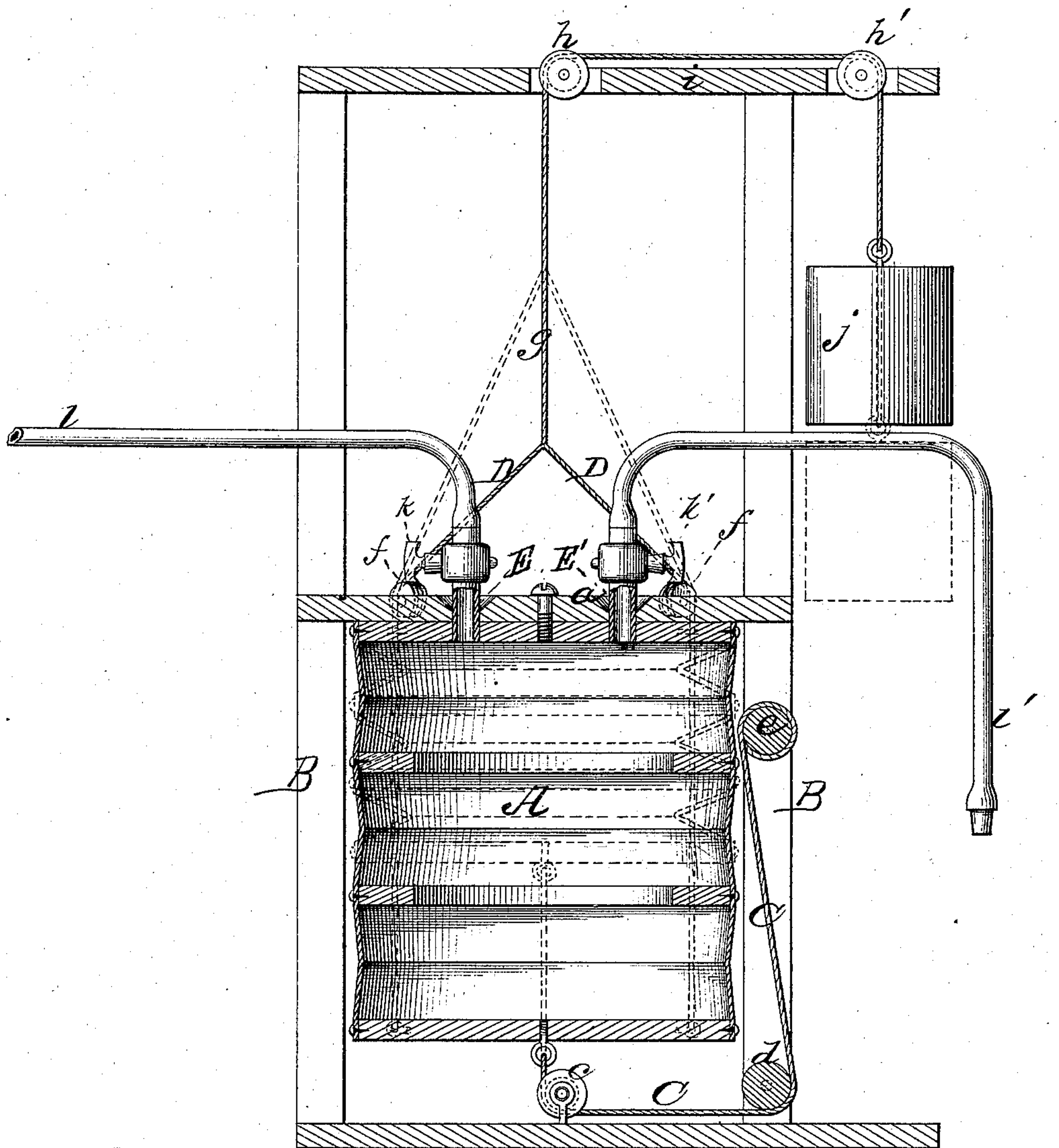


J. BECKER & M. H. ILTIS.
 Air-Pressure Apparatus for Forcing Beer, &c.
 No. 219,674. Patented Sept. 16, 1879.



WITNESSES
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JACOB BECKER AND MATHIAS H. ILTIS, OF MINNEAPOLIS, MINNESOTA.

IMPROVEMENT IN AIR-PRESSURE APPARATUS FOR FORCING BEER, &c.

Specification forming part of Letters Patent No. **219,674**, dated September 16, 1879; application filed May 3, 1879.

To all whom it may concern:

Be it known that we, JACOB BECKER and MATHIAS H. ILTIS, of Minneapolis, in the county of Hennepin and State of Minnesota, have invented a new and valuable Improvement in Air-Pressure Apparatus for Forcing Beer, &c.; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, making a part of this specification, and to the letters and figures of reference marked thereon.

The figure of the drawing is a representation of a sectional elevation of our improved apparatus.

This invention has relation to improvements in apparatus for forcing air into beer and other like receptacles to keep it under pressure; and they consist, mainly, of a bellows suitably supported or fastened to the under side of a fixed head or board held in position between uprights, which bellows or air-receptacle is provided with means for its expansion and contraction, and an inlet and outlet for air in regulated quantities, substantially as herein-after more fully set forth.

In the accompanying drawing, A refers to a bellows or air-receptacle, preferably cylindrical in form, with its upper head secured to a board, *a*, fixed or fastened to and between uprights B B.

The envelope of the bellows or receptacle A may be made of rubber or other suitable material, fastened to inner rings in any known way.

C is a cord, fastened to the lower head of the bellows or receptacle A, and passing under a pulley, *c*, below, and a roll, *d*, hung in the lower ends of two of the uprights B B. The cord C is next passed upwardly over a second roll, *e*, hung in the same uprights, at a convenient point to be turned by a crank or handle fitted upon one end of said roll. By means of these rolls and cord the bellows or receptacle A is expanded when it is desired to fill it with air, as seen in the figure.

D D are four (or more or less) cords, affixed at their lower ends to the sides of the lower end or head of the bellows A, as shown, or otherwise, and passed upwardly through eyes, if desired, fastened to the sides of the upper

head of the bellows, and over pulleys *ff*, hung in the board *a*, after which said cords are extended still farther upwardly and fastened together, as shown. At this point a single cord, *g*, is fastened to these cords, which passes over pulleys *h h'*, hung in a board, *i*, fastened to the upper ends of the uprights B B, and which cord *g* is extended downwardly, as shown, and has attached to it a weight, *j*. This, it will be observed, compresses or contracts the bellows when distended, all other restraint being removed from the bellows.

E E' are nozzle-pipes, inserted through the board *a* and through the upper head or end of the bellows or receptacle A, communicating with the interior or chamber of the bellows. In enlargements of these pipes are arranged stop-cocks *k k'*. To these pipes are supplied hose or other flexible pipes *l l'*, outlet-pipe *l'* being provided with a valve, and adapted at its free end, as shown, or otherwise, to be inserted into an aperture in the side or other convenient point in the keg or receptacle of beer or liquid, above the level or surface of the liquid.

The apparatus is operated as follows: The inlet-pipe *l* being disposed so as to communicate with the external air, the cord C is wound upon the roll *e* by grasping and turning its crank with the hand, when the bellows or receptacle A will be distended or expanded, receiving or being filled with air by suction through pipe *l*. The pipe *l'* being connected to the keg or receptacle of liquid, as above stated, the cock *k* closed, and the cock *k'* opened, and the cord C allowed to unwind from the roll *e*, the bellows will be compressed by the descending weight *j*, which will force air, through pipe *l'*, into the keg or receptacle above the liquid, and thus bring pressure to bear upon the liquid, which is desired, to cause it to flow freely and be driven out of the receptacle when the faucet is turned to draw it off.

The air can be passed into the keg or receptacle in regulated quantities by accordingly adjusting the stop-cocks *k k'* and the pipe-valve.

Having thus fully described our invention, we claim and desire to secure by Letters Patent—

An apparatus for forcing air into liquid-receptacles, consisting, essentially, of the air-receptacle or bellows A, with one head secured in an elevated fixed position, cord C, attached to the lower end of bellows, and its pulley and rolls *d e*, cords D *g*, having a weight, *j*, which cord *g* passes over elevated pulleys, and inlet and outlet pipes *l l'*, secured to nozzle-pipes E E', substantially as and for the purpose set forth.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

JACOB BECKER.
MATHIAS H. ILTIS.

Witnesses:

ANTON GRETHEERS,
L. L. BAXTER.