

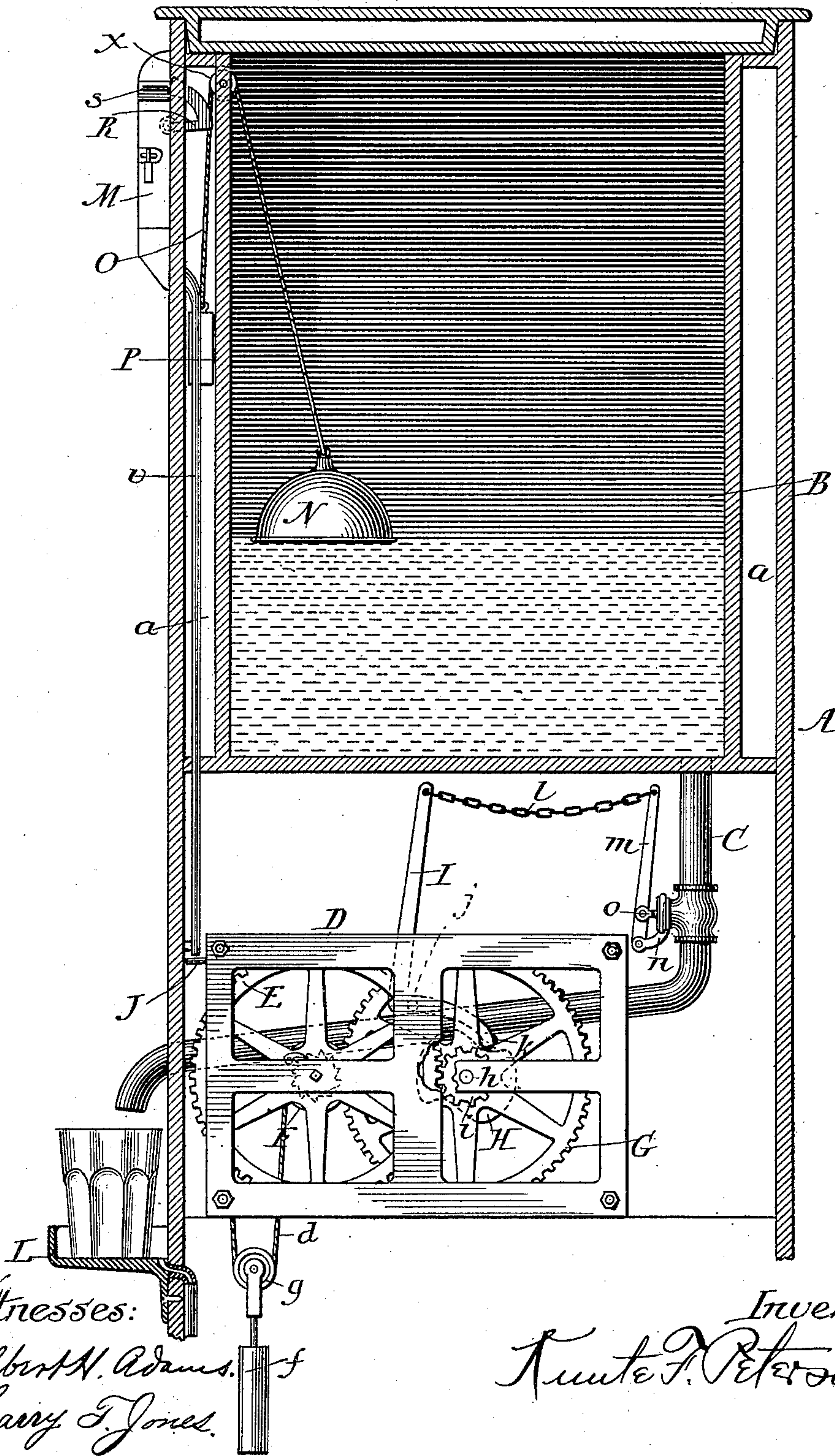
(No Model.)

3 Sheets—Sheet 1.

K. F. PETERSON.  
AUTOMATIC LIQUID RELEASER.

No. 427,607.

Fig. 1. Patented May 13, 1890.  
b



Witnesses:

Albert H. Adams.  
Harry T. Jones.

Inventor

K. F. Peterson

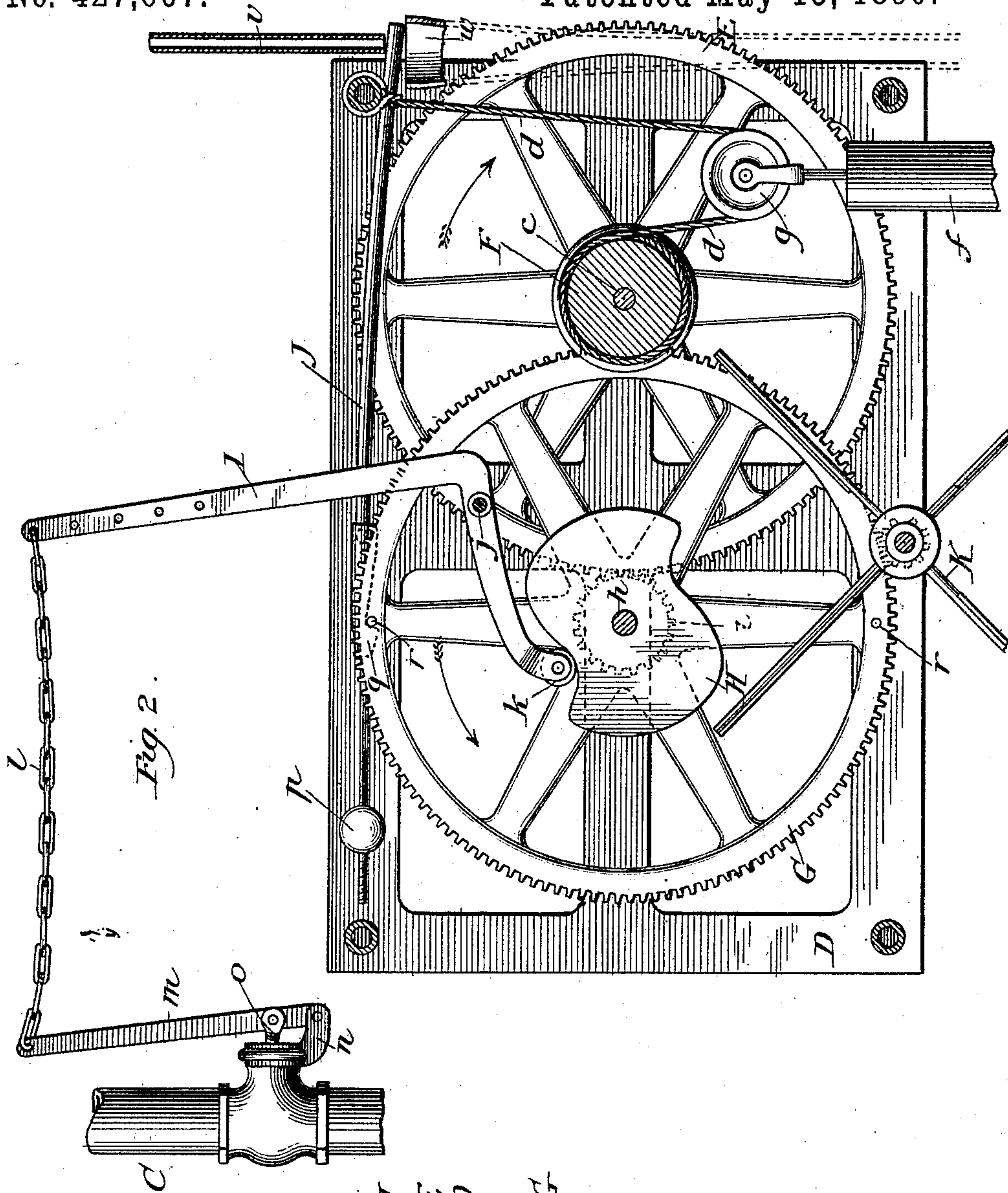
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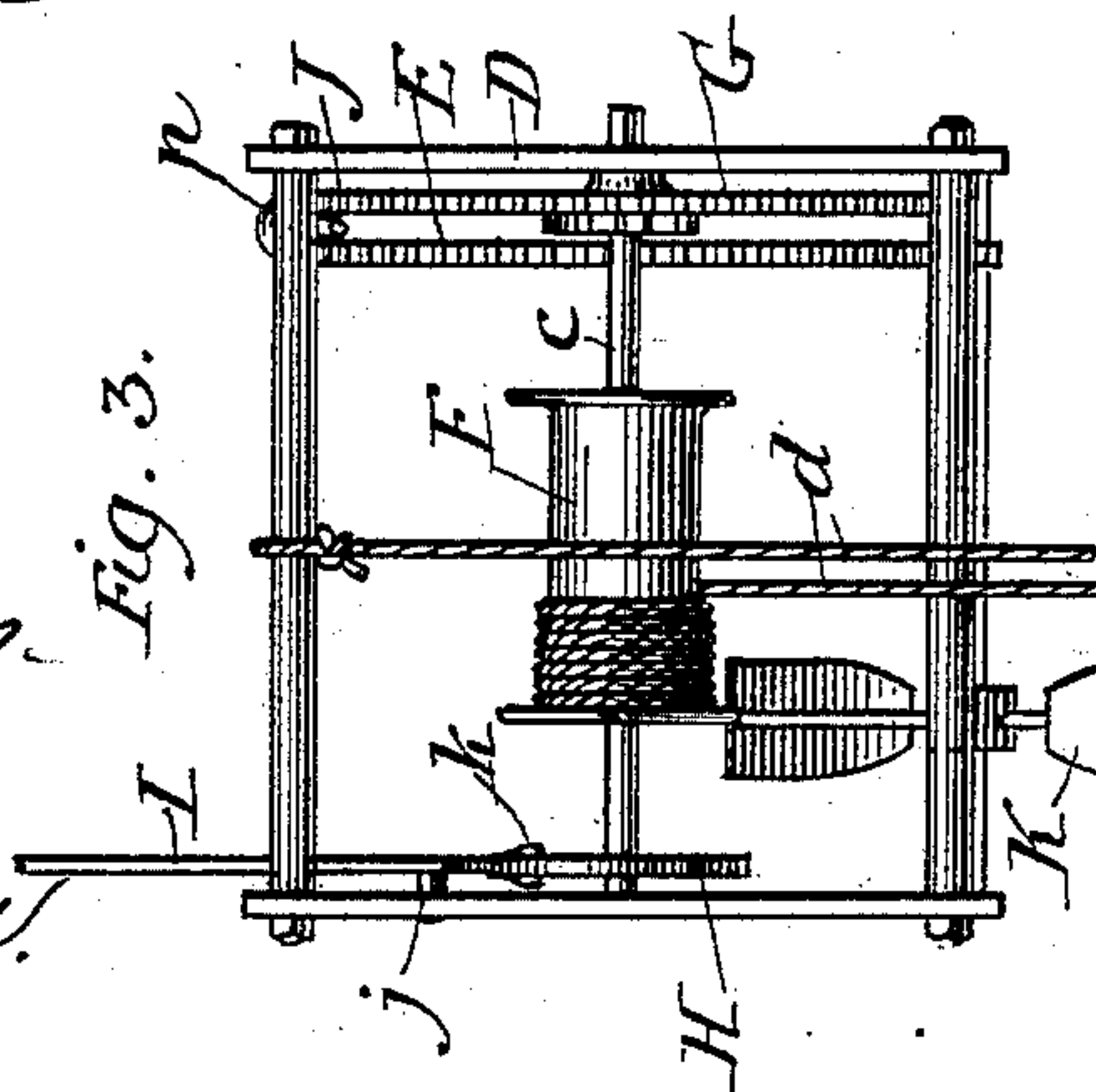


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Fig. 3.



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(No Model.)

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Fig. 4.

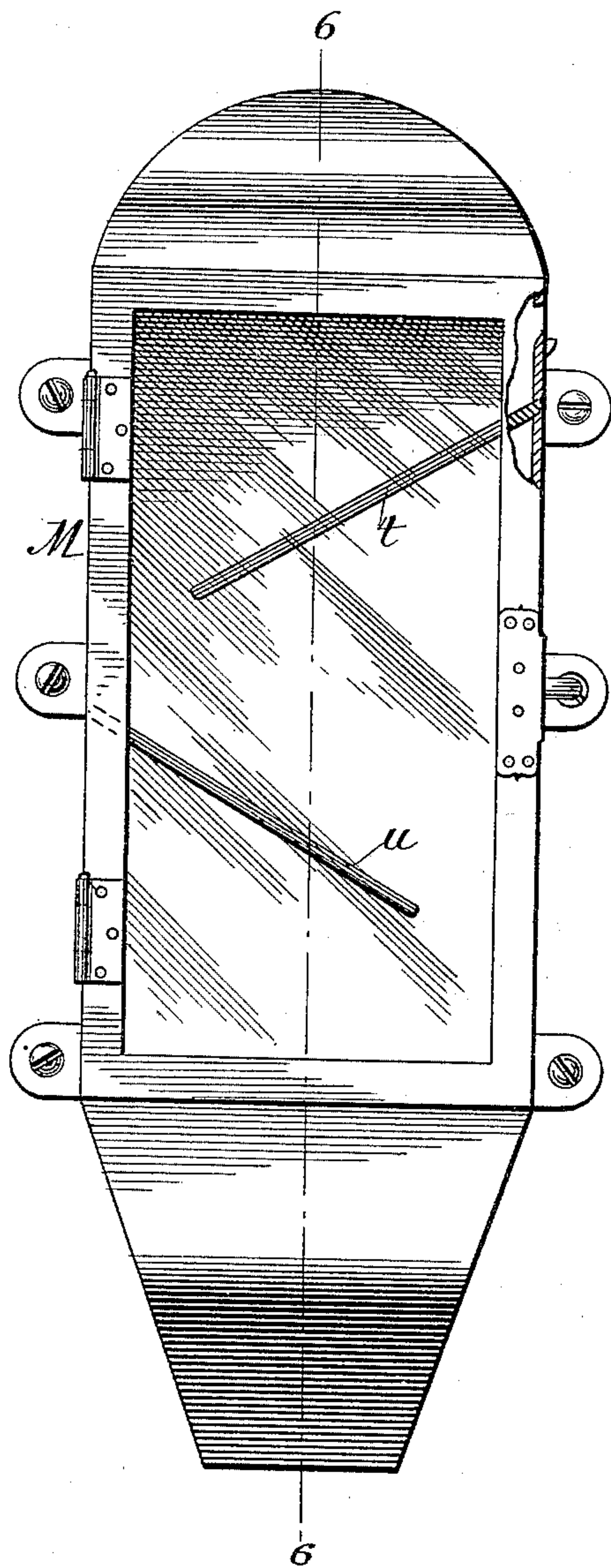


Fig. 5.

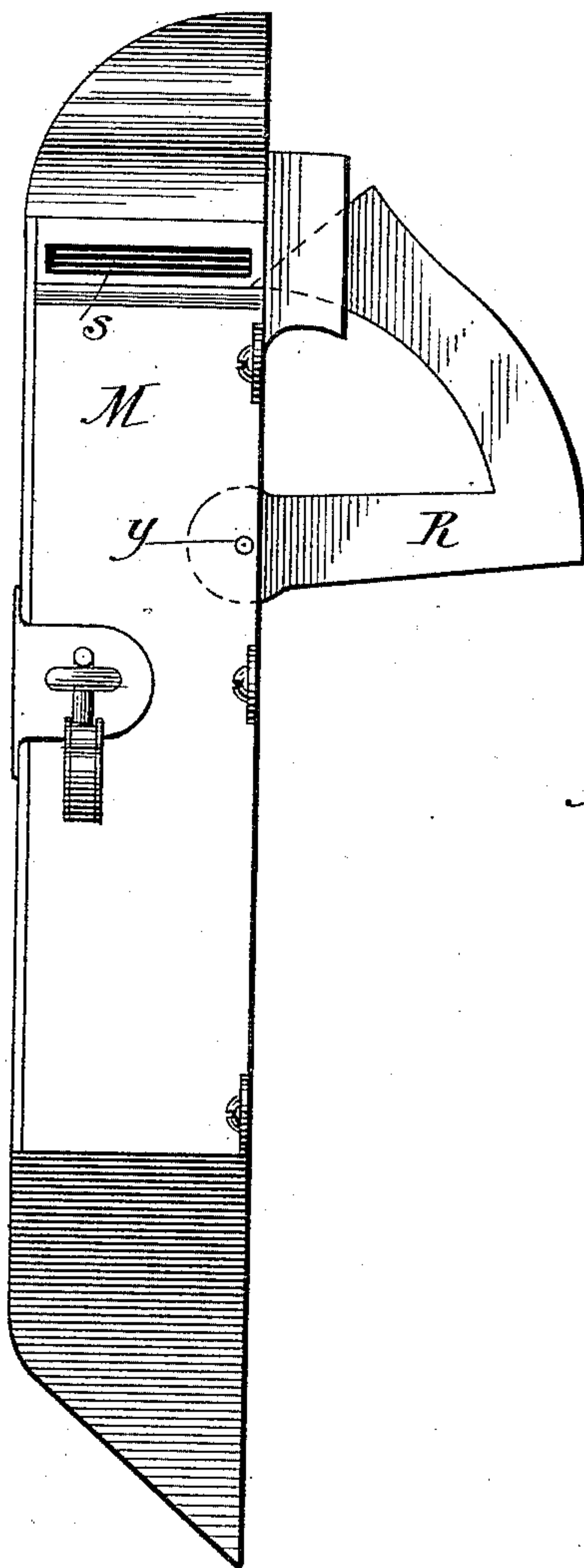
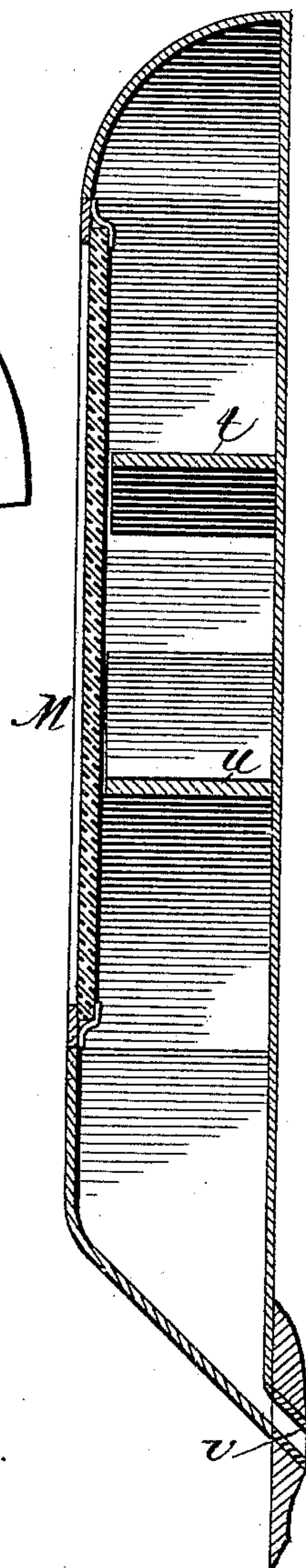


Fig. 6.



Witnesses:

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Harry T. Jones.

Inventor:

K. F. Peterson



# UNITED STATES PATENT OFFICE.

KNUTE F. PETERSON, OF LAKE VIEW, ILLINOIS, ASSIGNOR TO HIMSELF, AND  
CHARLES W. CALDWELL, OF WATERLOO, IOWA.

## AUTOMATIC LIQUID-RELEASER.

SPECIFICATION forming part of Letters Patent No. 427,607, dated May 13, 1890.

Application filed June 27, 1889. Serial No. 315,785. (No model.)

*To all whom it may concern:*

Be it known that I, KNUTE F. PETERSON, residing at Lake View, in the county of Cook and State of Illinois, and a citizen of the United States, have invented a new and useful Improvement in Automatic Liquid-Releasers, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a section through the inclosing-case and water tank or chamber and an elevation of the operating devices. Fig. 2 is an elevation of the operating devices below the water-tank, some of the parts being in section and one side of the frame being removed. Fig. 3 is a front view of the operating devices. Fig. 4 is a front view of the box in which the coins are deposited through a slot in its side. Fig. 5 is a side elevation of the same, showing the coin-slot and the hinged shutter for closing the same when the water in the tank has been exhausted. Fig. 6 is a section taken at line 6 6 of Fig. 4.

This invention relates, primarily, to devices for automatically furnishing a predetermined quantity of water or other liquid, and has for its objects to furnish a device adapted to be brought into operation by the weight of a coin that will be certain of operation at all times, and to provide means for preventing many foreign substances that may be inserted in the coin-slot from descending sufficiently far to obstruct or enter the coin tube or chute at the lower end of the coin-box, and to automatically close the coin-slot sufficiently to prevent the insertion of a coin when the water in the tank has been exhausted, all of which I accomplish as illustrated in the drawings and hereinafter fully described.

That which I claim as new will be pointed out in the claims.

In the drawings, A represents the inclosing-case.

B is a water-tank located in the upper part of the case and suitably secured to it. As shown, the tank is of less diameter than the inside diameter of the case, so that a space *a* is left between the case and the tank. The top of the tank is closed by a suitable cover *b*.

C is a pipe, the upper end of which opens into the bottom of the water-tank. As shown, the pipe is bent at some distance below the water-tank and projects forwardly and downwardly and through the front wall of the case A. A valve for controlling the flow of water is located in the pipe just above the bend. The means by which this valve is operated will be hereinafter described.

D is a metal frame located in the case A beneath the water-tank B. This frame supports the operating devices.

E is a gear-wheel mounted on a shaft *c*, supported in the frame D.

F is a drum on the shaft *c*.

*d* is a rope, one end of which is secured to an upper rail of the frame D, and the other end is secured to the drum F, around which the rope is wound.

*f* is a weight, which is suspended from a pulley *g*, which is placed on the rope *d*, as shown.

G is another gear-wheel on a shaft *h*, which shaft is also supported in the frame D.

*i* is a pinion on the shaft *h*, with which the gear-wheel E engages.

H is a cam secured on the shaft *h*.

I is a bell-crank lever pivoted at *j* to the frame D. On the lower end of this lever is a roller *k*, which bears upon the periphery of the cam H. To the upper end of the lever I is attached a chain *l*, the other end of which chain is attached to the upper end of a lever *m*, which lever is pivoted at its lower end to a short arm or projection *n*, formed with or attached to the pipe C.

*o* is a valve-stem, pivoted to the lever *m* a short distance above the arm *n*.

J is a rod pivoted to one of the upper side pieces of the frame D, and extending at its forward end under the coin tube or chute. Its rear end is screw-threaded and is provided with a screw-threaded weight *p*, which can be adjusted as required. A hook *q* is formed with or secured to the rod J, which hook engages alternately with pins or projections *r* on the side of the wheel G and holds the parts from being operated until the rod J is tilted.

K is a fly-wheel which acts as a governor. It is mounted on a shaft suitably secured in



the frame D. A pinion on the same shaft meshes with the wheel G.

L is a shelf or bracket secured to the case A below the projecting end of the pipe C, such shelf being designed to hold a drinking glass or cup.

M is the box into which the coin that sets the operating devices in motion is to be placed. The coin is to be inserted through a slot *s* in one side of the box M, and will slide upon an inclined shelf *t*, located beneath the slot. From this shelf it will fall upon another shelf *u*, inclined in the opposite direction, from which it will fall into and descend through a tube or chute *v*. At the bottom of this tube or chute the coin will strike the end of the lever J and depress that end, which will raise the hook *q* out of engagement with one of the pins *r*, and the water-releasing mechanism will be set in motion by the action of the weight *f*.

The operation of the releasing mechanism is as follows: Suppose the parts to be in the position shown in Fig. 2. Now when the weight of a coin has depressed the front end of the rod J, and the hook *q* has thereby been released from engagement with the pin *r*, the weight *f* on the rope *d* will act to rotate the drum F, which drum, being fast on the shaft *c*, will cause the gear-wheel E to revolve, which wheel E, meshing with the pinion *i*, will revolve such pinion, and also the gear-wheel G and cam H, which are both fast on the shaft *h*. As the cam H revolves it will force the lower arm of the bell-crank lever upward and the upper arm of the lever backward, which, through the chain *l*, will pull the lever *m* backward and pull out the valve-stem *o*, opening the valve in the pipe C, and allowing the water to flow through the pipe into the glass or cup on the shelf or bracket L. After a coin has fallen upon the end of the rod J such rod will turn sufficiently upon its pivot to cause the coin to fall off, when the weight *p* on the other end of the rod will bring the rod back to its normal position in time for the hook *q* to engage with the pin *r* on the opposite side of the wheel G, such engagement of the hook and pin necessarily causing a stoppage of the mechanism until the rod J has been tilted by the weight of another coin. It will thus be seen that the gear-wheel G and cam H each make one-half of a revolution every time that the rod J is tilted. The size of the cam H, the pipe C, and the valve in the pipe are to be such that only the predetermined quantity of water or other liquid will escape while the valve is open. The valve is to be any ordinary valve in use which is adapted for the purpose. After the coin has fallen from the end of the

rod J it drops into a receptacle, the upper end of which is shown in Fig. 2 and is indicated by *w*.

As shown, the front of the coin-box M is provided with a glass door, through which any foreign substances that may have been pushed through the slot *s* and have lodged on the inclined shelves can be seen. The door can then be opened by the proper person and such foreign substances removed. Access to the final coin-depository cannot, however, be obtained through such door.

Another feature of my invention consists in devices for automatically closing the slot *s* sufficiently to prevent the insertion of another coin when the liquid is about exhausted, which I accomplish as illustrated in Fig. 2, in which N represents a float of wood or other suitable material. To this float is secured one end of a cord O, which passes around a pulley *x*, and has secured to its other end a weight P, placed in the space *a* between the walls of the case A and water-tank B.

R is a shutter for closing or partially closing the slot *s*. As shown, the lower portion of the shutter is nearly horizontal, while the upper portion is curved; but I do not regard this shape as essential, as it might be made of other shape. As shown, it is pivoted to the side of the box M at *y*, and projects through the case A into the space *a* above the weight P.

In use as the water is drawn off from the tank B the float N will descend with the liquid and correspondingly raise the weight P until the liquid is almost exhausted, when the weight P will come in contact with the shutter R and push it far enough over the slot *s* to prevent the insertion of a coin.

What I claim as new, and desire to secure by Letters Patent, is as follows:

1. In an automatic liquid-releaser, the combination of the wheel G, suitable driving devices therefor, a coin-operated rod which holds said wheel locked against rotation when the rod is in its normal position, a valve, and a cam for operating mechanism to open the valve, substantially as specified.

2. In an automatic liquid-releaser, the water-tank B and pipe C, leading therefrom and provided with a valve, in combination with the wheel G and mechanism, substantially as shown, for driving such wheel G, the cam H, levers I and *m*, connected together by the chain *l*, and the coin-operated rod J, substantially as and for the purpose specified.

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Witnesses:

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