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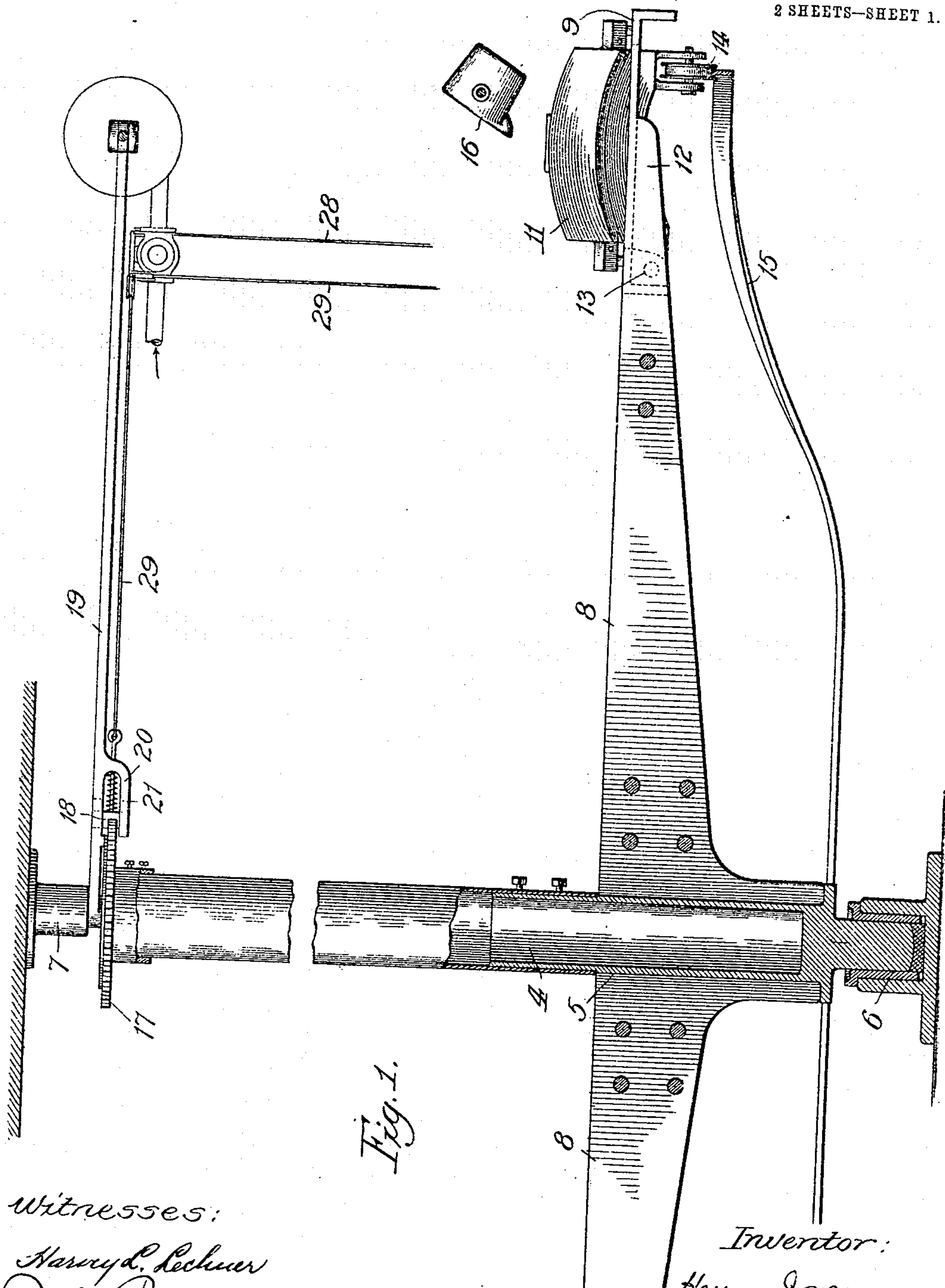
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No. 850,653.

PATENTED APR. 16, 1907.

H. JONES.  
CASTING MACHINE.  
APPLICATION FILED DEC. 5, 1905.

2 SHEETS—SHEET 1.



Witnesses:  
Harry D. Lechner  
J. C. Bradley

Inventor:  
Harry Jones  
By Atty. Symonds & Carpenter

22. METAL FOUNDING.

Casting apparatus.

Moving mechanism.

Rotating table.

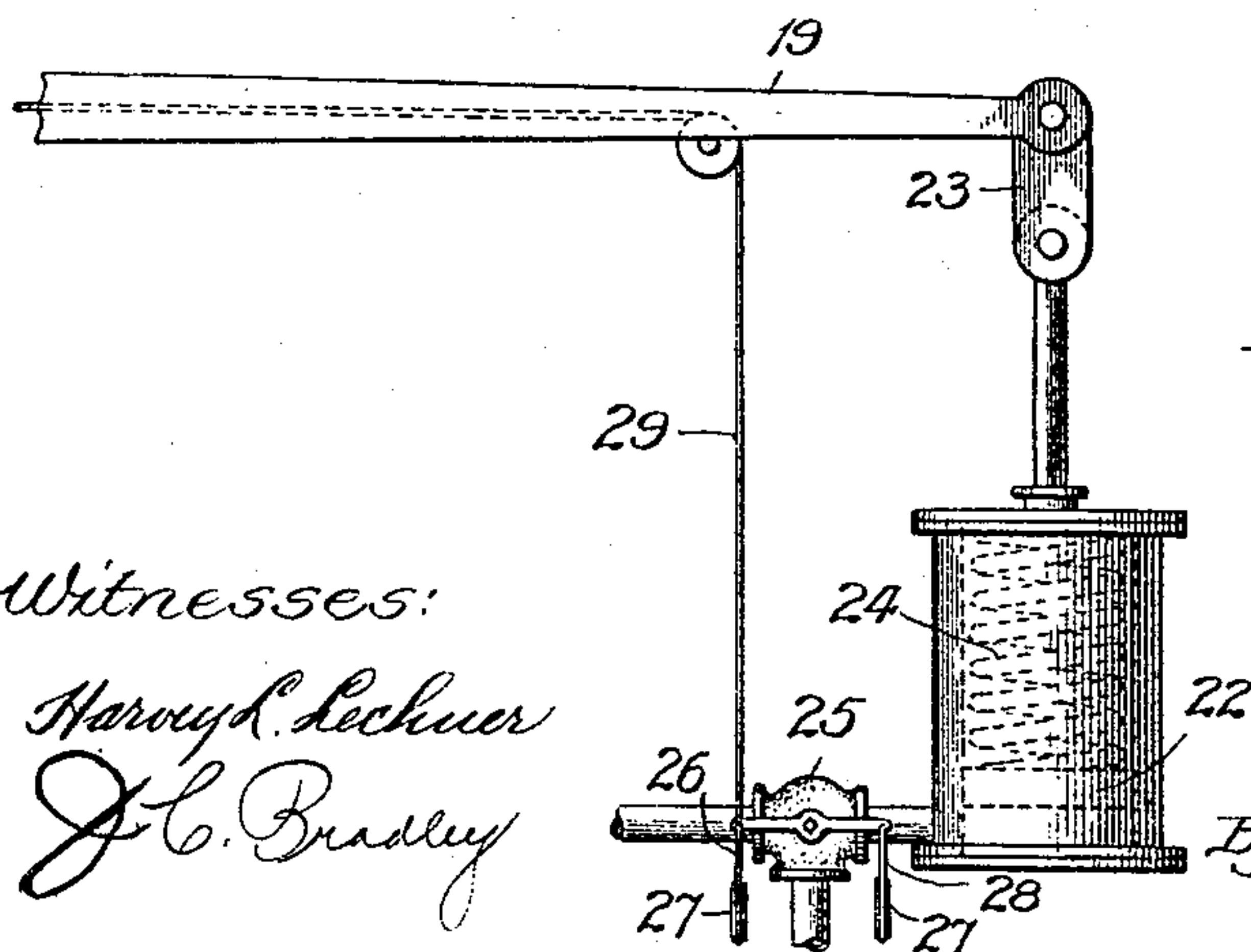
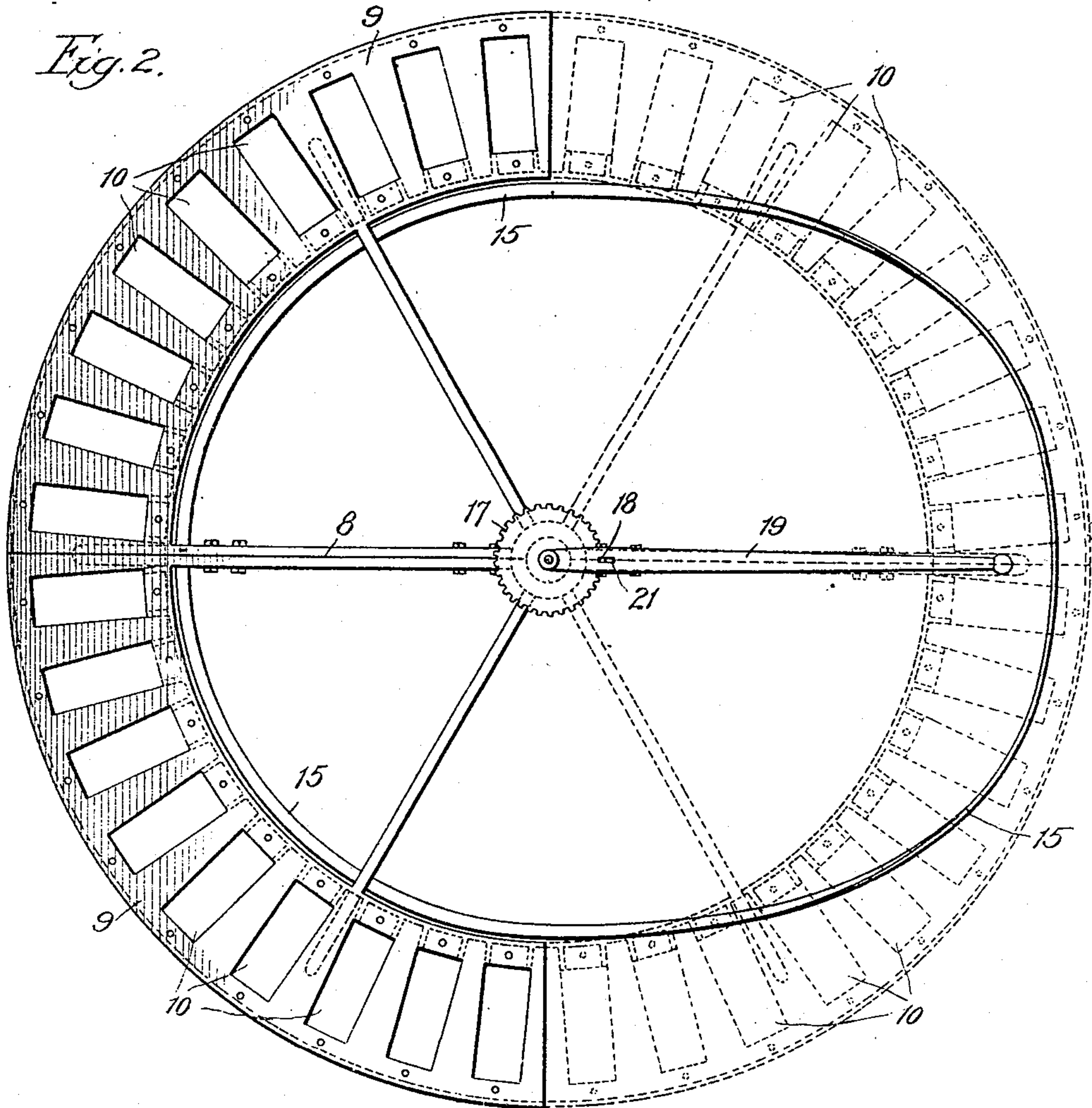
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Inventor:

Harry Jones

By Attys. Symmes, Tweed & Carpenter



# UNITED STATES PATENT OFFICE.

HARRY JONES, OF CHICAGO, ILLINOIS, ASSIGNOR TO AMERICAN BRAKE SHOE & FOUNDRY COMPANY, OF JERSEY CITY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

## CASTING-MACHINE.

No. 850,653.

Specification of Letters Patent.

Patented April 16, 1907.

Application filed December 5, 1905. Serial No. 290,385.

*To all whom it may concern:*

Be it known that I, HARRY JONES, a citizen of the United States, residing at Chicago, in the State of Illinois, have invented certain new and useful Improvements in Casting-Machines, of which the following is a specification.

The object of this invention is to provide a construction whereby a mold of the swing down type may be operated by the relative rotary movement of the mold and a cam track. Further the invention is designed to provide a machine wherein a plurality of molds may be operated successively by the same mechanism, and also to provide a means for intermittently operating the mechanism. The invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a section through the center of the machine;

Figure 2 is a plan view on a smaller scale, and

Figure 3 is an enlarged detail view showing the mechanism for intermittently rotating the carrying frame.

The invention is designed to be used with metal molds which have a swing down lower mold portion for releasing the casting and consists of a frame rotating in a horizontal plane and carrying a number of molds of the type above referred to. The frame is adapted to rotate and carry the molds over a cam track which is so shaped that at certain positions the lower swing section of the mold will be in closed position for pouring and at other positions of the frame will be allowed to drop down and release the casting. The frame is provided with a novel mechanism for intermittently rotating it.

As shown in the drawings, 4 is a rotatable frame of considerable diameter which consists of a central supporting casting 5 supported at the base in a thrust bearing 6, and at the top from an overhead beam and a bearing 7, and a plurality of radiating arms 8 bolted to the central casting and carrying at their extremities an annular supporting platform 9 on which the molds 10 are mounted. As previously set forth, the molds are of the swing down type, and consist of an upper portion 11 mounted upon the platform 9 and a lower swinging portion 12 pivoted at 13 and carrying and operated by a roller 14 which

bears against a track 15. As shown in the drawings, this track is of rectangular cross section and is placed immediately below the revolving frame, and is adapted, as the mold moves thereover, to successively raise and lower the hinged member. At a point opposite the pouring device 16, the track approaches the mold and runs parallel to the path of the mold for a short distance. It then gradually recedes from the frame and at the same time twists until it has assumed a horizontal position and is also carried in toward the center of the frame in order to allow the swinging member of the mold to assume a vertical position and allow the casting to drop out. The roller 14 is flanged in order that it may not be displaced from its position on the rail and permits of the use of a much narrower rail than would otherwise be the case, as there is a tendency due to the vibration of the machine to move the mold laterally a certain extent. A proper receptacle (not shown) may be provided beneath the frame for the reception of the castings as they drop. The frame may be rotated in a number of ways or may be turned by hand but the preferred form is as shown, a ratchet mechanism. This consists of a ratchet-wheel 17, secured to the axis of the rotatable frame and an operating lever 19 pivoted at the same point, and provided with a catch 18 for engaging the teeth of the ratchet wheel. This catch consists of a slidable block fitting into a yoke 20 of the lever 19 and having a spring 21 for keeping the catch normally engaged with the ratchet wheel. The operating means for the lever 19 is a fluid operated piston 22 shown in detail in Figure 3. This piston is connected by means of its rod and the link 23 to the arm 19, and is operated in one direction by means of fluid admitted into the cylinder and in the opposite direction by means of the spring 24. Fluid is admitted to the cylinder by means of the supply pipe in which is placed a three-way valve 25. The handle 26 of this three-way valve is operated by means of two cords passing over pulleys 27 and extending to a position in proximity to the molds in which position they may be operated. The left hand end of the handle when turned by the cord 28 admits fluid to the cylinder and through the various connections turns the frame a cer-



tain distance. When the frame has reached it furthest position the other cord 29 which is attached to the other side of the handle and also to the end of the catch 18 is pulled bringing the valve first to a position in which no fluid is admitted and stopping the advance of the piston, and by a further movement opening the exhaust and allowing the spring 24 to operate the piston in the other direction, thereby bringing the lever 19 to its original position. This backward movement of the lever is possible as the cord 29 extended withdraws the catch 18.

The operation of the machine will be obvious without further explanation and it will be apparent that the machine provides for the efficient and rapid operation of a large number of molds and requires a minimum amount of attention from the operator.

Having thus described my invention and illustrated its use, what I claim as new, and desire to secure by Letters Patent, is the following:

1. In combination, a rotatable frame carrying a mold thereon, comprising an upper member and a swinging lower member, a pouring means opposite one point of travel of the rotating frame, a cam track beneath the rotatable frame and contacting with the swinging lower member and adapted to hold such lower member closed as the mold passes the pouring means and later allow the lower member to swing open gradually in a downward direction to permit of the discharge of the casting by its own weight.

2. In combination, a rotatable frame carrying a plurality of molds thereon each comprising an upper member and a swinging lower member, a pouring means opposite one point of travel of the rotatable frame, a cam track beneath the rotatable frame and contacting with such swinging members and adapted to hold the lower members closed as the mold passes the pouring means and later to allow such members to swing open downwardly and discharge the castings by gravity.

3. In combination, a rotatable frame carrying a mold thereon, comprising an upper member and a swinging lower member, a cam track beneath the rotatable frame contacting with such swinging member and adapted to hold the swinging member closed at that portion of the travel of the rotatable frame at which the casting is to be done, to allow the mold to swing open downwardly to discharge the casting by gravity and finally to close it again, preparatory to another operation.

4. In combination, a rotatable frame carrying a plurality of molds thereon each comprising an upper member and a swinging lower member, a cam track beneath the rotatable frame and contacting with the swinging member, and adapted to hold such members

closed at that portion of the travel of the rotatable frame at which the pouring is to be done, then allow the molds to swing open downwardly to discharge the casting, by gravity and finally to close them again, preparatory to another operation.

5. In combination, a rotatable frame carrying a mold thereon, having a swinging lower member provided with a flanged wheel, and a cam track whose edge fits the flanged wheel and is substantially vertical and close enough to the mold at one portion of its travel to keep the lower hinged portion closed and in position and in succeeding positions gradually changing from the vertical position to a horizontal one, so removed that the lower hinged portion may swing open and then be closed again by the first portion of the cam track.

6. In combination, a rotatable frame carrying a plurality of molds thereon, each having a swinging lower member provided with a flanged wheel, and a cam track whose edge fits the flanged wheels, and is substantially vertical and close enough to the molds at one portion of the travel of the molds to keep the lower hinged portions closed and in position for casting and in a succeeding position gradually changing from the vertical position to a horizontal one so removed that the lower hinged portions may swing open and then be closed again by the first portion of the cam track.

7. In combination, a rotatable frame carrying an automatically releasable casting machine, and a mechanism for intermittently rotating the frame, comprising a ratchet gear having a catch and an operating lever and a piston connected thereto, fluid operated in one direction and spring operated in the other, the fluid supply having a three-way valve and a connection between the catch and the three-way valve so that a movement of the valve handle in one direction admits fluid and operates the piston, while a movement in the other direction cuts off the fluid, opens the exhaust and withdraws the catch.

8. In combination, a rotatable frame carrying a mold thereon having a lower member provided with a flanged engaging member, and a cam track whose edge fits the flanged engaging member and is substantially vertical and close enough to the mold at one portion of its travel to keep the lower hinged member closed and in position and in succeeding positions gradually changing from the vertical position to a horizontal one, so removed that the lower hinged member may swing open and then be closed again by the first portion of the cam track.

9. In combination, a rotatable frame carrying a mold thereon comprising an upper member and a swinging lower member provided with a wheel, and a cam track whose edge engages the wheel and is close enough to



the mold at one portion of its travel to keep  
the lower hinged member closed and in posi-  
tion and in succeeding positions is so re-  
moved that the lower hinged member may  
5 swing open and then be closed again by the  
first portion of the cam track.

In testimony whereof I have hereunto

signed my name in the presence of the two  
subscribed witnesses.

HARRY JONES.

Witnesses:

PAUL CARPENTER,  
ALBERT G. MILLER.