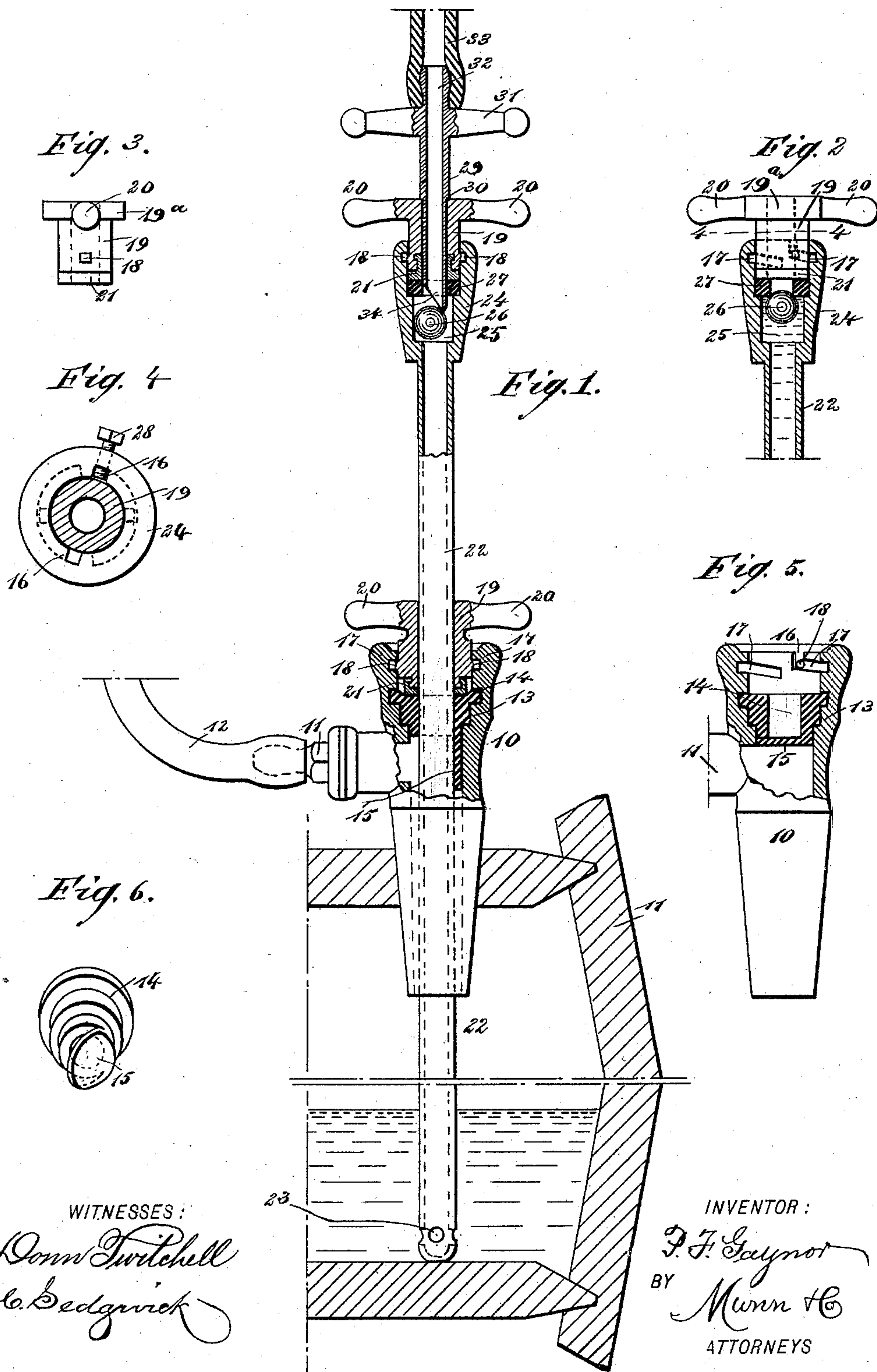


P. F. GAYNOR.
BEER DRAWING APPARATUS.

Patented Apr. 26, 1892.



UNITED STATES PATENT OFFICE.

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BEER-DRAWING APPARATUS.

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To all whom it may concern:

Be it known that I, PETER F. GAYNOR, of Greenbush, in the county of Rensselaer and State of New York, have invented a new and Improved Beer-Drawing Apparatus, of which the following is a full, clear, and exact description.

My invention relates to improvements in beer-drawing apparatus; and the object of my invention is to produce a simple apparatus by means of which beer may be conveniently drawn under pressure from the cask and which may be inserted in the cask without spilling any beer or freeing any gas.

To this end my invention consists in certain features of construction and combinations of the same, as will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a broken sectional elevation of the entire apparatus, showing it applied to a beer-cask. Fig. 2 is a broken vertical section of the upper valve mechanism. Fig. 3 is a detail side elevation of the locking-sleeve, which forms a portion of the valve. Fig. 4 is a sectional plan on the line 4 4 in Fig. 2. Fig. 5 is a broken detail view, partly in section, of the spile which is driven into the cask; and Fig. 6 is a detail perspective view of the packing-valve carried by the spile.

The spile 10 is of the usual external shape, having a tapering lower end, so that it may be readily driven into a cask, and the spile has the usual longitudinal bore extending through it. Opening from one side of the spile is a pipe 11, which couples with a tube 12, so that air may be pumped into the cask to give the requisite pressure; but this arrangement is of the usual kind and forms no part of my invention.

Above the air-pipe 11 and within the spile 10 is a seat 13, against which the packing-valve 14 fits, and this valve has at its lower end a swinging lid or flap 15, which is normally pressed upward by the pressure from within the cask, and consequently closes the opening through the valve and prevents the escape of any beer or gas. By reference to

Fig. 5 it will be seen that the seat 13 consists of two grooves and that the valve 14 has exterior projections to fit the grooves, so that it cannot easily be displaced, and more or less grooves may be used, if desired.

At the upper end of the spile 10 and on opposite sides of its inner wall are the vertical grooves 16, which terminate in cam-grooves 17, arranged at an angle to the vertical grooves and in the walls of the spile, and the grooves 17 are adapted to receive the laterally-extending lugs 18 on the locking-sleeve 19, which is adapted to fit within the top portion of the spile and is provided with handles 20, by means of which it may be turned, and as the lugs on the sleeve fit in the cam-grooves 17 and as the grooves have a downward inclination, as best shown in Fig. 5, it will be seen that by turning the sleeve in the right direction it may be forced into the spile. The lower end of the sleeve carries a washer 21, which is adapted to fit against the valve 14 and is held so that it does not turn on the packing-washer when the locking-sleeve is being turned, and consequently it will not cut or drag the valve.

It will be understood that the valve is made, preferably, of india-rubber, so that it may be compressed and made to grip the pipe 22, which pipe is adapted to carry the beer from the cask and is forced downward through the sleeve 19, the valve 14, the spile 10, and into the cask. The pipe 22 is in the main like the usual beer-drawing pipe and has a strainer 23 at its lower end, through which the beer flows. The lid 15 of the valve 14 will normally keep the spile 10 closed; but when the pipe 22 is forced downward through the valve the lid is forced to one side, as shown in Fig. 1, and the valve forms a packing for the pipe 22, and by turning the locking-sleeve 19 so as to force it into the spile it will compress the valve and the latter will be crowded firmly upon the pipe, so that the pipe cannot be moved.

The upper end of the pipe 22 terminates in a valve-casing 24, within which is a chamber 25, carrying a common form of ball-valve 26, which valve is adapted to rest above the upper end of the pipe 22, and when the lid or flap 15 on the valve 14 is pushed open by the pipe 22 the pressure of gas immediately

forces the valve 26 against the packing-washer 27 above it, which washer forms the valve-seat, and the escape of beer or gas is thus prevented. Above the chamber 25 is a suitable packing-washer 27, and the upper end of the casing 24 is provided with locking-grooves 16 and 17 like those in the spile 10, and the casing carries a sleeve 19 exactly like that already described, except that it is provided with a top flange 19^a, which flange has no particular function and may be dispensed with. The locking-sleeve fits within the casing 24, and it will be seen that while the upper end of the casing 24 and the locking-sleeve carried thereby are similar to the upper end of the spile and its locking-sleeve, yet in practice the upper locking-sleeve is made smaller than the other. A hollow stem 29 extends downward through the upper locking-sleeve, having a shoulder 30 to fit against the same and prevent the stem from going down too far, and thereby forcing the ball-valve 26 to the bottom of the chamber 25 and stopping the flow of beer. The stem 29 has a handle 31, by means of which it may be pushed out and in. The stem 29 is prolonged above the handle, as shown at 32, and the part next the handle is slightly reduced, so that this prolonged end may be conveniently connected to the usual hose or pipe 33, through which the beer is carried to any desired point.

It will be seen that before the stem 29 is inserted the beer and gas-pressure will raise the valve 26 and tightly close the draft-pipe 22; but when the stem 29 is pushed into the pipe the valve 26 is pushed downward, so that the beer may flow out, and the valve is held away from the lower opening to the chamber 25 by the point of the valve-stem, and to this end the valve-stem has an angular inner end, as is best shown in Fig. 1.

The stem 29 is held in place by turning the locking-sleeve, as the latter movement will compress the packing-washer 27 and cause it to tightly grip the stem. In one side of the valve-casing 24 is a set-screw 28, which projects into one of the vertical grooves 16, and the set-screw will thus prevent the accidental removal of the locking-sleeve, as it will be in the path of one of the lugs 18 of the sleeve; but the locking-sleeve may be tightened or loosened by turning it so that the lugs will travel down or up in the cam-grooves 17. When the locking-sleeve is to be removed, the set-screw 28 is first removed, and then the locking-sleeve may be easily taken out of the casing by turning it so that the lugs 18 will register with the vertical grooves 16.

In the foregoing description it will be seen that this apparatus may be conveniently applied to a cask, that the valve 14, with its lid 15, will prevent any beer from being spilled or gas from escaping when the spile is driven in, and that the various parts of the device may be easily locked together or detached. It will also be seen that the stem 29, with its

handle 31, takes the place of the ordinary cock, and the beer can flow as readily through it as through the usual cock or faucet.

The manner of attaching my improved device to the barrel is as follows: The spile 10 is driven into the tapping-hole of the barrel in the usual manner. All communication through the top of the spile remains closed by the valve 14 and lid 15, which is held in place by the projections on the valve fitting in the grooves in the spile. The air is then pumped in through the pipe 11 and spile 10 in the usual manner. When the spile is driven in the barrel, the locking-sleeve 19 is placed on top of the spile 10, with the extending lugs 18 registering with the vertical grooves 16. The pipe 22 is then pushed down through the locking-sleeve and the packing-valve 14, forcing the lid or flap 15 to one side. When the pipe 22 is pushed to the bottom of the barrel, the locking-sleeve 19 is turned in the cam-groove 17, which gives it a downward motion, and thereby compresses the valve 14, causing the latter to grip the pipe 22 firmly and hold it in place and also form a tight joint. When the flap 15 is forced open by the pipe 22, the pressure of gas coming up through the holes 23 in the pipe 22 forces the ball-valve 26 to its seat on the washer 27. All that is necessary now to complete the tapping is to push the hollow stem 29, which is attached to the beer-pipe 33, through the upper locking-sleeve and packing-washer 27 and push the ball-valve 26 from its seat. The locking-sleeve is then turned in the cam-grooves so as to compress the washer 27 and grip the hollow stem 29 firmly and make a tight joint.

In detaching my device it is only necessary to loosen the locking-sleeve, remove the stem 29, then turn the lower locking-sleeve in the same manner, and remove the pipe 22. The valves 14 and 26 are both self-locking, their arrangement being such that they will not open until the pipes are connected properly, and they cannot be closed when the pipes are connected.

If it should become necessary at any time to disconnect the hollow stem 29 or remove the pipe 22 from the barrel before the contents are all drawn therefrom, it can be removed without the loss of beer or gas, as the valves will immediately close when the stem or pipe is withdrawn.

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

1. The combination, with the spile adapted to connect with a cask and draft-pipe, of a flexible packing-valve seated in the spile and provided on its inner side with a swinging lid, substantially as described.

2. The combination, with the main spile, the draft-pipe extending through it, and the packing-valve seated in the spile and having a swinging flap, of a locking-sleeve adapted to embrace the draft-pipe and enter the spile,

the sleeve having lateral lugs which fit cam-grooves in the spile, substantially as described.

3. In a beer-drawing apparatus, the combination, with the draft-pipe having a valve-casing at its upper end, of a valve mounted in the case, a packing-washer seated in the casing above the valve, a locking-sleeve adapted to be secured in the casing and to compress the packing-ring, and a hollow stem adapted to enter the locking-sleeve, substantially as described.

4. In a beer-drawing apparatus, the combination, with a spile provided with a valve, of a pipe projecting through the spile and provided with a valve-chamber at its upper end, a loose valve in the valve-chamber, and a hollow stem leading from the valve-chamber and adapted to be projected into the same to force the valve from its seat, substantially as described.

5. The combination, with the draft-pipe terminating at its upper end in a valve-casing, and a valve mounted in the casing, of the packing-ring seated in the valve-casing, the locking-sleeve adapted to enter the casing and compress the ring, and the hollow stem adapted

to extend through the sleeve, said stem having a handle at its outer end and having an angular inner end, substantially as described.

6. In a beer-drawing apparatus, the combination, with a spile having a packing and downwardly-opening valve, of a pipe projecting through the spile and opening the valve, a valve-casing at the upper end of the pipe, a valve in said casing, and a hollow stem projecting into the said valve-casing and forcing the valve from its seat, substantially as described.

7. An apparatus for drawing beer, comprising a spile provided with a valve, a packing and means for compressing the same, a pipe projecting through the spile and provided with a valve-casing at its upper end, having a packing and means for compressing the same, a ball-valve in said casing, and a hollow stem projecting through the packing into the valve-chamber and provided with a handle, substantially as herein shown and described.

PETER F. GAYNOR.

Witnesses:

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AMBROSE J. BOYLAN.