

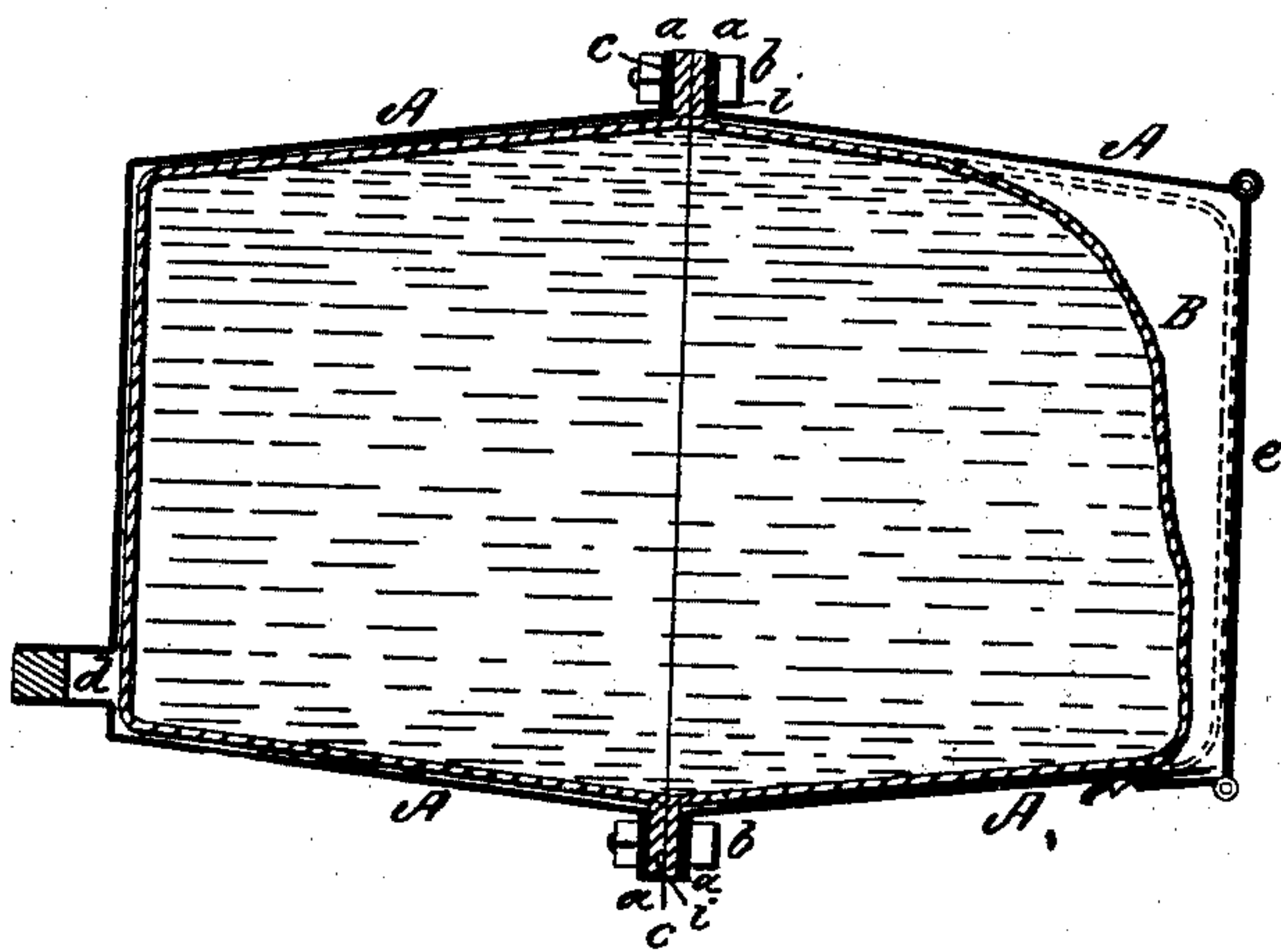
J. KEANE.

Attachment to Vessels for Containing Liquors:

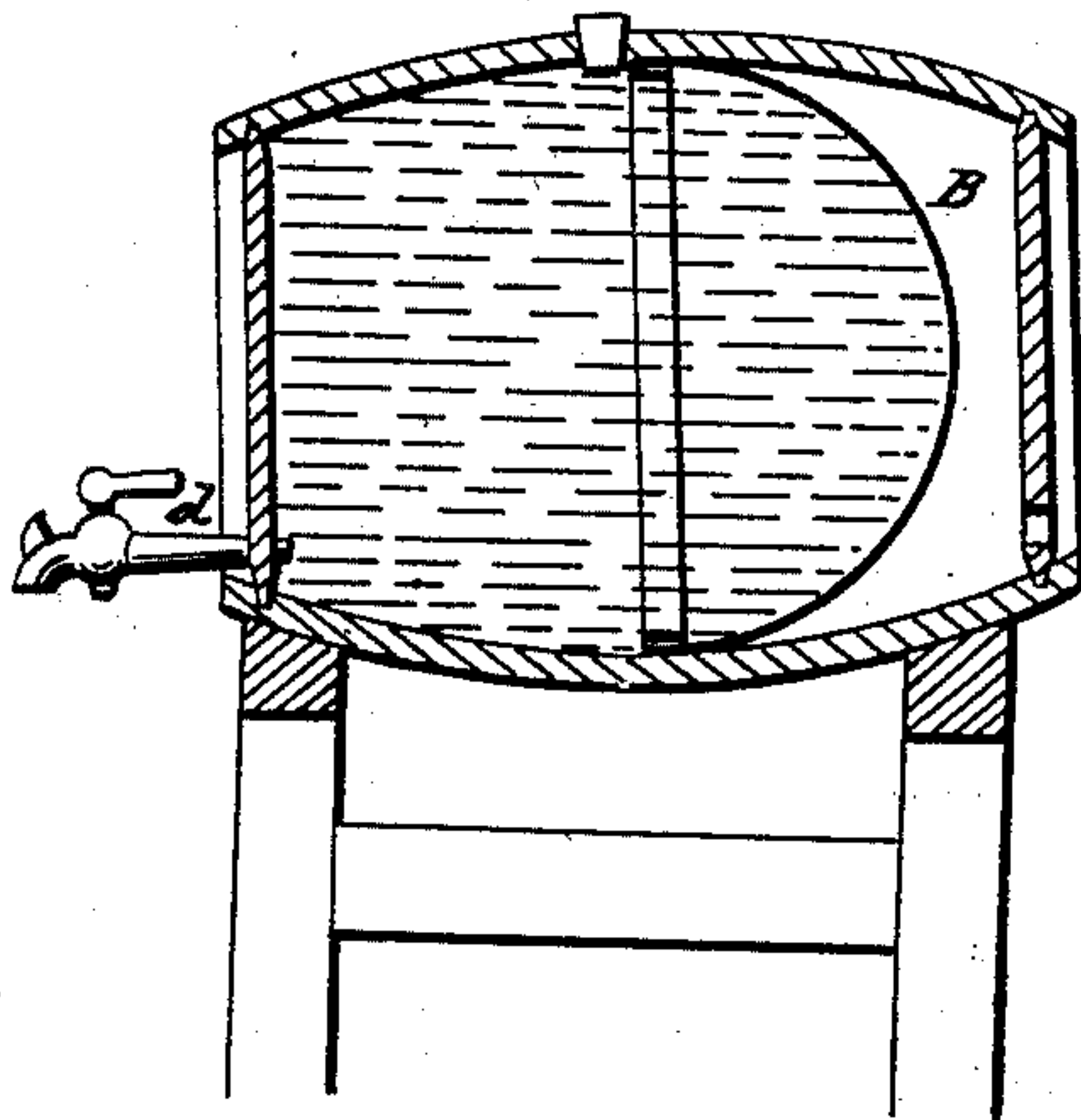
No. 21,761.

Patented Oct. 12, 1858.

*Fig. 1.*



*Fig. 2.*



# UNITED STATES PATENT OFFICE.

JOHN KEANE, OF NEW YORK, N. Y.

## APPARATUS FOR PRESERVING MALT LIQUORS.

Specification of Letters Patent No. 21,761, dated October 12, 1858.

*To all whom it may concern:*

Be it known that I, JOHN KEANE, of the city, county, and State of New York, have invented a new and improved diaphragm attachment to casks and other vessels containing liquors for the purpose of excluding air from the liquors while being drawn off; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figures 1 and 2, are central vertical sections of two different kinds of vessels showing the application of my invention.

This invention consists in a diaphragm or bag of india rubber or other suitable flexible material of a size and form to constitute a lining to half of the vessel to which it is applied, secured by its edges all around the interior of the vessel near the middle thereof. When the vessel is full of liquor this diaphragm or bag lies snugly around the interior and close to one end thereof; and a vent being provided in the vessel on the opposite side of the diaphragm to that on which the liquor is contained, the diaphragm is caused to follow the liquor closely as it is caused to subside by being drawn off and thus to exclude the air.

The invention is particularly advantageous in its application to beer casks, but may be applied with advantage to vessels for containing any liquors which would be injured by contact with air and which require racking or drawing off.

To enable others to put my invention in practice I will proceed to describe it more particularly with reference to the drawings.

The vessel represented in Fig. 1, is supposed to be made of metal of two parts A, A, of similar size and form, each part being provided with a flanch *a*, and the two parts being secured together by screw bolts and nuts *b*, *b*, through the flanches, and the joint between the two parts being made tight by a gasket or packing ring *c*, of india rubber between the flanches. The diaphragm B, is made to fit exactly the interior of one of the parts A, A, and with an additional marginal portion *i*, wide enough to be received and clamped tightly between the flanches *a*, *a*, by the bolts *b*, *b*.

*d*, is the aperture for drawing off the liquor which may also be used for filling the vessel, but another aperture may be pro-

vided on the same side of the diaphragm as the aperture *d*, for the purpose of filling the vessel. The head *e*, on the opposite side of the diaphragm to the aperture *d*, is hinged, so as to be capable of being opened to admit the atmosphere by whose pressure the diaphragm is acted upon to permit the liquor to run out at the aperture *d*, when the latter is open. This head may however be made loose enough to admit air to the diaphragm without opening it, as its only purpose is to protect the diaphragm from injury, and not to confine the liquor.

In filling the vessel through the aperture *d*, or another opening on the same side of the diaphragm, the latter is forced toward the head *e*, and, when the vessel is full, lies snugly against the interior thereof and close to the head *e*, as shown in dotted outline in Fig. 1. The aperture must of course be at or near the lowest part of the vessel. When the bung or stopper is removed from the aperture *e*, or the said aperture is otherwise opened the pressure of the atmosphere on the diaphragm brings the liquor in *equilibrium* and allows it to run from the aperture *d*, by gravitation and causes the diaphragm to follow the liquor closely and remain close thereto when the aperture is closed. Fig. 1, represents the vessel partly emptied. When the liquor is all expelled the diaphragm fits snugly to that half of the vessel in which is the aperture *d*, as shown in red outline in Fig. 1, till the filling of the vessel is again commenced. It will be seen by the foregoing description that the air which enters the vessel to supply the place of the liquor never comes in contact with the liquor and after a portion of the liquor has been drawn off the remainder will keep as well as if the vessel had never been tapped.

Fig. 2, represents the application of the invention to a common beer cask. The diaphragm instead of being secured as in the example represented in Fig. 1, has its margin covered by a hoop applied inside the vessel and is nailed to the interior of the barrel by nails driven through the hoop. The head *e*, is simply provided with a vent hole and the operation is the same as in the vessel represented in Fig. 1, and already described.

I am aware that a bag of india rubber has been inserted within a cask at the bung-hole to accomplish the same object as the diaphragm B, which constitutes my inven-



tion and therefore I disclaim such a contrivance which must accomplish the desired object in a very imperfect manner and is liable to many objections; but

5 I claim as my invention and desire to secure by Letters Patent—

The diaphragm or bag of india rubber or other similar flexible material of a form to

fit snugly to half of the cask or other vessel and attached all around the middle of the same so as to operate in the manner described for the purpose set forth. 10

JOHN KEANE.

Witnesses:

W. TUSCH,

W. HAUFF.