No. 824,442. PATENTED JUNE 26, 1906.

G. SCHLEMMER.

STOP VALVE.

APPLICATION FILED AUG. 8, 1905.

Fig. 1.

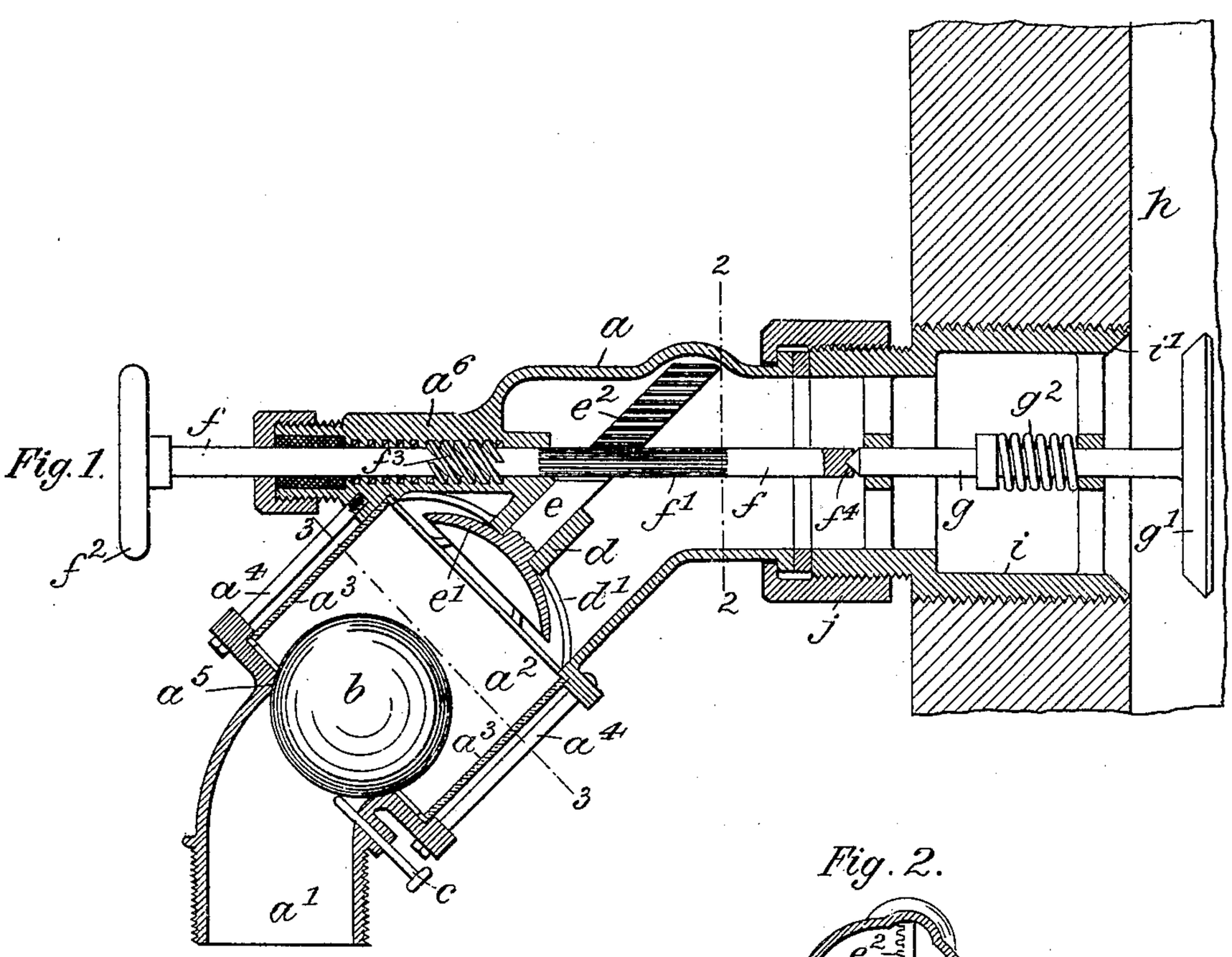


Fig. 2.

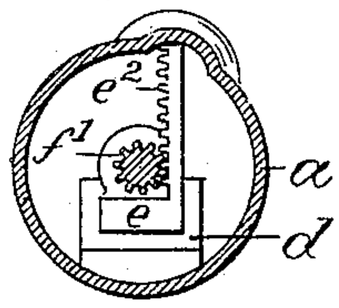


Fig. 3.

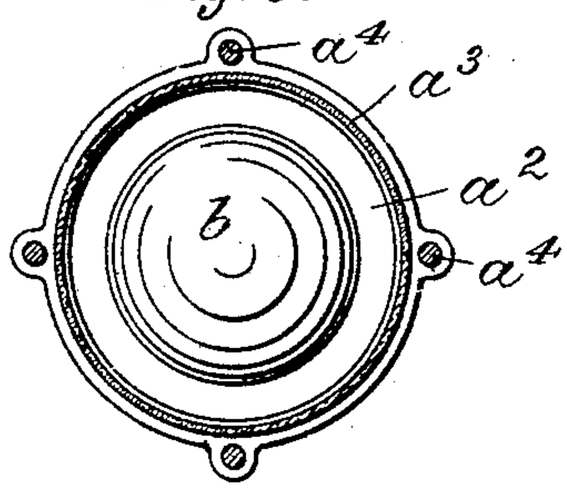
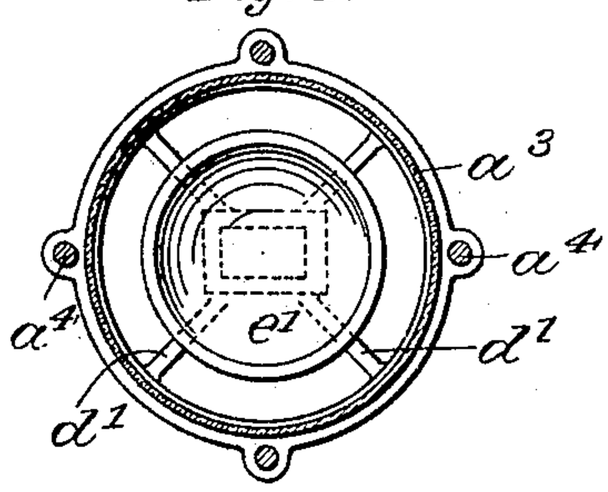


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

GEORGE SCHLEMMER, OF NEW YORK, N. Y.

STOP-VALVE.

No. 824,442. Specification of Letters Patent. Patented June 26, 1906.

Application filed August 8, 1905. Serial No. 273,235.

To all whom it may concern:

Be it known that I, GEORGE SCHLEMMER, a citizen of the United States, residing at New York city, Manhattan, county and State of New York, have invented new and useful Improvements in Stop-Valves, of which the following is a specification.

This invention relates to a stop-valve designed to control the discharge of liquids under pressure.

The valve is so constructed that while it permits the free flow of the liquid it will prevent the escape of air when the flow of liquid ceases.

The invention is particularly applicable for controlling the flow of beer from a chip-cask to the filter, but may also be used for other purposes.

In the accompanying drawings, Figure 1 is a longitudinal section of my improved stop-valve; Fig. 2, a cross-section on line 2 2, Fig. 1; Fig. 3, a cross-section on line 3 3, Fig. 1, looking downward; and Fig. 4, a section similar to Fig. 3 looking upward.

The letters a a' indicate the upper and lower sections of an elbow-pipe, between which is formed a valve-chamber a^2. This chamber is inclosed by a glass cylinder a^3, that constitutes an observer, and is surrounded by bolts a^4, which connect the elbow-sections a a'. Within chamber a^2 plays a floatable ball-valve b, adapted to engage valve-seat a^5, formed by the top of lower elbow-section a'. The valve b may be raised off its seat by a suitable lifter c in case it becomes sucked to its seat. Centered within the upper elbow-section a is an angular guide d, which is secured to section a by a spider d'. Through guide d passes a squared stem e, the lower end of which carries a concave cup e'. This cup is located within valve-chamber a^2 and is substantially of the same curvature as valve b, which it is adapted to engage, so as to constitute a holder. The spider d' is made in the form of an open frame that forms a liquid-inlet at the top of valve-chamber a^2 and opposite the valve-seat a^5. Within this frame is centered the cup e', which is of less diameter than the casing, so that an annular liquid-passage is formed between them. The cup prevents the ball b from being raised against open frame d' and from thus partly clogging the inlet-ports in case the liquid flows slowly. It also constitutes a shield which is interposed between the stream of inflowing liquid and the ball, thus preventing the latter from being taken along by the stream and being forced against seat a^5 in case the liquid flows rapidly. The stem e is provided at its upper end with inclined teeth e^2 to constitute a rack. This rack is engaged by the longitudinally-grooved section f' of a spindle f, passing longitudinally through upper elbow-section a. Spindle f is rotatable by hand-wheel f^2 and has a thread f^3 engaging a tapped guide a^6 of elbow-section a. The inner end of spindle f is notched, as at f^4, and is adapted to operatively engage the outer coned end of a spindle g. This spindle carries an outlet-valve g', which is located within the chip-cask or other vessel h, containing the liquid to be drawn off. Valve g' is normally closed against its seat i' on the inner end of a bushing i by a spring g^2.

In use the upper elbow-section a is connected to the chip-cask h by a coupling j, while the lower elbow-section a' is connected to a filter, &c., by a hose. (Not shown.) The spindle f being turned inward will open valve g' to permit the egress of the beer and will simultaneously raise cup e'. The beer will thus flow through elbow-section a and through spider d' into valve-chamber a^2. Thus valve b will be floated to permit the discharge of the beer from chamber a^2 into elbow-section a'. When the flow of beer has unduly diminished or has ceased, so that pressure-air flows through valve g', the valve b will no longer be floated, but will settle upon its seat a^5, Fig. 1, so as to prevent the discharge of the air into elbow-section a'. In this way the objectionable entrance of compressed air into the filter is prevented. When the operation is completed, the spindle f is turned outward to permit the closing of valve g' by spring g^2. At the same time spindle f will lower cup e' and cause the latter to descend upon valve b, so as to hold it to its seat a^5. When, therefore, the elbow is subsequently uncoupled from cask h, the beer in the filter or hose is prevented from flowing back by gravity or back pressure, and an objectionable discharge through the top of the elbow is prevented.

What I claim is—

1. A stop-valve provided with a valve-chamber, an inclosed floatable valve, a holder adapted to engage the same, an outlet-valve, a spindle adapted to operate the same, and means for operatively connecting the spindle to the holder, substantially as specified.

2. A stop-valve provided with a valve-chamber, an inclosed floatable valve, a holder adapted to engage the same and having a toothed stem, a grooved spindle engaging said stem, and an outlet-valve adapted to be operated by the spindle, substantially as specified.

Signed by me at New York city, New York, this 7th day of August, 1905.

GEORGE SCHLEMMER.

Witnesses:
FRANK V. BRIESEN,
WILLIAM SCHULZ.