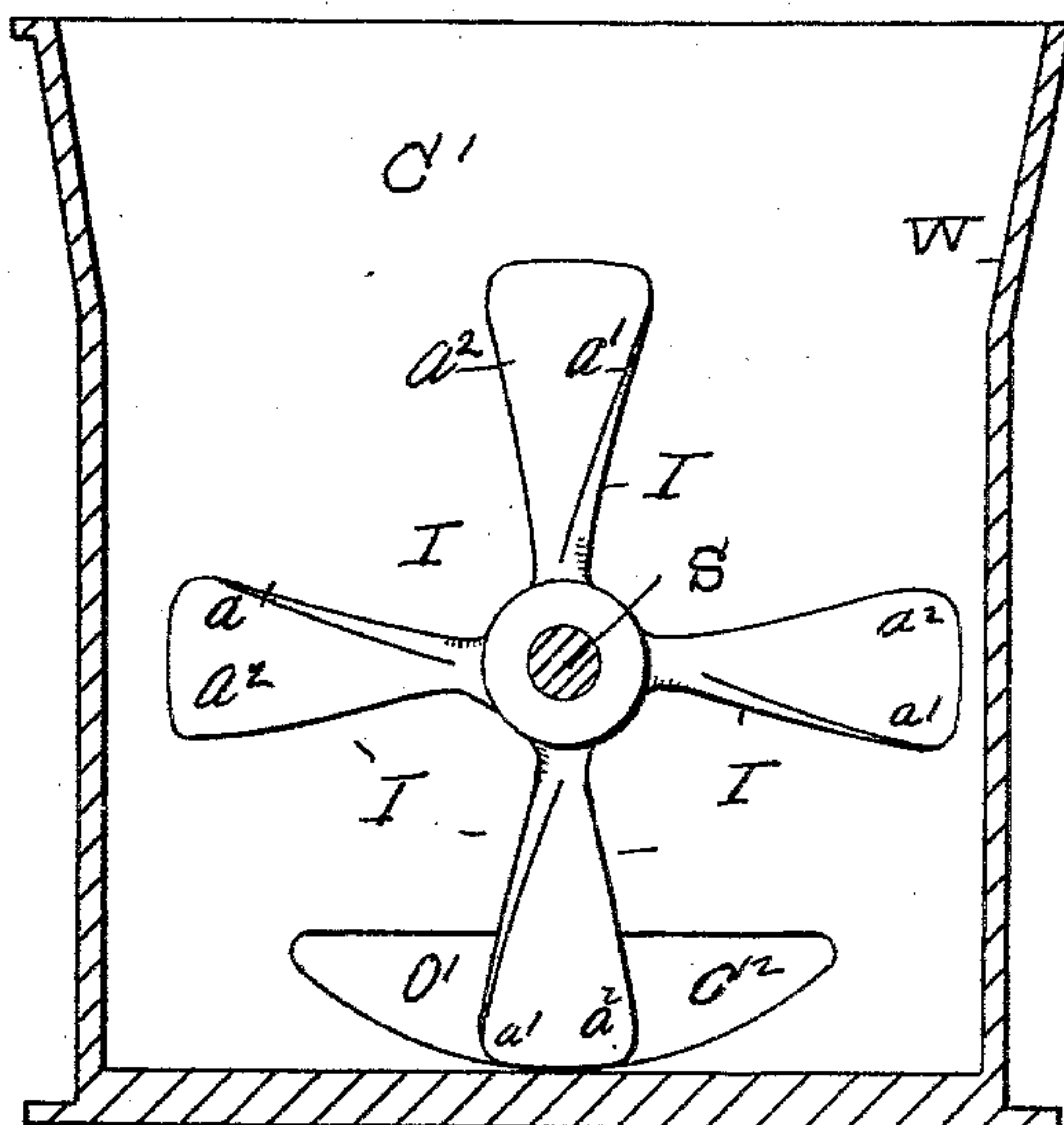
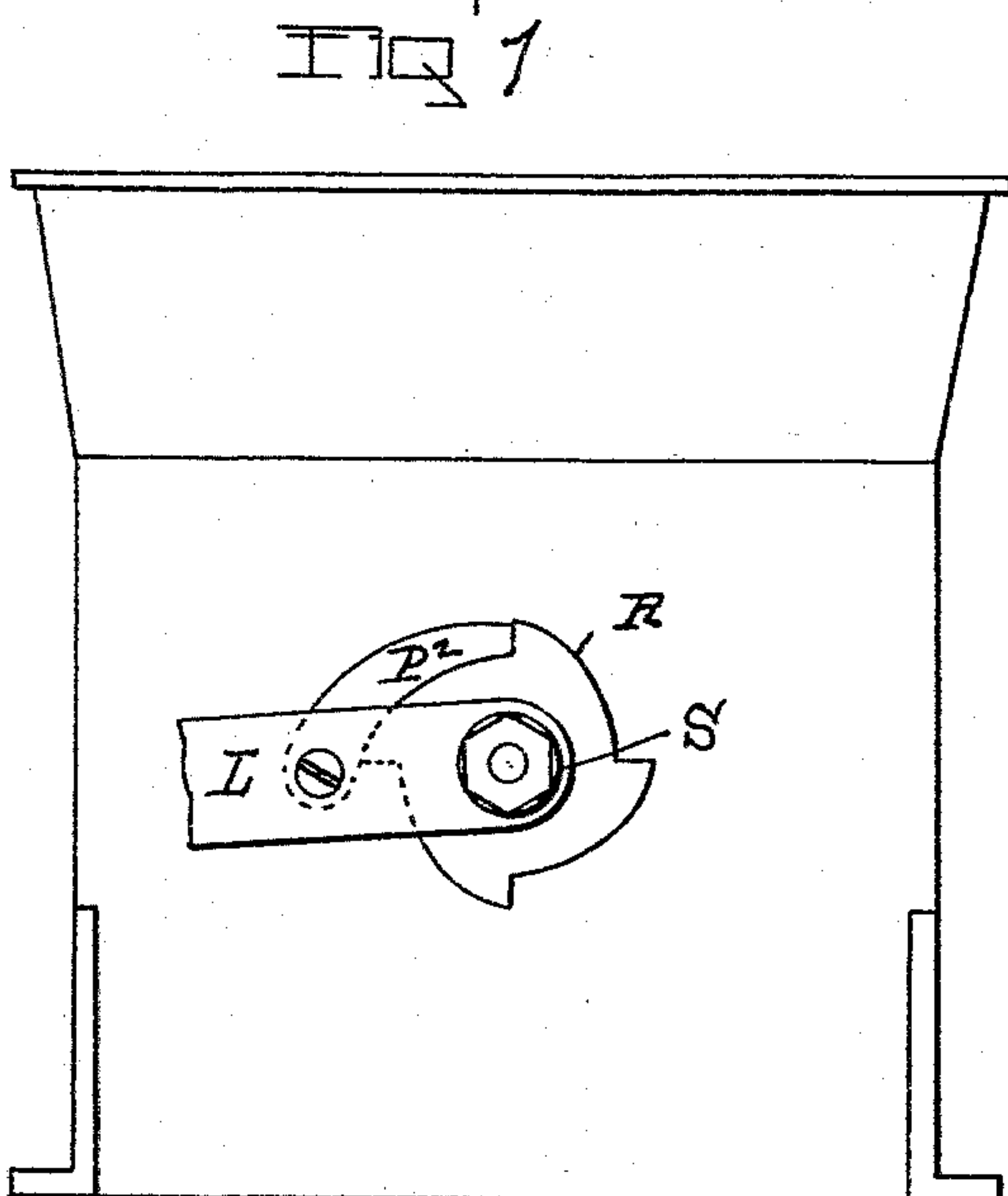
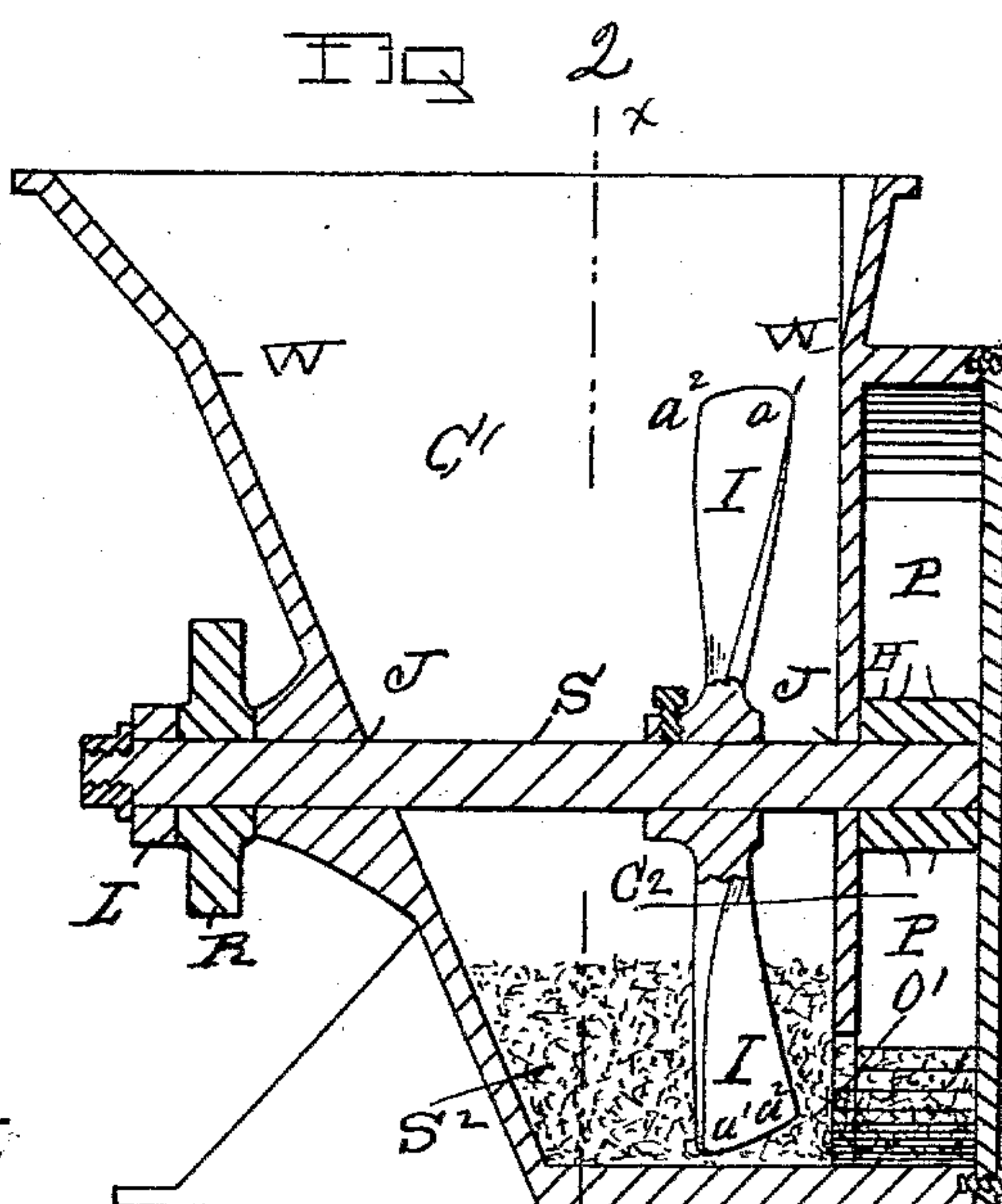
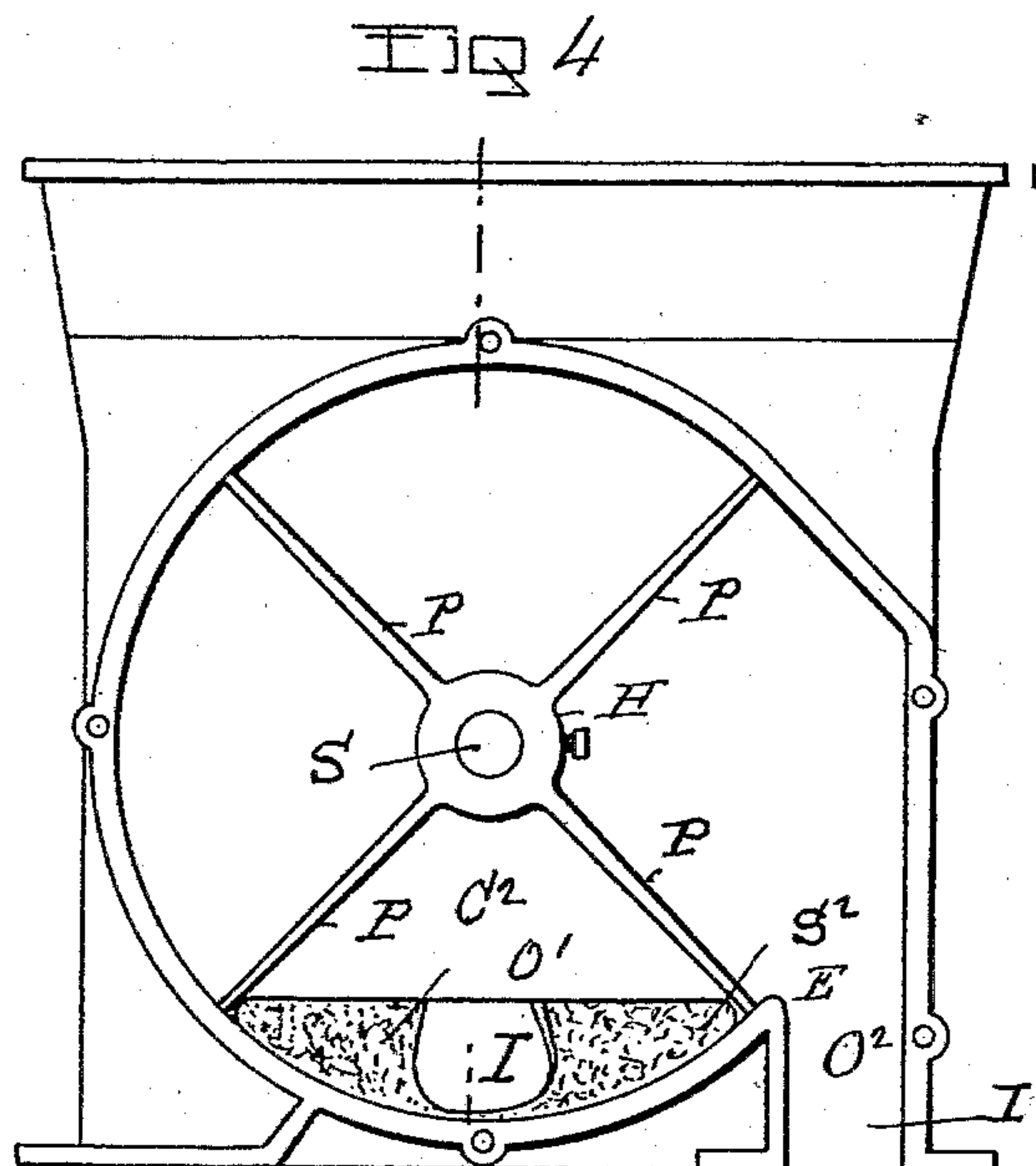


(No Model.)

A. W. HAM.
SAND BOX FOR CARS.

No. 556,885.

Patented Mar. 24, 1896.



WITNESSES

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ALBERT W. HAM, OF LANSINGBURG, ASSIGNOR TO THE TROJAN BUTTON
FASTENER COMPANY, INCORPORATED, OF TROY, NEW YORK.

SAND-BOX FOR CARS.

SPECIFICATION forming part of Letters Patent No. 556,885, dated March 24, 1896.

Application filed September 7, 1895. Serial No. 561,841. (No model.)

To all whom it may concern:

Be it known that I, ALBERT W. HAM, of the village of Lansingburg, county of Rensselaer, and State of New York, have invented a new and useful Improvement in Sand-Boxes for Cars, of which the following is a specification.

My invention relates to improvements upon that class of apparatus which is used to supply sand to the rails of car-tracks when they become slippery, and which devices are termed "sand-boxes."

The object and purpose of my invention are to provide a receptacle or receiving-chamber in which the sand to be used is contained and to arrange alongside of said receptacle a sand-distributing chamber connecting with the sand-receiving chamber by means of a lateral passage made in the bottom of the receptacle, connecting with a basin formed in the bottom of the distributing-chamber, and to provide a shaft arranged to pass through both the receiving and distributing chambers, with a conveyer-wheel arranged on the shaft within the receptacle, by which when said shaft is partially rotated the conveyer-wheel will force sand from the receptacle into the distributing-chamber, and another wheel provided with blades arranged on said shaft within the distributing-chamber, by which the sand entering the basin of the latter from the movement of the conveyer-wheel will be carried up over the edge of the basin to descend into a chute or duct leading to the track, with said shaft operated by means of a ratchet-wheel arranged thereon, a lever pivoted to said shaft, and a pawl on said lever whereby as said lever is oscillated back and forth it will operate said shaft with its conveyer-wheel and distributing-chamber wheel each to move a quarter of a turn, and thus supply the sand to the track in measured quantities.

Accompanying this specification to form a part of it there is a sheet of drawings containing four figures illustrating my invention, with the same designation of parts by letter reference used in all of them.

Of the illustrations, Figure 1 is a side elevation of my improved sand-box with that side of the latter on which are located the ratchet-wheel and pawl operating the shaft on which the conveyer-wheel and distribut-

ing-chamber wheel are located shown as facing the view. Fig. 2 is a section taken centrally through the shaft, the sand-receiving chamber, and the sand-distributing chamber, with the paddles of the conveyer-wheel shown in elevation. Fig. 3 is a section taken on the line $x x$ of Fig. 2, and Fig. 4 is a side elevation of the sand-box with the outer side of the distributing-chamber removed.

The several parts of the apparatus thus illustrated are designated by letter reference, and the function of the parts is described as follows:

The letters W designate the side walls forming the sand-receiving chamber C' , and the letter C^2 designates the sand-distributing chamber, connecting with the receiving-chamber by means of a lateral opening O' , made in the bottom of the receiving-chamber, leading into the distributing-chamber. The latter has a circular form at its bottom and top and is made with a side opening O^2 , connecting with a chute or duct D, leading downwardly toward the rails.

The letter S designates a shaft arranged to journal at J in the side walls of the receiving-chamber, in which bearings the shaft can be rotated.

The letter I designates a conveyer having arms deflecting in a blade form from a' to a^2 , which is mounted upon said shaft to turn with it within the receiving-chamber C' , with the deflection or propeller face of the conveying-arms arranged with reference to the sand S^2 in the receiving-chamber, so that when the conveyer is rotated by the shaft S this deflection of the conveyer-paddles will force sand contained in the receiving-chamber through the lateral opening O' into the distributing-chamber at each passage of each of the conveyer paddles or blades through the sand.

The letter P designates paddles arranged upon a hub H, which is secured to the shaft S within the distributing-chamber, and which paddles, as moved by the shaft when rotating, engage with the sand thus forced into the distributing-chamber, so as to convey it over the edge E of the opening O^2 , from whence the sand will fall by gravity into the duct or chute D, so as to descend onto the rails.

To actuate the shaft S to move intermit-

tently, it is provided with a ratchet R, secured to said shaft, and a lever L, also pivoted or journaled thereon, which lever is provided with a pivoted pawl P².

5 As thus constructed, when sand S² is supplied to the receptacle or chamber C' and the lever L is at its outer end raised it will cause the pawl P² to engage with the ratchet-wheel R, and thus actuate the shaft and the conveyer I and paddles P to move one-quarter of a turn. The propeller or face of the conveyer-paddle when passing through the sand in the bottom of the receiving-chamber will force a measure of it through the passage O', where it will be caught by one of the paddle-arms P and carried over the edge E of the receiving-chamber, to descend to the rails through the duct D. As thus made the amount of sand transferred to the track is measured, and there is no possibility of the sand becoming packed in the receiving-chamber to such an extent that it will not be delivered to the distributing-chamber.

Another great advantage occurs in the use of my improved sand-box, which arises from having the sand supply contained in a chamber separate from that from which it is distributed, and by which leakage and waste are prevented.

30 Sand-boxes necessarily being limited in size, and consequently to the measure of sand which they will contain, when the latter descends directly from the receptacle in which it is supplied it is generally too freely used. A small amount of sand answers the purpose when properly applied, and by the use of my improvements there is little difficulty in regulating the measure of its use so as to have a receptacle hold enough for a whole car-trip, and the contingency of having the same all discharged by using more than is necessary or by leakage is avoided.

To operate the lever L any well-known form of treadle may be used and placed in the car-platform where it may be operated by the foot of the driver or motorneer.

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

50 1. The combination with a chamber adapted to receive and contain sand, of a sand-distributing chamber arranged upon one side of the receiving-chamber and connecting with said receiving-chamber by means of a passage-way formed in the latter; a duct or chute leading from the receiving-chamber; and a

shaft constructed to journal in said receiving-chamber to pass through the latter and the distributing-chamber; conveyers arranged on the said shaft within the receiving-chamber; and paddles arranged on said shaft within the distributing-chamber, whereby as said shaft is partially rotated, sand will by the conveyer-blades be forced from the receiving-chamber into the distributing-chamber, and by the paddles forced from the receiving-chamber to enter the duct or passage-way leading downwardly therefrom, substantially in the manner as and for the purposes set forth.

2. The combination of a sand-receiving chamber and a sand-distributing chamber arranged side by side, and connecting by means of a passage in their adjacent sides near their bottoms; a duct leading downwardly from the distributing-chamber; a shaft having bearings in which to journal, and arranged to pass through both of said chambers horizontally; conveying-blades arranged on said shaft within said receiving-chamber, and blade-paddles upon said shaft within the distributing-chamber; a ratchet on the outer end of said shaft; a lever pivoted to said shaft and provided with a pawl, whereby said shaft may be operated to move a part of a turn at each full oscillatory movement of the lever and pawl, and when so turning to operate the conveyer-blades to force sand into the distributing-chamber, and the paddles on the shaft in the latter force the sand to enter the duct, substantially as and for the purposes set forth.

3. The combination with the receiving-chamber C' of the distributing-chamber C², provided with the duct D, and connecting with the receiving-chamber by means of the opening O'; the shaft S, passing horizontally through the receiving and distributing chambers; the conveyer-blades I, arranged upon said shaft within the receiving-chamber; and paddles P, arranged upon said shaft within the distributing-chamber, constructed and arranged to be operated substantially in the manner as and for the purposes set forth.

Signed at the city of Troy, New York, this 1st day of August, 1895, and in the presence of the two witnesses whose names are hereto written.

ALBERT W. HAM.

Witnesses:

CHARLES S. BRINTNALL,
W. E. HOGAN.