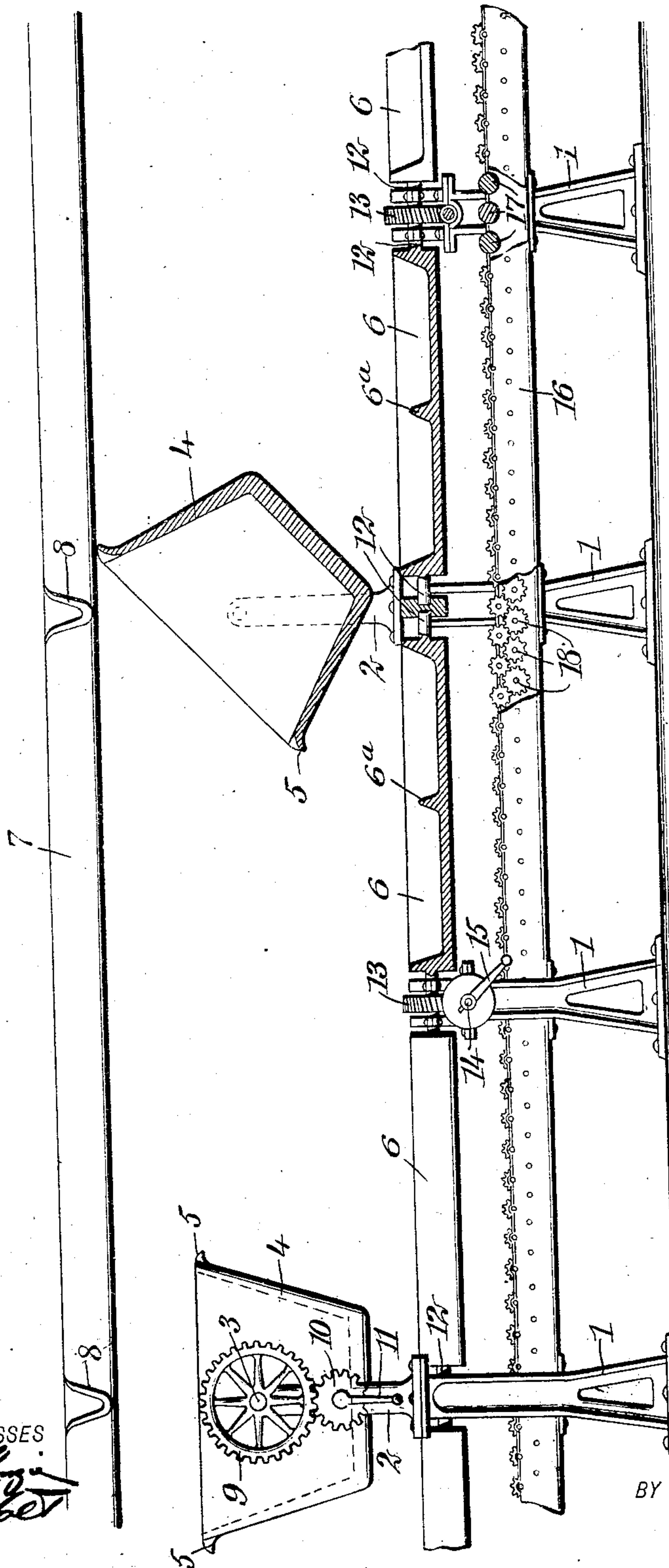
PATENTED MAY 21, 1907.

W. McVAY.
CASTING AND CONVEYING MACHINE.

APPLICATION FILED NOV. 14, 1906.

2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES
Wm. H. H. H. H.
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2 SHEETS—SHEET 2.

Fig. 2.

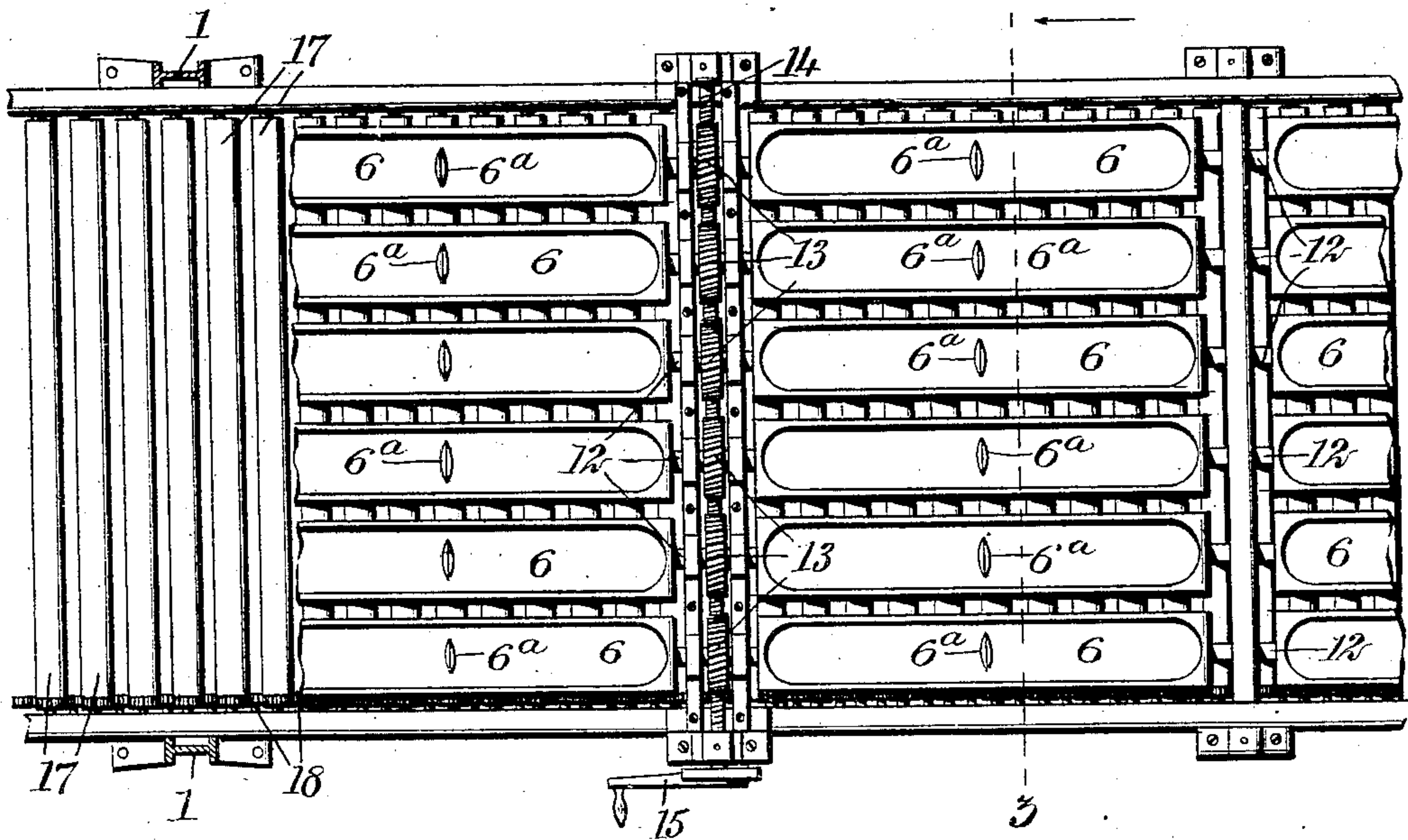
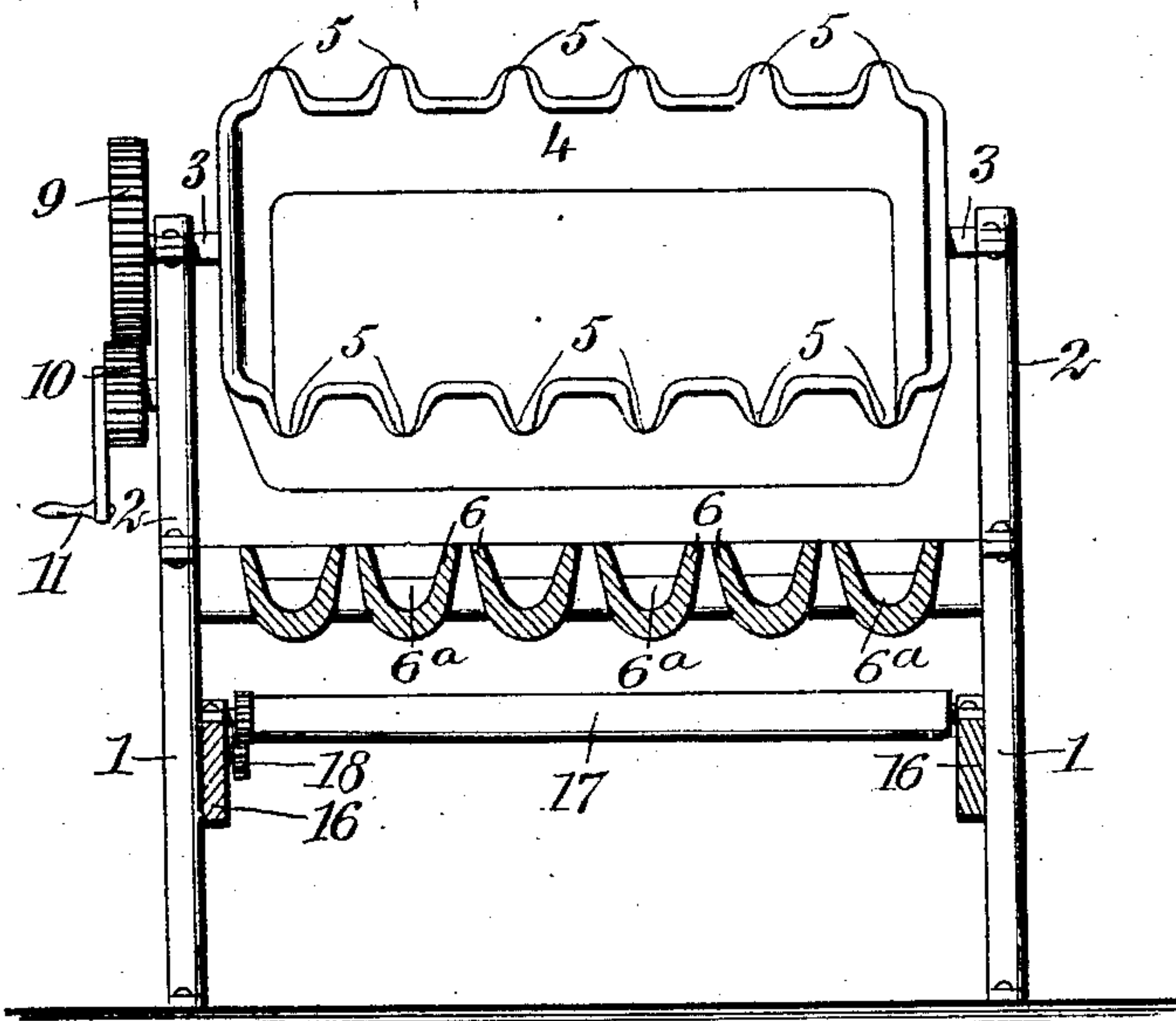


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIAM McVAY, OF BELLAIRE, OHIO.

CASTING AND CONVEYING MACHINE.

No. 854,520.

Specification of Letters Patent.

Patented May 21, 1907.

Application filed November 14, 1906. Serial No. 343,369.

To all whom it may concern:

Be it known that I, WILLIAM McVAY, a citizen of the United States, and a resident of Bellaire, in the county of Belmont and State of Ohio, have invented a new and Improved Casting and Conveying Machine, of which the following is a full, clear, and exact description.

This invention is an improved casting and conveying machine constructed and arranged to receive the molten metal from a blast-furnace in the casting-house, cast it into a convenient size and thereafter convey the casted iron or pigs as they are usually termed, to the required point of discharge.

The invention, generally stated, consists of a series of ladles pivotally supported underneath a conduit or trough conveying the molten metal, said trough having a point of discharge above each ladle. At each side of each ladle are arranged at a somewhat lower level a series of chilling molds for receiving the metal from the ladles, each mold being pivotally supported and operable to discharge on a conveyer below, preferably composed of a series of intergeared rolls.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the machine partly in longitudinal, vertical section; Fig. 2 is a plan of the machine with part of the mechanism broken away to more clearly disclose the construction underneath, and Fig. 3 is a cross section substantially on the line 3-3 of Fig. 2, looking in the direction of the arrow.

In the construction of the machine are employed a series of pairs of standards 1, suitably spaced apart for supporting the machine construction. On alternate pairs of standards are secured posts 2, in which are pivotally supported as by trunnions 3, ladles 4, the construction of these ladles as best shown in Figs. 1 and 3, consisting of trough-shaped receptacles extending substantially the full width of the machine, and having formed in the upper edge at each side thereof, a series of extending lips 5 for directing the molten metal at either side to chilling molds 6 arranged below.

Above the ladles 5 a conduit or trough 7 runs, having a number of discharge lips or other exits 8 equal to the number of ladles

employed in the machine construction, an exit being positioned above each ladle. For tilting the ladles 4 in filling the chilling molds 6, a large gear 9 is fixed to one of the trunnions 3 of each ladle, which meshes with a somewhat smaller gear 10 journaled underneath it on the post 2 and having a hand lever 11 by which it is operated.

As best shown in Fig. 3, the chilling molds 6 are in the form of long V-shaped receptacles with an intermediate transverse rib 6^a, each mold having a trunnion 12 at each end journaled in suitable cross-beams carried by the standards 1, which positions the molds longitudinally of the machine and makes their pivotal movement at right angles to that of the ladles 4. On alternate standards 1 on which the ladles 4 are not carried, the adjacent trunnions 12 of alining molds 6 are connected together through intermediate worm-wheels 13, thus forming the molds in rigid pairs in order that they might be simultaneously revolved on their trunnions by a single operation. This is preferably accomplished by a worm or screw 14 journaled transversely of the machine underneath each series of worm-wheels 13 with which it intermeshes. At one end of this screw a hand lever 15 is fixed by which the screw is revolved.

Fixed to the standards 1 at the sides of the machine just below the mold 6, are longitudinal beams 16 on which are rotatably mounted in suitable bearings a series of transverse rolls 17. Said rolls are placed close together and intergeared with each other by a series of intermediate gears 18 meshing with similar gears carried by the rolls. By this construction, when one of the rolls is driven the whole train of rolls is caused to revolve in the same direction, providing a conveyer for the machine to carry the cast iron or pigs to a suitable point of discharge.

In the operation of the machine, the ladles are filled with molten metal from the conduit 7 through their respective lips 8. The ladles are then tilted at each side by the working of their respective hand levers 11 until the molds arranged underneath them are filled. When the metal has solidified and chilled sufficiently the handles 15 are revolved until the molds assume an inverted position, whereupon the pigs drop from them upon the conveyer, the latter as above indicated, acting to carry them to the required point of discharge.

Although I have described the invention

in detail, I regard the precise embodiment as not material provided the essential characteristics are employed as pointed out in the annexed claims.

5 Having thus described my invention I claim as new and desire to secure by Letters Patent:

10 1. In a machine of the character described, in combination, a plurality of ladles pivotally suspended, a conduit above said ladles having an exit over each of them, a series of chilling molds longitudinally arranged and pivoted below said ladles, and a conveyer positioned underneath said molds.

15 2. In a machine of the character described, in combination, a plurality of pivotally suspended ladles, each having lips at each side thereof, a chilling mold pivotally mounted underneath each lip of each ladle, and a conveyer underneath the chilling mold.

20 3. In a machine of the character described, in combination, a ladle pivotally suspended, a plurality of chilling molds journaled on trunnions permanently arranged below and at each side of the ladle, a conveyer underneath the molds, and means for turning the molds on their trunnions to discharge them on said conveyer.

25 4. In a machine of the character described, in combination, a ladle pivotally suspended on trunnions having a series of lips at each side thereof, a series of molds journaled on trunnions arranged at each side and below the ladle, each mold adapted to receive the contents of said ladle through one of said lips,

a conveyer underneath the mold, means for tilting the ladle on its trunnions, and means for revolving the molds on their trunnions for discharging their contents upon said conveyer.

40 5. In a machine of the character described, in combination, two ladles pivotally suspended transversely of the machine, a series of sets of molds pivotally mounted below and between said ladles and arranged longitudinally of the machine, each set comprising two molds rigidly connected together, a conveyer underneath said molds, and means for simultaneously revolving said sets of molds on their pivots whereby the contents thereof are discharged upon said conveyer.

50 6. In a machine of the character described, in combination, a series of ladles pivotally suspended on trunnions transversely of the machine, a series of molds journaled on trunnions below said ladles and arranged longitudinally of the machine, each set comprising two molds connected together through an intermediate gear, a conveyer underneath said molds, and means for simultaneously operating the connecting gears of the sets of molds to discharge the contents thereof upon said conveyer.

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

WILLIAM McVAY.

Witnesses:

ANDREW GOOD,
ISAAC ANDERSON.