

E. C. DAVEY & G. F. GRISWOLD.
Carbureters.

No. 147,244.

Patented Feb. 10, 1874.

Fig. 1.

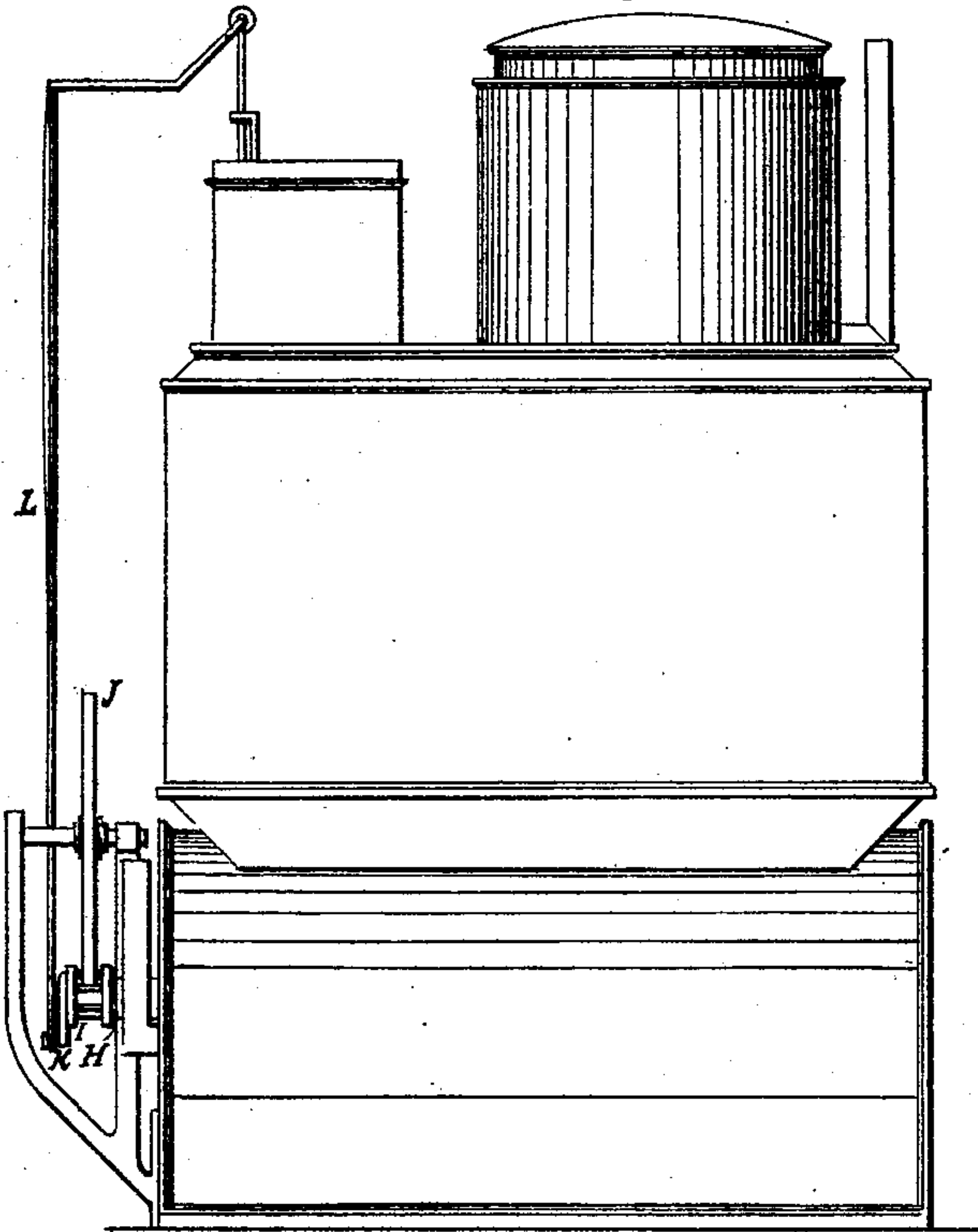


Fig. 2.

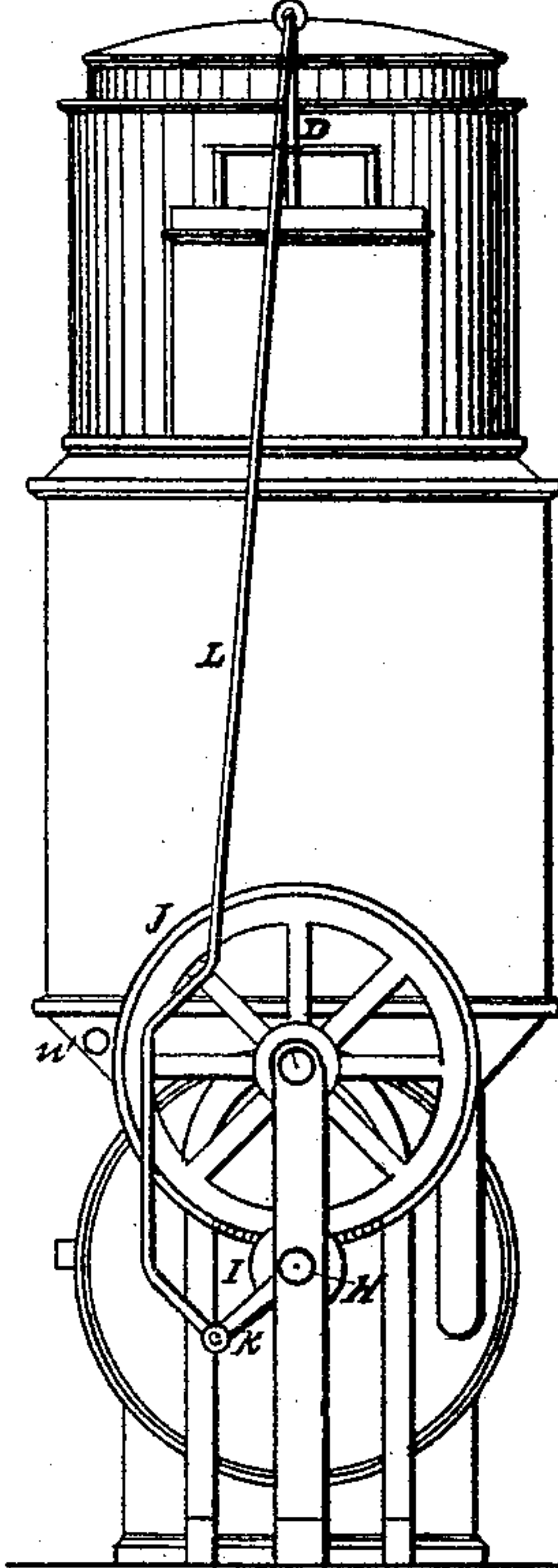


Fig. 3.

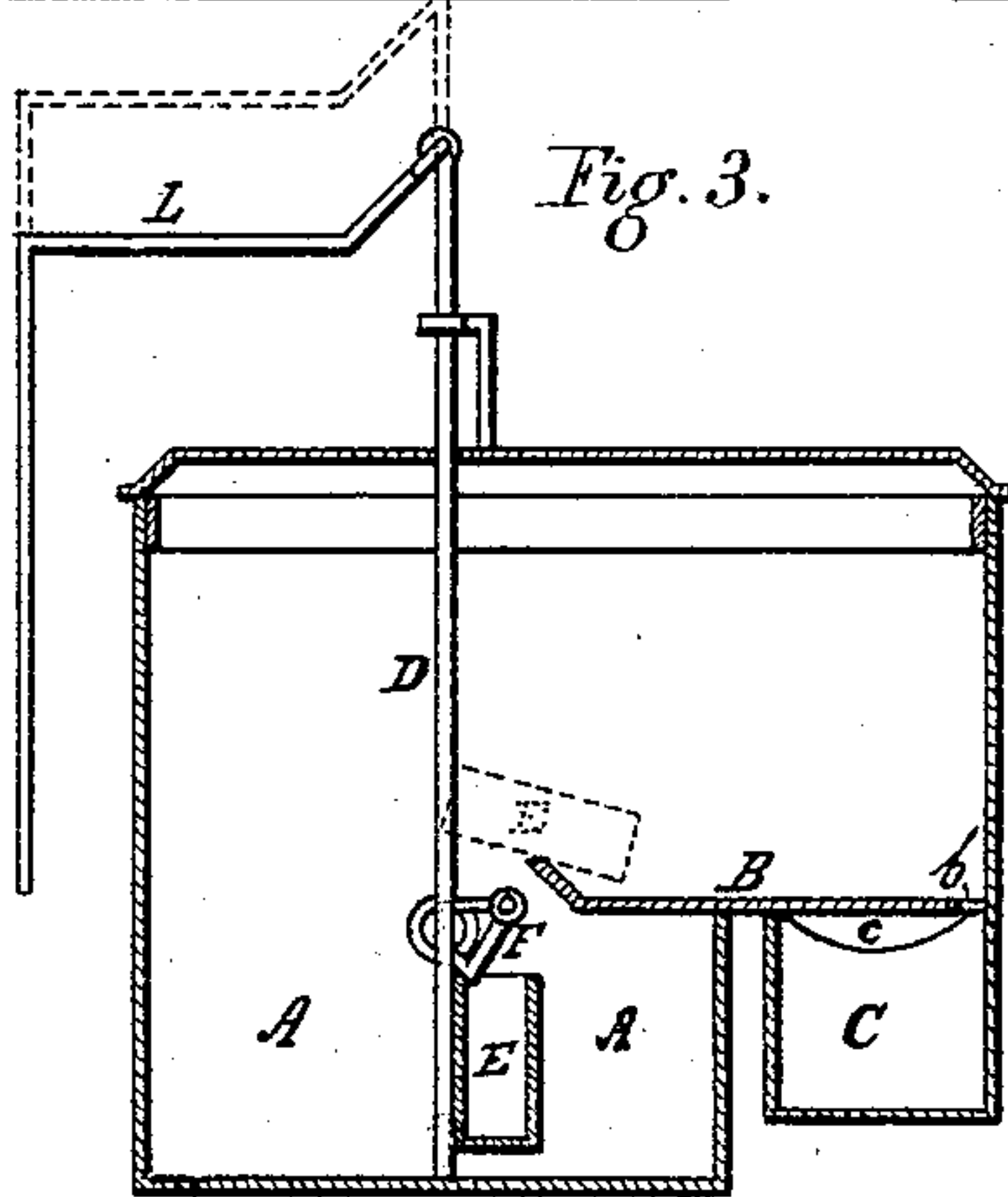
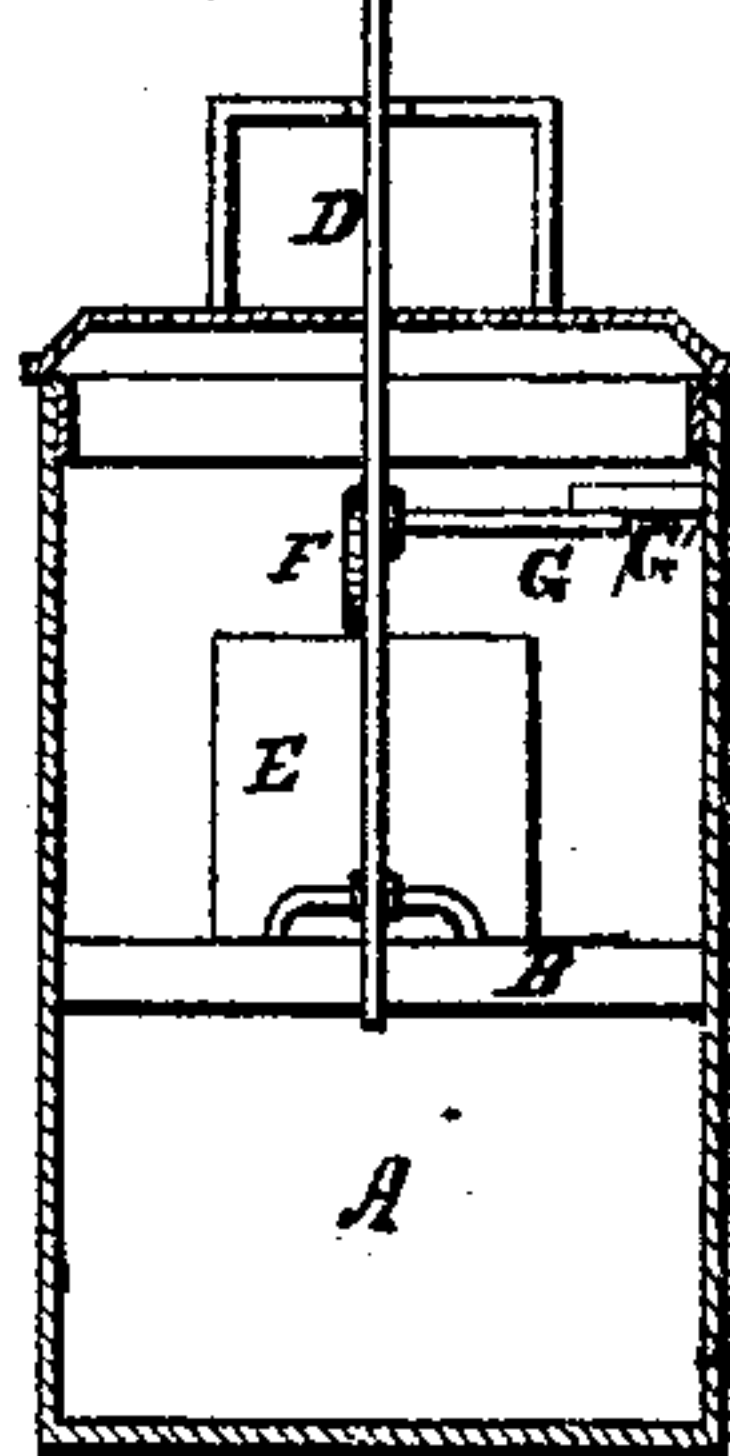


Fig. 4.



WITNESSES _

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Fig. 5.

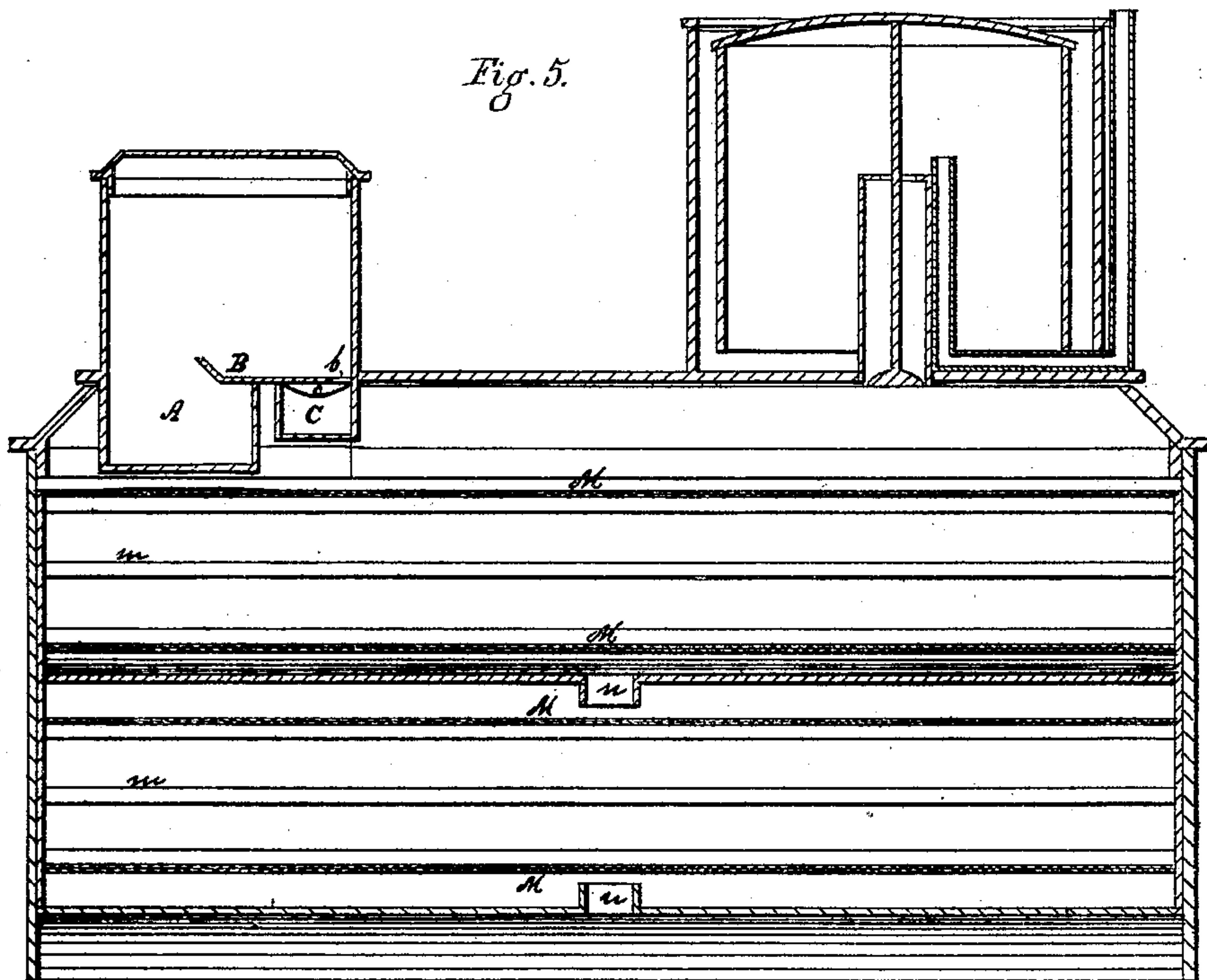
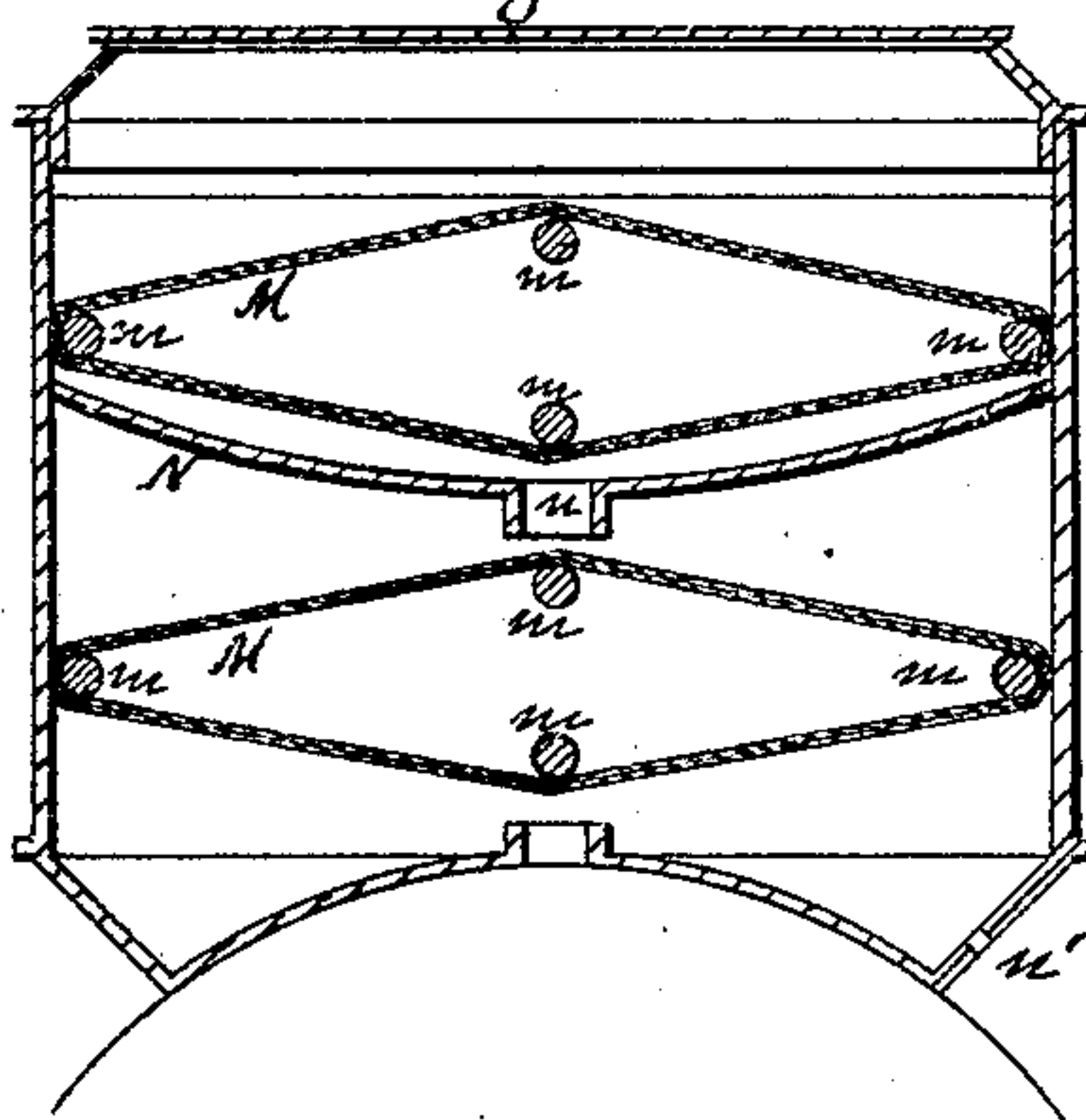


Fig. 6.



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN CARBURETERS.

Specification forming part of Letters Patent No. **147,244**, dated February 10, 1874; application filed March 13, 1873.

To all whom it may concern:

Be it known that we, ELIJAH C. DAVEY and GAYLORD F. GRISWOLD, both of Janesville, in the county of Rock and State of Wisconsin, have invented certain new and useful Improvements in Carbureters, of which improvements the following is a full, clear, and exact description, which will enable others skilled in the art to which our invention appertains to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 represents a side elevation of a carbureter provided with our improvements; Fig. 2, an end view of the same; Fig. 3, a vertical central longitudinal section of the gasoline-tank and the parts operating in connection therewith; Fig. 4, a vertical cross-section of the same; Fig. 5, a vertical central longitudinal section in the part above the line *x x* in Fig. 1; and Fig. 6, a vertical cross-section of the same in the plane of the line *y y*.

Like letters of reference indicate like parts.

Our invention relates to that class of carbureters which feed supply pipes with illuminating-gas; and it consists in providing the carbureter with novel means, whereby the vaporizing-surfaces are automatically supplied with a suitable quantity of gasoline or other fluid employed in the production of the gas. It also consists in certain novel features relating to the construction of the vaporizing-surfaces.

In the drawing, A represents the gasoline-reservoir. B is a shelf in the reservoir A. C is a tank communicating with the reservoir A by means of the opening *b* in the shelf B. D is a plunger, and E is a bucket hinged to the plunger. F is a spring-catch engaging the bucket, and retaining it in the position shown in Figs. 3 and 4. G is a pin extending from the spring F, and G' is a pin arranged to engage the pin G when the bucket E is drawn above the shelf B. The gasoline in the chamber A should not be deep enough to flood the shelf B.

It will be observed that the shelf B has an inclined edge, and that the bucket is arranged to move near the said edge. When the bucket is in the position shown in Fig. 3, it is filled with gasoline. As the bucket moves upward, the contact of the pins G and G' throws the spring F from its engagement with the bucket,

and the latter then falls into the position indicated by the dotted lines in Fig. 3, and dumps its contents upon the shelf B. When the plunger descends the bucket is thrown into a vertical position by reason of its contact with the edge of the shelf B, and is then again engaged by the spring F. This operation is repeated automatically, in the manner hereinafter described, and the fluid, which is thus thrown upon the shelf B, flows through the aperture B into the tank C, and passes from thence through the aperture *c*, and falls upon the vaporizing-surfaces.

The bucket is operated automatically in the following manner: H is the shaft of the air pump or blower, and I is a pinion thereon. J is a spur-wheel engaging the pinion I. K is a crank continuation of the shaft H. L is a pitman attached to the crank K and to the plunger D. When the wheel J is set in motion, its motion is communicated to the shaft H, and the bucket E is thus dumped in the manner described during each revolution of the crank K. The wheel J may be set in motion by means of a cord and weight attached to its arbor, or by means of a coiled spring or other suitable motive power.

The following is a description of our improvements relating to the construction and arrangement of the vaporizing-surfaces: M M are sheets of canton flannel or other material suitable for the purposes hereinafter mentioned. *m m* are wires or rods over which the sheets M M are stretched. It will be observed, on reference to Fig. 6, that the wires *m m* are arranged so that the sheets will assume a diamond-shaped form. N is a diaphragm, and *n* is an opening therein. *n'* is an opening in one of the walls of the vaporizing-chamber. The gasoline, after escaping from the tank C, falls upon the material M, and is absorbed by it. The gasoline spreads itself readily over the vaporizing surfaces, owing to the form of the latter. The air from the blower or air-pump enters the vaporizing-chamber, and is brought in contact with the evaporating fluid. In case the gasoline is not absorbed or evaporated as fast as it is supplied to the sheets M M, it finds its way to the diaphragm N, passes through the opening *n*, and falls upon a succeeding sheet, M. Any number of sheets M and dia-

phragms N may be arranged in the vaporizing-chamber, and in case all of the gasoline is not thus absorbed or evaporated it may be drawn off through the opening *n'*. In this manner the vaporizing-surface may be greatly increased without greatly increasing the bulk of the carbureter, and a uniform distribution of the gasoline and an even flow of air are secured.

With the exception herein referred to, the construction and operation of the carbureter need not be varied.

The remaining feature of our invention relates to the employment, in the blower or force-pump, of kerosene or other fluid, which is non-freezing at a temperature of 32° Fahrenheit, so that the carbureter will not be liable to cease its operation during cold weather, or at a temperature at which water freezes, water having heretofore been employed in the force-pump or blower for the purpose of sealing the opening in the air-wheel chamber. The sub-

stitution of a non-freezing fluid for water may be made without changing the construction of the carbureter for that purpose.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination and arrangement, in a carbureter, of the hinged bucket E, rod or plunger D, shelf B, pitman L, crank K, pinion I, and wheel J, substantially as and for the purpose specified.

2. In a carbureter, the combination and arrangement of the diamond-shaped cloths M M, supported on the rods *m m*, and of one or more diaphragms, N, having a central opening therein, substantially as and for the purposes specified.

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