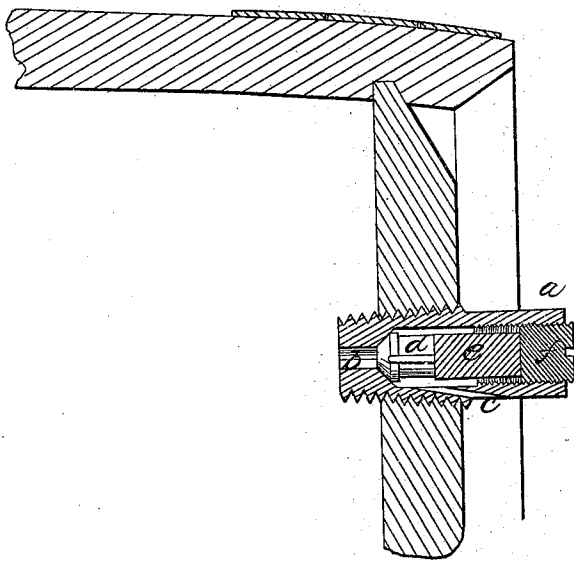


*R. Bridge,*

*Air-Vent for Casks,*

*N<sup>o</sup> 52,957.*

*Patented Mar. 6, 1866.*



*Witnesses:*  
*Maxton Holmes*  
*Lew<sup>d</sup> Holmes Jr*

*Inventor:*  
*Robert Bridge*

# UNITED STATES PATENT OFFICE.

ROBERT BRIDGE, OF PATERSON, NEW JERSEY.

IMPROVEMENT IN SAFETY-PLUGS TO PREVENT BARRELS FROM BURSTING.

Specification forming part of Letters Patent No. 52,957, dated March 6, 1866.

*To all whom it may concern:*

Be it known that I, ROBERT BRIDGE, of Paterson, in the county of Passaic, in the State of New Jersey, have invented a new and useful Mode of Preventing Barrels from Bursting which may contain fermented and other fluids liable to generate gases of excessive pressure; and I do hereby declare the following to be a full and exact description thereof, reference being had to the annexed drawing, making a part of this specification, in which—

Figure 1 represents the safety-plug *a* and its several parts, in section, as screwed into the end or head of a barrel, a coarse screw-thread being cut upon a portion of the length of the plug for that purpose. The passage *b* is in open contact with the interior and contents of the barrel, and closed outwardly by the conical valve *d*, which has a seat corresponding to the form of its face, chambered out in the interior of the plug. When the valve *d* is forced back from its seat by the pressure of gas a communication is opened to the external atmosphere through the angular opening or passage *c*, and so much of the gas or fluid allowed to escape as will serve to restore the desired limit of pressure and permit the valve *d* to fall back into its seat. The india-rubber spring *e* impinges against the back of the valve *d*, the outer end of the rubber spring being supported by the screw *f*, from which it receives its pressure. The screw *f* serves as the means of adjustment

for the pressure the valve should bear, and which may be altered or modified according to circumstances.

The nature of my invention consists in inserting in the head or other part of a keg, barrel, or cask a metallic plug having fitted therein a valve, also of metal, and supported against its seat by an adjustable spring of india-rubber or other elastic material, which will yield or give way when the pressure in the vessel, from whatever cause, exceeds a certain limit. This limit is determined by a regulating-screw acting upon the india-rubber cushion or spring which supports the valve in its seat, and, under ordinary circumstances, prevents the emission of gas or fluid; but when such gas or fluid exceeds the desired limit of pressure the valve is forced back and so much of the gas or fluid allowed to escape as will restore the minimum of pressure, and so prevent the bursting of the barrel or exploding of the bung.

What I claim as my invention is—

The safety-plug constructed with the valve, spring, and regulating-screw, together with the passages *b c*, when combined together and used in the manner and for the purposes specified.

ROBERT BRIDGE.

Witnesses:

MAXTEN HOLMS,  
LAWCE. HOLMS, Jr.