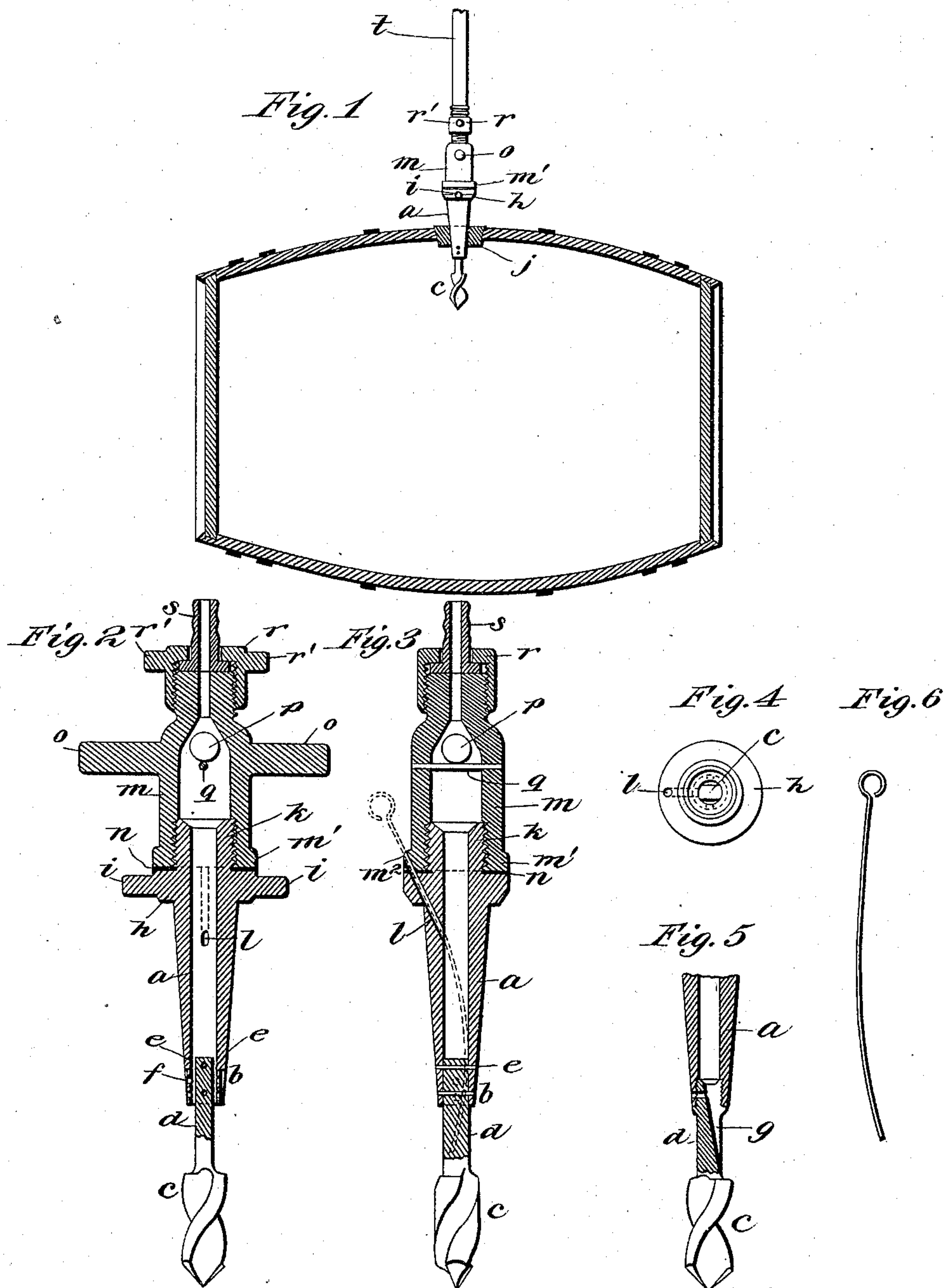


(No Model.)

H. CASE & J. G. LEE.
VENT AND PRESSURE PLUG FOR BARRELS.

No. 591,156.

Patented Oct. 5, 1897.



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UNITED STATES PATENT OFFICE.

HENRY CASE AND JOHN GIBSON LEE, OF GLOVERSVILLE, NEW YORK,
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SAME PLACE.

VENT AND PRESSURE-PLUG FOR BARRELS.

SPECIFICATION forming part of Letters Patent No. 591,156, dated October 5, 1897.

Application filed March 5, 1897. Serial No. 625,937. (No model.)

To all whom it may concern:

Be it known that we, HENRY CASE and JOHN GIBSON LEE, citizens of the United States, residing at Gloversville, in the county of Fulton and State of New York, have invented a certain new and useful Improvement in Vents and Pressure-Plugs for Barrels, of which the following is a full, clear, and exact description.

10 The object of this invention is to provide for the venting of and the application of pressure to barrels containing carbonated liquids, such as ale, for the purpose of drawing the contents from the barrels without loss of the
15 contained fluid.

The device of our invention comprises a boring-point or bit, preferably of the twist-drill variety, applied to a faucet-like body, the body having applied to it a cap containing a valve seating with the internal pressure, the cap and the body having vent-openings which may be brought into alinement for the purpose of venting and also for the purpose of clearing out obstructions, and the cap having means for connecting with a pressure-pump or other such like pressure-applying device. The body is also provided with vent-openings, which when the device is in place in the barrel extend into the pressure-space
30 within the barrel.

The device is applied to the barrel by driving the point through the bung or barrel and forcing the body into the barrel through the hole thus made.

35 Having thus stated the principle of our invention, we will proceed now to describe the best mode in which we have contemplated applying that principle, and then will particularly point out and distinctly claim the part, improvement, or combination which we
40 claim as our invention.

In the accompanying drawings, illustrating our invention, in the several figures of which like parts are similarly designated, Figure 1
45 is an elevation showing our invention applied to a barrel, which is shown in section and arranged for applying pressure. Fig. 2 is a vertical section. Fig. 3 is also a vertical section showing the parts in position for venting.
50 Fig. 4 is a plan view of the body of the de-

vice. Fig. 5 is a vertical section showing a modification. Fig. 6 is an elevation of a cleaning device for clearing out stoppage.

The body *a* of the device may be constructed as a tube whose outer surface is tapered and whose point *b* is provided with a boring-point *c*, which preferably is made as a twist-drill. The shank *d* of the boring-point is slabbed off at its sides, as indicated more particularly in Figs. 2 and 4, and is fitted within the point *b* of the body in a permanent manner, the slabbed-off sides allowing passage-ways *e e* through the body *a*. Next to these slabbed-off sides the point is provided with lateral holes *f*.
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Instead of using a boring-point with slabbed-off sides we may make a groove *g* in one side of a cylindrical shank, as shown in Fig. 5.

The body *a* is provided with a shoulder *h*, and from this shoulder project the arms *i*, which afford means for rotating the body to insert it into the bung *j* or a stave of the barrel. Above the shoulder is an externally screw-threaded head *k*. An oblique or other passage *l* is made through the shoulder into the bore of the body, as shown more especially in Fig. 3.
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A tubular cap *m*, having an internal screw-thread, is applied to the head *k*, and when turned home its lower edge rests upon a packing *n*, laid on top of the shoulder *h*. This cap *m* is provided with a bottom flange *m'*, in which is made an opening *m''*, which is designed to be brought into register with the passage *l* in the body for a purpose presently appearing. This cap is also provided with lateral arms *o* for rotating it. A solid rubber or other ball-valve *p* is arranged in the upper end of the cap *m* and is sustained in position therein in any suitable manner, as by one or more cross-bars *q* of such small dimensions as not to interfere with the passage of the fluid. This ball-valve *p* is normally set to close an outlet in the cap by the contained pressure within the barrel.
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The cap *p* has its upper end externally screw-threaded, and is thereby adapted to receive a coupling-piece *r*, which is provided with a nipple-piece *s*, to which the pressure
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hose or pipe t may be applied. The coupling-piece r is also provided with laterally-projecting arms r' , by which it may be rotated.

5 The use and operation of our invention may be stated as follows:

The barrel to be operated upon is placed so as to bring its side bung uppermost, as in Fig. 1, and then, by rotation of the body by means of the arms i , the said device is driven through the bung and the body forced into the hole thus made by the boring-point until the vents f are within the barrel. The gas within the barrel then escapes through the vent openings and passages l , thus overcoming the liability of the escape of a portion of the liquid contents of the barrel in the application of the device. If the cap m had not been previously applied, it is then applied and turned so that its opening m^2 is out of register with the opening l . The pressure in the barrel seats the ball-valve, so that there is no escape in that direction, and the liquid contents of the barrel may be drawn as required. When the pressure in the barrel falls to so low a point as that the liquid contents may be no longer drawn, the pressure apparatus is started and the pressure fed through the pipe t , which pressure will displace the ball-valve p and enter the barrel and thus start the flow to the draft apparatus. If at any time thereafter it becomes necessary to vent the barrel, the cap may be given a turn until its opening m^2 registers with the passage l , and thus the venting of the barrel effected.

If the device should become clogged, the passages l and m^2 may be brought into alignment and a wire, such as shown in Fig. 6 and indicated in dotted lines in Fig. 3, may be inserted and pushed down until the passages are cleared.

The common practice of venting barrels is by boring a hole therein with a brace and bit or gimlet, and this results in considerable loss of the liquid contents of the barrels and it is also destructive to the inside of the barrel. Sometimes in venting in this way the bit becomes loose in the brace and drops through into the barrel. It is also damaging to the bung and the staves because of the production of splinters. After the fluid has been drawn off the barrel contains air-pressure to

the amount oftentimes of upward of fifteen pounds, and in removing the bung by means of a mallet the bung is sometimes forced out with such violence as to injure the operator. By our invention if the vent-passages l and m^2 are brought into alinement this confined air is allowed to escape, and thus the bung may be removed with safety and without the use of the mallet. Further, by the use of our invention the necessity of drawing ales and like fluids in pitchers and other vessels is obviated, inasmuch as the contents of a barrel supplied with our invention may be drawn off from the faucet.

By means of our invention the bung may be inserted into the barrel, and it may also be removed from the barrel without a mallet, the lateral arms sufficing for both purposes.

By the use of the coupling for the pressure-tube it is possible to run the line of hose straight from the ceiling without liability of kinks.

We do not limit our invention to the use of an attached bit or boring-point, but prefer to supply such attached bit or boring-point.

What we claim is—

1. In a combined vent and pressure apparatus for barrels, a tubular body, having a boring-point provided with passages between itself and the body, the body itself having a passage, as l , communicating from outside the barrel with the interior of the body, and an independently-rotatable cap for opening and closing such passage, substantially as described.

2. In a combined vent and pressure apparatus, for barrels, a tubular body, having a boring-point provided with passages between itself and the body, the body itself having a passage, as l , communicating from outside the barrel with the interior of the body, and an independently-rotatable cap for opening and closing such passage, provided with a ball-valve for normally closing the apparatus against loss of contents of the barrel, substantially as described.

In testimony whereof we have hereunto set our hands this 1st day of March, A. D. 1897.

HENRY CASE.

JOHN GIBSON LEE.

Witnesses:

CHARLES H. FURNESS,
G. H. WITHERHEAD.