J. S. VON NEIDA.

BEER FORCING APPARATUS.

No. 190,103. Patented April 24, 1877.

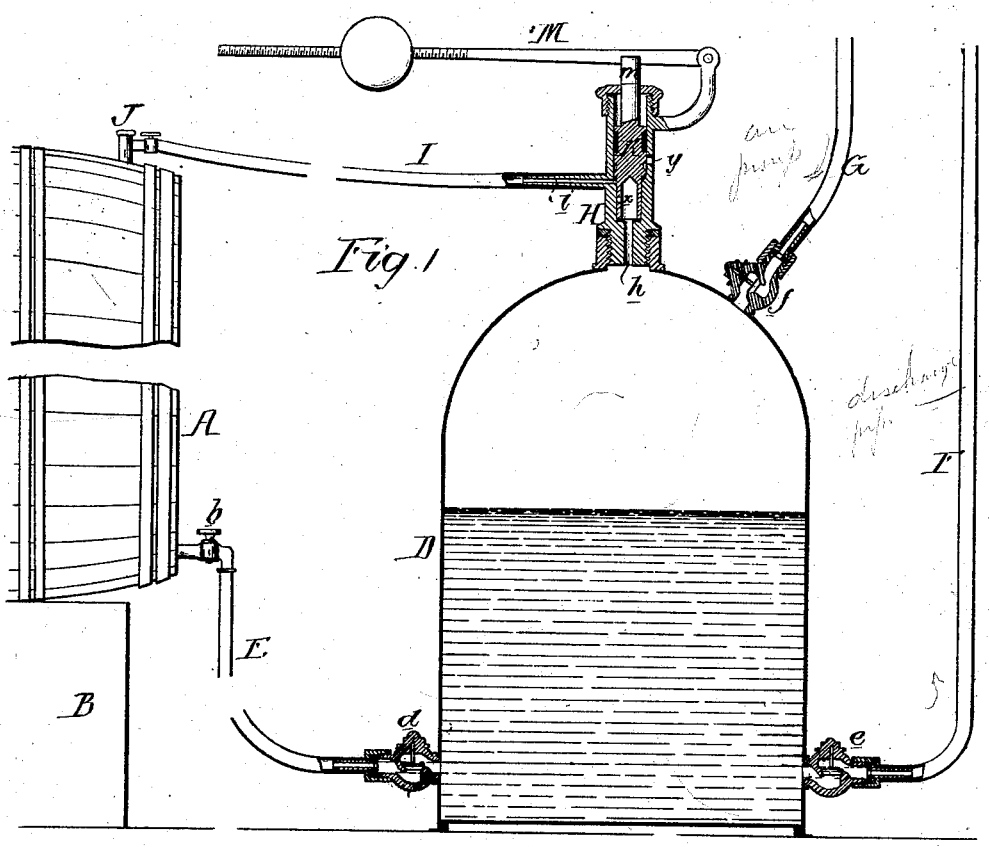

Fig. 1

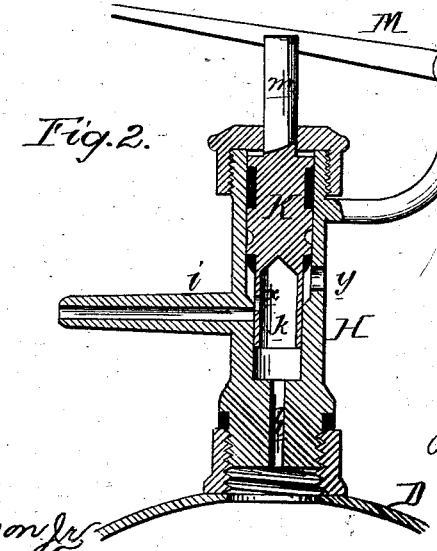

Fig. 2.

Witnesses.
Henry Howson Jr.
John K. Rupertus.

Inventor
Joseph S. Von Neida
by his Attorneys
Howson and Son

UNITED STATES PATENT OFFICE

JOSEPH S. VON NIEDA, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN BEER-FORCING APPARATUS.

Specification forming part of Letters Patent No. **190,103**, dated April 24, 1877; application filed March 29, 1877.

To all whom it may concern:

Be it known that I, JOSEPH S. VON NIEDA, of Philadelphia, Pennsylvania, have invented a new and useful Improvement in Beer-Forcing Apparatus, of which the following is a specification:

The object of my invention is to so construct a liquor-forcing apparatus that the maintenance of an injurious pressure in the barrel is prevented, the thorough venting of said barrel effected, and the rapid refrigeration of the liquor facilitated.

In the accompanying drawing, Figure 1 is a vertical section of the apparatus; and Fig. 2 a vertical section of part of the same, drawn to an enlarged scale.

A represents the barrel or vat containing the liquor, and resting on a suitable foundation, B.

D is the receiving-vessel, communicating with the barrel through a pipe, E, which is furnished at the end nearest the barrel with a faucet, *b*, and at the opposite end with a check-valve, *d*.

F is a pipe forming a communication between the vessel D and the usual discharge-faucet, conveniently located in an upper room where the liquor has to be handed to purchasers, the pipe F having also a check-valve, *e*, where it communicates with the vessel D.

A pipe, G, forms a communication between the upper portion of the vessel D and an air-pump, to be operated by the attendant whose duty it is to furnish customers with liquor, this pipe also having a check-valve, *f*.

To the top of the vessel D is secured a hollow cylinder, H, the interior of which communicates with the said vessel through the orifice *h*, and, through a branch, *i*, and detachable tube I, with a vent-faucet, J, at the top of the barrel A.

The cylinder H is provided with a piston, K, which is provided below with a chambered projection, *k*, adapted to the interior of the cylinder H, and above with a stem, *m*, on which bears the weighted lever M.

On forcing air through the pipe G into the vessel D, the liquor will be forced through the pipe F, and if the pressure of air be continued until it becomes greater than that exerted by the weighted lever M, the piston K will rise in the cylinder H until an opening, *x*, in the hollow projection *k* of the piston reaches a point which permits the compressed air to escape, first, into the annular space around the projection, and then through an opening, *y*, into the external air.

Before the cylinder reaches the limit of its upward movement, however, the opening *x* coincides with the interior of the branch *i*, and thereby such a thorough venting of the barrel is insured that the liquor will flow freely therefrom into the vessel D. This method of venting the barrel is much preferable to that in which the air for venting is taken directly from the vault in which the barrel is located, for the air in the vaults is generally foul, whereas, in this case, the air is drawn from the room above, and is purer than that in the vault.

One of the main advantages of my invention is, that there is not a continuous pressure of air within the barrel A, as in ordinary apparatus of this class, in which the pump communicates directly with the barrel, and I am thus enabled to overcome a serious objection to the ordinary apparatus—namely, the starting of the staves, and consequent leakage, caused by this continuous air-pressure.

Other advantages of the use of the vessel D are, that, owing to its small size compared with that of the barrel A, but a small surface of the liquor is presented for the action of the air, which has a deteriorating effect on the same, while facilities are afforded for the rapid cooling of the liquor, with an expenditure of but a small quantity of ice.

I claim as my invention—

1. The combination, in a liquor-forcing apparatus, of a barrel, A, with a vessel, D, communicating with the barrel to receive the liquor therefrom, and furnished with a pipe, F, for the discharge of the liquor, and the pipe G, through which pressure is applied, as set forth.

2. The combination of a vessel, D, in which liquor is received, and from which it is discharged by compressed air, of a piston or

valve, K, which will yield to the pressure of air in the vessel, and will, through the medium of the appliances herein set forth, serve the twofold purpose of venting the barrel or vat from which the liquor is drawn, and of permitting the unduly-compressed air to escape, all substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH S. VON NIEDA.

Witnesses:

HERMANN MOESSNER,

HARRY SMITH.