

No. 754,951.

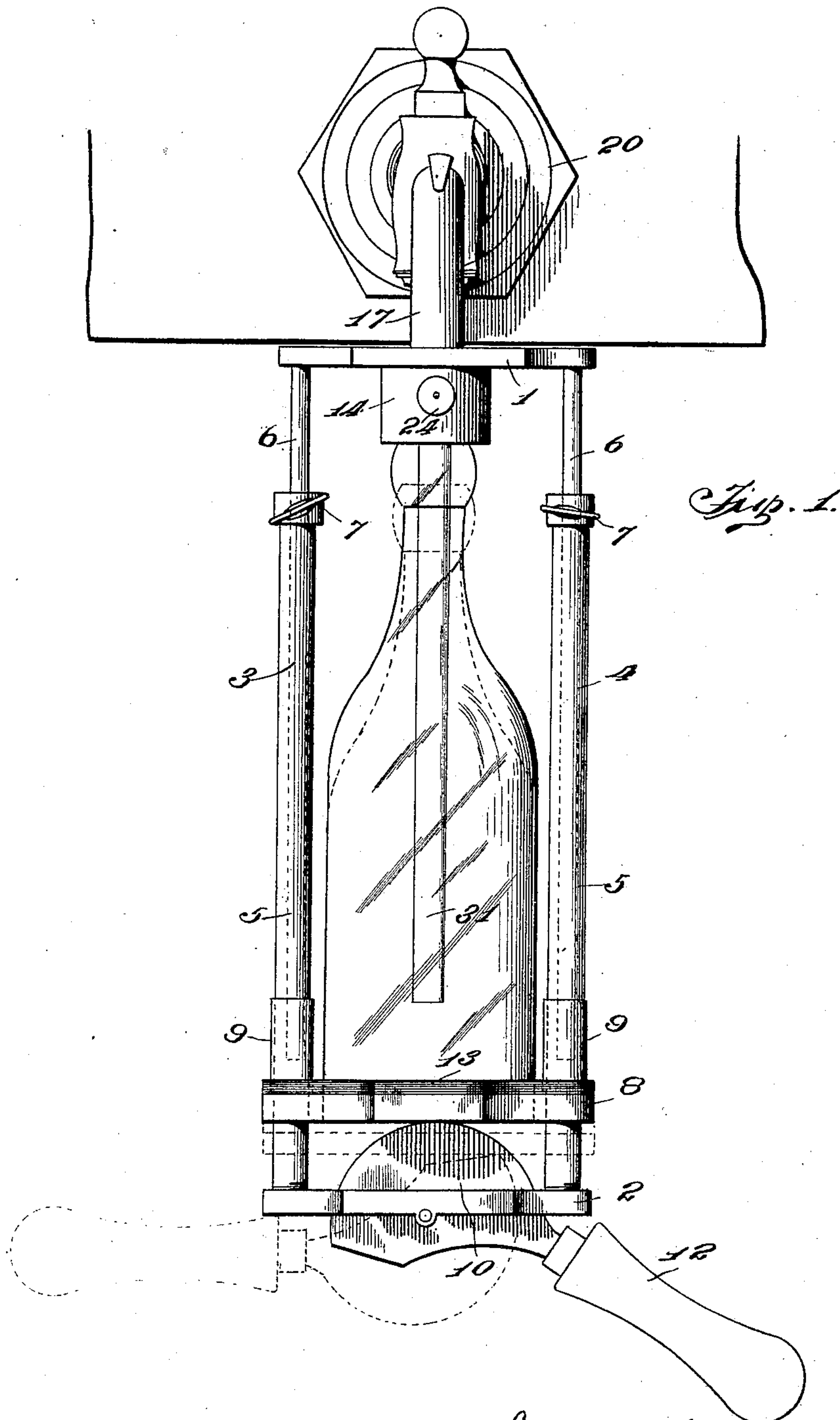
PATENTED MAR. 15, 1904.

J. ANDERSON.
BOTTLE FILLING APPARATUS.

APPLICATION FILED JAN. 26, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Inventor

Witnesses

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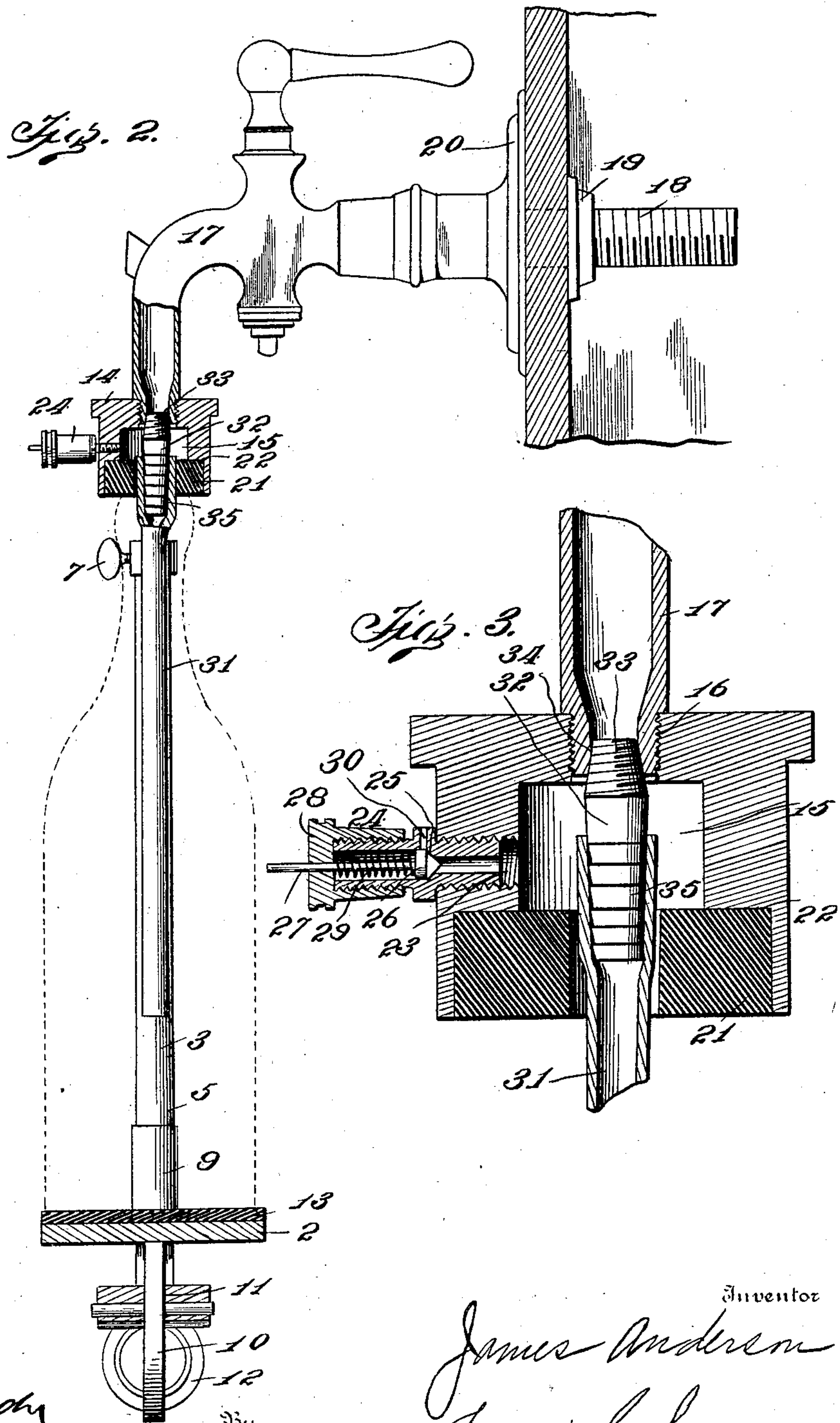
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UNITED STATES PATENT OFFICE.

JAMES ANDERSON, OF LIBERTY CENTER, OHIO.

BOTTLE-FILLING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 754,951, dated March 15, 1904.

Application filed January 26, 1903. Serial No. 140,540. (No model.)

To all whom it may concern:

Be it known that I, JAMES ANDERSON, a citizen of the United States, residing at Liberty Center, in the county of Henry and State of Ohio, have invented certain new and useful Improvements in Bottle-Filling Apparatus; 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.

This invention relates to improvements in mechanism for filling bottles, and is especially adapted for bottling beer or similar liquids from a keg or barrel.

The invention consists in certain novel constructions, combinations, and arrangements of parts, as will be hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 represents a side elevation of my improved apparatus for holding and filling bottles. Fig. 2 is a vertical central section through said apparatus, a faucet being shown in elevation at the upper end thereof and applied to the wall of a barrel or keg. Fig. 3 is an enlarged detail central section through the air-chamber, showing the escape-valve applied thereto.

The apparatus forming the subject-matter of this invention is so constructed as to make it possible to clamp and fill bottles with liquids in an expeditious manner and yet in such a manner that effervescing liquids shall be prevented from losing much of the gases with which they are charged. The device is therefore especially applicable to the bottling of beer and like liquids, and it is also well adapted for taking said liquids directly from the keg or barrel in which they may be stored and transferring the liquid to the bottles in a simple and easy way.

While I contemplate using the apparatus for filling bottles or like receptacles of any kind with all kinds of liquids, yet I will describe the mechanism as shown in the drawings, where it is provided with a faucet, which may be applied to a keg or barrel in which the liquid may be stored.

The apparatus consists of a frame provided with an upper cross-head 1 and a lower cross-head 2, connected at the sides with adjustable

standards 3 and 4. These standards are each preferably made of two members—an outer hollow one, 5, which is secured to the lower head 2, and an inner telescoping rod 6, secured to the upper cross-head 1. By providing set or thumb screws 7 at the upper ends of the tubes 5 the rods 6 may be clamped at different positions in said tubes for lengthening or shortening the space between the upper and lower cross-heads.

Sliding upon the standards 3 and 4 is a supporting block or plate 8, which is formed with bearings 9 at each end, engaging the outer surface of the said tubes 5. This block or plate 8 is intended to support a bottle or other receptacle which is to be filled and is moved upwardly for clamping the bottle against the upper cross-head by a cam 10, pivoted in a slot 11, formed in the lower cross-head 2. The cam 10 is provided with a handle 12, by which it may be moved. When the cam is in the position shown in dotted lines in Fig. 1, the block 8 is in its lowest position and the bottle or other receptacle will be loose and may be removed or replaced. When the bottle is to be clamped in position, the cam 10 is brought to the position shown in full lines in Fig. 1, which operates to force the block upwardly, carrying with it the bottle or other receptacle and clamping it against the upper cross-head 1. The block 8 preferably carries a resilient or yielding pad or covering 13, so that glass bottles will not be brought into contact with the metal of which the block 8 is composed, and there is no chance of chipping or cracking the glass of the bottle. I preferably make the said pad 13 of a comparatively thick piece of rubber. The standards 3 and 4 may be adjusted so that when the block 8 is in its lower position the bottle can be easily inserted between it and the upper cross-head, and yet so that when the cam-lever 10 is brought to the position shown in Fig. 1 and the block 8 raised the bottle will be tightly clamped in position. If a taller bottle is to be operated upon, the standards 3 and 4 can be quickly adjusted by releasing the set-screws 7 and the whole frame lengthened to correspond with the length of the bottle, and by merely tightening the set-screw 7 again the mechanism will be in ready

ness to receive the larger bottle. In this manner the device can be very quickly adjusted for operation upon different-sized receptacles. The construction and arrangement of the cam 10 is exceedingly simple and holds the parts against the bottom of the block 8, so that there is no chance of the parts getting out of order, and yet the apparatus is quite effective for clamping the bottles or receptacles.

10 The upper cross-head 1 is provided with a downwardly-projecting enlargement 14, which is made hollow to form an air-receiving chamber 15, and the said cross-head 1 is perforated just above the said air-chamber, so as to form
15 a threaded opening, as at 16, leading into the top of said chamber. Into this opening may be screwed the threaded end of a faucet 17 or the end of a pipe leading from any suitable source. The faucet 17, as shown in the drawings, is adapted for clamping to the walls of
20 a keg or barrel, being provided with a threaded shank or stem 18 and a clamping end 19, which is placed inside of the keg or other receptacle, and is capable of holding a washer 20 on the
25 faucet against the walls of the barrel for tightly clamping the faucet in place. The bottom of the air-chamber 15 is partially closed by a large elastic washer 21, preferably of
30 rubber, which is firmly seated in a shouldered portion 22, formed in the bottom of the casing or enlargement 14. One side of the casing 14 is provided with a threaded aperture, as 23, into which is screwed a valve mechanism 24. This valve mechanism comprises an exter-
35 nally-threaded tube formed with a valve-seat 25 therein, adapted to receive a valve 26 on its valve-stem 27. A cap 28, screwed onto the outer end of said tube, guides the valve-stem 27 in its movement, and a coiled spring 29,
40 surrounding the said valve-stem, is held in position in said cap and forced against the valve 26 for normally holding it against the valve-seat 25. An outlet-passage 30 is formed in the side of the tube, which is also controlled
45 by the action of the valve 26. The valve is thus capable of permitting the air in a bottle or receptacle which is being filled to find an exit, the air passing from the bottle into the chamber 15 and thence outwardly through the
50 valve-tube and the outlet 30. Air cannot, however, pass back into the chamber 15 and the bottle because of the action of the valve 26.

In order to lead the beer or other liquid to the bottom of a bottle or receptacle being filled
55 or to a point near the same, I preferably employ a flexible tube 31—say of rubber—which is open at its lower end and at its upper end is connected by a coupling 32 with the faucet 17 or to the end of a pipe which may be used
60 in place of said faucet. The coupling 32 is screw-threaded, preferably upon a bevel, as 33, for engaging correspondingly-arranged internal screw-threads 34, formed in the lower end of the faucet 17. The lower portion of
65 the coupling 32 is provided with a series of

sharp annular ribs or ridges 35, which permit the rubber tubing 31 to be easily forced upon the same, but make it difficult for the tube to be pulled off the coupling. In this manner the tubing is so connected with the end of the faucet 17 that there is no chance of leakage into the air-chamber 15, and the liquid must pass downwardly from the faucet through the tube to the bottom of the receptacle being filled.

In operation, the faucet having been clamped to the wall of a barrel or other receptacle containing the liquid which is to be bottled, the cam 10 is brought to the position shown in dotted lines in Fig. 1, so that the block 8 is lowered. The bottle is then inserted in position upon the said block with the flexible tube 31 extending downwardly through its neck into the interior thereof and the mouth of the bottle arranged immediately beneath the washer 21, after which the cam 10 is brought to the position shown in full lines in Fig. 1. This causes the block 8 to rise, lifting the bottle and forcing its mouth tightly against the rubber gasket or washer 21. The central opening 36 in the washer or gasket 21 is sufficiently large to permit the air which is in the bottle to pass upwardly around the pipe 31 and the coupling 32 into the air-chamber 15. By opening the faucet the liquid is permitted to flow into the tube 31 to the bottom of the bottle, and as it rises in the bottle the air therein is forced upwardly into the chamber 15 and out through the valve mechanism 24. When a sufficient amount of liquid is inserted in the bottle, the faucet is shut off and the bottle is unclamped by the operation of the cam 10, when the bottle may be removed from position and a new one inserted in its place.

It will be evident that the construction of the device is exceedingly simple and that the clamping of the bottle can be very quickly effected by the operation of the cam 10. It will be also evident that the adjustable standards 3 and 4 afford means for quickly adapting the frame to receive bottles of various lengths. The connection of the tubing 31 directly with the faucet or other liquid-inlet by the coupling 32 also simplifies the mechanism as well as makes it possible to form a tight joint between said tube 31 and the faucet and obviates the chance of leakage at this point.

As will be apparent from Fig. 2 of the drawings, the cam 10 is pivotally mounted upon comparatively long trunnions which engage correspondingly long bearings, and thereby, together with the walls of the slot 11, limit the said cam against lateral play.

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

1. In a mechanism of the class described, the combination with vertical hollow standards spaced apart and a cross-brace rigidly

securing said standards together, a cross-head
above said standards, vertical rods fixed to
said cross-head and telescoping within said
standards, means for locking said rods at va-
5 rious longitudinal adjustments, elongated,
guiding-sleeves slidably surrounding said hol-
low standards, a block or platen carried by
said sleeves, and a cam carried by said cross-
brace designed to engage said block or platen,
10 substantially as described.

2. In a mechanism of the class described,
the combination of hollow standards, a cross-
brace connecting the same, a cross-head spaced
from said standards, rods carried by said head

telescoping within the standards, a block or 15
platen slidably engaging said standards above
said cross-brace, guiding means for said platen
engaging said standards, and means carried
by said cross-brace for moving the platen
longitudinal of the standards, substantially as 20
described.

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

JAMES ANDERSON.

Witnesses:

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DENNIS D. DONOVAN.