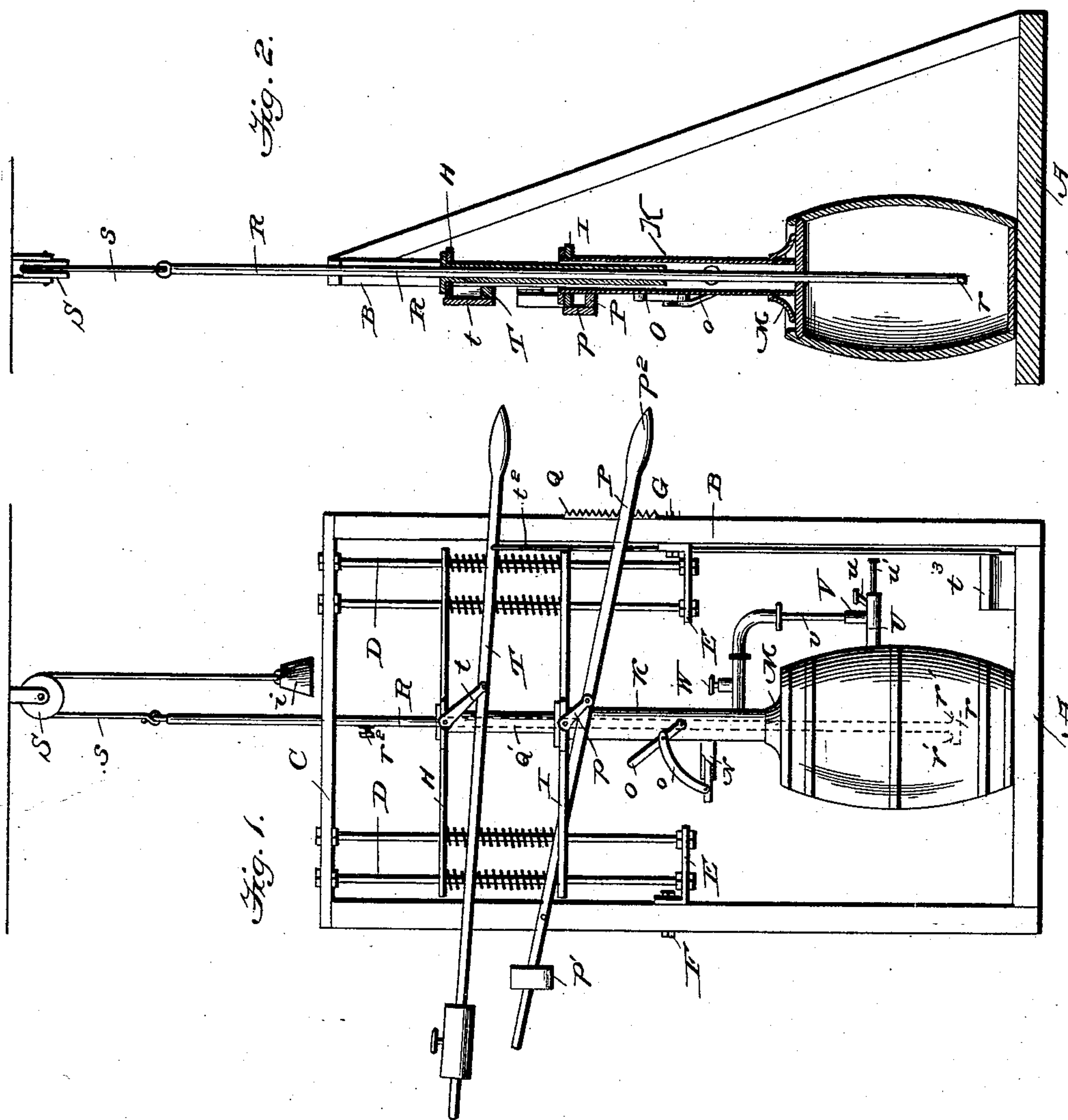


(No Model.)

P. H. SHUMWAY.
APPARATUS FOR FILLING BARRELS.

No. 491,195.

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UNITED STATES PATENT OFFICE.

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APPARATUS FOR FILLING BARRELS.

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To all whom it may concern:

Be it known that I, PERRY H. SHUMWAY, a citizen of the United States, residing at Sizerville, in the county of Cameron and State of Pennsylvania, have invented certain new and useful Improvements in Apparatus for Filling Barrels; 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 improvements in apparatus for filling barrels or casks with liquid, either carbonated or under pressure; and the object of the invention is to provide an apparatus of simple, strong and durable construction, by means of which a cask or barrel can be easily and readily filled and corked or sealed without danger of the escape of the gas contained therein.

With these ends in view, my invention consists in the combination with a supporting frame and a cask or barrel, of a corking cylinder connected at its upper end to a vertically moving cross head, mounted on the supporting frame, and adapted to have its lower end forced closely against or in contact with the head of the cask or barrel around an aperture or opening therein, connections between said corking cylinder and the bung-hole of the cask or barrel, a vertically moving corking tube connected at its upper end to another cross head and having its lower end extending into the upper end of the corking cylinder, and a vertically moving filling tube connected with a source of supply and extending through the corking tube and corking cylinder and provided with a stop cock for regulating the admission of liquid to the cask or barrel.

My invention further consists in the peculiar construction and arrangement of parts as will be hereinafter fully pointed out and claimed.

In the accompanying drawings: Figure 1 is an elevation of my improved apparatus, Fig. 2 is a vertical sectional view of the same.

Like letters of reference denote corresponding parts in both figures of the drawings, referring to which:—

A designates a base or platform to which are connected, in any suitable and desirable

manner, a pair of vertical parallel upright posts or standards B. The posts or standards B are connected at their upper ends by a cross piece C.

Between the vertical side posts or standards B are arranged parallel vertical guide rods D which are connected to the cross piece C and brackets or angle irons E, attached to the side posts or standards B, by means of nuts F, G, respectively, and on these guide rods are mounted cross heads H, I. The lower cross head I is rigidly connected to the upper end of a corking cylinder K, the lower end of which rests on the upper head of a cask or barrel L, mounted on the platform or base A, around an aperture or opening therein. To the lower end of the corking cylinder K is attached, in any suitable manner, an annular projecting flange M made of any suitable flexible material, preferably rubber. This flange M is adapted to be pressed closely against the head of the barrel or cask around the lower end of the corking cylinder K and thus make an air tight joint or connection between said cylinder and the barrel or cask. A short trough or receptacle N is connected to and communicates with the interior of the corking cylinder K. On said cylinder is pivoted, at an intermediate point of its length, a short lever O, to one side of which is connected one end of a curved arm or finger o, the free end of which extends into and is connected to a short follower or plunger arranged in the trough or conduit N.

The corking cylinder is kept in close contact with the head of the barrel or cask by means of a lever P which is fulcrumed on one of the upright posts or standards B and is connected with the lower cross head I by means of a link or short bar p. On said lever near one end is fitted an adjustable weight p' ; and on the other end of said lever is formed a handle p^2 . The lever P is further provided with means for engaging with a rack Q secured to one of the posts or standards B.

To the upper cross head H is rigidly connected, so as to move vertically therewith, a corking tube Q' the lower end of which extends into the upper end of the corking cylinder K. The corking tube Q' can move freely in the direction of its length, within the cylinder K but a perfectly tight joint is formed

between the said tube and cylinder by means of suitable washers, packing, &c.

One end of a filling tube R is connected by a suitable flexible connection with a tank or other source of supply (not shown) and said tube extends down through the corking tube Q', and cylinder K into the interior of the cask or barrel. At its lower end the filling tube R is provided with an enlarged head or nozzle *r* which is provided, preferably in its upper side, with a series of perforations or slits *r'*. The diameter or length of the enlarged head *r* is as large or larger than the diameter of the corking tube Q'. A tight joint is formed between the side walls of the filling and corking tubes by means of suitable washers or packing and said filling tube is provided, above the upper cross head H, with a suitable cock *r*² for regulating the admission of liquid to the cask or barrel. Over a sheave or pulley S supported above the filling apparatus passes a cord or cable *s* which cord or cable is provided at one end with a weight *i* and at its other end with means for attachment to the filling tube R.

To one of the posts or standards B, above the pivot-point or fulcrum of the lever P is fulcrumed another lever T which is connected, at an intermediate point of its length, to the upper cross head H by means of a link *t*. On said lever, near one end is arranged a weight *t'* and the other end of said lever is connected, by means of a link or rod *t*² with a treadle *t*³ which is pivoted or otherwise suitably secured near one end to the base or platform A.

U designates a short tube adapted to be inserted into the bung hole of the cask or barrel and connected by means of a pipe or conduit V with the corking cylinder K. The tube U is provided with a short inlet aperture *u*, normally closed, and a plunger or rod *u'* is arranged within said tube, U, and adapted to move longitudinally therein.

In the connecting pipe V is secured a tube *v* made of glass or other transparent material and the upper end of this tube *v* is in the same plane as the top of the barrel or cask. A safety or blow off valve W is also arranged in the connecting pipe V for the purpose of regulating the pressure in the barrel or cask and the corking cylinder K.

The operation of my invention is as follows:—The barrel or cask being placed on the platform, the lower end of the corking cylinder K is forced into close contact with the upper head of the barrel and is held in that position by the lever P engaging with the rack on one of the uprights or standards B. The inner end of the tube U is inserted in the bung hole of the cask or barrel. The stop cock in the filling tube is then opened and the carbonated or liquid under pressure is allowed to flow from the source of supply into the cask or barrel until the same is filled. The amount of liquid in the barrel or cask being indicated by the amount in the transparent tube *v*. The stop cock in the filling

tube is then turned off; and a cork stopper having been inserted in the tube U through the inlet aperture *u* therein is forced tightly into the bung hole or barrel by using the plunger or rod *u*. The cord or cable *s* is connected to the filling tube and the same drawn up through the barrel or cask and corking cylinder until the enlarged head or nozzle on the lower end thereof comes in contact with the lower end of the corking tube. A cork or stopper is then inserted into the trough or receptacle N in advance of the follower therein and by drawing down the handle of the lever O the cork or stopper is forced into the corking cylinder K. The lever T is then operated by means of the treadle *t*³ to force the upper cross head and its attached corking tube downwardly in the cylinder K until the lower enlarged head or nozzle of the filling tube strikes the cork or stopper and forces it securely into the opening or aperture in the head of the cask or barrel. The upper cross head and its attached parts and the filling tube being returned to their normal positions by the weights *t'* and *s'*. After the barrel or cask has been sealed up the lever P is disengaged from the rack Q and the weight *p'* moves the corking cylinder up to permit the removal of the cask or barrel from the platform.

I am aware that changes in the form and proportion of parts and details of construction of the devices herein shown and described, as an embodiment of my invention, can be made without departing from the spirit or sacrificing the advantages thereof, and I therefore reserve the right to make such changes as fairly fall within the scope of my invention.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. The combination with a cask or barrel and a supporting frame, of the vertically movable cross heads, the corking cylinder connected to the lower cross-head, means for forming an air tight joint between the lower end of said cylinder and the upper head of the barrel or cask, a corking tube connected to the upper cross-head and extending into the corking cylinder, and a vertically movable filling tube extending through the corking tube and cylinder into the barrel and adapted to be connected with a suitable source of supply, substantially as described.

2. The combination with a barrel or cask and a supporting frame, of the vertical guide rods secured to the supporting frame, the cross heads mounted on said guide rods, the corking cylinder connected to one of said cross heads and having its lower end resting on the upper head of the cask or barrel, the corking tube connected to the other cross head and extending into the upper end of the corking cylinder, a filling tube extending through the corking tube and cylinder and provided with an enlarged head or nozzle at its lower end and with a regulating cock, and

means for moving the corking and filling tubes vertically, substantially as described.

3. The combination with a cask or barrel and a supporting frame, of the vertically movable cross-heads, the corking cylinder connected to one of said cross heads, a lever fulcrumed on the supporting frame and provided with means for engaging with a rack on said frame, connections between said lever and the cross head to which the working cylinder is attached, the corking tube connected to the other cross head and extending into the corking cylinder, and a vertically movable filling tube extending through the corking tube and cylinder into the barrel, substantially as described.

4. The combination with a cask or barrel and a supporting frame, of a corking cylinder arranged above the cask or barrel, means for making an air tight joint between such cylinder and the head of the barrel, a cork receiving trough communicating with the interior of the corking cylinder, a lever fulcrumed on said cylinder, a finger attached to one end of said lever and extending into the cork receiving trough, a vertically movable corking tube fitted in the corking cylinder, and a vertically movable filling tube fitted in and extending through the corking tube, substantially as shown and described.

5. The combination with a barrel or cask and a supporting frame, of a corking cylinder adjustably mounted on the supporting frame, a cork receiving trough attached to and communicating with the interior of said cylinder, means for forcing a cork from said trough into said cylinder, a cross-head mounted on suitable guides, a corking tube connected to said cross head and extending into the corking cylinder, a filling tube extending through the corking tube and cylinder, and means for reciprocating the filling and corking tubes, substantially as described.

6. The combination with a barrel or cask and a supporting frame, of a corking cylinder provided at its lower end with a flexible flange,

means for introducing a cork or stopper into said cylinder, a vertically movable corking tube having its lower end extended into the corking cylinder, a filling tube extending through said corking tube, and means for reciprocating said corking and filling tubes, substantially as described.

7. The combination with a cask or barrel and a supporting frame, of the vertical parallel guide rods attached to the supporting frames, the cross heads fitted loosely on said guide rods, the corking cylinder carried by the lower cross head, means for holding the lower end of the corking cylinder closely against the upper head of the barrel or cask, the corking tube carried by the upper cross head and extending into the corking cylinder, the filling tube adapted to be connected with a source of supply and extending through the corking tube, the lower end or nozzle of the filling tube being enlarged, connections between the corking tube and bung hole of the cask or barrel, said connections being provided with a short transparent tube, a weighted lever fulcrumed on the supporting frame and connected to the upper cross head, and a treadle connected to one end of said lever, substantially as described.

8. The combination with a barrel or cask and a supporting frame, of a corking cylinder provided at its lower end with a flexible flange, means for introducing a cork or stopper into said cylinder, an escape valve to regulate the pressure in the barrel, a vertically movable corking tube having its lower end extended into the corking cylinder, a filling tube extending through said corking tube, and means for reciprocating said corking and filling tubes, substantially as described.

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

PERRY H. SHUMWAY.

Witnesses:

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HORACE A. L. BEARDSLEY.