

DRAFTSMAN.

No. 753,600.

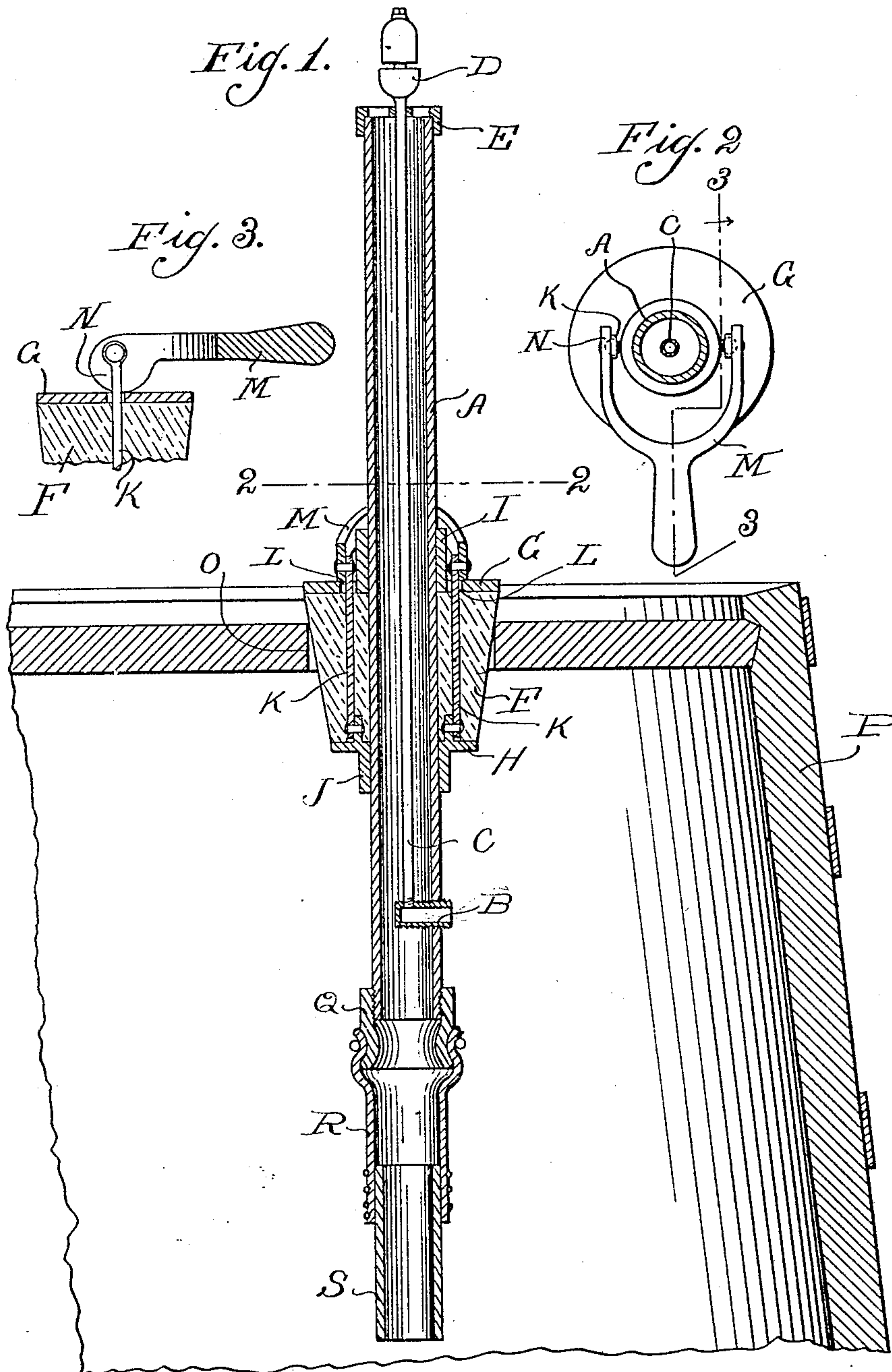
PATENTED MAR. 1, 1904.

C. MAUL.

TANK FILLING ALARM.

APPLICATION FILED MAR. 23, 1903.

NO MODEL.



Witnesses:

E. F. Wilson  
Erwin J. Lotz

Inventor:

Christian Maul  
By *Rudolph E. Lotz*  
Attorney.



## UNITED STATES PATENT OFFICE.

CHRISTIAN MAUL, OF CHICAGO, ILLINOIS.

## TANK-FILLING ALARM.

SPECIFICATION forming part of Letters Patent No. 753,600, dated March 1, 1904.

Application filed March 23, 1903. Serial No. 149,203. (No model.)

*To all whom it may concern:*

Be it known that I, CHRISTIAN MAUL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Tank-Filling Alarms; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a novel construction in an alarm device adapted to be used to indicate when a barrel, tank, or other vessel has been filled to the desired point, the object being to provide a very simple and efficient device of this character; and it consists in the features of construction and combinations of parts hereinafter fully described and claimed.

In the accompanying drawings, illustrating my invention, Figure 1 is a central vertical section of an alarm device constructed in accordance with my invention, showing same applied to a cask. Fig. 2 is a transverse section of same on the line 2 2 of Fig. 1. Fig. 3 is a fragmentary detail section on the line 3 3 of Fig. 1.

My said device consists of a vent-tube A, open at both ends and provided adjacent its lower end with a threaded opening adapted to receive a threaded nipple B, extending radially into said tube, said nipple being closed at its inner end and open at its outer end. Adjacent its inner end said nipple B is provided with a threaded opening to receive the lower end of a small tube C, which projects from the upper end of the tube A and carries a whistle D at its upper end, said end of the tube C being securely held against swinging by means of the spider E. Longitudinally movable on said tube A is a rubber bung F, held between the flanges G and H of sleeves I and J, respectively. Secured to the flange H of the sleeve J at diametrically opposite points are two vertical rods K, which pass through vertical openings in said bung F and through openings L in the flange G of the sleeve I. Pivotaly secured to the upper ends of said rods is a forked lever M, the two arms of which carry eccentrics N, which are integral therewith and which bear on the flange G and serve to draw the sleeves

I and J toward each other when said lever M is turned to the position shown in Figs. 2 and 3, thereby longitudinally compressing said bung F and laterally expanding same, thereby forming absolutely-sealed joints between the said bung and the wall of the bung-hole O of the cask P and between said bung and the tube A.

The operation of my device is as follows: When a cask, tank, or other vessel is to be filled, the bung-hole or similar opening is uncovered and the tube A and bung F inserted, the tube A being set so that its lower end coincides with the desired level of the liquid to be introduced. This having been accomplished, the lever M is turned to the position shown in Figs. 2 and 3, thereby laterally compressing the bung and holding the same and said tube firmly in place. The liquid is then introduced through an opening, (not shown,) the displaced air being expelled through the tube A, which, being amply large, does not permit sufficient compression to cause the small quantity of air escaping through the tube C to sound the whistle. As soon, however, as the level of the liquid has risen to the lower end of the tube A the latter becomes sealed, so that all further escape of air must occur through the pipe C. A pressure is immediately developed, which causes the escaping air to sound the whistle, thus giving the signal to shut off the further flow of liquid.

Owing to the fact that in some instances, particularly in the storage-rooms of breweries, the large hogsheads or tanks extend almost to the ceiling, it is impossible to insert a long tube, and hence when it is desired to only fractionally fill such a tank the short tube A must necessarily be extended. To this end I externally thread the lower end of the tube A to receive a nipple or hose-coupling Q, carrying a piece of flexible hose R, to the lower end of which a pipe-section S is secured, the latter being necessary to prevent possible doubling up of the flexible tube by reason of excessive rush of air therethrough, and thereby shutting off further flow and causing bursting of the cask. The flexible hose R enables the desired length of tube to be inserted and the level determined, as will be obvious.



As liquid is frequently introduced at very high pressure, it is absolutely essential that the air be free to escape. The use of my device absolutely precludes the possibility of forgetfulness in this respect, thereby preventing bursting of the cask or tank.

My device also obviates the necessity of watching the tank or cask to prevent overflow, thus saving both labor and material.

10 In filling the storage-tanks of breweries, oil-refineries, &c., great loss is very frequently occasioned by overflow.

My device is exceedingly simple and efficient.

15 I claim as my invention—

1. The combination with the opening of a vessel to be filled, of a sealing device adapted to enter said opening, an air-exhaust pipe longitudinally movable in said sealing device, 20 alarm devices carried by said pipe, and means carried by said sealing device for simultaneously clutching said pipe and the wall of said opening, whereby said pipe is firmly held in any given position relatively to said opening.
- 25 2. The combination with the opening of a vessel to be filled and an air-exhaust and alarm device adapted to be inserted in said opening and adjusted relatively to said vessel to extend any given depth into the latter, of clutch devices carried by said air-exhaust and alarm device adapted to be inserted in said opening, 30 and means carried by said clutch for operating

same to simultaneously clutch said air-exhaust and alarm device and the wall of said opening to seal the latter and hold said alarm device in the desired position relatively to said vessel. 35

3. The combination with a vessel to be filled and a tubular air-exhaust and alarm device adapted to be inserted therein through an opening above the liquid-level of said vessel, 40 of a clutch movable longitudinally on said alarm device and adapted to enter said opening, and means carried by said clutch for operating same to simultaneously clutch said alarm device and the wall of said opening to hold the former firmly in position relatively 45 to the latter.

4. The combination with a vessel to be filled and a tubular alarm device adapted to be inserted through an opening in said vessel, of an 50 expansible plug longitudinally movable on said alarm device and adapted to fit said opening in said vessel, and devices carried by said plug and movable toward each other for expanding the same laterally to simultaneously 55 clutch said alarm device and the wall of said opening to seal the latter and hold said alarm device firmly in position relatively thereto.

In testimony whereof I affix my signature in presence of two witnesses.

CHRISTIAN MAUL.

Witnesses:

RUDOLPH WM. LOTZ,  
ERWIN J. LOTZ.