No. 891,074. PATENTED JUNE 16, 1908.

W. IHNKEN.

BARREL FILLING MACHINE.

APPLICATION FILED AUG. 8, 1906.

Fig. 1.

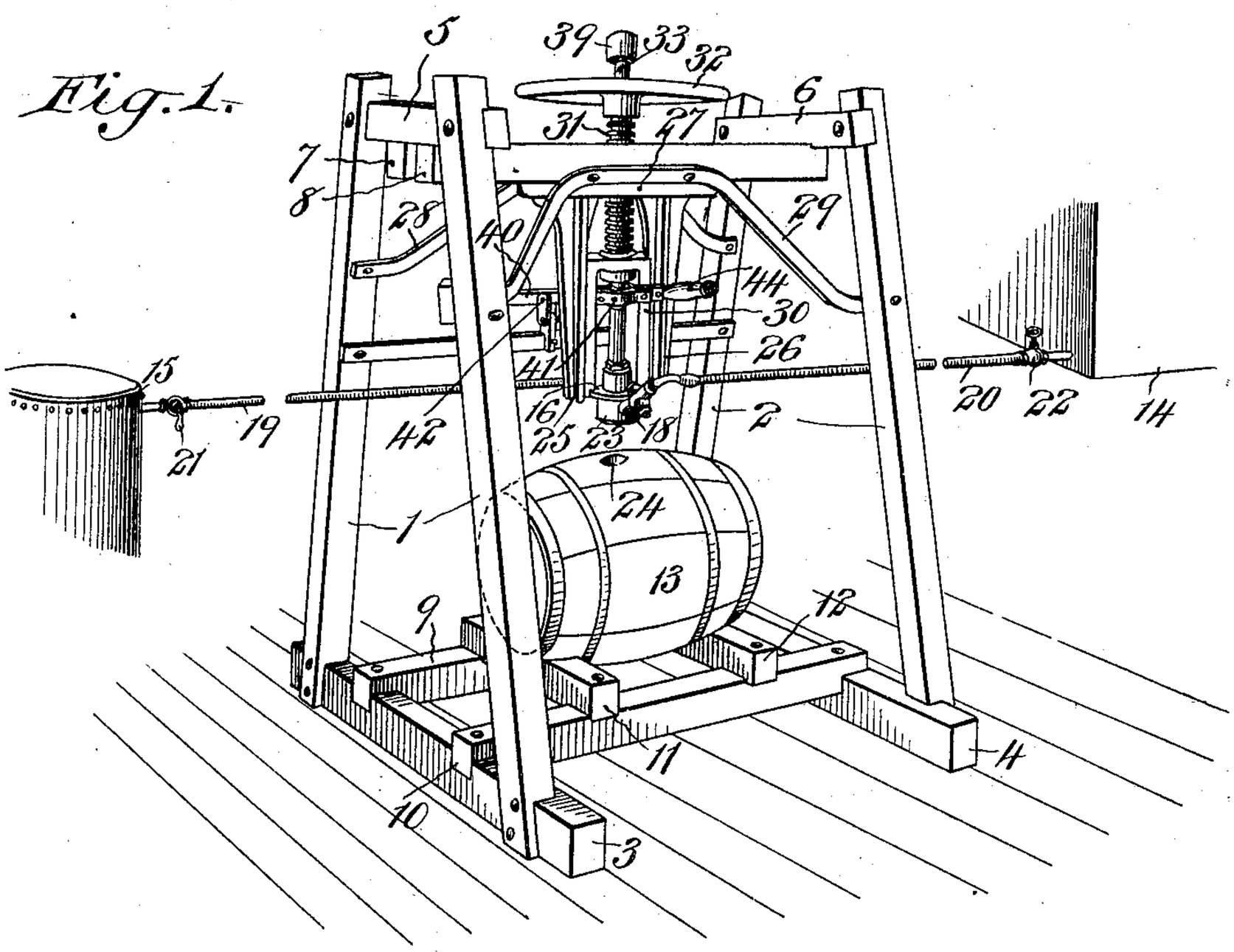
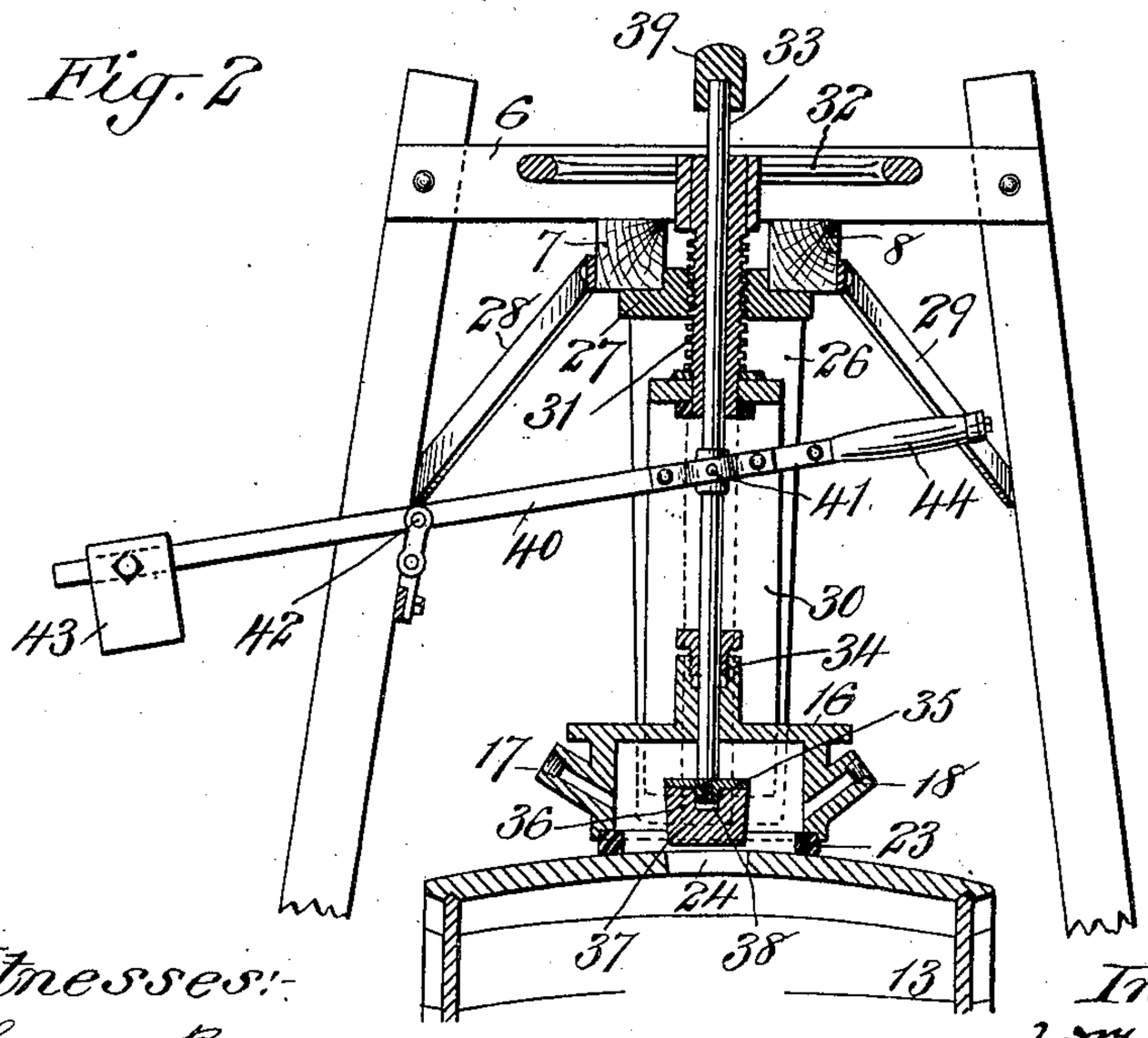


Fig. 2



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UNITED STATES PATENT OFFICE.

WILLIAM IHNKEN, OF HOBOKEN, NEW JERSEY.

BARREL-FILLING MACHINE.

No. 891,074. Specification of Letters Patent. Patented June 16, 1908.

Application filed August 8, 1906. Serial No. 329,663.

To all whom it may concern:

Be it known that I, WILLIAM IHNKEN, a citizen of the United States, and resident of Hoboken, in the county of Hudson and State of New Jersey, have invented a new and useful Barrel-Filling Machine, of which the following is a specification.

My invention relates to a barrel filling machine and more particularly to a machine for filling a barrel or cask with liquid charged with gas, with the object in view of providing simple and effective means for preventing the liquid from foaming and inserting the bung into the cask without disturbing the filling head from its filling position.

A practical embodiment of my invention is represented in the accompanying drawings in which

Figure 1 is a view of the machine in perspective showing a barrel in position to be filled, and Fig. 2 is a vertical section of the operative parts on a larger scale.

The supporting frame is conveniently formed by two pairs of uprights 1 and 2, the members of each pair being arranged to slant toward each other as they extend upwardly, the bottom of the two pairs being secured to bed pieces 3, 4, and their tops connected by cross pieces 5, 6, the said cross pieces 5 and 6 being connected by beams 7, 8, for the purpose of supporting the filling head and its operating mechanism.

The bed pieces 3 and 4 are also connected by beams 9, 10, and these in turn by supporting pieces 11, 12, arranged to receive a cask or barrel 13 and hold it in position centrally beneath the filling head. The reservoir containing the charged liquid with which the cask is to be filled is indicated at 14 and the tank of gas for the purpose of equalizing the pressure within the cask during the filling operation is indicated at 15. The filling head is denoted by 16. It is cylindrical cup-shaped with its mouth opening downward and is provided with perforated bosses 17, 18, for the attachment thereto of pipes 19, 20 leading respectively, from the gas supply and the liquid reservoir.

The pipe 19 is provided with a stop cock 21 and the pipe 20 with a stop cock 22 for the purpose of regulating the flow of gas and liquid therefrom to the filling head.

The filling head 16 is provided on its lower face with a gasket 23 of rubber or other suitable yielding material for the purpose of making a fluid-tight joint with the cask or barrel 13 around the margin of the bung-hole 24 through which the liquid is to be inserted into the cask and which is to be subsequently closed by the bung.

The filling head 16 is guided by a pair of hangers 25, 26, depending from a head piece 27 secured to the beams 7 and 8.

I find it convenient to brace the beams 7 and 8 by attaching thereto the middle portions of braces 28, 29, the opposite ends of each of said braces being extended downwardly and fastened to the uprights 1 and 2.

The supporting head 16 is carried in the lower end of a bifurcated frame 30 having a tongue and groove connection on its exterior with the depending hangers 25, 26, to permit it to move together with the filling head up and down to a limited extent between the hangers, the said frame 30 being swiveled to the lower end of an operating screw 31 having a screw threaded engagement with the head 27 fixed to the beams 7 and 8 and provided at its upper end with a hand wheel 32 for operating the screw to raise and lower the frame 30 and hence the filling head 16 carried thereby.

Through the center of the screw 31 there extends a rod 33, the said rod 33 extending downwardly through a stuffing-box 34 at the back of the filling head and thence into the space within the filling head where it is provided with a cap 35 having a central slightly tapered teat 36 for receiving the bung 37. The bung 37 is provided with a socket 38 in its outer end of such size relative to the teat 36 that the bung made commonly of some suitable wood and having comparatively little elasticity may be forced on to the teat 36 and held thereon during the filling operation while permitting the rod 33 to be withdrawn from it after the filling operation is completed and the bung has been forced into the cask or barrel. The cap 35 is intended to cover substantially the top of the bung around the socket 38 so that the bung may be driven into position without liability of its being split.

The rod 33 for holding and forcing the bung in place is provided at its top with a head 39 composed preferably of some tough metal for receiving the blows of a hammer or mallet for driving the bung into its position.

The rod 33 is raised and lowered to lift the bung to the top of the filling head during the

filling operation and lower it into position with its inner end inserted in the bung-hole by means of a lever 40 pivotally secured to the rod 33 at 41 and fulcrumed to the frame at 42 preferably by means of a swinging fulcrum.

The lever 40 is extended past its fulcrum and provided with a counterbalance weight 43 for the purpose of lifting the rod 33 to hold the tongue at the top of the filling head during the filling operation. The lever 40 is also preferably provided with a handle 44 for the convenient grasp of the hand of the operator in lowering the bung into position to be driven home.

In operation, the cask 13 having been placed in position with its bung-hole 24 beneath the filling head, the latter is lowered into the position shown in Fig. 2 by turning the hand wheel 32 of the screw 31 and is forced downwardly against the cask or barrel so as to insure a fluid-tight joint between its gasket 23 and the cask or barrel.

Previous to lowering the head 16 into its filling position, the lever 44 has been pressed downwardly to bring the bung receiving cap and teat on the rod 33 into position where the bung 37 can be readily pressed onto the teat 36 and the rod 33 then is allowed to lift under the counterbalance 43 to hold the bung at the top of the filling head out of the way of the filling liquid.

The pressure in the reservoir containing the charged liquid is then noted by means of a gage of any well known or approved form not shown herein, and the pressure in the gas tank 15 is raised to a point denoted by a gage of any well known or approved form not shown, which shall be only a few points, more or less, less than the pressure in the reservoir.

The gas pressure is then turned on by means of the cock 21 to exert its influence within the filling head and within the cask to be filled and the cock 22 is then turned to admit the liquid into the filling head and thence into the cask or barrel.

The liquid flowing in against the gas pressure which so nearly equals its own pressure or head, falls quietly into the cask without any considerable tendency to foam and when the barrel or cask is filled the liquid and gas having been cut off, the bung 37 is lowered into position by pressing down on the handle 44 and when it has been inserted as far as pressure on the handle 44 will insert it in the bung-hole, it is finally driven home by striking on the head 39 with a mallet or hammer. The rod 33 is then lifted by raising the handle 44 and the bung left in position in the cask. The filling head is then elevated by turning the screw 31 by means of the hand wheel 32, the filled cask or barrel removed and a new one placed in position for repeating the operation.

What I claim is:

A cask or barrel filling machine comprising a hollow filling head provided with a gasket on its lower edge and with means for simultaneously connecting the interior of the head with pipes leading to a liquid and a gas supply, means for supporting a barrel or cask with its bung-hole in position beneath the head, a screw for raising and lowering the filling head, a rod having a reciprocating movement within the screw and filling head and provided with a cap having a seat for the bung and provided at its opposite end with a head piece for receiving blows from a hammer or mallet and a counterbalance lever for raising and lowering the rod and hence the bung, substantially as set forth.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two witnesses, this 27th day of July 1906.

WILLIAM IHNKEN.

Witnesses:
FREDK. HAYNES,
F. GEORGE BARRY.