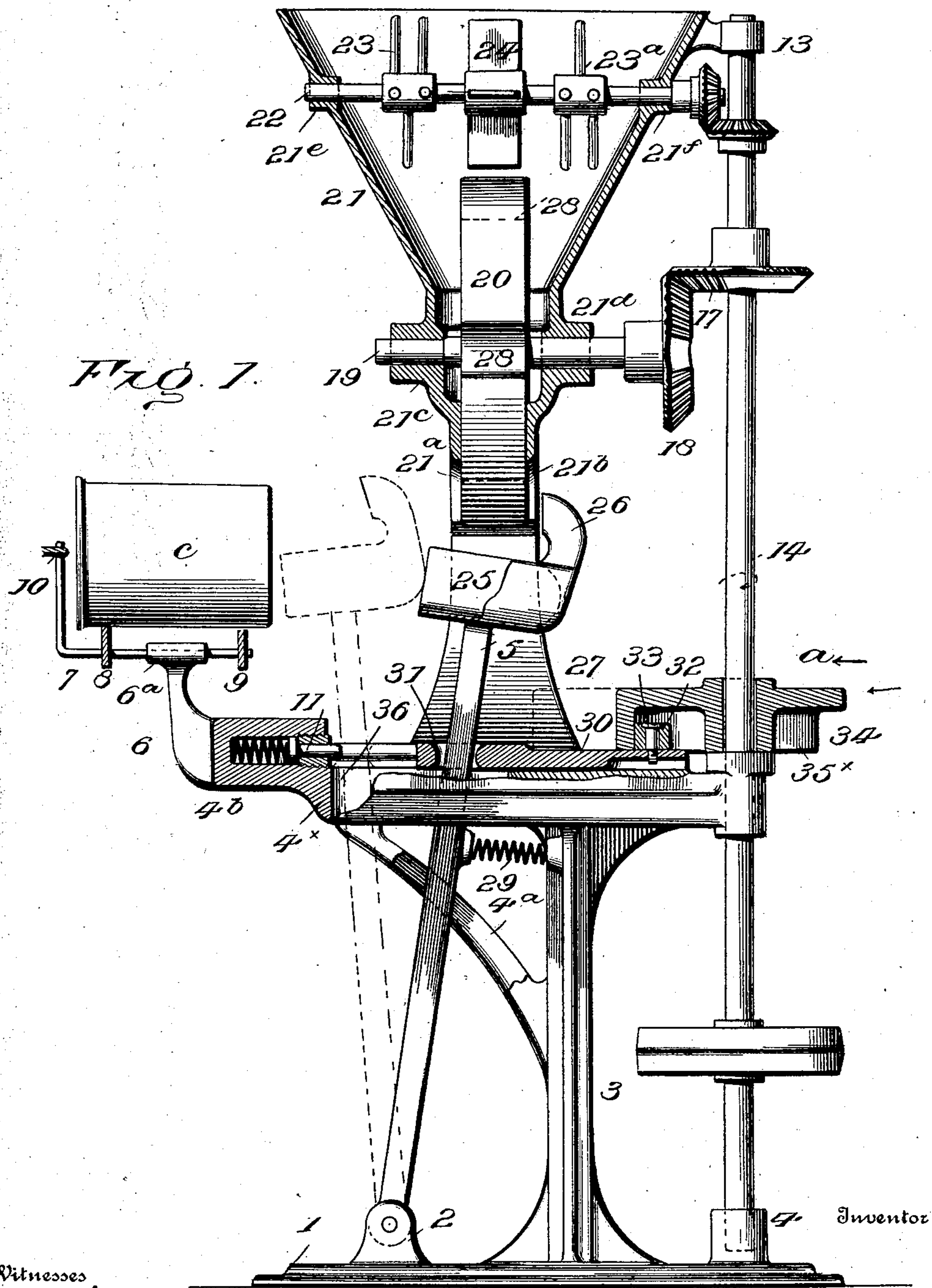


J. W. GHEEN.
AUTOMATIC SALTING MACHINE.

APPLICATION FILED AUG. 6, 1901.

NO MODEL.

3 SHEETS—SHEET 1.



Witnesses

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No. 720,128.

PATENTED FEB. 10, 1903.

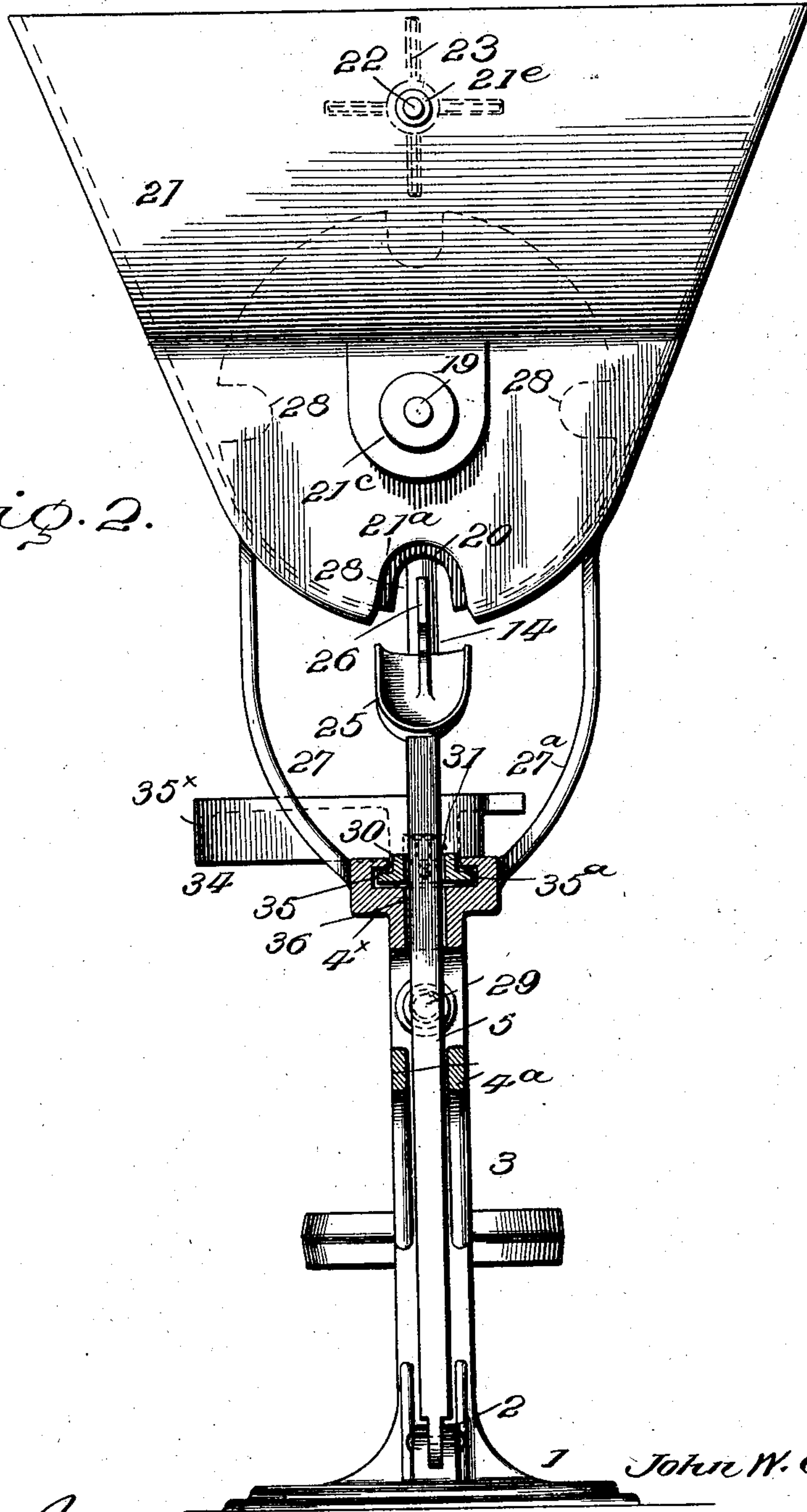
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3 SHEETS—SHEET 2.

FIG. 2.



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3 SHEETS—SHEET 3.

FIG. 3.

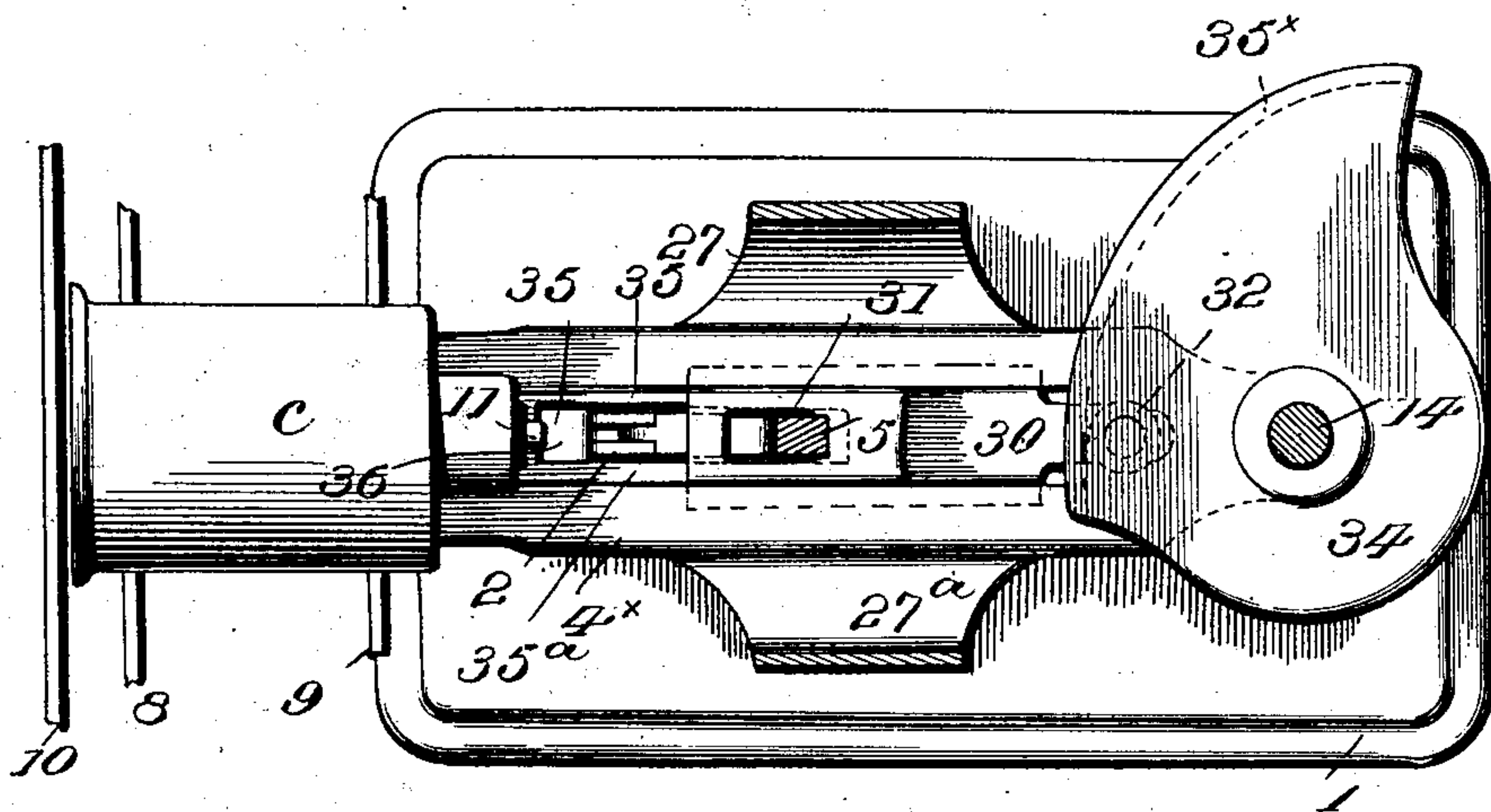


FIG. 4.

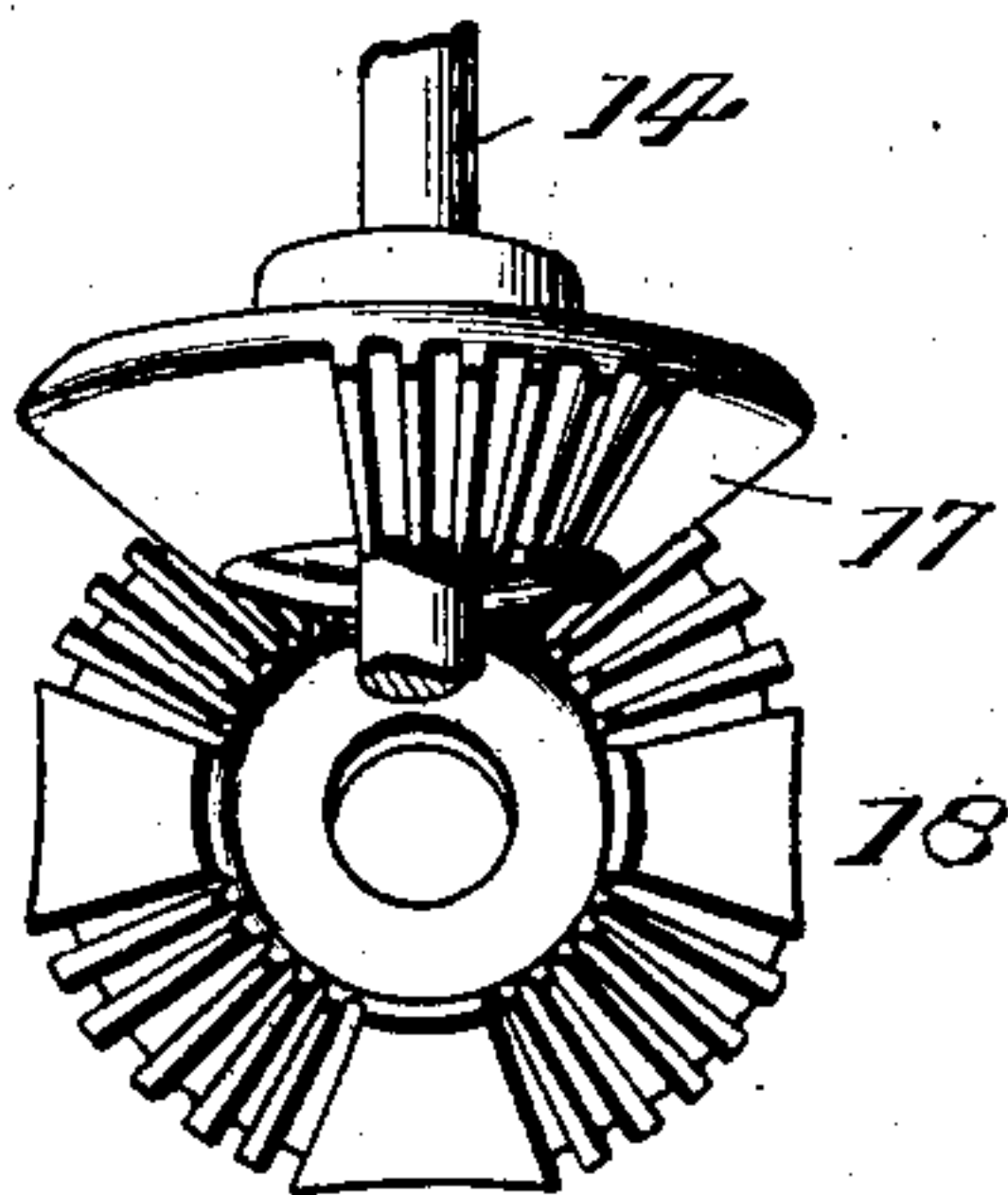
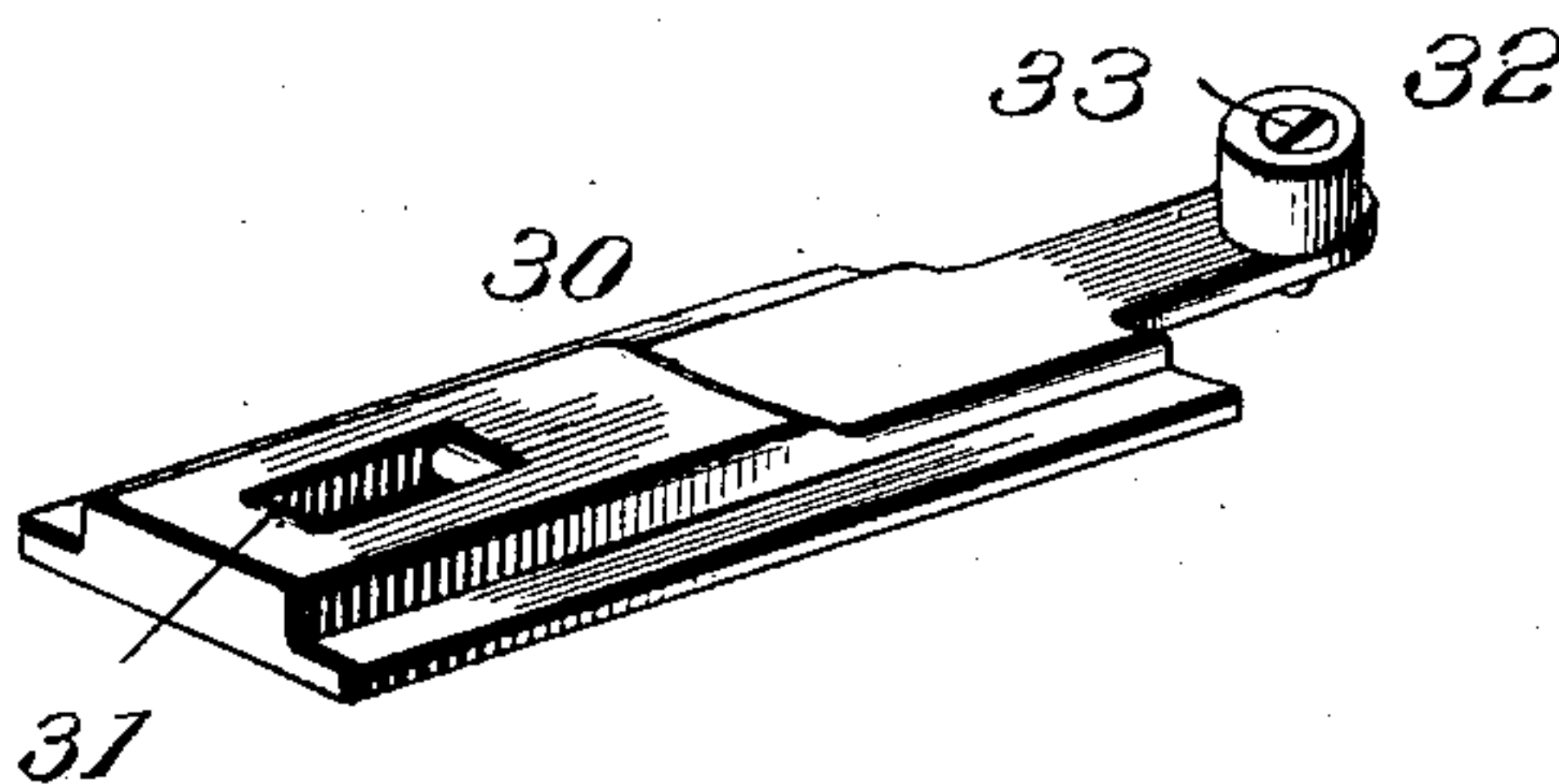


FIG. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN W. GHEEN, OF ASTORIA, OREGON.

AUTOMATIC SALTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 720,128, dated February 10, 1903.

Application filed August 6, 1901. Serial No. 71,121. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. GHEEN, a citizen of the United States, and a resident of Astoria, in the county of Clatsop and State of Oregon, have invented a new and useful Improvement in Automatic Salting-Machines, of which the following is a specification, reference being had to the accompanying drawings as constituting a part thereof.

My invention relates to machines which are designed to automatically introduce salt in cans used for canning meats, fish, &c.; and my invention has for its object to provide a machine of simple and durable construction which is adapted to deliver a measured quantity of salt into a cup or receptacle by which the salt is thrown into the open end of the can, the latter resting on and being rolled along suitable supporting-rails for the purpose provided.

The construction and operation of my invention will be readily understood from the drawings above referred to and the description thereof hereinafter given, the corresponding reference characters indicating the parts referred to in all the figures.

In such drawings, Figure 1 is a side elevation, partly in section, of my improved salting-machine. Fig. 2 is a front elevation, partly in section, so as to illustrate the construction of and bearings for the sliding link 30. Fig. 3 is a plan section approximately taken on a line pointed by the arrow *a*, with the exception of the can and its supporting-rails, which are shown in plan or top view. Fig. 4 is a detail in perspective elevation of the intermittent gears 17 18, and Fig. 5 is a perspective of the link 30.

My machine is supported on a foot or base 1, provided with a socket 4 and perforated lugs 2. The pedestal-bracket comprises a standard 3 and a horizontal arm 4^x, strengthened by the member 4^a. In the forward portion 4^b is an arm 6, provided with a head 6^a, supporting-rails 7 8 9 10, on which to place and roll the can *c* in front of my machine for introducing salt therein. From the arm 4^x project upwardly arms 27 27^a, supporting the hopper 21, having bosses 21^c 21^d and 21^e 21^f, in which to journal the shafts 19 and 22. The hopper is funnel-shaped and has sloped sides contracting into a bottom discharge opening

or spout. The two sides of the base of the spout have opposite registering openings 21^a 21^b, constituting a transversely-extending passage-way for the finger 26, projecting from the cup or receptacle 25 on the arm 5, the foot of which arm is pivoted between the lugs 2. On the shaft 19 is fixedly mounted a vertical rotating disk 20, which disk revolves in the lower part of the hopper and closes the discharge-spout thereof, so that the material contained within the hopper cannot be discharged therefrom except in such limited portions as are conveyed by the disk 20 to the discharge-spout of the hopper, for which purpose such disk is provided in its rim with a series of recesses or pockets 28, in which to receive a limited portion of the salt contained in the hopper. The salt is kept in comminuted form by the aid of the stirrers 23 23^a and the feeder 24, all of which rotate with the shaft 22, the broad radial blades of said feeder operating to feed the salt to the pockets 28 as the same are progressively brought to the top of the disk. The coöperation of the intermittent gears 17 18 is such that the disk 20 at intervals will make a partial—that is to say, a quarter—revolution and then rest, and each partial revolution of said disk bringing one of the rim-pockets thereof in alinement with the openings 21^a 21^b in the hopper-spout. Thus the revolving disk 20 controls the discharge of the salt from the hopper, allowing only such limited portion of the salt to be emitted from the spout of the hopper at intervals as is received in one of said rim-pockets 28 and conveyed in such pockets to the spout. As the salt discharges from the spout of the hopper it is received in a receptacle or cup 25, provided at the free end of the pivoted arm 5. The bracket-arm 4^x has a slot 36, in which the arm operates. Said arm 4^x also has flanges 35 35^a, in which is slidably seated the link 30, a cross-section of this construction being seen in Fig. 2. One end of the link 30 has a slot 31, through which extends the arm 5, and the other end of said link is provided with a stud 32, secured in place by a screw 33. The cam 34 controls the link 30 and the latter the arm 5. As shown in Figs. 1 and 3, the stud 32 is engaged by the segment-flange 35^x of said cam 34 and holds the said arm 5 against the spring 29 with the effect of placing the cup

25 in its normal receiving position. If in practice the machine were in this position, the salt received in the pockets 28 in alinement with the openings 21^a 21^b could discharge in the cup 25. The shaft 14 continuing to rotate, as soon as the segment-flange 35^x passes the stud 32 the link 30 would be released and allow the arm 5 to be thrown forward by the action of the spring 29 against the bumper 11. While the arm 5 is making this motion the finger 26 would pass through the openings 21^a 21^b and the pocket of the disk 20 in alinement therewith and loosen such salt as had become packed in the pocket. Supposing the can *c* to be supported in proper position on the rails 8 9 10 in front of the cup 25, the impact of the arm 5 against the bumper 11 would have the effect of throwing the salt contained in said cup into the open mouth of the can.

From the construction illustrated in Fig. 4 of the gears 17 18 it will be observed that the gear 17 meshes with the gear 18 for only a part of the time of each revolution and that each complete revolution of the shaft 14 will impart to the shaft 19 but a quarter-revolution, with the effect of lifting that one of the series of pockets 28 which has discharged the salt received therein and bringing another of said pockets in alinement with the openings 21^a 21^b. After the arm 5 has been thrown against the bumper 11, as shown in broken outline in Fig. 1, the continued revolution of the shaft 14 will again bring the long end of the cam 34 in engagement with the stud of the link 30 and retract the latter, and therewith the arm 5, so as to bring the cup 25 back to its normal receiving position, the arrangement of the gears 17 18 being such as to allow the disk 20 to still remain at rest while the arm 5 is being retracted, as mentioned.

The operation of my machine is readily understood from the description thereof above given. The hopper is kept filled with salt. The stirrers 23 23^a and the feeder 24 break up the lumps in the salt, and the feeder also pushes the salt into the pocket of the disk 20 under it. While said pocket is so filling with salt the disk 20 is at rest. The next quarter-turn of said disk brings the pocket which was positioned at the top to one side, and the next quarter-turn of said disk brings the pocket first filled with salt in alinement with the openings 21^a 21^b. During such interval that the disk 20 is at rest the arm 5 is operated, as indicated in dotted outline, always being returned to its normal receiving position before the disk 20 makes its next quarter-turn. When a pocket of the said disk, filled with salt, is turned over the cup 25 on the arm 5, the next action of the said arm 5 is to throw the salt in the cup 25 into the open end of the can, as described. Should the salt become packed in said pockets of the disk, it would be loosened by the action of the finger 26 passing through the openings

21^a 21^b of the spout. Such openings and finger are, however, not deemed essential.

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

1. The combination with the hopper, and means controlling the discharge-spout of said hopper to allow an intermittent discharge therefrom; of a reciprocating cup or carrier comprising a vertically-pivoted arm carrying a receptacle at its free extremity having an end discharge; a sliding link engaging said arm; a rotating cam or member operating to engage and retract said sliding link, and release the same again at intervals; a bumper, and a spring operating to throw said arm against the bumper when said link is released, substantially as described.

2. In a salting-machine, the combination of the hopper having a downward-discharge spout, a rotating disk controlling said spout, and provided with a series of rim-pockets for the purpose specified; gearing adapted to impart to said disk an intermittent, partial rotation to bring said pockets over said spout progressively; a reciprocating cup, or carrier, for receiving salt from the hopper-spout, said cup having an end discharge-opening; and mechanism operating said reciprocating cup at intervals to discharge the contents thereof, substantially as described.

3. In a salting-machine, the combination of the hopper having lateral openings at the base of its discharge-spout; the rotating disk controlling said discharge-spout, and provided with a series of rim-pockets for the purpose specified; gearing adapted to impart to said disk an intermittent, partial rotation, and to bring the same at rest with one of its said rim-pockets in alinement with said lateral openings of the spout; a reciprocating cup, or carrier, for receiving the salt discharged from the hopper, said cup having an end discharge; a finger projecting from said cup; and mechanism operating said reciprocating cup at intervals, to discharge the contents thereof while said disk is at rest, substantially as described.

4. In a salting-machine, the combination of the hopper having lateral openings at the base of its discharge-spout, the rotating disk controlling said discharge-spout, and provided with a series of rim-pockets for the purpose specified; gearing adapted to impart to said disk an intermittent, partial rotation, and to bring the same at rest with one of its said rim-pockets in alinement with said lateral openings of the spout; a rotating device, journaled in the hopper, comprising radial arms operating to feed salt to said pockets of the disk; a reciprocating cup, or carrier, for receiving the salt discharged from the hopper, said cup having an end discharge; a finger projecting from said cup; and mechanism operating said reciprocating cup at intervals, to discharge the contents thereof while said disk is at rest, substantially as described.

5. In a salting-machine, the combination of the hopper, 21, having lateral openings at the base of its discharge-spout; the rotating disk, 20, provided with rim-pockets, 28; gearing adapted to impart to said disk an intermittent, partial rotation, and to bring the same at rest with one of its said rim-pockets in alinement with said lateral openings of the spout; a rotating feeder, 24, and stirrers, 23, 23^a, and driving-gear therefor; and a reciprocating cup comprising a vertically-pivoted arm carrying a receptacle at its free extremity having an end discharge; a sliding link engaging said arm; a rotating cam, or mem-

ber, operating to engage and retract said sliding link, and release the same again at intervals; a bumper, and a spring operating to throw said arm against the bumper when said link is released, substantially as described. 15 20

In testimony whereof I have hereunto affixed my signature, in the presence of two witnesses, this 5th day of July, 1901.

JOHN W. GHEEN.

Witnesses:

FRANK SPITTLE,
JOHN STUART HITCHEN.