No. 617,977. Patented Jan. 17, 1899.

W. H. WILDER.

OIL STOVE.

(Application filed July 22, 1898.)

(No Model.)

Fig. 1.

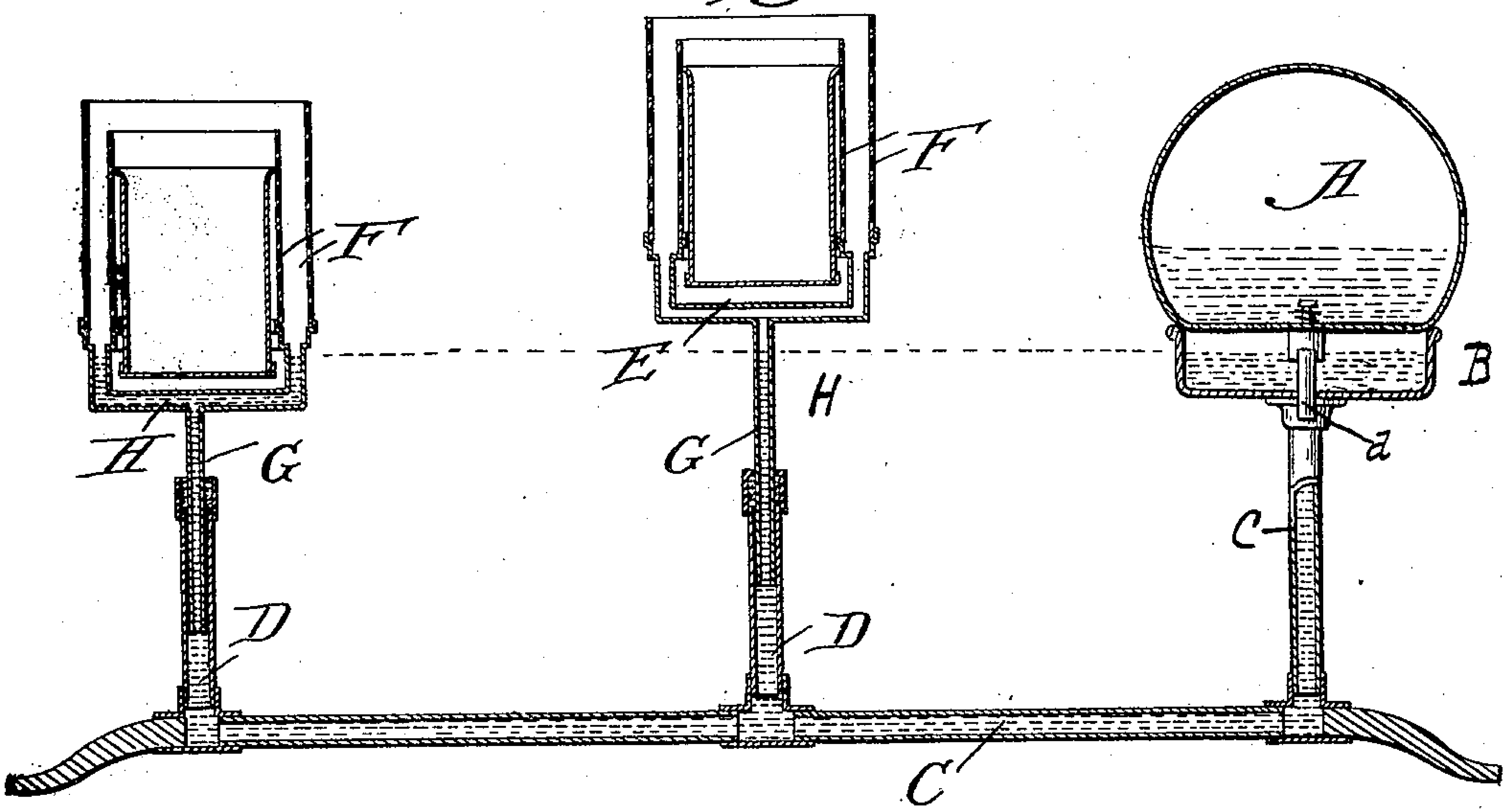


Fig. 4.

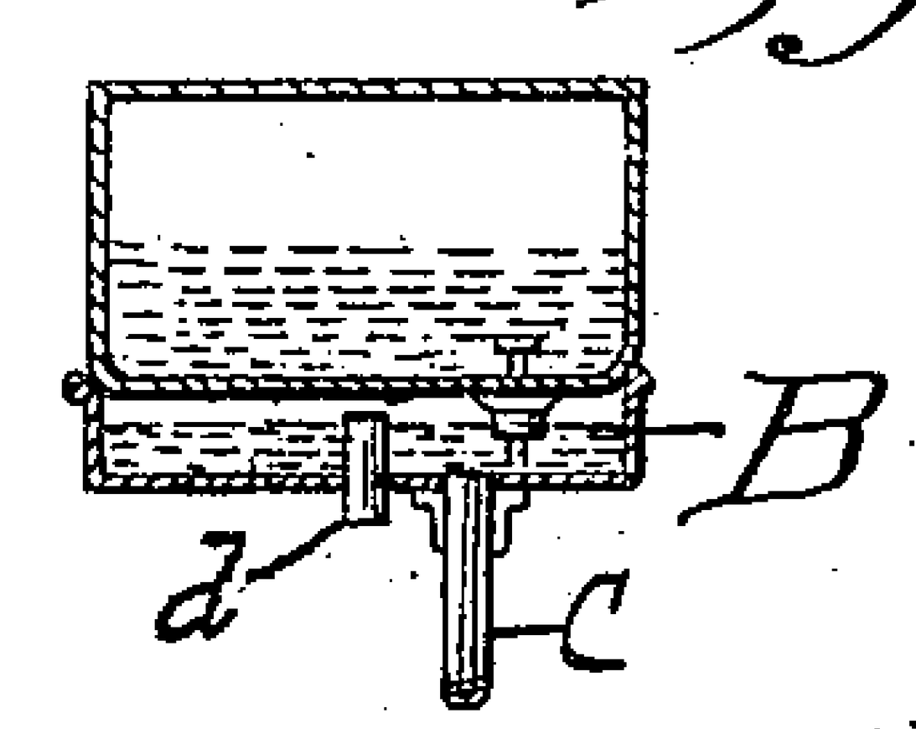


Fig. 2.

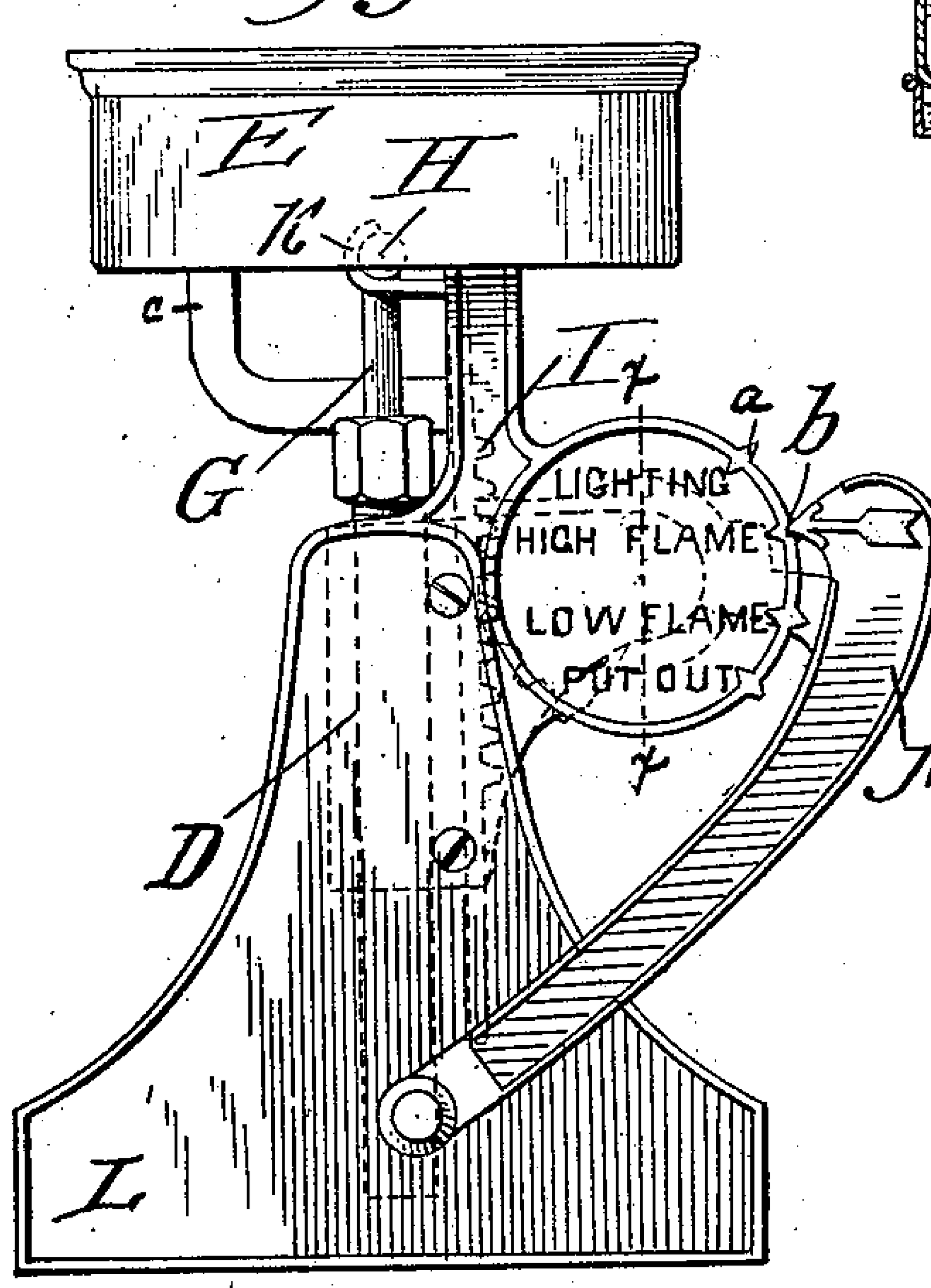
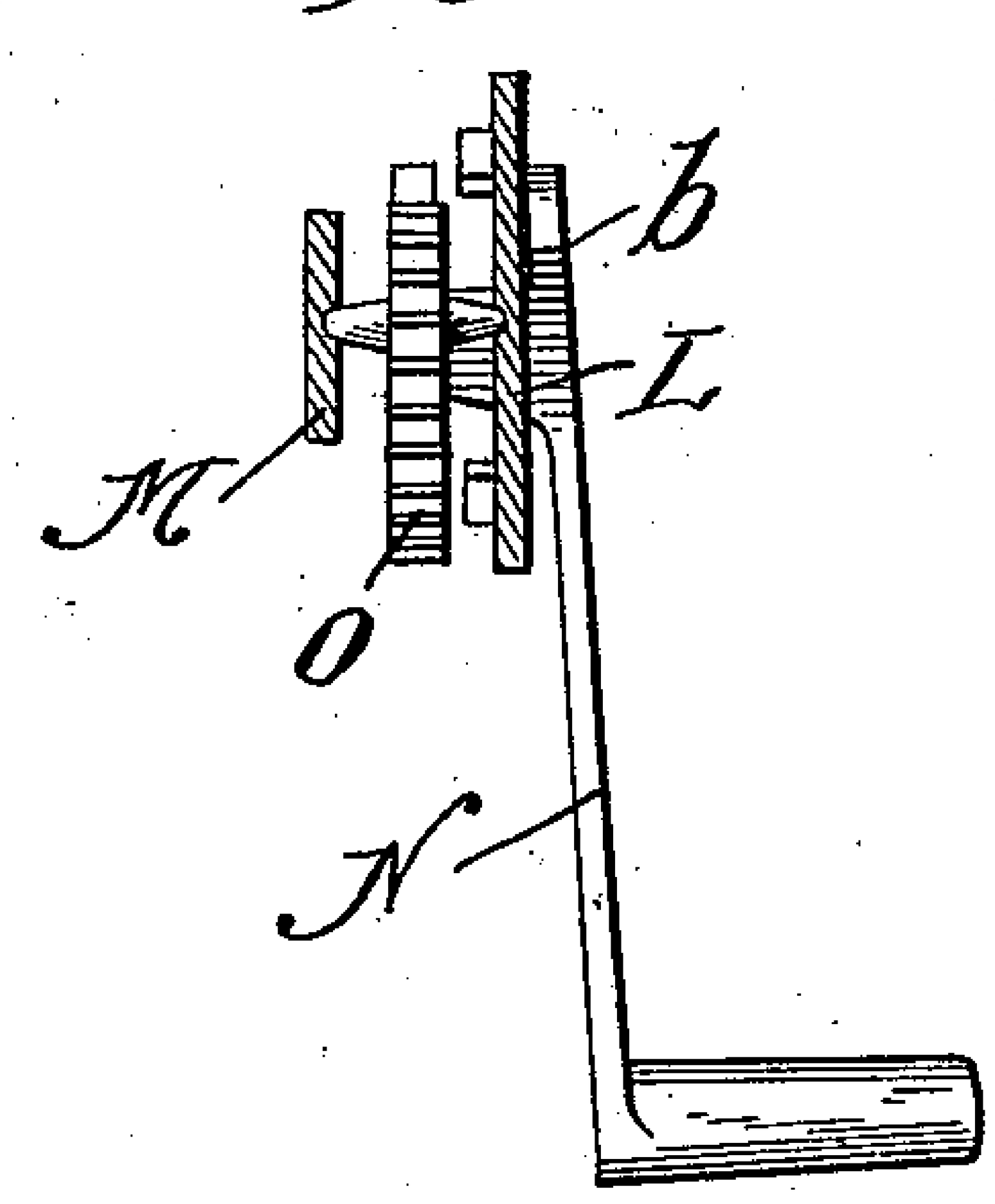


Fig. 3.



Attest
C. Middleton
J. M. Spear

Inventor
Wm. H. Wilder
by Walter Donaldson & Co
Attys

UNITED STATES PATENT OFFICE.

WILLIAM H. WILDER, OF GARDNER, MASSACHUSETTS.

OIL-STOVE.

SPECIFICATION forming part of Letters Patent No. 617,977, dated January 17, 1899.

Application filed July 22, 1898. Serial No. 686,634. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. WILDER, a citizen of the United States, residing at Gardner, Worcester county, Massachusetts, have invented certain new and useful Improvements in Oil-Stoves, of which the following is a specification.

My invention relates to oil-stoves, and is an improvement over the construction shown in Letters Patent granted me December 7, 1897. In an application filed December 6, 1897, Serial No. 660,879, is shown substantially the main features of the burner and reservoir, and in the present application I have shown a stove with two or more burners instead of a single burner, as in the application referred to, and, further, I have improved the details of construction, as will be more particularly explained hereinafter.

In the accompanying drawings, Figure 1 represents a diagrammatic view showing the parts in section and the two burners in different positions, the operating devices, such as shown in Fig. 2, being omitted in this view. Fig. 2 is a detail view showing in front elevation one of the burners with the supporting-bracket for the operating and indicating means. Fig. 3 is a sectional view on line *x x* of Fig. 2, and Fig. 4 shows on reduced scale a longitudinal vertical section of the oil chamber and reservoir.

In Fig. 1 the reservoir is shown at A provided with a maintained oil-level in the oil-chamber B and an oil-conducting pipe C, extending from the chamber longitudinally of the stove, having upright branches D. The burners comprise oil-holders E, and combustion-chambers F are supported on a pipe G, which has a sliding connection with the branch D and is vertically adjustable, as will be hereinafter described. The oil-holder supporting the combustion-chamber is preferably of annular form, and extending across its lower diameter is a pipe H, which connects at each end with the interior channel of the holder, while at its center it communicates with and is connected to the vertical pipe G. The burner is given vertical movement through a rack-bar I, connected to the cross-pipe H, by means of a slotted head having projecting flanges K, the head and flanges being cast with the rack. This forms a secure fastening and makes a connection between the burner and the rack which requires no securing means. The bracket L forms a face-plate below the burner and is secured to the branch pipe D by bolts, which also engage and clamp a rear plate M. The bracket L has a disk extending to one side, having upon its face the words "Lighting," "High flame," "Low flame," "Put out," and at the end of each word or words a point *a* projects from the periphery of the disk. An operating-lever N has connected to it a segmental gear O, which engages the rack I, and in the movement of the lever the burner is adjusted up or down across the line of the oil-level. The segmental gear has a hub terminating in conical points, and these points find a bearing in corresponding recesses in the inner face of the front and rear bracket-plates, as shown in the sectional view Fig. 3. The operating-lever, which is connected with and moves the gear, has an indicating projection *b*, which moves substantially in line with the periphery of the disk and points to the proper word or words in the various positions of the lever to indicate the condition of the flame or the position of the burner. The upwardly-projecting extension or stops to limit the downward movement, as shown at *c*, are substantially the same as those in the pending case referred to.

It will be observed that a new result is effected in making the burner movable instead of the reservoir when two or more burners are used, as I am able to dispense with all valves such as were found necessary in the construction shown in the patent of December 7, 1897, where the reservoir was movable; but as in the present case the reservoir is stationary and the burners are independently adjustable in relation to the oil-line it will be apparent that one burner may be lowered to be in use and another burner may be raised to be out of use, and this is effected simply by the adjustment of the burner and without requiring a valve.

It will be observed that while the level of the oil in the oil-chamber B is automatically maintained there is a slight fluctuation in this level caused by the raising and lowering

of the burner, as when the burners are down they are filled with oil, and as the oil lowers in the chamber B a fresh supply is admitted thereto from the reservoir A. When, however, the burners are raised to empty the oil-holders, the result will be a slight increase of the level of the oil over its normal level. When the burners are working and in order to provide for this back flow, I prefer to increase the area of the oil-chamber B sufficiently to allow the rise in the level, and I have found that a very desirable construction is one of rectangular form. As there are no valves, it will be seen that the oil may find its level by flowing in one direction or the other, and I have also discovered that this prevents the clogging of the pipes, which has heretofore been a source of very great annoyance where the flow of the oil was one way only, as the impurities in the oil would clog about the valves.

The overflow-pipe in the oil-chamber is shown at *d*, and, as shown, I arrange this centrally of the oil-chamber, so that in any accidental tilting of the stove the overflow will not be affected and will only operate when the reservoir for any reason floods the oil-chamber.

It will be observed in connection with the overflow that this must hold such a relation to the holder that it will be below the top thereof when the holder is at its highest point in relation to the overflow, for it is intended that the overflow shall operate when abnormal conditions exist so as to prevent the overflow at the burner when the burner is supposed to be out of action. This might occur by the leaking of the reservoir into the oil-chamber or by unduly raising the level of the oil in this chamber and with the overflow positioned relatively to the location of the burner when out of action will prevent any such abnormal condition from overflowing the burner.

What I claim is—

1. In an oil-stove, a reservoir having a maintained oil-level and two or more burners, said burners being vertically adjustable independently, substantially as described.

2. In an oil-stove, a reservoir having a maintained oil-level, a vertically-adjustable burner, a rack secured to the burner a segment of a gear for operating said rack and a lever extending from said segment, substantially as described.

3. In an oil-stove, a reservoir having a maintained oil-level, a vertically-adjustable burner, means for operating the same including a lever, said lever moving in unison with the burner and serving also to indicate the relative position of the burner to the oil-level, substantially as described.

4. In an oil-stove having a vertically-movable burner, means for supporting and operating said burner comprising a pipe D, a plate M, a bracket, said parts being clamped to said pipe, a hub supported by an extension of the bracket and the plate M having cone-like bearings, said hub having a connection with the burner and an operating device connected with the hub.

5. In an oil-stove, a burner vertically movable, a reservoir, an oil-chamber adapted to receive its supply automatically from the reservoir and a free uninterrupted oil-passage between the oil-chamber and the burner, substantially as described.

6. In an oil-stove, two or more burners vertically movable independently, a reservoir, an oil-chamber supplied automatically from the reservoir, a free uninterrupted oil-passage between the oil-chamber and the burners, said oil-chamber being of such area as to receive the oil drained out of the burner in the elevation thereof without materially raising the oil-level and thereby affecting the burners in use substantially as described.

7. In an oil-stove, a burner vertically movable, a reservoir, an oil-chamber and an overflow located centrally of the oil-chamber, substantially as described.

8. In an oil-stove, an oil-supply having a maintained level, a burner having an oil-holder and means for varying the relation vertically between the oil level and holder and an overflow located below the top of the holder when the holder is at its highest point in relation to the overflow, substantially as described.

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

WILLIAM H. WILDER.

Witnesses:
H. M. GATES,
H. D. BURNHAM.