No. 617,655. Patented Jan. 10, 1899.

J. ORMEROD.

SIPHON HEAD.

(Application filed Oct. 9, 1897.)

(No Model.)

Fig. 2.

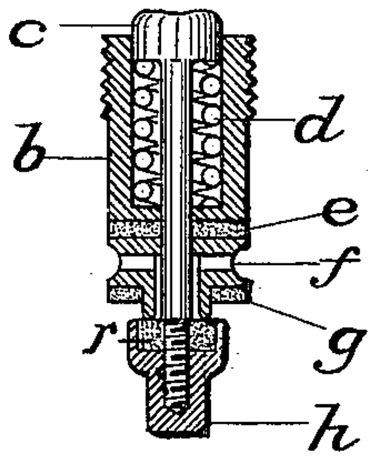


Fig. 3.

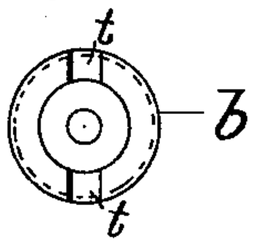


Fig. 5.

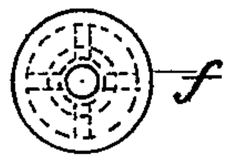


Fig. 4.

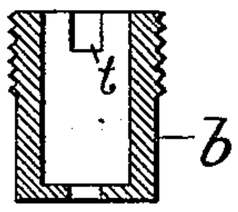


Fig. 1.

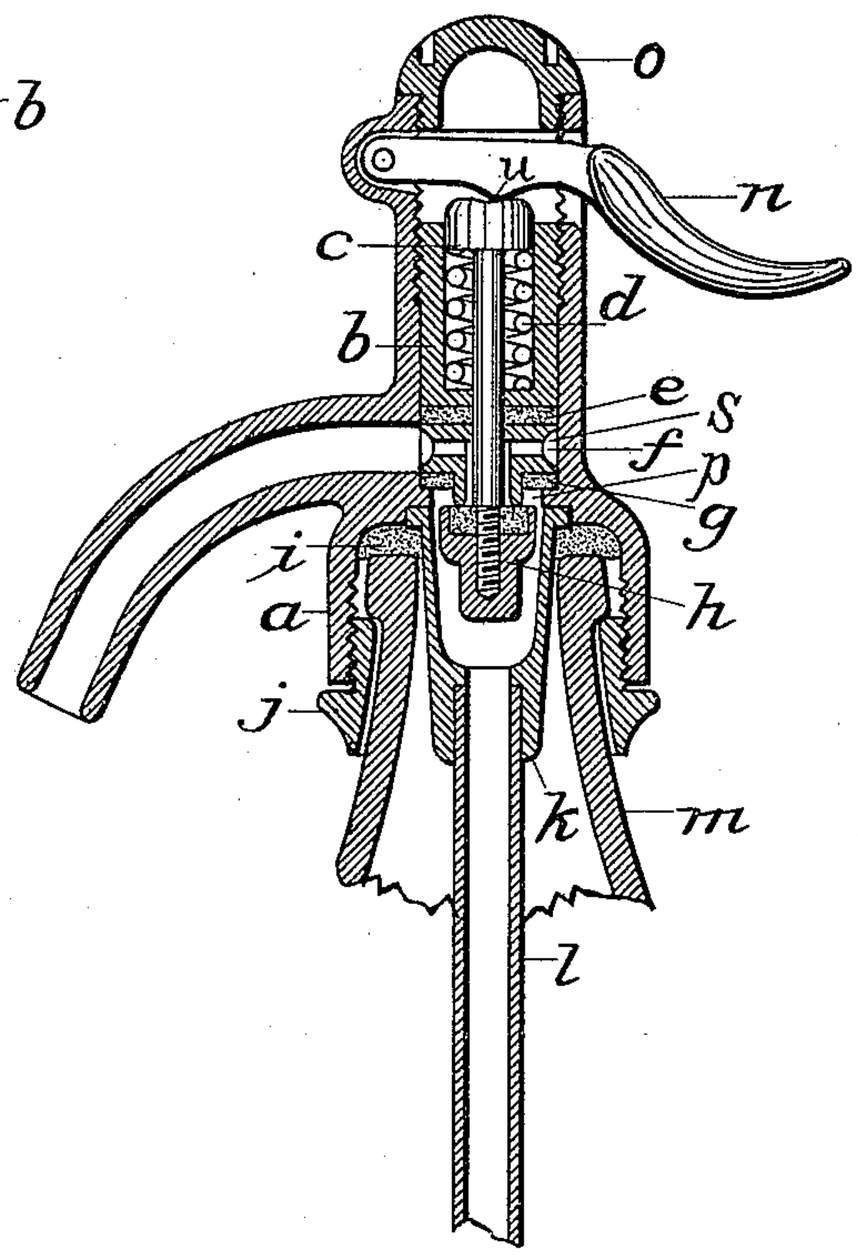
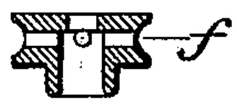


Fig. 6.



Witnesses.
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UNITED STATES PATENT OFFICE.

JOHN ORMEROD, OF NEW YORK, N. Y.

SIPHON-HEAD.

SPECIFICATION forming part of Letters Patent No. 617,655, dated January 10, 1899.

Application filed October 9, 1897. Serial No. 654,638. (No model.)

To all whom it may concern:

Be it known that I, JOHN ORMEROD, a citizen of the United States, and a resident of New York, (Brooklyn,) in the county of Kings and State of New York, have invented certain new and useful Improvements in Siphon-Heads, of which the following is a specification.

This invention relates to devices applied to bottles for the storage of carbonated beverages and known as "siphon-heads," and has for its object an improved valve for such heads. Access to the valve and valve-seats of such heads is obtained usually by the removal of the head from the bottle, a process that is not unattended with danger to the bottle. In my device the valve and its seat are removable without the disturbance of the head itself, the valve and seat are easily adjustable one to the other, their form of construction makes them durable, and the flow of liquid through the valve is with the least possible resistance, and its outlet to the discharging-spout is unobstructed. These results are attained by the means set forth in the accompanying drawings, which, taken with this specification constitute a clear, full, and exact description of my invention, such as will enable others skilled in the art to which it appertains to make and use the same.

In the drawings similar letters refer to like parts throughout the several views.

Figure 1 is a vertical cross-section through the siphon-head and head of the bottle to which it is attached. Fig. 2 is a like representation of the valve and its seat removed from the head. Fig. 3 is a top view of the shell *b*, Fig. 2. Fig. 4 is a vertical cross-section of the shell *b*. Fig. 5 shows the plan of the valve-seat *f*. Fig. 6 is a vertical transverse section of the valve-seat *f*.

By reference to Fig. 1 it will be noted that the siphon-head is attached to the bottle-head *m* in the usual way, the hollow threaded cap *a* and nut *j* binding between them the rim at the mouth of the bottle, a ring of packing *i* and the nut *k* supporting the siphon-tube *l*.

Above the cap *a* the head rises in cylindrical form, except at the point where the spout projects from it. It has a uniform bore throughout its length, except a short flange *p* at the bottom, upon which the valve-seat rests. The upper end of the bore is provided with a screw-thread for holding the valve in place, and also to receive a cap *o*, which closes the opening. It is also adapted to receive the lever *n* for operating the valve.

The valve is represented by Fig. 2 and consists of a shell *b*, threaded on its upper end to fit the thread in the head, a valve *h*, with packing *r* and screwed on a valve-stem terminating in the head *c*, a spring *d*, and a perforated valve-seat *f*. The stud *b* is bored to receive the head *c*, and between the base of the shell and the head the spring *d* is inserted to retain the valve against its seat. What I herein term the "valve-seat" *f* fits loosely on the valve-stem. It is perforated radially, as shown by broken lines in Fig. 5, and has a groove on its face, said groove intersecting the perforations, as seen in Figs. 5 and 6. The bore through the center from the valve-seat end to the radial holes is enlarged, as shown. When this combination complete, as in Fig. 2, is screwed to its place in the siphon-head, as shown in Fig. 1, the groove in the face of the valve-seat forms an annular passage communicating with and directly central with the orifice of the spout. When the valve combination is in place, a ring of packing *g* makes a tight joint between the valve-seat and flange *p*, and another ring *e* above the valve-seat insures a tight joint around the valve-stem and also the sides of the valve-chamber. The metal of the valve-seat may be tightly seated upon the flange *p* and so dispensing with the packing *g*. As shown in Fig. 1, the valve *h* closes all outlet from the bottle.

Depressing the lever *n* carries the valve-stem and likewise the valve *h* downward, opening a passage from the bottle through the enlarged bore around the valve-stem, the radial holes, and annular passage *s* out through the spout.

The lever *n* is pointed at *u* to engage with a shallow notch in the top of the knob *c*, the notch extending across the knob and the point the width of the lever, the effect being to prevent the turning of the valve, so that when once the valve-seat makes an impression in the packing in the valve it will always find the same bearings and will be less liable to leakage.

The shell *b* is provided in its top edges with notches *t*, as in Figs. 3 and 4, for the insertion of a tool for screwing the shell to and from its place.

It will be readily seen that in case of needed repairs or for any purpose that may require access to the valve it will be only needful to remove the cap *o* and the lever *n*, when the entire valve combination may be unscrewed.

The thread on the shell *b* may be omitted, in which case it would be inserted in its place and held by means of a nut screwed down upon it.

It will be observed that the spring *d* will require only sufficient tension to keep the valve closed when the bottle is empty, it being plain that when the bottle is filled the gas-pressure will force the valve against its seat. Consequently a heavy pressure is against the valve only a portion of the time, and between the emptying and refilling of the bottle the valve is not undergoing a pressure that is destructive to it.

The cap *o* having no immediate connection with any of the working parts of the valve will, in the packing of the bottles one upon the other, prevent injury to the vital parts of the valve. A distinctive feature of this valve is that by means of the perforated and grooved valve-seat an outflow is obtained equal in area to that of the spout.

I do not wish to be confined to the particular shapes and forms of the parts as herein shown so long as I adhere to the principles of my invention.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. A removable valve for a siphon-head comprising a shell *b* provided with a thread on its upper end which screws into the head as shown, and embodies the valve-seat *f*, valve *h* with its stem and head *c*, and spring *d* substantially as herein shown and described.

2. The combination in a removable valve for a siphon-head of the shell *b* provided with a thread for screwing into the head, with the valve *h* and its stem and head, spring *d*, and packing *e* between the bottom of the shell and top of the valve-seat, and valve-seat *f*, substantially as herein shown and described.

Signed at Brooklyn, in the county of Kings and State of New York, this 9th day of September, A. D. 1897.

JOHN ORMEROD.

Witnesses:
WM. F. CORWITH,
HOWARD M. FIELD.