

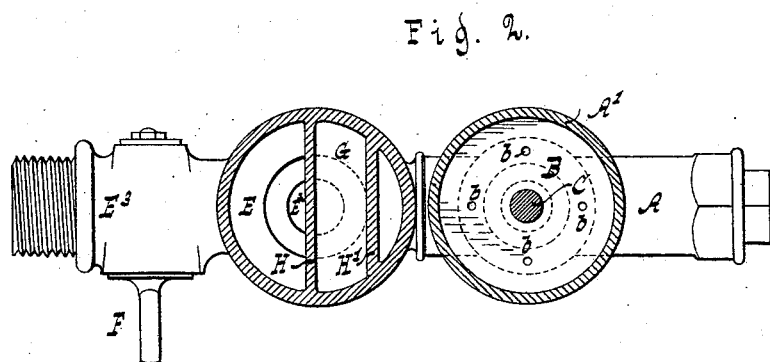
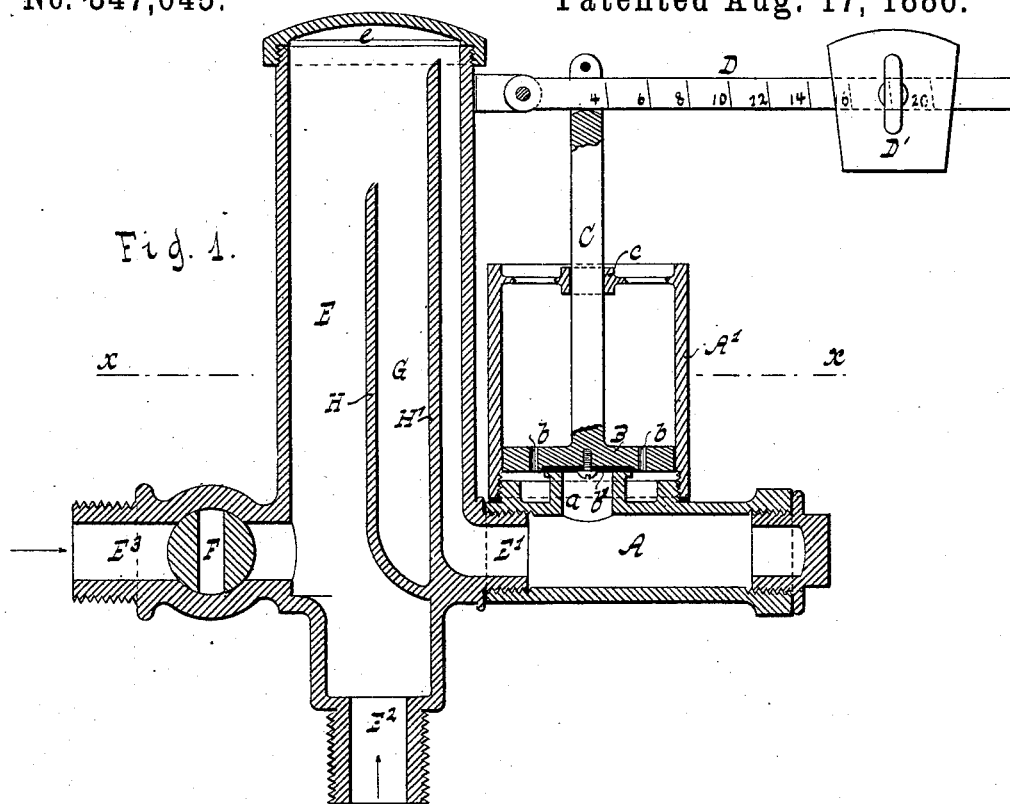
(No Model.)

J. C. SCHAEFER.

SAFETY VALVE FOR BEER CASKS.

No. 347,645.

Patented Aug. 17, 1886.



WITNESSES:

*A. P. du Raur, Jr.*  
*William Miller*

INVENTOR

John C. Schaefer

BY

*Van Antwerp & Hauff*

his ATTORNEYS

# UNITED STATES PATENT OFFICE.

JOHN C. SCHAEFER, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF AND  
ERNST A. LÜHRS, OF SAME PLACE.

## SAFETY-VALVE FOR BEER-CASKS.

SPECIFICATION forming part of Letters Patent No. 347,645, dated August 17, 1886.

Application filed November 19, 1885. Serial No. 183,363. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN C. SCHAEFER, a citizen of the United States, residing at New York, in the county and State of New York, have invented new and useful Improvements in Safety-Valves for Beer-Casks, of which the following is a specification.

My invention relates to improvements in safety-valves for beer-casks; and it consists, essentially, in the combination, with a chamber and a valve, of a barm-receiver formed in the chamber, which receives the barm rising into the chamber. This barm-receiver prevents the barm from entering the valve-shell and coming into contact with the operating parts of the valve, which commonly causes the valve-disk to gum and adhere to the seat, thereby becoming inoperative, and thus rendering the cask liable to burst from the accumulation of gas. The use of the barm-receiver enables me to dispense with the use of a lubricant—such as water or oil—for the valve seat and disk, which was heretofore employed to prevent gumming.

The novel features above mentioned, together with other characteristics of my invention, are more fully pointed out in the following specification and claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal central section of the safety-valve. Fig. 2 is a transverse section of the same in the plane *x x*, Fig. 1.

Similar letters indicate corresponding parts.

In the drawings, the letter A designates the valve-shell, having therein a passage, *a*, Fig. 1, opening upward, the edge of which constitutes the seat for a valve-disk, B. This disk is fitted into a cylinder or shell, A', secured to the valve-shell A, and is provided with perforations or holes *b*, through which the gas makes its exit when the valve-disk is lifted from its seat.

In order that the valve-disk may close tightly against its seat, a rubber disk or washer, *b'*, is secured to the same, which bears upon the seat when the valve is closed. The stem C of the valve-disk B is guided in a bridge, *c*, in the cylinder or shell C, and is connected with a graduated lever, D, which carries an adjust-

able weight, D', whereby the pressure at which the valve will blow off can be set at will.

E is the storage-chamber, which is provided with a lateral branch, E', which is suitably screw-threaded to engage with the proper orifice of the valve-shell, and a longitudinal branch, E'', which is partly screw-threaded to engage with the corresponding threaded bush of the cask. A second lateral branch, E'', which is connected with the air-pump for forcing air into the keg, is provided with a stop-cock, F. If the pressure in the keg gets overdue, which will happen if a chip gets before the racking-cock and prevents the stream of beer from flowing out of the keg, the safety-valve opens, and consequently the air passes out through the valve-openings, but keeps the cask under a continuous pressure, and the cask is not liable to burst.

During the fermentation of the beer the barm rises up into the chamber E from the hogshead, and would finally come into contact with the valve-seat, as before stated. In order to intercept the rising barm, a receiver, G, is formed in the chamber E by two diaphragms, H H', which meet at their lower ends, and one, H', of which extends nearly to the top of the chamber, while the other, H, is somewhat shorter. As the barm rises in the chamber it will in time flow over diaphragm H, and, coming into contact with diaphragm H', falls between the two diaphragms H H', where it accumulates and can be removed by detaching the cover *e* of the chamber, or by blowing out with steam. The carbonic-acid gas passes over diaphragm H', and when the valve-disk B is lifted makes its exit through the perforations *b* in said disk.

The great disadvantage of valves in which water surrounds and lubricates the valve-seats is that in many cases the fermentation is carried on at a temperature equal to or below the freezing-point, and the lubricant freezes, whereby the valve-disk is caused to adhere to the seat and become inoperative. No lubricant is necessary when such a barm-receiver is employed in the chamber, and consequently the valve is efficient in such cases.

I do not claim herein anything claimed in

the joint application, Serial No. 171,775, filed by myself and John A. Hagmayer in the United States Patent Office July 16, 1885; but What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the chamber E and a valve connected with said chamber, of the barm-receiver G in the chamber, substantially as described.

2. The combination, with the chamber E, the valve-shell A, and weighted disk B, of the diaphragms H H', located in said chamber and forming the barm-receiver, substantially as shown and described.

3. The combination, with the chamber E, of the diaphragm H, the diaphragm H', located beyond the diaphragm H and extending above the upper edge of the same, the valve

shell A, the cylinder or shell A', the weighted disk B, fitted in the same, and the perforations in said disk, substantially as shown and described.

4. The combination, with the chamber E, the valve-shell A, weighted disk B, and the perforations *b* therein, of the diaphragms H H', located in said chamber and forming the barm-receiver, substantially as shown and described.

In testimony whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses.

JOHN C. SCHAEFER. [L. S.]

Witnesses:

W. HAUFF,

A. FABER DU FAUR, Jr.