No. 627,505. Patented June 27, 1899.

A. & O. JAEGER.

VENDING MACHINE.

(Application filed Feb. 21, 1895.)

(No Model.) 3 Sheets—Sheet 1.

Fig. 2.

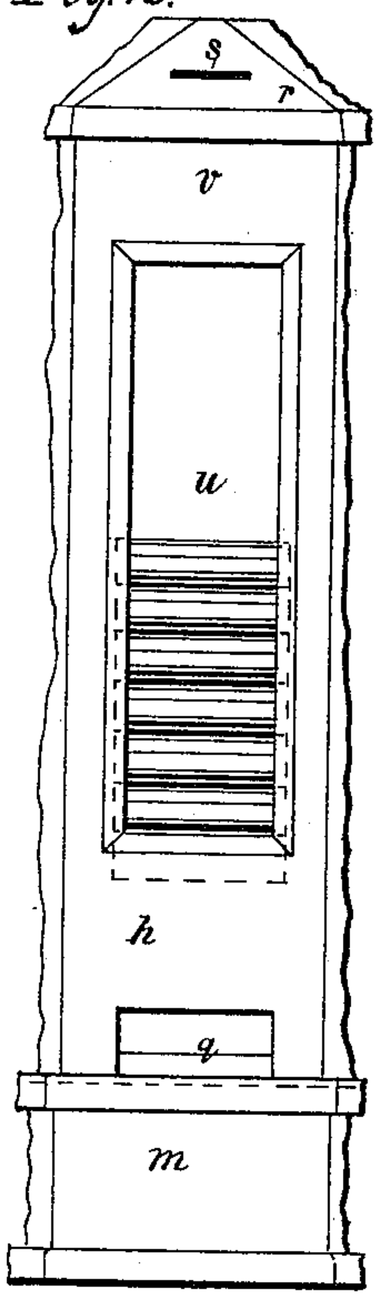


Fig. 1.

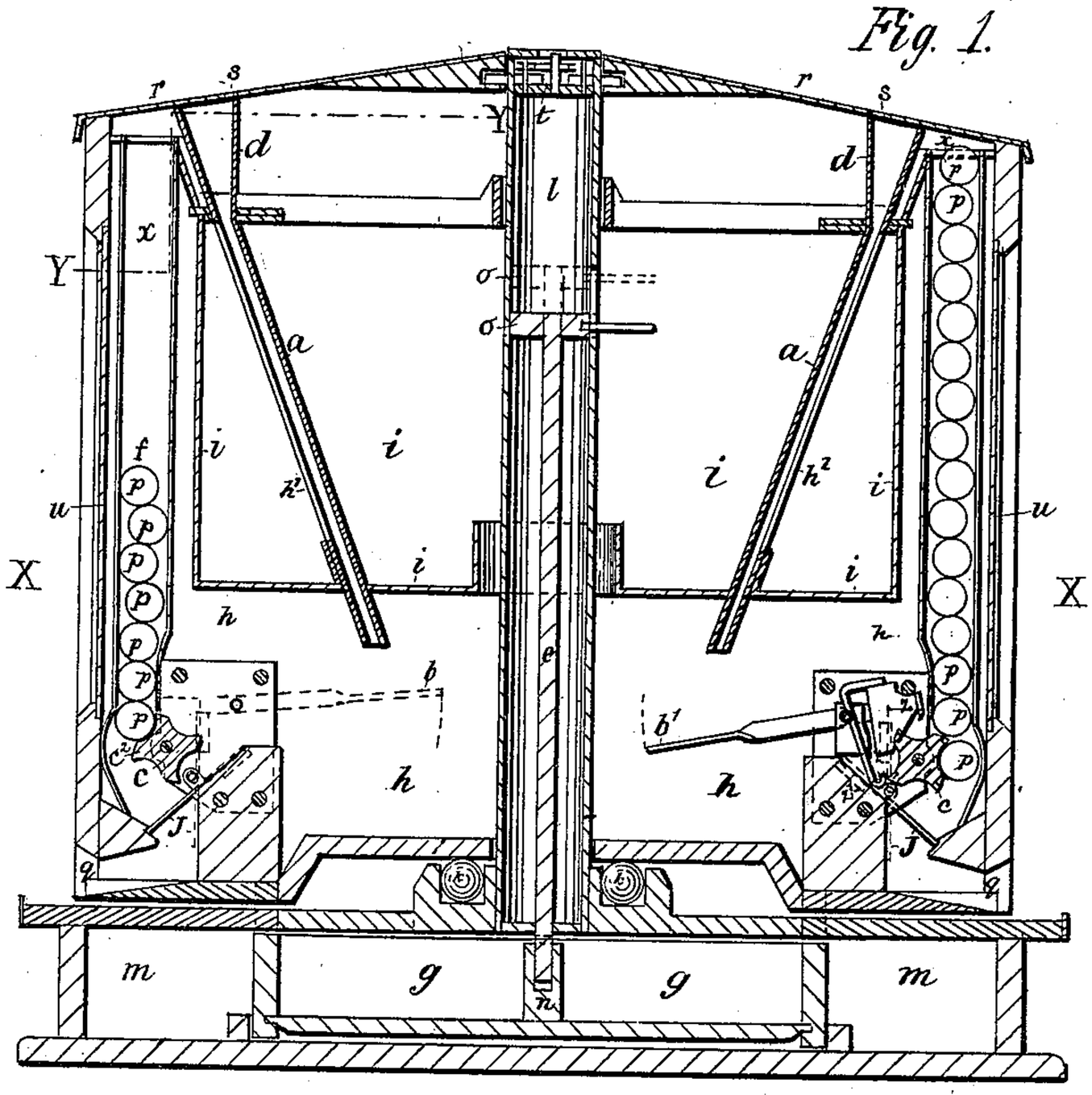
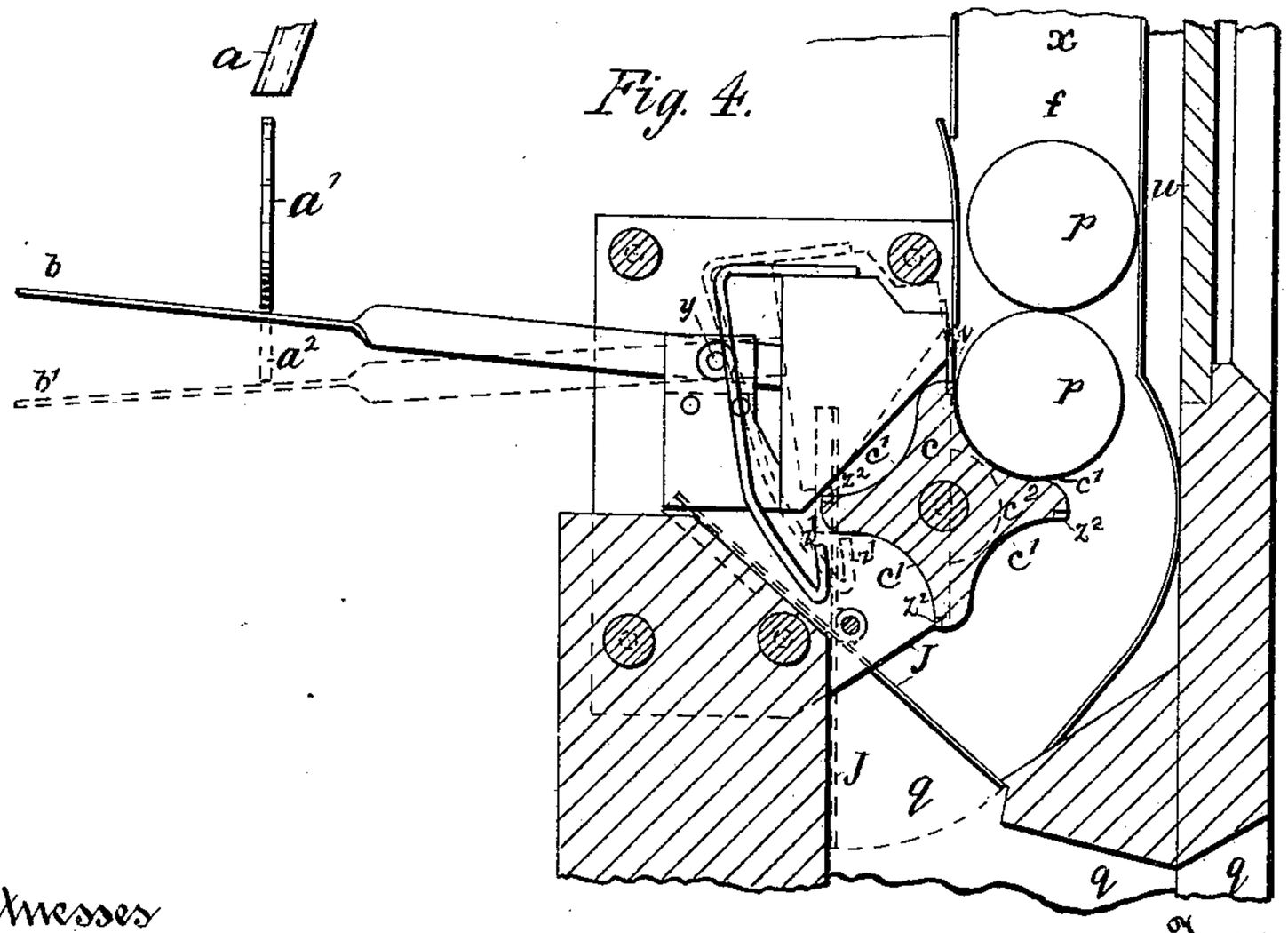


Fig. 4.



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(No Model.) 3 Sheets—Sheet 2.

Fig. 3.

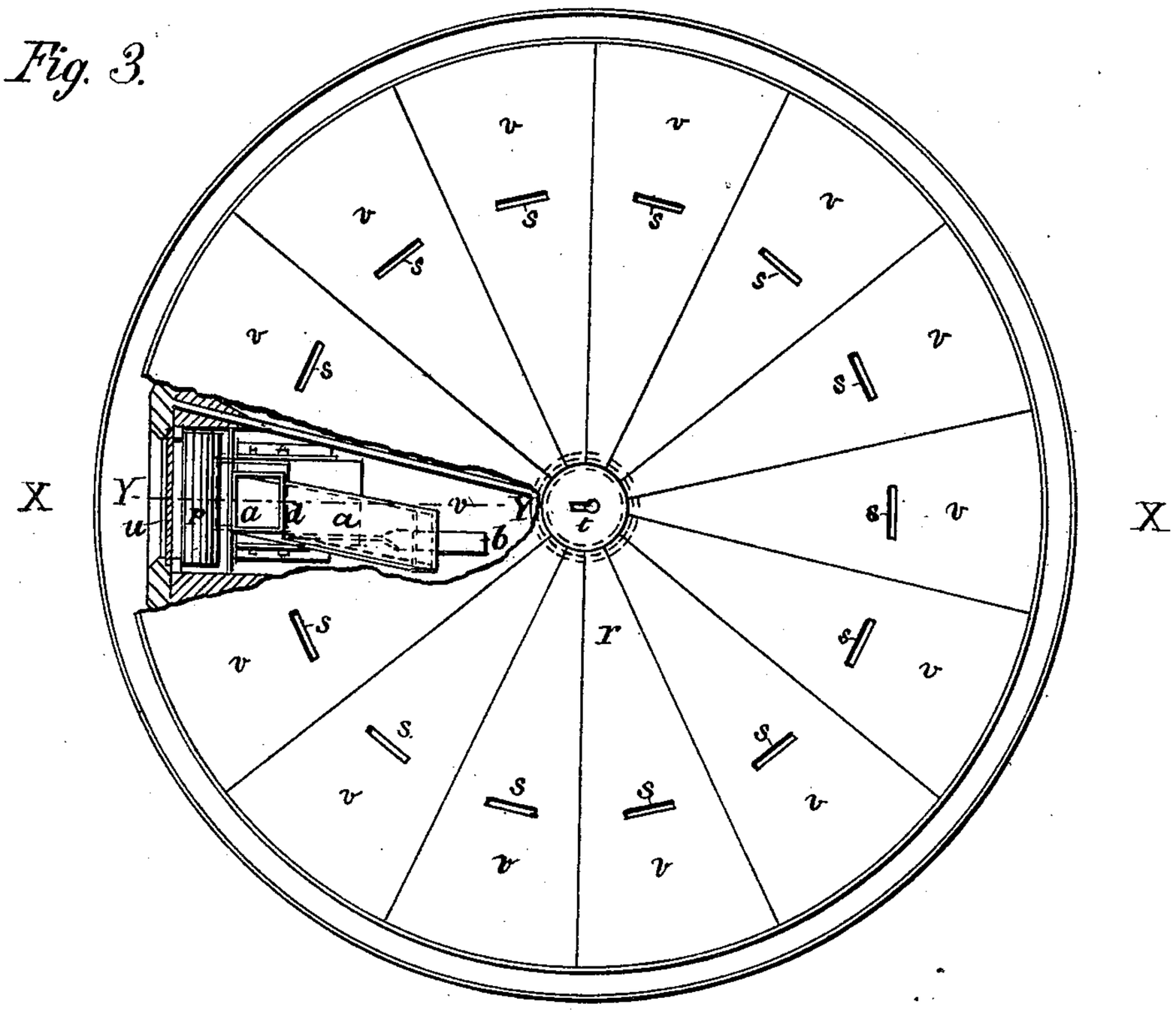
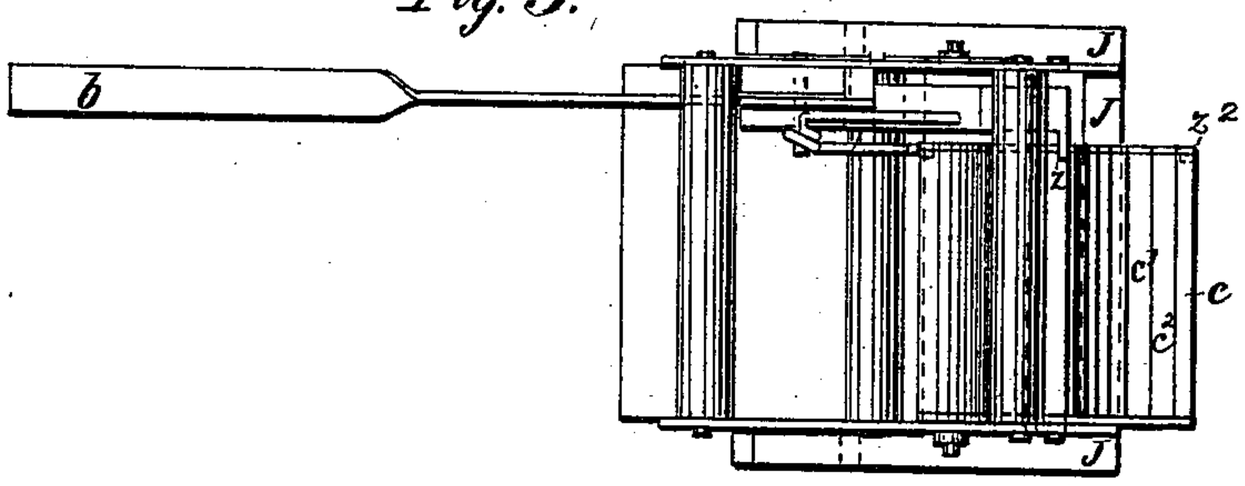


Fig. 5.



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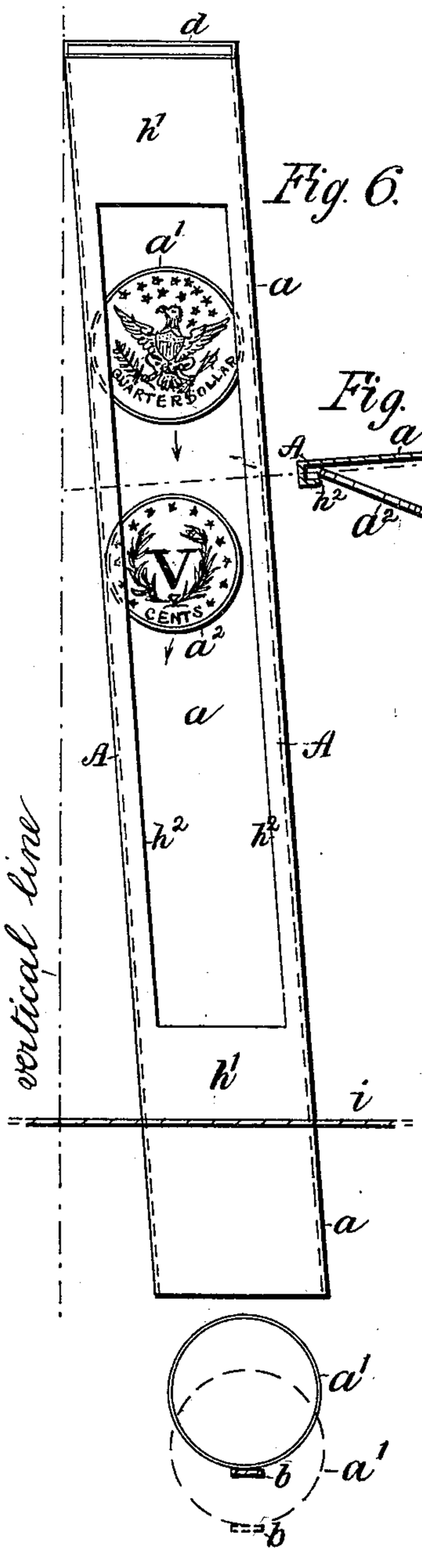

Fig. 6.

Fig. 8.

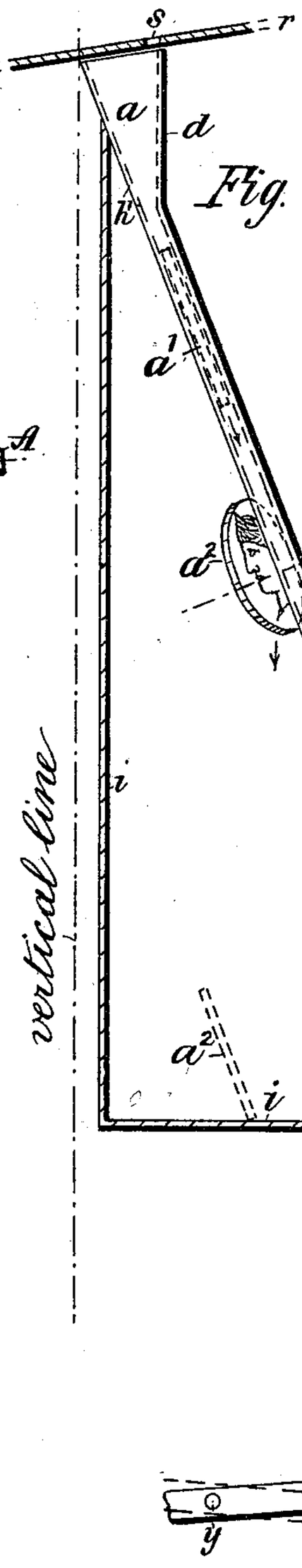

Fig. 7.

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UNITED STATES PATENT OFFICE.

ALEXANDER JAEGER AND OTTO JAEGER, OF PHILADELPHIA, PENNSYLVANIA.

VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 627,505, dated June 27, 1899.

Application filed February 21, 1895. Serial No. 539,267. (No model.)

To all whom it may concern:

Be it known that we, ALEXANDER JAEGER and OTTO JAEGER, citizens of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Vending-Machines; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Our invention relates to improvements in coin-operated vending-machines.

The object of our invention is to provide a new and improved vending-machine operated by the weight of the coin dropped in the machine and by the gravity of the articles vended and having a false-coin detector, as well as being arranged so that it can be operated singly or in connection with a number more, all mounted in a revolving case having a coin-receptacle common to all. We attain these objects by the mechanism shown in the accompanying drawings, in which—

Figure 1 shows a vertical transverse sectional view on the line X X of Fig. 3. Fig. 2 shows a front elevation of one section of Figs. 1 and 3, containing one machine; Fig. 3, a plan view of the revolving case, the broken lines showing horizontal sectional views on line Y Y of Fig. 1 of the reservoirs, coin-conductors, and releasing machinery; Fig. 4, an enlarged vertical sectional view of the releasing mechanism in position when the machine is filled or partly filled, as at *f* in Fig. 1, the dotted lines showing the position of the coin-lever *b* when depressed by a coin, as at *b'* in Fig. 1; Fig. 5, a plan view of Fig. 4; Fig. 6, an enlarged elevation of coin-conductor *a;* Fig. 7, side view of Fig. 6; Fig. 8, transverse sectional view of Figs. 6 and 7.

Similar reference-letters indicate similar parts in all the figures.

By these improvements we have succeeded in making the coin releasing and delivering device very simple in form, dispensing with springs, cams, and gear-wheels, and using only a coin-lever, a grooved drum, an escapement, and a weighted shutter or trap, with the reservoir for the articles to be vended. We also use a coin-conductor of such form and slotted and arranged in such manner that a coin a^2 smaller in diameter than the machine is intended to receive will pass into a separate pocket *i* and not operate the coin-lever *b* or obstruct the machine. This form and arrangement of coin-conductor *a* renders it very difficult for thieves to operate the coin-lever by means of a wire introduced through the coin-slot *s* in order to tamper with or rob the machine of the articles to be vended, as may be done with some other forms of machines, as a wire passed into the slot *s* and coin-conductor *a* will pass out of the latter through the slot h^2 in the under side of the coin-conductor *a* into the detective-pocket *i* and will not reach the coin-lever *b* or operate it.

Our machine consists of an inclosing case which may contain one or more releasing-machines. In the drawings we have shown a case *h* arranged for fourteen separate vending-machines, having one coin-receiver *g* common to all the releasing-machines in one case. The upper part *h h* of this case rests on ball-bearings *k k*, supported in a groove on the lower part of the case, and revolves around a hollow vertical shaft *l*, attached to the lower part of the case. The lower or stationary part *m* of the case contains a sliding coin receptacle or drawer *g*, having in its center a locking arrangement comprising a block *n*, having a socket and loose rod *e*, with an arm *o* on its upper end extending upward through the center of the hollow vertical shaft *l*. Where the releasing-machines are not arranged in a circular case around a common center, but side by side, the hollow shaft *l* may be dispensed with and the loose rod *e* alone used for locking the money drawer or receptacle *g*, or any suitable locking device may be substituted for the one shown, as we do not confine ourselves to that. Each compartment of the upper part of the case *h* contains a reservoir for the articles *p* to be vended, a coin-conductor *a*, releasing apparatus, and discharge-opening *q*. The upper or revolv-

ing part of the case contains a pan or pocket *i*, through which the coin-conductors *a* pass to receive coins a^2, smaller in diameter than those intended to operate the releasing apparatus.

We place a movable cover *r* over the top of the upper part of the case, which may be locked by a lock *t* in the center. Slots *s* are made in the cover over the upper parts of the coin-conductors *a*. The plate or glass *u*, inserted in the front of each section *v*, permits the contents of each reservoir to be seen.

The releasing machinery to release the articles vended from the machine consists of the coin-conductor *a*, the weighted coin-lever *b*, with its escapement *z z'*, engaging the banking-stops z^2 on the end of the grooved roller *c*, placed under the lower outlet of the reservoir *x*, and of a weighted shutter J below the grooved roller *c* to prevent the reservoir *x* from being tampered with from below.

Our coin-conductor *a* has its lower side *h'* slotted and extending in a straight line from its upper to its lower extremity, the internal width A A being sufficient to allow a coin *a'* of the proper diameter to fall down freely its entire length to the coin-lever and coin-receptacle *g*, the slot h^2 being made too narrow for it to fall out through the slot h^2, but sufficiently large to allow coins a^2 of smaller diameters to fall out into the detective-pocket *i*. The upper side of this coin-conductor *a* is bent upward until it reaches a nearly or quite vertical position *d*, enlarging the upper opening in the coin-conductor *a* in a transverse direction, the slot *s* in the cover being placed close to the inside of this upper edge *d*. The coin-lever *b* is placed at one side of the releasing apparatus and section *v*, in which it is placed with the lower end of the coin-conductor *a* over it and in a diagonal direction from the slot *s*, as shown in Figs. 1, 4, 6, and 7. The coin-conductor *a* passes diagonally through the bottom of the coin-detective pocket *i*, so that its lower end is immediately over the coin-lever *b*. The revolving case may be revolved horizontally, so as to bring any desired section in front of the operator, or any or all of the different sections may be operated at one time.

The apparatus is operated as follows: The lock *t* is unlocked, the cover *r* (in one piece) lifted off, any one or all of the reservoirs *x* are filled with articles *p* to be vended, and the cover *r* replaced and locked, when the apparatus is ready for operation, the coin-lever *b*, escapement *z z'*, and grooved roller *c* being in the position shown in Figs. 1, 4, and 5. The lowest one of the articles *p* to be vended now rests in a groove *c'* in the grooved roller *c*, the upper banking-stop on its end being engaged by the upper pawl *z* of the weighted escapement *z z'* on the end of coin-lever *b*, the lower ratchet stop or pawl *z'* of the escapement being disengaged from the lowest banking-stop z^2, the coin-lever *b*, pivoted at *y*, being at its highest point, as in the dotted lines, Fig. 1, and solid lines, Fig. 4. When a coin of the proper size and weight is dropped into the slot *s*, it passes down the coin-conductor *a* and drops on the coin-lever *b*, depressing it to the position shown by the solid lines in Fig. 1 and dotted lines in Fig. 4, raising the weighted escapement *z z'* and releasing the upper banking-stop z^2 of the grooved roller *c* and allowing the weight or gravity of the article *p* vended to partially rotate the grooved roller *c* until the banking-stop z^2 strikes against the lowest pawl *z'* of the escapement *z z'*, releases the article *p* vended, which falls on the weighted shutter J, depressing the latter, and passing out of the exit or delivery *q*, when the weighted shutter or trap returns to its original position. While this is taking place the next following of the articles *p* vended has passed into the next-succeeding groove *c'* of the grooved roller *c*. The coin having fallen from the coin-lever *b* into the coin-receptacle *g*, the coin-lever *b* rises to its original position, the upper pawl *z* on its weighted escapement descends and engages the next-succeeding banking-stop z^2 on the end of the grooved roller *c*, which has now made one-fourth of a revolution, and retains it in that position until another coin of proper diameter and weight is dropped into the coin-slot *s*, when the operation is repeated. The escapement end of the coin-lever is suitably weighted, so that if a coin which is of proper size but materially lighter than that intended to be used is placed in the coin-slot and falls on the coin-lever *b* it will not depress it, but fall into the coin-receptacle *g* without operating the releasing-machine or articles vended.

In the drawings we have shown an inclosing case or framework fitted with ball-bearings; but if desired that it shall be stationary the ball-bearings may be omitted and the case be made stationary.

Any suitable lock *t* and key may be used for attaching the cover.

Minor changes in details may be made without departing from the principles of our invention.

What we claim, and desire to secure by Letters Patent, is—

1. In a vending-machine, in combination with a framework, of one or more reservoirs each having its separate mechanism for releasing and delivering articles from its reservoir and from the machine; said mechanism comprising a pivoted roller having longitudinal grooves or recesses *c'* said grooved roller being adapted to be rotated by the gravity of the articles descending from the reservoir and having on the end banking-stops z^2 operated by the weighted escapement with its pawls *z z'* and pivoted lever *b*; a weighted trap J, substantially as shown and described and for the purposes specified.

2. In a vending-machine in combination with a framework, of one or more reservoirs each having its separate mechanism for releasing and delivering articles from its reser-

voir and from the machine: said mechanism comprising a pivoted roller having longitudinal grooves or recesses, and adapted to be rotated by the gravity of the articles descending from the reservoir and having on one end banking-stops operated by a weighted escapement with its pawls *z z'* and pivoted lever *b;* a weighted trap J; a slotted and inclined coin-conductor *a* detective-pocket *i* and coin-receptacle *g;* hollow shaft *l* and lock *e* substantially as shown and described and for the purposes specified.

In testimony whereof we affix our signatures in presence of two witnesses.

ALEXANDER JAEGER. [L. S.]
OTTO JAEGER. [L. S.]

Witnesses:
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WM. J. CURRAN.