

No. 629,505.

Patented July 25, 1899.

J. G. HOLLANDS.
VENDING MACHINE.

(Application filed Mar. 15, 1899.)

(No Model.)

Fig. 1.

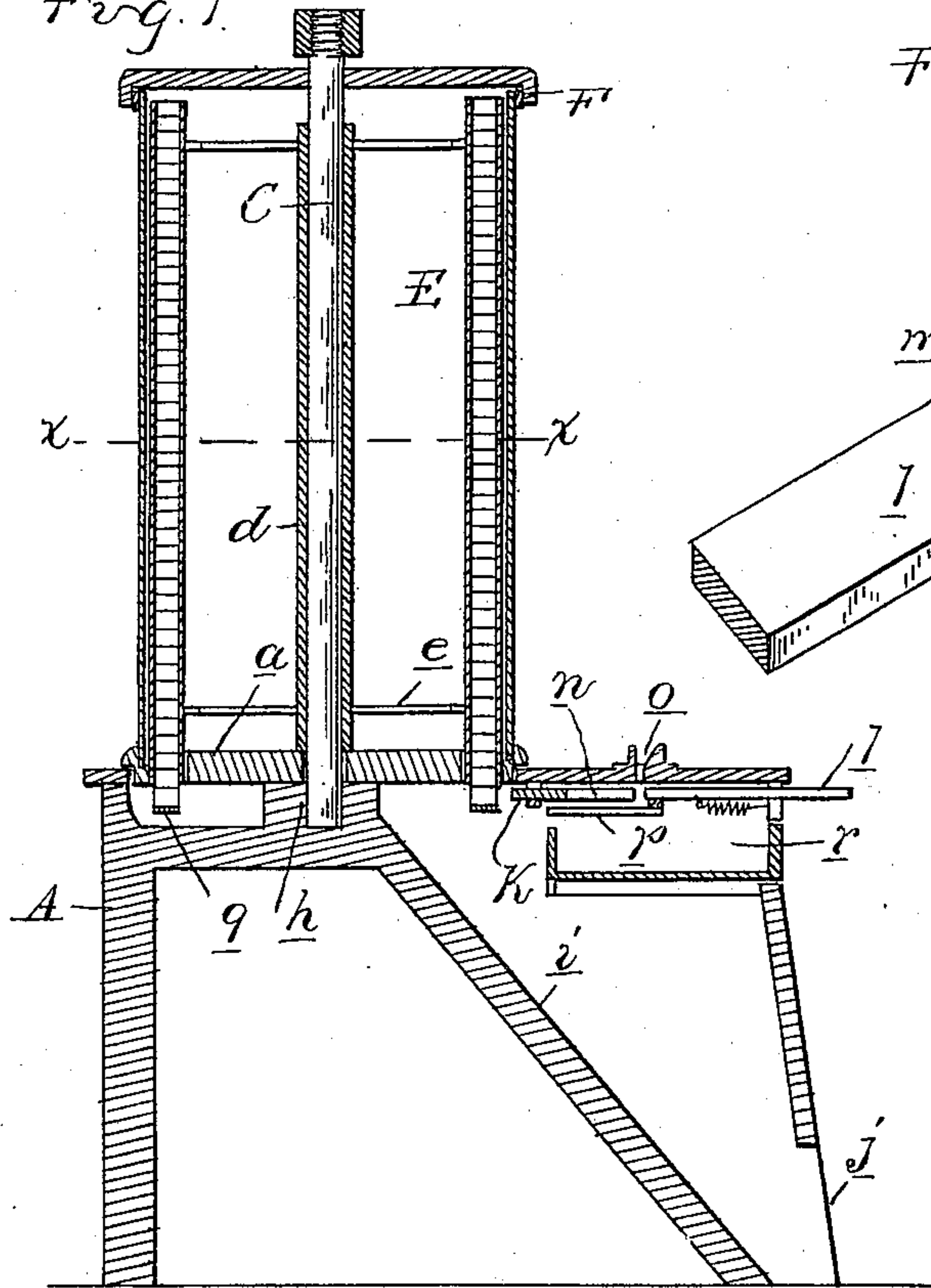


Fig. 3.

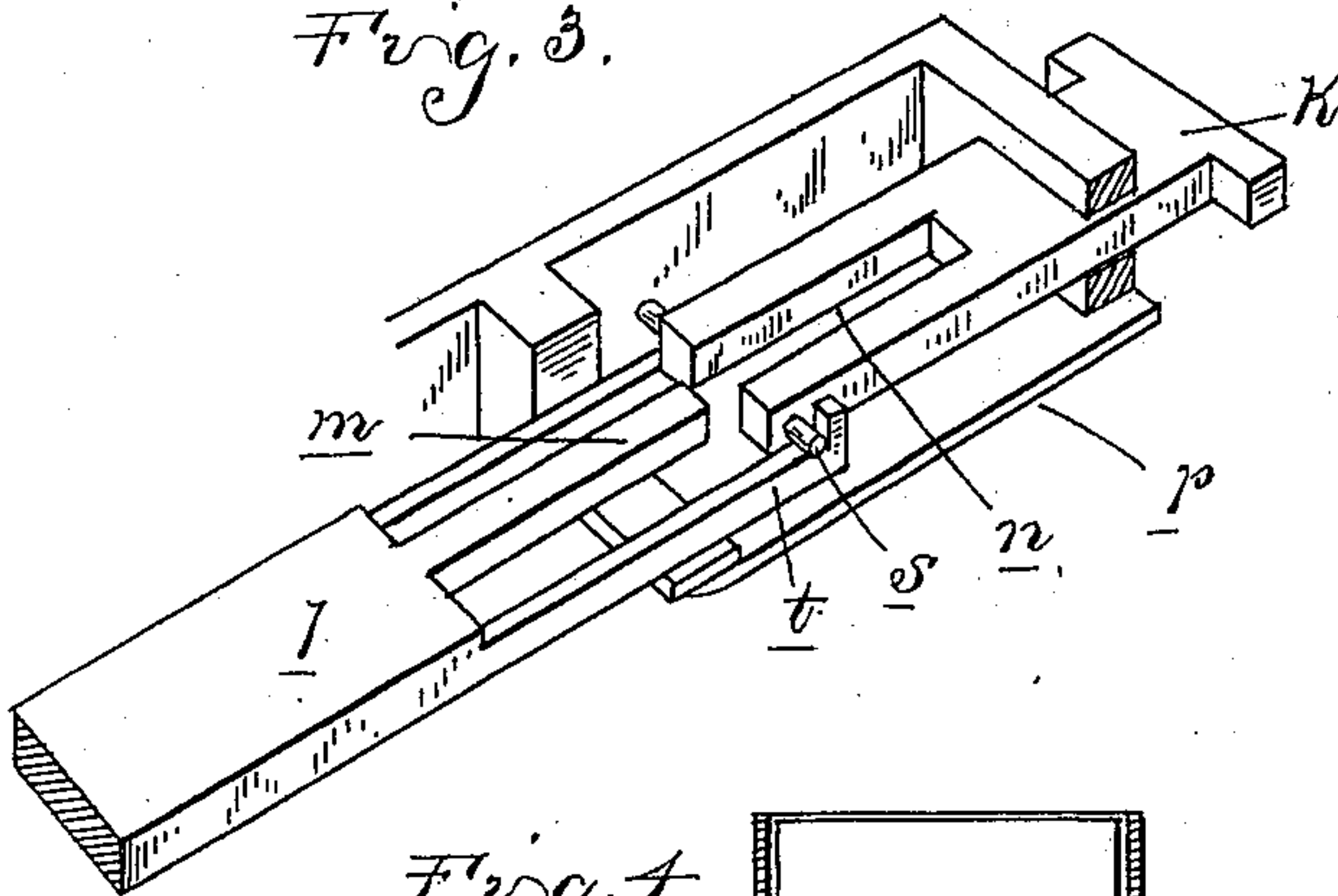


Fig. 4.

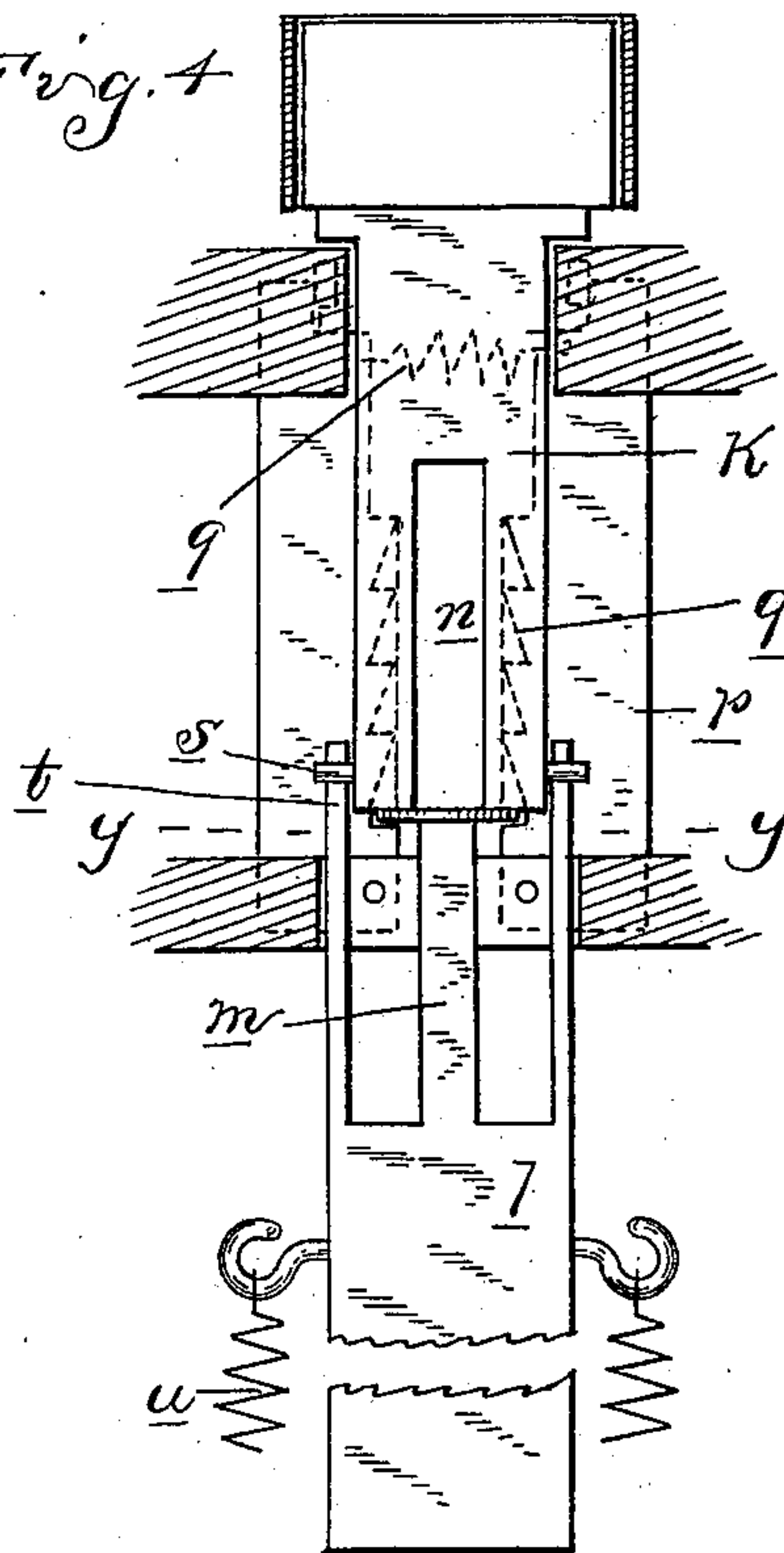


Fig. 2.

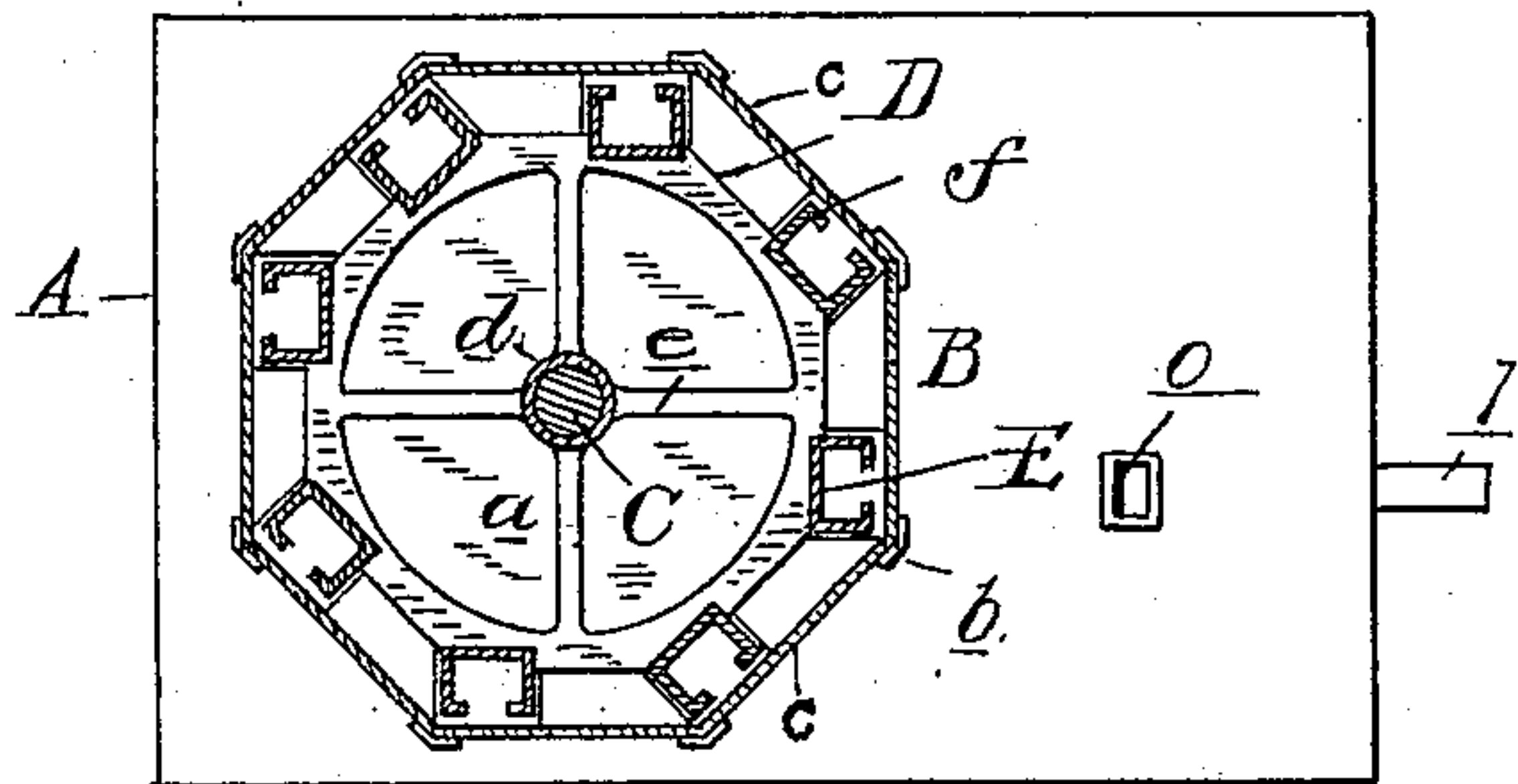


Fig. 5.

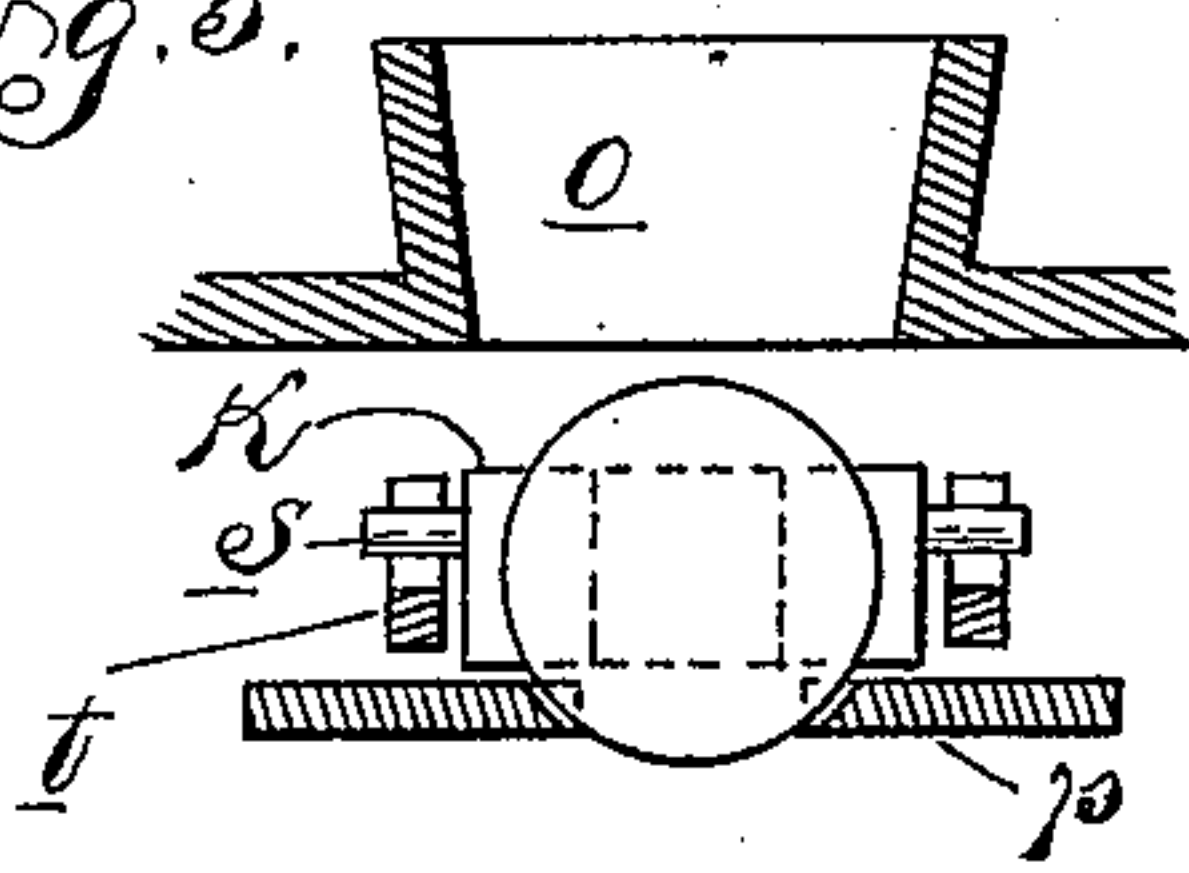
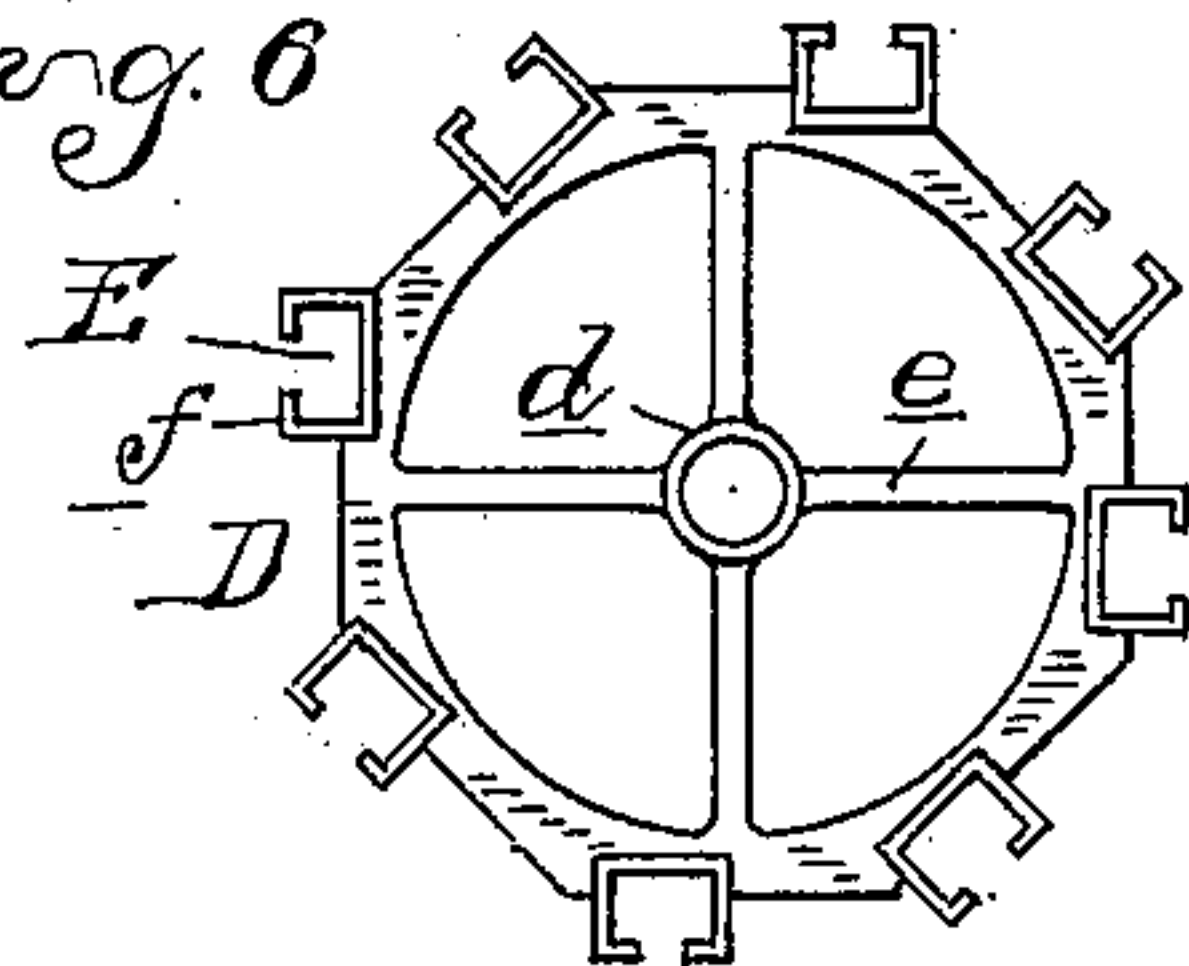


Fig. 6.



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VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 629,505, dated July 25, 1899.

Application filed March 15, 1899. Serial No. 709,165. (No model.)

To all whom it may concern:

Be it known that I, JET G. HOLLANDS, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Vending-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to vending-machines of that class in which the articles to be sold are extracted from the machine by a plunger within the casing, which is adapted to be coupled to the operating-handle by the insertion of a coin of proper denomination in the receiving-slot therefor.

It is the object of the invention to obtain a simple construction of extracting mechanism and also to obtain a machine in which the goods are held in a plurality of receptacles, all of which are to be operated by a single extracting device.

The invention therefore consists in the peculiar construction, arrangement, and combination of parts, as more fully hereinafter described and claimed.

In the drawings, Figure 1 is a vertical longitudinal section of my machine. Fig. 2 is a horizontal section on line *x x*, Fig. 1. Fig. 3 is a perspective view of the extracting mechanism. Fig. 4 is a plan view thereof. Fig. 5 is a section on line *y y*, Fig. 4; and Fig. 6 is a plan view of the detachable receptacle for holding the goods.

Upon a suitable base A is mounted for rotation a casing B, adapted to inclose the receptacles for holding the goods and which is preferably of cylindrical or polygonal shape. In the drawings I have shown this casing as of octagonal shape, and it comprises the lower head *a*, the uprights *b* at each of the angles, and the plates *c*, preferably glass, between said uprights.

C is a vertical post or shaft forming the axis upon which the casing is adapted to revolve. Within the casing B is detachably placed a removable frame D, carrying a plurality of vertical tubes E, forming the receptacles for the reception of the goods. This removable frame preferably consists of the sleeve *d*, surrounding the shaft C, and the spider-heads *e*, to which the tubes E are secured. The tubes E are preferably open on their front sides, being provided only with the

flanges *f*, sufficient to retain the articles therein. The lower ends of these tubes are adapted to project through apertures in the head *a* of the casing B and are provided with the bottom plate or shelf *g* and also have their front and rear walls cut away to permit the extracting-plunger to force the lowermost article from the receptacle.

F is a cover for the casing B, centrally apertured for the passage of the post C there-through, and is adapted to be locked in position by a suitable nut, collar, or other locking device on the upper end of the post C.

The base A is provided with suitably bearings, such as *h*, upon which the head *a* of the casing B rests, and surrounding this bearing is an annular groove or channel through which the lower ends of the tubes E may pass in the rotation of the casing B. Within the base is formed a chamber containing an inclined chute *i*, down which the extracted articles are adapted to slide, and at one side of the base is an opening *j*, through which the article may be taken out. The extracting mechanism is preferably located in the base A, in front of the casing B and directly above the chute *i*, and is of the following construction:

k is the extracting-plunger, which is slidingly secured in bearings within the base A in a position to be in line with one of the tubes E and adapted when moved inwardly to enter said tube through the cut-away front and force the lowermost article out to the rear.

l is an operating shank or handle for the plunger *k*, arranged in line therewith and passing out to the front of the base A. This operating-shank is provided with the tongue *m*, arranged opposite a corresponding slot *n* in the plunger *k*, so that when the handle *l* is moved inward the tongue *m* will enter the slot *n* without imparting any movement to the plunger *k*. Between the end of the tongue *m* and the plunger *k* is a space sufficient to permit of the coin passing, and in the base A, directly above, is arranged an entering-slot *o* for said coin. Beneath the plunger *k* and the handle *l* are arranged the bars or plates *p*, which at one end are pivotally secured to the casing and at their opposite ends are drawn toward each other by the tension of the spring *q*. These bars or plates are normally a sufficient distance apart to permit any

coin of lesser diameter than the one which the machine is designed to employ to drop between them; but the proper coin will be supported on said plates, so as to be between the end of the tongue *m* and the plunger *k*. The bars *p* are also provided with a series of notches *q'*, and at their inner ends are cut away to leave a space between more than the diameter of the coin.

With the arrangement of parts as thus far described it will be readily understood that when the proper coin is inserted in the slot *o* it will drop between the tongue *m* and the plunger *k* and rest upon the bars *p*. In this position if the operating-handle *l* be moved inward the coin will act as a coupler between said handle and the plunger *k*, forcing the latter inward and knocking out the article in the registering tube *E*. The coin will then drop between the bars *p* into a receptacle or drawer, such as *r*. To restore the parts to their normal position, it is necessary to return the plunger *k* and handle *l*, and to accomplish this it is usual in devices of this kind to attach a spring to the plunger, which when the pressure on the operating-handle is relieved will draw said plunger backward again into its normal position. An objection to the use of a spring is that inasmuch as its tension clamps the coin between the plunger and its operating-handle the coin cannot drop unless special provision is made for relieving the pressure temporarily. This necessitates complicating the mechanism and is entirely avoided in my construction, in which I dispense with the use of the spring for returning the plunger *k* and in place thereof provide a lost-motion connection between the operating-handle *l* and said plunger. In the drawings I have shown this connection as comprising the pins *s*, on opposite sides of the plunger *k*, and the hooked arms *t* on the operating-handle, which when the plunger is in its innermost position are adapted to engage with said pins *s* and in the return of the handle *l* draw the plunger back also. For returning the handle any suitable device may be employed, such as the springs *u*. With this construction when the plunger is moved inward in the operation of the machine the coin will rest on the bars *p* until it has been moved forward to the position where said bars are cut away and the article has been extracted from the receptacle *E*. As soon as the pressure is relieved on the handles the operation of the spring *u* will return the same, relieving the pressure of the tongue *m* upon the coin and allowing the latter to drop between the bars. The hooks *t* will then engage with the pins *s* and return the plunger, as before described.

The object of the notches *q'* in the bars *p* is to prevent the return of the plunger after a partial operation, which is accomplished by the coin engaging with said notches and being held thereby from movement in the reverse direction.

The operation of loading the machine is performed by first removing the cap *F* and drawing out the removable frame or holder *D* and placing the packages or goods to be vended in the receptacles *E*. This may be done much more conveniently than if it were necessary to load the receptacles through a door in the casing, as is usual in other constructions. When all of the receptacles are loaded, the frame may be placed again within the casing and the cover *F* replaced and locked in position, so as to prevent tampering with the machine.

In the complete operation of the machine when the purchaser desires to extract an article from any one of the receptacles *E* he first rotates the casing *B* until the particular receptacle which contains the articles which he desires registers with the extracting-plunger. He may then insert the coin and operate said extracting mechanism in the manner before described, throwing out the lowermost article, which will drop on the chute *i* and be directed to the opening *j*, through which it may be taken out.

It will thus be seen that my machine has the advantage of enabling the purchaser to select from a number of different articles held, respectively, in the different receptacles *E* the particular one which he desires, and that it is only necessary to provide the machine with a single extracting device for all of these various articles. Thus the construction of the machine is greatly simplified from one in which a separate extracting device would be required for each of the receptacles.

What I claim as my invention is—

1. A vending-machine, comprising a chambered base, an upright post or shaft thereon, a casing rotatively mounted upon said shaft, a detachable top therefor, a holder having a plurality of vertical tubes for the reception of the goods and removably secured within said casing the tubes having their lower ends projecting therethrough into a chamber within the base, and a single coin-controlled extracting device, with which each of said tubes is adapted to be registered.

2. In a vending-machine, extracting mechanism comprising a plunger and an operating-handle in alinement with each other having a coin-slot between their adjacent ends and a registering tongue and groove; and two spaced plates beneath said plunger pivoted at one end and yieldingly held from spreading by a spring, said plates forming supporting-edges for the coin during the movement of the plunger and being provided with a series of notches for engaging with said coin to prevent the partial operation of the plunger.

In testimony whereof I affix my signature in presence of two witnesses.

JET G. HOLLANDS.

Witnesses:

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