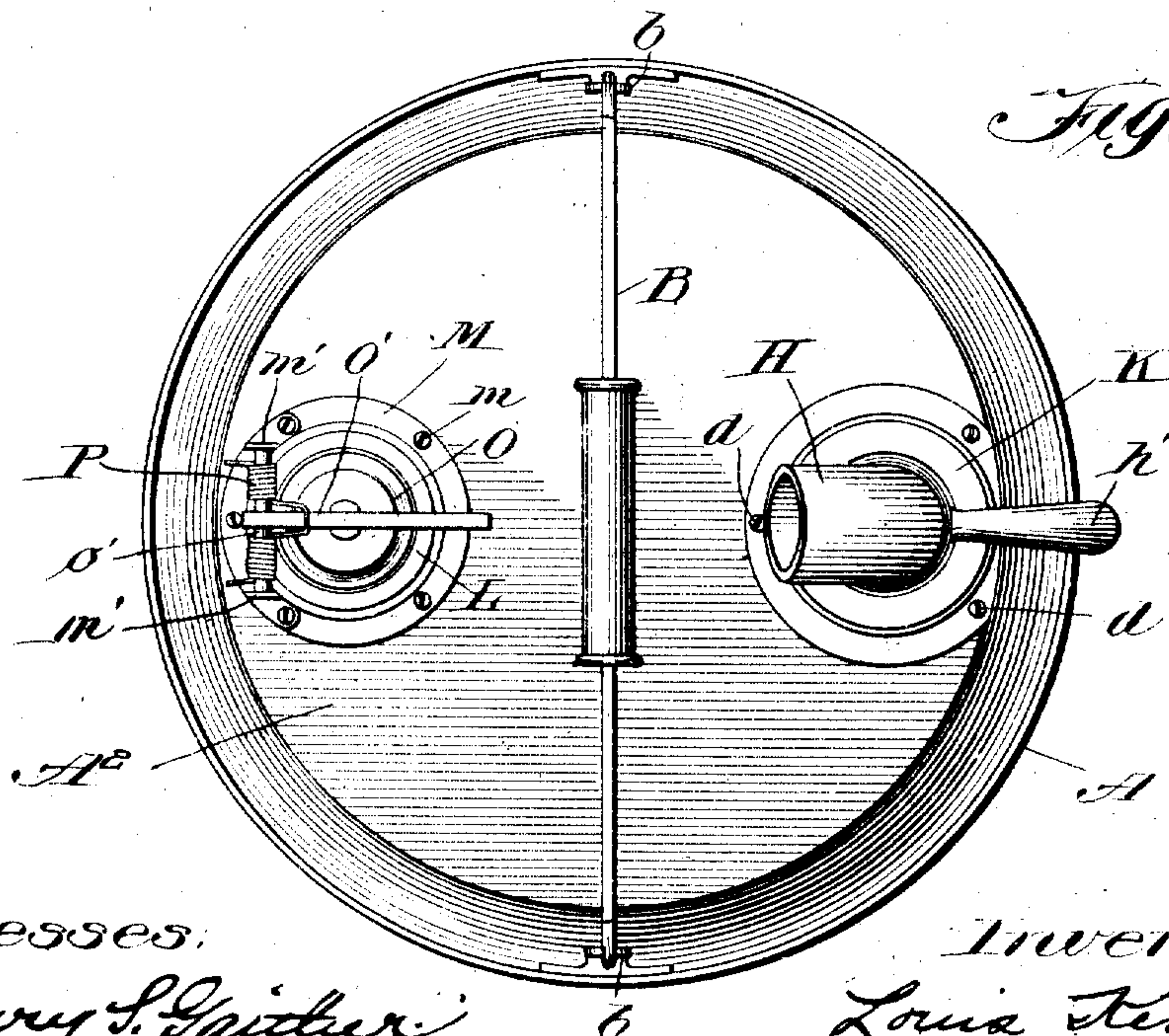


RECEPTACLE FOR COMBUSTIBLE LIQUIDS.

APPLICATION FILED SEPT. 22, 1906.

Patented Oct. 6, 1908.

2 SHEETS—SHEET 1.



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3 SHEETS—SHEET 2.

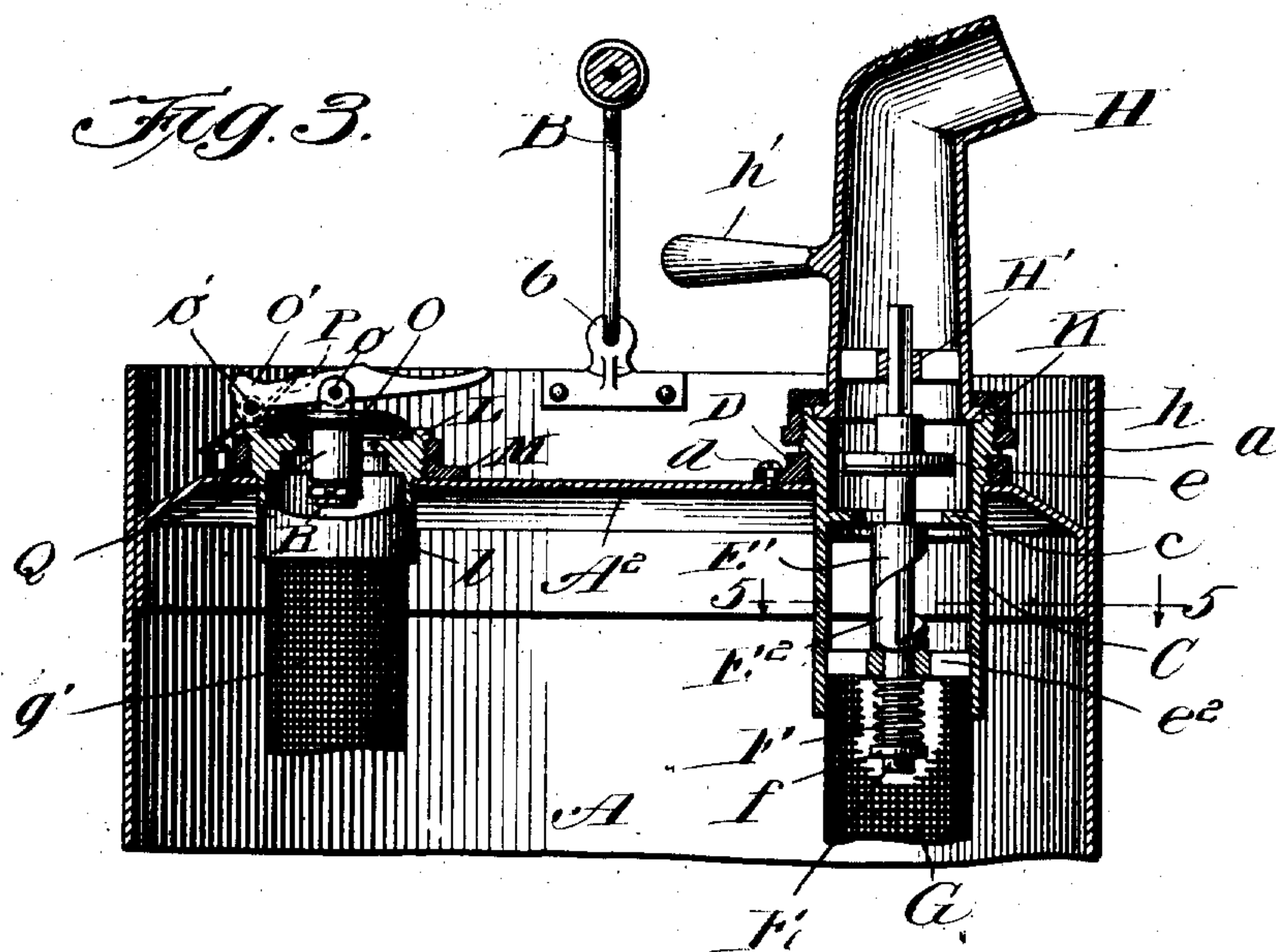


Fig. 4.

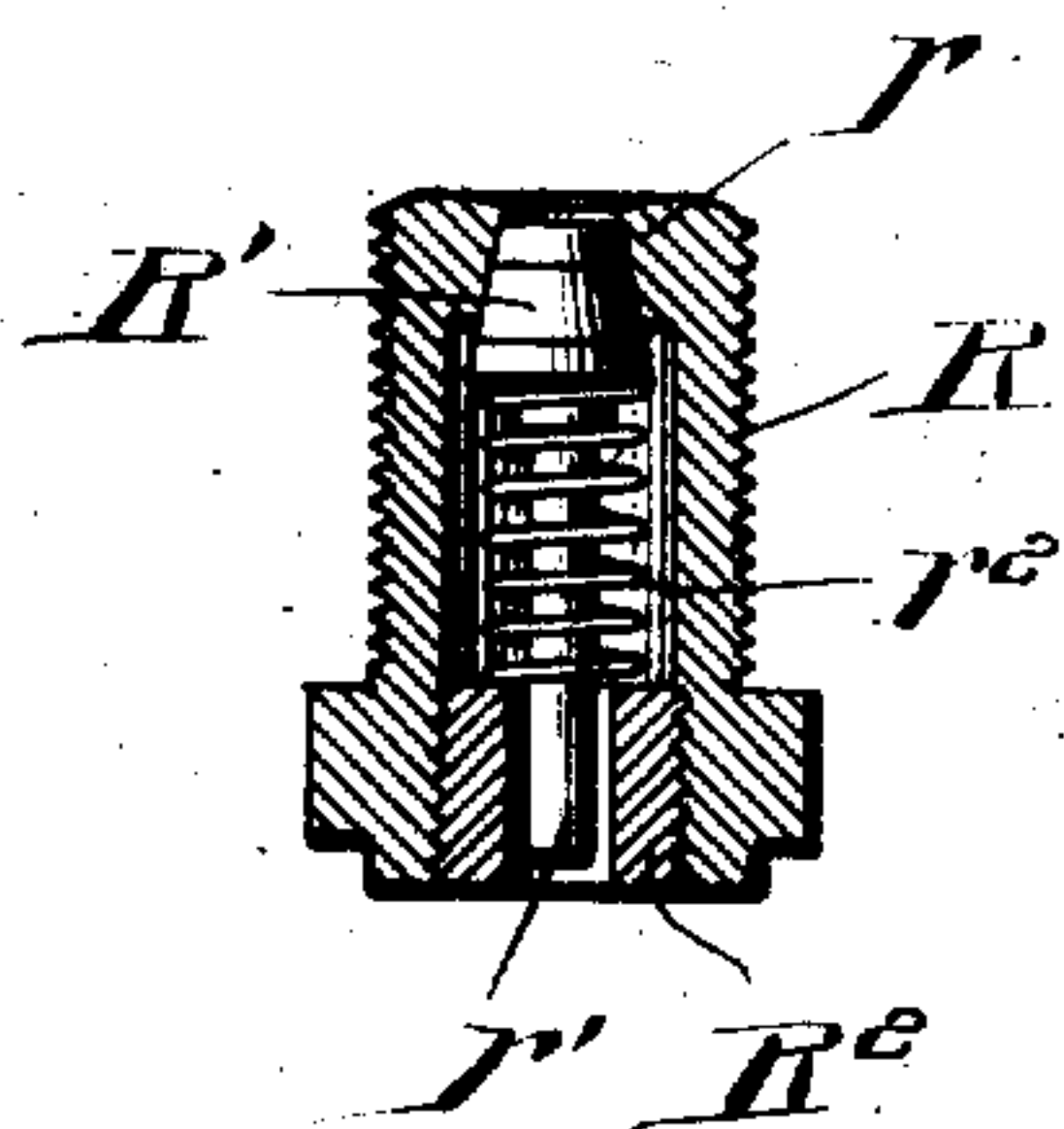


Fig. 5.

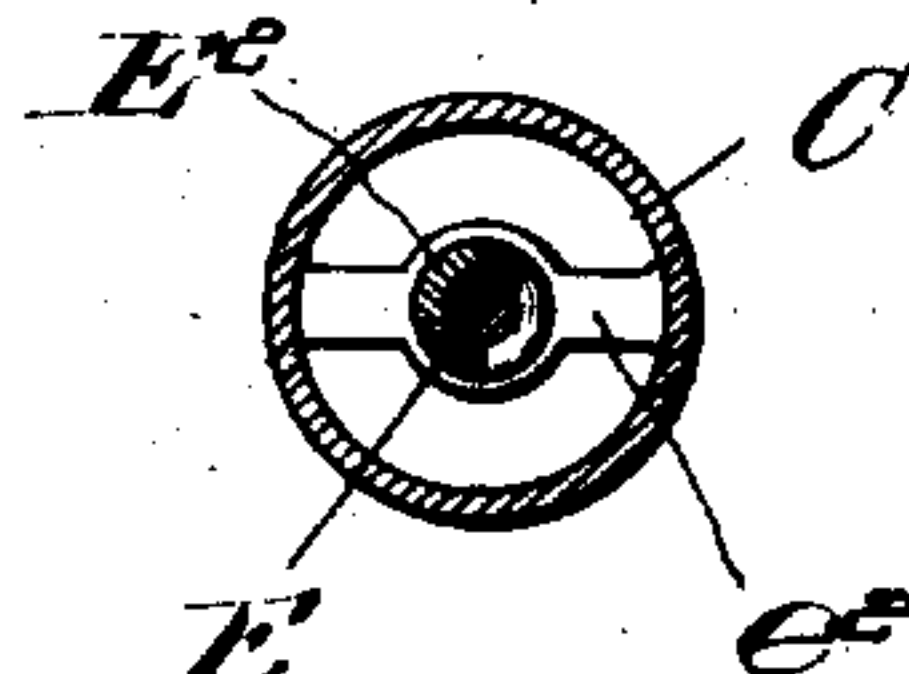
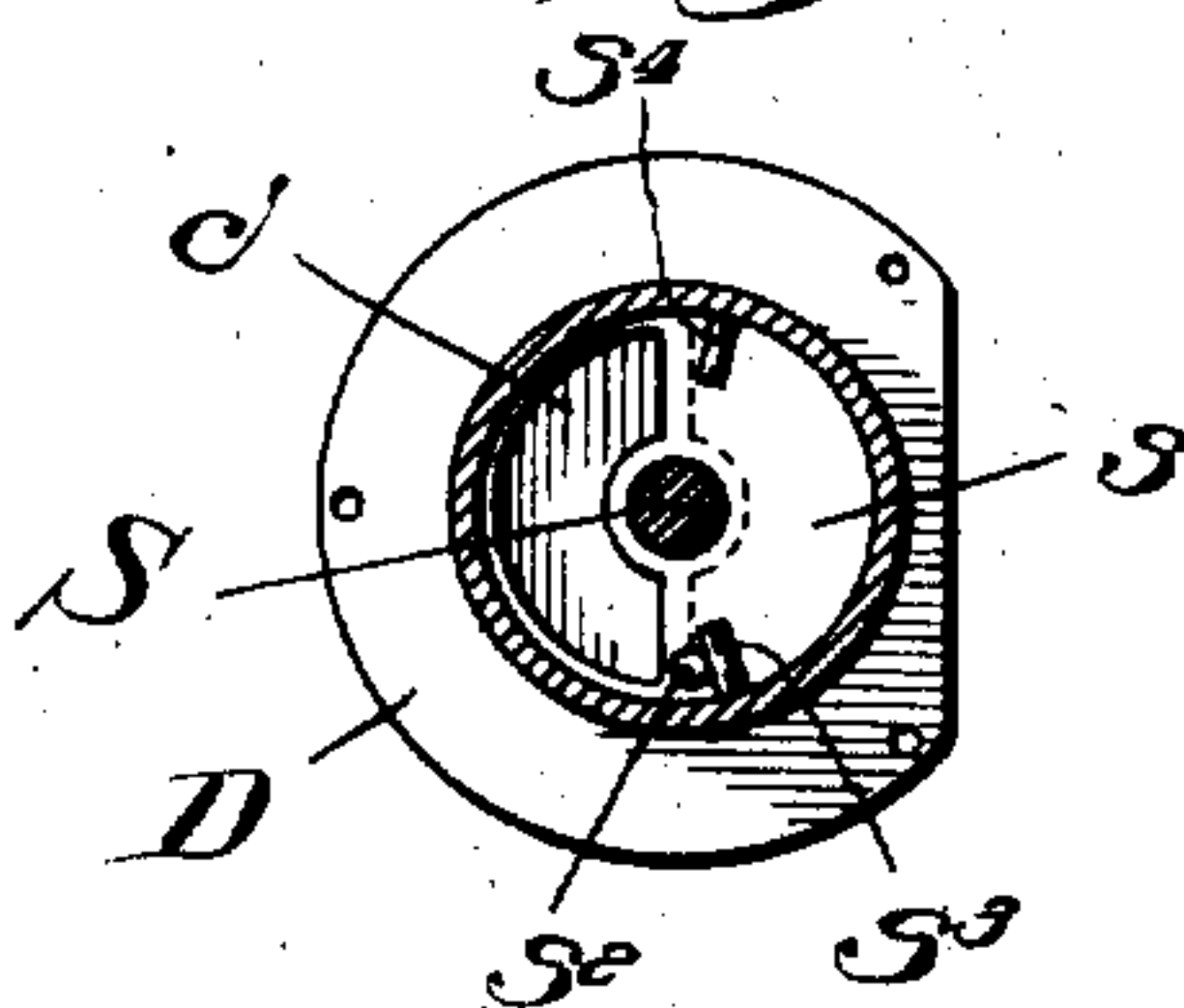


Fig. 6.



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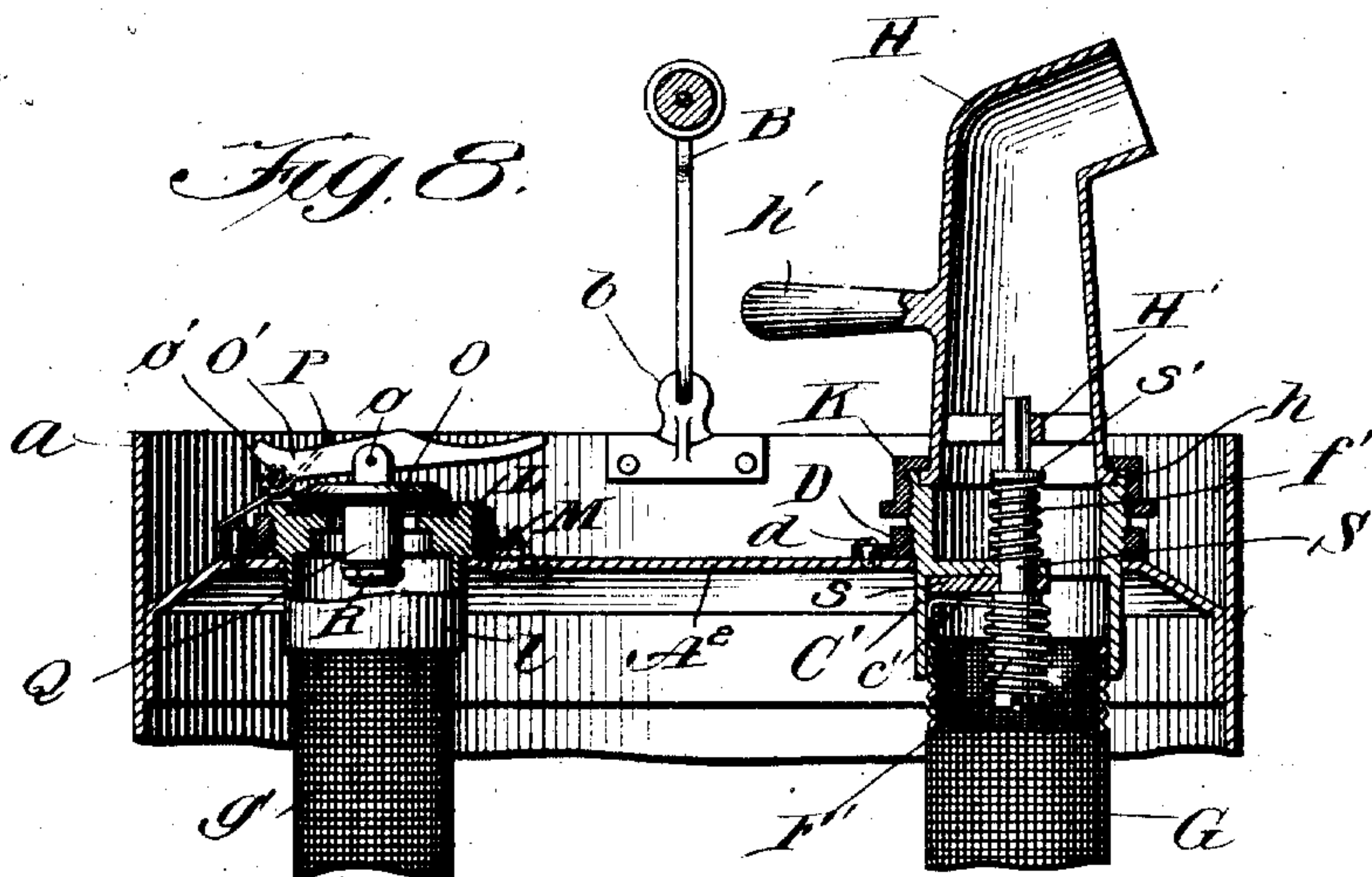
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3 SHEETS—SHEET 3.



Inventor:

Louis Kessler

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UNITED STATES PATENT OFFICE.

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RECEPTACLE FOR COMBUSTIBLE LIQUIDS.

No. 900,102.

Specification of Letters Patent

Patented Oct. 6, 1908.

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To all whom it may concern:

Be it known that I, LOUIS KESSLER, a citizen of the United States, residing at Des Moines, county of Polk, State of Iowa, have invented a certain new and useful Improvement in Receptacles for Combustible Liquids, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates in general to receptacles for liquids and more particularly to portable receptacles for combustible liquids.

In handling and shipping explosive liquids, such as gasoline, it is desirable that receptacles should be employed from which the liquid can be conveniently poured, which will prevent leakage, which will permit escape of the fluid when the pressure becomes excessive thereby preventing explosions, and which may be shipped without danger of injury to the inlet and outlet mechanism.

The primary object of my invention is to provide a receptacle for combustible liquids which will possess the above mentioned desirable characteristics, and which will be simple in construction and comparatively inexpensive in manufacture.

A further object of my invention is to provide in receptacles for containing combustible liquids a safety valve having an inwardly opening air valve to permit air to pass into the receptacle as the liquid is poured therefrom.

A still further object of my invention is to provide an outlet mechanism for a liquid receptacle in which the rotation of the nozzle into position to direct the discharge of the liquid will open the outlet valve, the valve being closed upon the automatic return of the nozzle to its normal position.

My invention will be more fully described hereinafter with reference to the accompanying drawings in which the same is illustrated as embodied in two convenient and practical forms, and in which

Figure 1 is a vertical central sectional view; Fig. 2 a plan view; Fig. 3 a view similar to Fig. 1 showing the outlet valve opening; Fig. 4 an enlarged detail view of the air inlet valve; Fig. 5 a sectional

view on line 5—5 Fig. 3; Fig. 6 a sectional view on line 6—6 Fig. 7; Fig. 7 a view similar to Fig. 1 showing a modified form of the invention; and Fig. 8 a view of the modification shown in Fig. 7 showing the outlet valve open.

Similar reference characters are used to designate similar parts in the several figures of the drawing.

Reference letter A designates a receptacle for containing liquids made out of suitable material such as sheet metal and provided with a bottom A' and a top A². The top A² is located a short distance below the upper edge of the cylindrical side wall of the receptacle in order that a flange a may extend around the top wall to protect the mechanism located thereon.

In order that the receptacle may be conveniently handled ears b, b are secured at diametrically opposite points on the flange a to which are pivotally connected the ends of a handle B.

C designates a valve casing extending through an opening in the top wall A² of the receptacle and secured thereto in any suitable manner, as by means of a ring D having screws or rivets d extending through a flange thereon into engagement with the top A² of the receptacle. The exterior of the valve casing is provided with a screw-thread engaging an interior screw-thread in the ring D.

e designates an outlet valve which engages a seat e in the valve casing and is retained in contact with the seat by a spring F surrounding the valve stem E. The spring F bears at its lower end upon a ring f secured to the lower end of the valve stem, and engages at its upper end with a web e² extending within the valve casing C and through which the valve stem reciprocates. A cam E² projects above the web e² and is engaged by a corresponding cam E' fixed upon the valve stem E.

Depending from the valve casing C within the receptacle as shown in Figs. 7 and 8 is a double wire guard cylinder G to prevent the ignition of the liquid within the receptacle. The guard cylinder is preferably made of heavy mesh wire g' surrounding wire gauze g². The lower end of the guard cylinder is also formed of the heavy mesh wire and inner wire gauze so that the liquid may flow freely through the bottom as well

as the side wall of the guard cylinder to the valve casing.

H designates a nozzle alining with the valve casing and rotatably secured thereon by means of a ring K having a flange thereon which overlies a flange h around the lower end of the nozzle. The ring K is interiorly screw-threaded and engages an exterior screw-thread around the upper end of the valve casing. The nozzle H is provided with a web H' therein having an angular opening concentrically therein through which extends the upper end of the valve stem E which is of a cross-section conforming to the opening through the web. In order that the nozzle H may be conveniently rotated relatively to the valve casing a handle h' is provided thereon.

L designates a valve casing extending through an opening in the top wall A^2 of the receptacle and secured thereon through screw-threaded engagement with a ring M fixed to the receptacle in any suitable manner, as by means of screws m extending through a flange around the ring into engagement with the top of the receptacle. A double wire guard cylinder, such as above described in connection with the outlet valve, is secured within a circular flange l depending from the valve casing L within the receptacle. A safety valve O cooperates with a seat at the upper end of the casing L and is provided with ears o between which a lever O' is pivoted. The lever O' is fulcrumed upon a rod o' carried by ears m' , m'' projecting from a bracket secured above the valve casing L. The safety valve O is normally retained upon its seat by means of a spring P which may be conveniently constructed as shown in the drawings in which it is provided with coiled portions surrounding the rod o' on each side of the lever O' and with ends bearing upon the valve casing L. The coiled portions of the spring are united by a loop which overlies the lever O' and thereby retains the valve seated. An air inlet valve R is supported beneath the safety valve O to permit air to pass to the receptacle to replace the liquid as it is poured from the receptacle. The air valve R may be conveniently secured to the valve O by means of exterior screw-threads engaging interior screw-threads in a collar Q formed integrally with the valve O and surrounding a hole g through the valve. The air valve R, as shown in detail in Fig. 4, comprises an outwardly seating valve proper R' engaging a conical seat r . A spring r^2 surrounds the valve stem r' and is interposed between the under-surface of the valve R' and a ring R^2 secured within the casing around the valve.

The operation of the embodiment of my invention above described is as follows: When it is desired to pour liquid from the receptacle the nozzle H is rotated from the

position shown in Figs. 1 and 2 to that shown in Fig. 3 by pressure applied to the handle h' . The rotation of the nozzle rotates the valve stem E therewith owing to the connection between the upper end of the valve stem and the web H' . The rotation of the valve stem lifts the same and with it the valve e by reason of the engagement of the inclined cam E' on the valve stem with the cooperating cam E^2 on the web e^2 within the valve casing C. The liquid may then pass through the valve seat e and around the valve e to the nozzle from which it passes to a suitable vessel. When the desired amount of liquid has been drawn from the receptacle the pressure upon the handle of the nozzle is discontinued so that the tension of the spring P will force the valve stem E downwardly from the position shown in Fig. 3 to that shown in Fig. 1 thereby seating the valve and returning the nozzle to its normal position.

The flow of the liquid from the receptacle is facilitated by air passing through the hole q in the safety valve O thence past the valve R' to the interior of the receptacle. The spring r^2 which retains the valve R' seated is of such light tension that when the pressure in the receptacle is slightly below that of the atmosphere the valve will open and permit ingress of air. The tension of the spring P is such that should the pressure within the receptacle become excessive by reason of heat or otherwise, the valve will lift permitting the escape of the fluid thereby preventing rupture of the receptacle.

In Figs. 6, 7, and 8 I have illustrated a modified form of my invention which is the same as the embodiment of the invention above described in all respects except that the outlet valve is not in the form of a puppet valve, but is a rotary slide valve.

In Figs. 6, 7, and 8 reference character S designates the valve stem the upper end of which is angular and extends through the angular spring in the web H' within the nozzle H. s is the valve fixed to the valve stem and under-lying the valve seat e' within the valve casing C'. The valve is retained in close contact with the under-surface of the seat by means of a spring f' surrounding the valve stem and interposed between the upper surface of the valve seat and a collar s' fixed upon the valve stem. The valve s is normally retained in the closed position shown in Fig. 7 by the tension of the spring f' surrounding the valve stem below the valve and secured at one end to the valve stem and at its other end to the valve casing. In order that the movement of the valve by the tension of the spring f' may be so limited that the valve will normally close the opening through the valve seat, a pin s^2 projects from the valve and is adapted to engage a pin s^3 projecting inwardly from the

valve casing. Another pin s^4 projects inwardly from the valve casing in the path of the pin s^2 on the valve to limit the opening movement of the valve.

5 When it is desired to discharge liquid from the receptacle the nozzle H is rotated by pressure applied to the handle h' so that it assumes the position shown in Fig. 8. The rotation of the nozzle rotates the valve stem S and with it the valve s so that the passage-way through the valve seat is opened for the flow of liquid to the nozzle. When the desired quantity of liquid has been discharged from the receptacle the pressure upon the handle of the nozzle is discontinued whereupon the tension of the spring F' immediately closes the valve and returns the nozzle to its normal position.

20 When it is desired to transport the receptacle either embodied in the form shown in Figs. 1 to 5 or the form shown in Figs. 6 to 8, the nozzle H may be disconnected by disengaging the ring K from the valve casing. The flange a around the receptacle projects slightly above the valve casing and safety valve mechanism so that objects placed upon the receptacle will not injure the valve mechanism. The handle B may be swung downwardly so that another receptacle may be placed above the same, as the ears b, b which support the handle are off-set inwardly so that they will extend within the bottom of a superposed receptacle. The space beneath the bottom wall A' of the receptacle permits the same to be placed above another receptacle as the ears b and the handle B of the under-lying receptacle may extend within the space below the bottom wall of the superposed receptacle.

40 From the foregoing description it will be observed that I have invented an improved receptacle for combustible liquids which may be conveniently transported, which will prevent leakage, and which will permit the discharge of liquid by rotating the nozzle and thereby opening the outlet valve. It is further evident that the discharge of the liquid is facilitated by permitting air to flow to the receptacle to replace the discharged liquid.

50 Having now fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a receptacle for liquids, the combination with a valve casing, of an outlet valve in said casing, a nozzle rotatably mounted upon said casing but axially immovable relatively thereto, a valve stem to which said valve is secured, a spring, the tension of which moves said stem to close said valve against its seat, and means connecting said stem with said nozzle whereby rotation of the nozzle opens the valve.

2. In a receptacle for liquids, the combination with a valve casing, of an outlet valve in said casing, a nozzle rotatably

mounted upon said casing, a valve stem to which said valve is secured, a spring, the tension of which moves said stem to close said valve against its seat, a cam fixed to said valve stem, a cooperating cam fixed within said casing, and means connecting said stem to rotate with said nozzle whereby rotation of the nozzle opens the valve.

3. In a receptacle for liquids, the combination with a valve casing, of an outlet valve in said casing, a nozzle rotatably mounted upon said casing, a valve stem to which said valve is fixed, a spring interposed between said stem and casing for normally closing said valve against its seat, a cam fixed to said valve stem, a cooperating cam fixed within said casing, said stem projecting within said nozzle, and connected to rotate therewith whereby rotation of the nozzle rotates said stem against the tension of said spring, and thereby opens said valve.

4. The combination with a receptacle for liquids, of an inwardly seating safety valve, means for normally seating said valve, a screw-threaded plug secured in an opening in said valve, and an outwardly seating valve arranged in said plug.

5. In a receptacle for liquids, a valve casing projecting through one wall of said receptacle and projecting above and below said wall, a valve seated within said casing, a nozzle having a flange at one end seated upon the upper edge of said casing, a nut screw-threaded upon the upper end of said casing and having a flange over-lying the flange on the nozzle, a spring for normally holding said valve seated, and means connected to said nozzle for un-seating the valve against the tension of the spring upon rotation of the nozzle.

6. The combination with a receptacle for liquids, of an inwardly seating safety valve, means for normally holding said valve seated, a sleeve projecting inwardly from said valve, said valve having a perforation leading from the exterior thereof to a point within the sleeve, a plug adjustably supported within said sleeve and an outwardly seating valve arranged within said plug.

7. The combination with a receptacle for liquids, of an inwardly seating safety valve means for normally holding said valve seated, a plug screw-threaded into an opening in said valve, an outwardly seating valve within said plug, a spring for holding said latter valve seated, and a member screw-threaded into said plug for holding the spring in position.

In testimony whereof, I sign this specification in the presence of two witnesses.

LOUIS KESSLER.

Witnesses:

MORTON E. WELDY,
WM. M. WILCOXEN.