No. 817,727. PATENTED APR. 10, 1906.

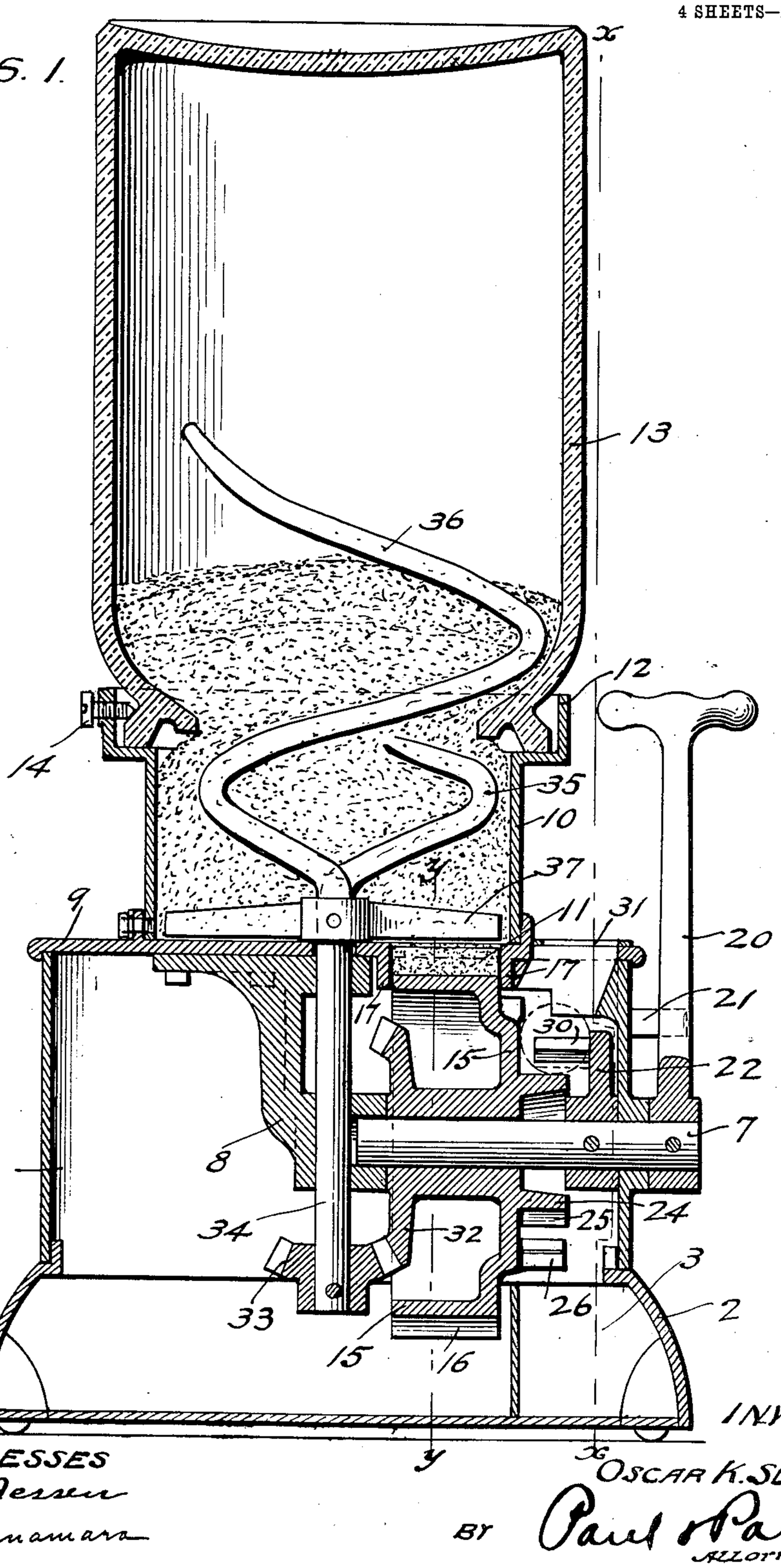
O. K. SLETTO.

VENDING MACHINE.

APPLICATION FILED FEB. 21, 1905.

4 SHEETS—SHEET 1.

FIG. 1.



WITNESSES

J. Jessen

C. Mamamara

INVENTOR

OSCAR K. SLETTO.

BY Paul & Paul

ATTORNEYS.

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4 SHEETS—SHEET 2.

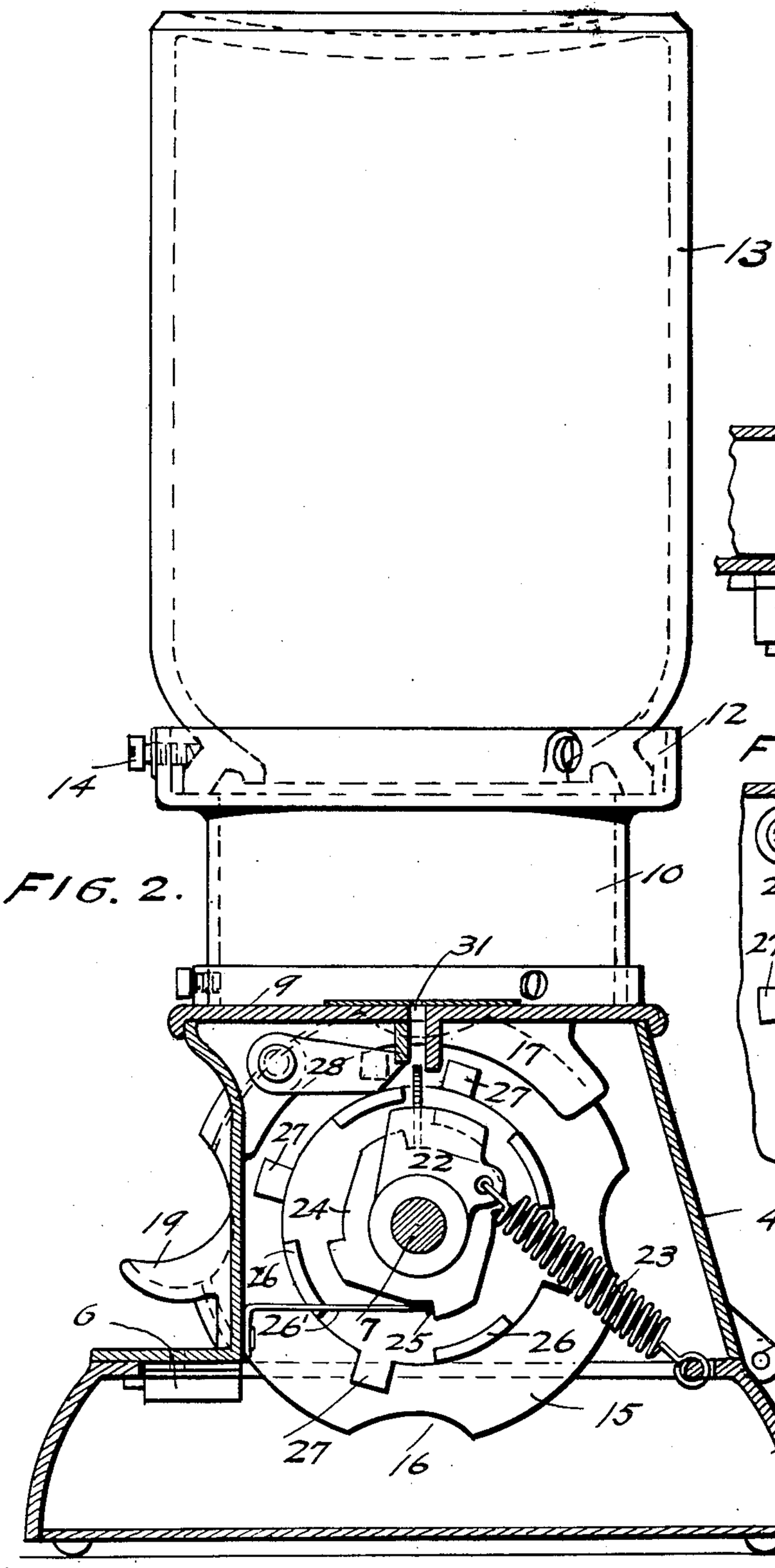


FIG. 2.

FIG. 6.

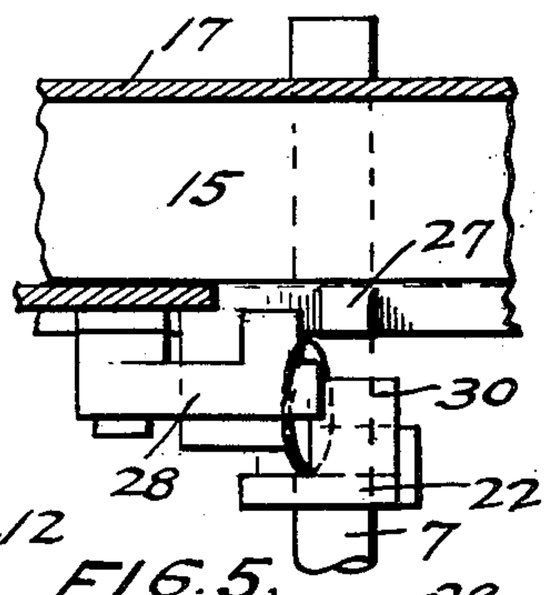
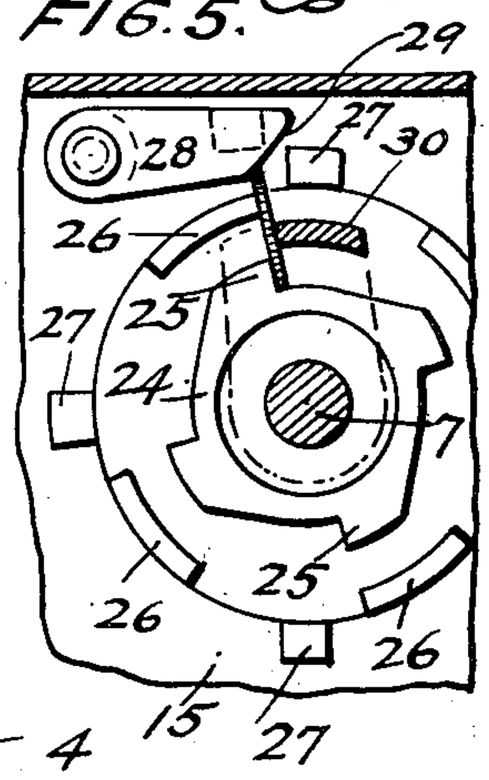


FIG. 5.



INVENTOR

WITNESSES

J. Jessen

C. Mannaman

OSCAR K. SLETTO.

BY Paul & Paul

ATTORNEYS

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4 SHEETS—SHEET 3.

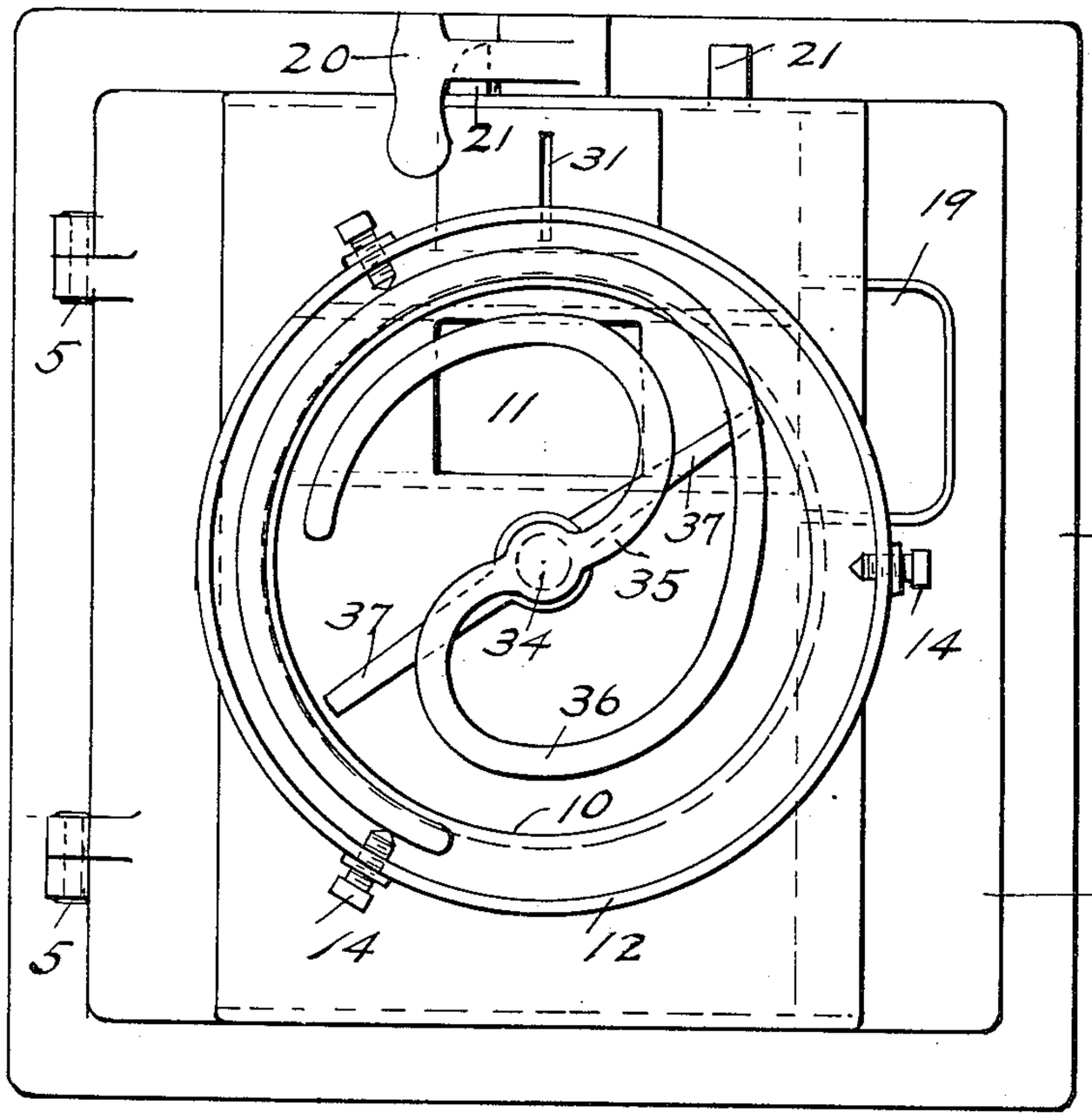

FIG. 3.

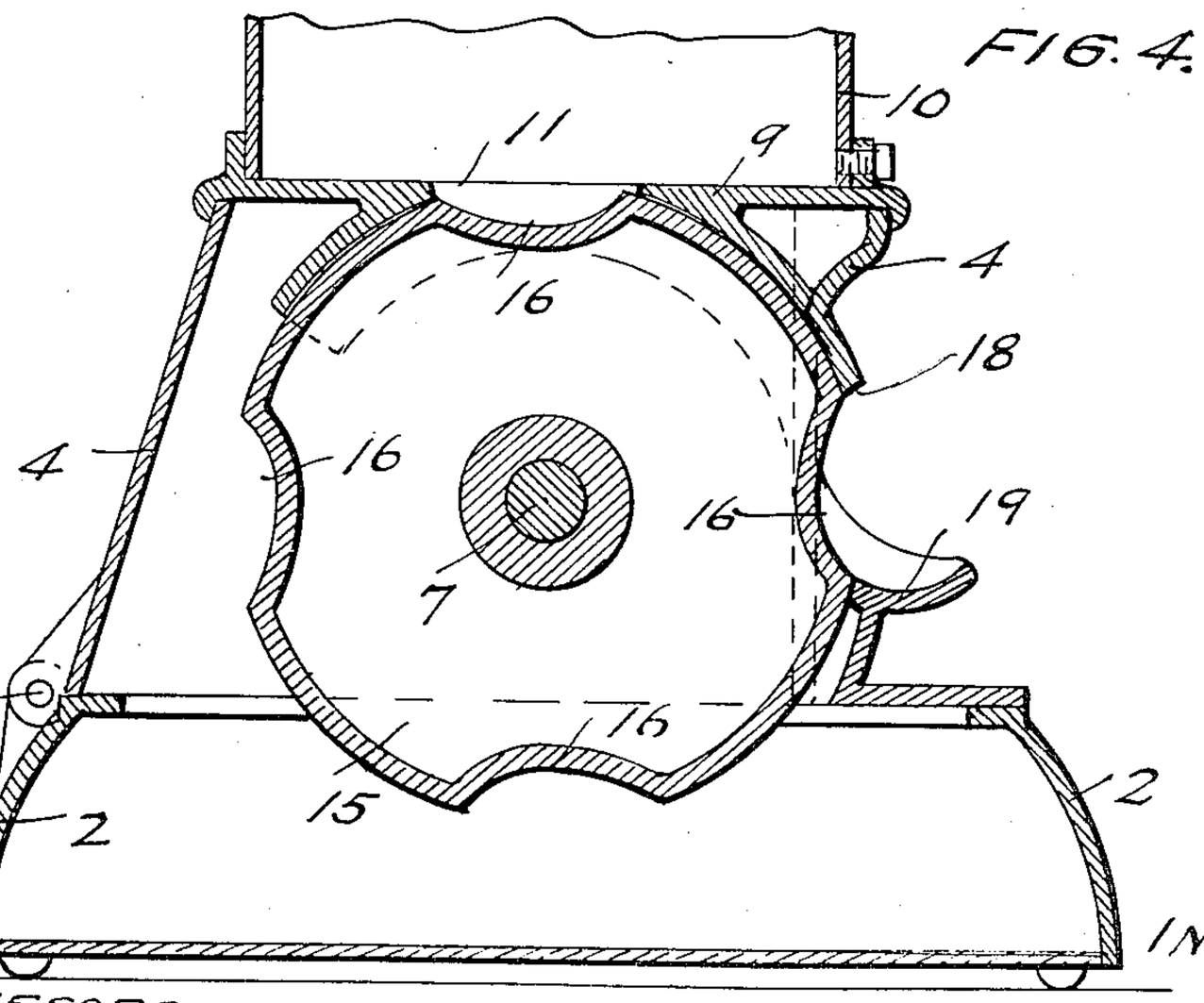

FIG. 4.

WITNESSES

J. Jessen

C. Tannamara

INVENTOR

OSCAR K. SLETTO.

BY Paul & Paul

Attorneys.

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O. K. SLETTO.

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4 SHEETS—SHEET 4.

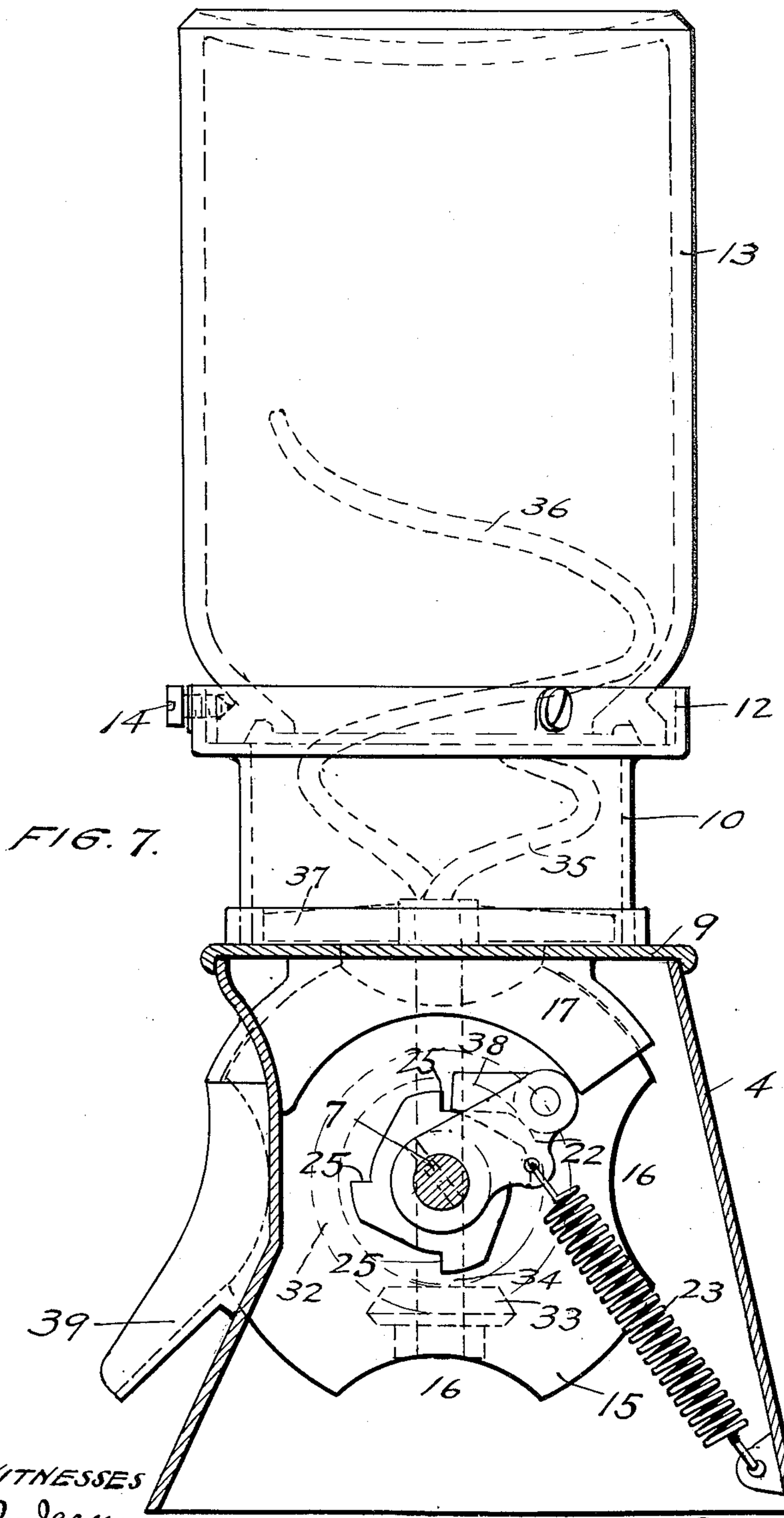

FIG. 7.

WITNESSES

J. Jessen

C. Marmann

INVENTOR

OSCAR K. SLETTO.

BY Paul & Paul Attorneys.

UNITED STATES PATENT OFFICE.

OSCAR K. SLETTO, OF BLACKDUCK, MINNESOTA, ASSIGNOR OF ONE-HALF TO C. H. ALLEN, OF BLACKDUCK, MINNESOTA.

VENDING-MACHINE.

No. 817,727. Specification of Letters Patent. Patented April 10, 1906.

Application filed February 21, 1905. Serial No. 246,649.

To all whom it may concern:

Be it known that I, OSCAR K. SLETTO, of Blackduck, Beltrami county, Minnesota, have invented certain new and useful Improvements in Vending-Machines, of which the following is a specification.

My invention relates to vending-machines designed particularly for delivering snuff, but also adapted for dispensing drugs, spices, and similar articles in a ground or pulverized condition.

The primary object of the invention is to provide a machine of simple but strong and durable construction for use in a grocery or drug store for delivering with each operation a measured quantity of a certain value of snuff, spices, or drugs, thereby rendering it unnecessary for the clerk to measure or weigh the article with every purchase, each operation of the machine delivering a certain quantity according to the size of the feed-pockets.

A further object is to provide a machine which while intended primarily for delivering a commodity with every operation of a lever can be easily modified to require the deposit of the coin as a condition precedent to the operation of the machine.

Other objects of the invention will appear from the following detailed description.

The invention consists generally in various constructions and combinations, all as hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a vertical section of a snuff-vending machine embodying my invention and of a jar in an inverted delivering position thereon. Fig. 2 is a vertical section on the line $x\ x$ of Fig. 1, with the jar shown in full lines. Fig. 3 is a plan view of the machine with the snuff-jar removed. Fig. 4 is a vertical section on the line $y\ y$ of Fig. 1. Figs. 5 and 6 are details of the locking mechanism and illustrating the manner of tripping it by the deposit of a coin. Fig. 7 is a vertical section through the machine, showing its periphery constructed without the employment of the coin-controlled mechanism.

In the drawings, 2 represents a suitable base having a coin-receptacle 3 and a casing 4, hinged to the base at 5 on one side and provided with a lock 6 on the opposite side to prevent any unauthorized person from obtaining access to the interior of the machine and the coin-receptacle. The casing 4 incloses the operating mechanism of the machine and may be tilted to one side on the hinge 5 to allow access to the interior. A rock-shaft 7 is mounted horizontally in the casing 4 and has a bearing at its inner end in a casting 8, that is secured to the cover 9 of the casing. A circular hopper 10 is mounted on said cover over a discharge-hole 11 therein and is provided at its upper edge with a flanged extension 12, upon which the inverted open end of a snuff-jar 13 is placed and held against accidental dislodgment therefrom by set-screws 14. A wheel or drum 15 is loosely mounted on the shaft 7 and provided on its periphery at intervals with a series of depressions or pockets 16, that are curved at the bottom and are adapted to contain a quantity of snuff or other material that is being sold corresponding in value to the denomination of the coin placed in the machine.

The wheel 15 revolves in a vertical plane between guides 17 and beneath the opening 11 in the bottom of the hopper, said opening corresponding in length substantially to the length of the pockets or recesses in the wheel. The snuff fed into the hopper from the jar above will fall down into these recesses between the guides, which will prevent it from working out of the pockets at the sides of the wheel. An opening 18 is provided in the casing 4, through which the wheel operates, and a shelf 19 is provided beneath the opening on which a portion of the snuff will be deposited from the overhanging pocket, and from which shelf and pocket the article purchased can be readily removed. I prefer to have the feed-wheel operate through the opening in the outside casing of the machine, so that in vending snuff or material of like consistency, which will not flow readily, the receiving pockets or recesses of the feed-wheel will be exposed through the opening in the casing and allow the removal of their contents. A suitable operating-handle 20 is provided on the shaft 7, having a limited travel between stops 21 on the machine-casing. An arm 22 is secured on the shaft 7 and connected with a spring 23, whose tension tends to hold and return the operating-lever and shaft to the position indicated in Fig. 3. The wheel 15 being loose on the shaft 7 is free to make a complete revolution and is provided with a

hub 24, having on one side a series of (preferably four) teeth 25 and a series of lugs 26, arranged opposite said teeth and near the periphery of the hub and inclosing the teeth 25 and equidistant from the contiguous ones. A spring 26′ engages the teeth 25 and prevents backward movement of the wheel. Stops 27 are provided on the periphery of the hub, and one of them is normally engaged by a locking-pawl 28 on a fixed pivot and having a beveled face 29. A lug 30 on the arm 22 extends inwardly toward the hub between the teeth 25 and the lugs 26. A coin-slot 31 is provided in the casing above the teeth and the lug 30, and when a coin is deposited in this slot it will drop down upon one of the teeth between the lug 30 and one of the lugs 26. Then when the shaft 7 is oscillated the edge of the coin will engage the beveled edge 29 of the pawl 28 and lift it sufficiently to clear the stop 27 and unlock the shaft. The wheel and hub make a quarter-turn with each complete stroke of the operating-lever, and each movement of the wheel delivers a quantity of snuff or other material and sets the machine anew for another coin.

In a machine of this kind used for vending snuff or similar ground or pulverized material it is desirable, if not necessary, to provide some means for stirring or agitating the material in the hopper and jar to insure its proper feed to the delivery mechanism. I therefore provide a gear 32 on the inner end of the hub 24, meshing with a pinion 33 on a shaft 34, that is mounted in the casting 8 and extends up through the top plate 9 into the hopper 10. Agitating arms or fingers 35 and 36 are provided on the upper end of the shaft 34, both arms being serpentine in form and the former being arranged to agitate or stir the material in the hopper, while the latter arm is longer and extends up into the inverted jar to loosen and stir up the material therein. Snuff and similar commodities will have a tendency to pack down and become lumpy in the jars, and these agitating-arms serve to effectually break up the lumps and loosen the material sufficiently, so that it will feed by gravity down to the delivery-wheel. I also provide on the upper end of the shaft 34 a sweep 37, that moves over the bottom of the hopper and pushes enough snuff or other material ahead of it to insure the filling of each exposed pocket of the delivery-wheel and smooth off the top of the discharge, so that a comparatively uniform quantity will be delivered with each quarter-turn of the wheel.

The manner of using the machine is as follows: The snuff-jar having been opened and inverted over the hopper and secured thereon the person desiring to make a purchase will deposit a coin of the proper denomination in the slot. The coin will drop down upon one of the teeth 25 between the lugs 30 and one of the lugs 26, with the upper edge of the coin projecting beyond the edge of the hub, where it will engage the pawl 28 when the shaft 7 is rocked. The operator will then grasp the handle 20 and rock the shaft, and the beveled edge 29 of the pawl 28, engaging the edge of the coin, will be lifted until the stop 27 is free to move without contacting with the pawl. When the wheel has made a quarter-turn and delivered the snuff or other material, the operator will release the handle 20, and the spring will return it and the shaft to their normal position, and as the lug 30 recedes from the tooth 25 and the lug 26 the coin will be released and allowed to drop into the receptacle beneath. The pawl 28 will then drop down upon the periphery of the hub and be in position to engage the next stop and prevent a second operation of the machine until another coin has been deposited therein.

In the preceding figures of the drawings I have illustrated my improved vending-machine used in connection with an operating mechanism that is controlled by the deposit of a coin in the machine; but I do not wish this to be understood as my preferred construction or the one that I shall generally use, as I regard the form of machine illustrated in Fig. 7 as the more practicable and the one best suited for the purpose designed. In this figure the same form of feed-wheel is shown except that the pockets are larger to contain a nickel's worth of the article vended instead of a penny's worth, which the pockets shown in the wheel of the other type of machine are adapted to contain.

The hub of the delivery-wheel is provided with a series of teeth, as heretofore described, and in place of the lug 30 a pawl 38 is pivoted on the arm 22 and rests by gravity upon said hub and engages said teeth to revolve the wheel a quarter-turn with each operation of the lever 20. The periphery of the delivery-wheel projects through the casing 4, and the contents of the pockets are discharged successively into a spout 39, which may be inserted into the open end of a sack in which the snuff or other article is delivered to the customer.

When the form of machine shown in Fig. 7 is employed, it will be kept on the counter, where it is not easily accessible to the public, but within convenient reach of the clerk to enable him to easily and quickly fill each customer's order as received without the necessity of weighing or measuring the article.

I claim as my invention—

1. In a vending-machine, the combination with a casing having a delivery-opening in its side wall, of a feed-wheel having a series of recesses in its periphery and projecting through said opening to deliver the contents of said recesses outside of said casing, a receptacle near said delivery-opening and wherein the material is discharged from the recesses in said wheel, means for operating said feed-

wheel, and a hopper adapted to contain a ground or pulverized material and having a discharge-opening arranged to register successively with the recesses in said wheel as it revolves, substantially as described.

2. The combination with a suitable casing having a delivery-opening, of a feed-wheel having a series of recesses in its periphery, a hopper adapted to contain a ground or pulverized material and having a discharge-opening to coincide with the recesses in said wheel, and the upper edge of said hopper terminating in a horizontal outwardly-projecting flange and means for securing a snuff-jar or similar vessel in an inverted position on said horizontal flange, substantially as described.

3. In a vending-machine, the combination, with a hopper having a discharge-opening in its bottom and an open top provided with means for securing a snuff-jar in an inverted position thereon, a feed-wheel operating below said discharge-opening, and having a series of peripheral recesses, mechanism for operating said feed-wheel and agitating-arms serpentine in form connected with said operating mechanism and projecting up through said hopper and the open top thereof into a jar thereon, substantially as described.

4. In a vending-machine, the combination, with a hopper having a discharge-opening in its bottom and an open top provided with means for securing an inverted jar thereon, of a member having pockets or recesses operating below said discharge-opening, mechanism for operating said member and a sweep connected with said delivery device and arranged to operate over the bottom of said hopper and across said discharge-opening and said pockets, for the purpose specified.

5. The combination with a casing having a delivery-opening, of a feed-wheel having recesses in its periphery, a hopper mounted on said casing and having a discharge-opening arranged to coincide with the recesses in said wheel as it is revolved, means for revolving said wheel, means provided on the top of said hopper for supporting and securing a jar or similar vessel in an inverted position thereon, and agitating devices projecting vertically through and above said hopper and operated by said revolving means, for the purpose specified.

6. In a vending-machine, the combination, with a casing having a hopper provided with a discharge-opening in its bottom, of a rock-shaft, a wheel mounted thereon and having a series of recesses in its periphery arranged to coincide successively with said hopper discharge-opening, and said casing having an opening through which said pockets are exposed, one at a time, after leaving said discharge-opening to allow the removal of the commodity sold, agitators operating in said hopper, and mechanism for revolving said wheel step by step and operating said agitators, substantially as described.

7. In a vending-machine, the combination with a hopper having a discharge-opening and terminating at its upper edge in an outwardly-projecting flange having a vertical extension and set-screws adapted to secure a snuff-jar in an inverted position on said horizontal flange, a feed-wheel located beneath said discharge-opening and having a series of peripheral recesses arranged to coincide successively with said opening, a rock-shaft whereon said wheel is mounted, and means for operating said shaft and wheel, substantially as described.

In witness whereof I have hereunto set my hand this 11th day of February, 1905.

OSCAR K. SLETTO.

Witnesses:

ERNST L. OBERG,

FRANK SHANNON.