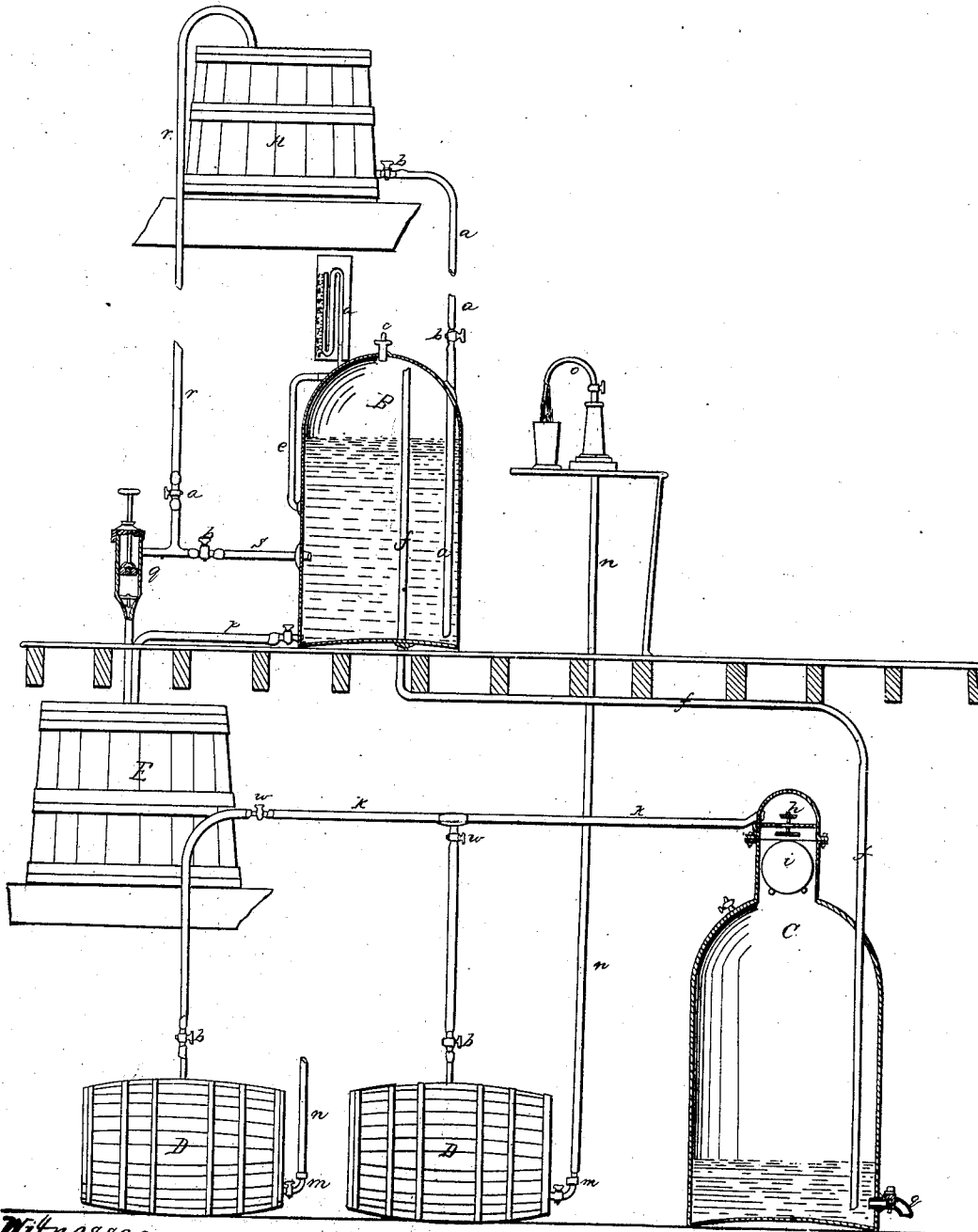


# *R. Sealy, Beer Pump.*

*N<sup>o</sup> 3725.*

*Patented Aug. 31, 1844.*



*Witnesses  
J. W. W. W.  
M. L. L.*

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# UNITED STATES PATENT OFFICE.

RICHARD SEALY, OF NEW YORK, N. Y.

## HYDROPNEUMATIC APPARATUS FOR RAISING BEER, &c., FROM CASKS.

Specification of Letters Patent No. 3,725, dated August 31, 1844.

*To all whom it may concern:*

Be it known that I, RICHARD SEALY, of the city, county, and State of New York, beer-machine manufacturer, have invented  
5 and made and applied to use certain new and useful improvements in the arrangement and combination of mechanical means for applying the conjoined action of water and air to effect the raising of beer or other  
10 similar liquors from casks in cellars to the place where drawn for use through the operation of compressed air forced into the liquor-cask, by which the common metal pump now used is not required, and injury  
15 from the oxidation or solution of the pump metal by the liquor cannot take place, the soundness of the liquor is maintained, and any tendency to acetous fermentation counteracted by retaining the constituent  
20 gases of the liquor which is thus kept and supplied in a proper condition to use, for which improvements I seek Letters Patent of the United States, and that the said improvements and the means of constructing  
25 and using the same are fully and substantially described and shown in the following description and in the drawing attached to and making part of this specification.

The figure shows the general form, and  
30 arrangement of the operative parts, which, of course, are subject to such changes of position, as may be required by the local circumstances of any particular situation.

A, is a supply vessel, of any convenient  
35 form, or material, to be kept filled with water, from any competent source, and when full, the supply shut off by a ball cock, or any other usual means.

*a*, is a pipe, that descending from the vessel A, enters into, and passes to near the bottom, of a cylinder or other vessel B; one or  
40 two stop or supply cocks *b*, are in the pipe *a*, and these furnish the means of regulating the supply, and governing the pressure,  
45 through all the succeeding parts.

*c*, is a vent cock on the top of B.

*d*, is an air gage to indicate the pressure in B, and *e*, is a glass gage tube, the ends  
50 of which communicate with the interior of the cylinder B, and show the height of the water within.

*f*, is a connecting pipe, passing from near the top, and through the bottom, or side, of the cylinder B, through into, and near the  
55 bottom of an air vessel *c*, the lower part of which has a draw off or waste cock *g*, set

a little above the lower end of the pipe *f*, to prevent the air passing up the pipe when the water may be drawn out by the cock *g*, the upper part of the vessel *c*, is fitted with an  
60 air chamber, in which a disk carries a double acting valve *h*, beneath this, is a pair of bars, carrying a float ball *i*.

*k*, is an air pipe, going from the air chamber of *c*, above the valve *h*, by branches, to  
65 the liquor casks D, D, in the cellar, the ends of the branches are made as nozzles, to enter the casks air tight, and are fitted with stop cocks *l*, at the lower end, and an intermediate cock *w*, gives the means of stopping  
70 off, to exchange an empty cask for a full one, and each cask is to be fitted with a coupling and draft cock *m*, leading by pipes *n*, to discharge the liquor, in the store above, by a nozzle cock *o*; *p*, is a pipe and cock, to  
75 empty the vessel B, into a water vat E; and *q*, is a lifting and force pump, by which the water from the vat E, can be sent, by opening the cock *u*, in the pipe *r*, into the vessel A, or by closing the cock *u*, and opening the  
80 cock *t*, in the pipe *s*, either air, or water, may be forced into the vessel B; a vent cock *c*, on the cylinder or vessel B, allows that to be emptied when needful, and in some situations, an air chamber with a valve and  
85 float ball similar to that on the vessel *c*, may be required on the vessel B.

The operation of these arrangements is, that when adjusted for use, the water from the vessel A, entering the vessel B, drives  
90 out the air, through the pipe *f*, and compresses the air in the vessel *c*, this, operating according to the head, or height, of the vessel A, and equalizing itself through the pipe *k*, and branches *l*, upon the surface of the liquor in the casks D, forces that to ascend by the pipes *n*, and run out on the  
95 nozzle cock *o*, being opened, and by making the pipes *n*, of tin or any other metal not acted on by the liquor, the liquor, itself, is  
100 always free of metallic oxids, or solutions, which are sometimes of a dangerous character, if drank. But this is not the only effect produced, for it is found, in practice, that beer, and cider, and other fermented  
105 liquors, drawn by these means remains unaffected by the changes of the atmosphere, the gases, on which the soundness of the liquor depends, being kept, by the compressed air, from evaporating, and the  
110 liquor, itself always clear, brisk, sweet, and fit for use.

The operations, and parts, herein described, give the obvious means of charging, and discharging, the vessels of the air and water, and regulating the whole, to any extent of compressing power, which the height, or head of water, in the vessel A, will give. The float ball or buoy *i*, in the air chamber of the vessel *c*, will prevent any water getting into the liquor casks, by rising, and closing the lower part of the valve *h*, before the water can reach the valve, and as the upper part of the valve *h*, will always be on the seat, when not lifted by the ball *i*, the pressure will remain some time in the liquor casks, when the pressure may not be equal, in the other vessels.

I do not intend to limit myself to any kind of form, or material, in making the vessels shown herein, but to use any, that may be most available, for the particular situation wherein it is intended to work; and in cases, when a supply from a natural or artificial head of water, is constantly available the vessel E, and pump *g*, may not be required, to return the water to the vessel A.

I am aware, that the conjoint action of water, and air, has been used, for the purpose of raising liquids, but I am not aware, that any similar arrangement has been applied to the two fold purpose, of raising fermented or other liquors, from the cask,

to the place where it may be drawn for use, and at the same time, avail of the pressure of the air, on the surface of the liquor in the casks, to preserve the liquor, itself; and I am aware, that I cannot claim to be the inventor, of any of the parts employed, taken separately, as each is already well known.

Therefore, I only claim, as new, and of my own invention, and discovery, and desire to secure by Letters Patent—

The application of the arrangement and combination of the vessels A, B, and C, with the pipes, cocks, and valves, as described, when such application, arrangement, and combination are employed for the two fold purpose of raising fermented or other liquors, from the casks, to the place where it may be drawn for use, and of preserving the liquor, itself, by maintaining a considerable atmospheric pressure on the surface of the liquor, within the cask, substantially as described.

In witness whereof, I have hereunto set my hand, in the city of New York, this twenty eighth day of June, one thousand eight hundred and forty four.

RICHD. SEALY. [L. S.]

Witnesses:

T. A. WAKEMAN,  
W. TERRELL.