(No Model.)

H. TORCHIANI.

APPARATUS FOR RACKING OFF BEER.

No. 558,438. Patented Apr. 14, 1896.

Fig:1.

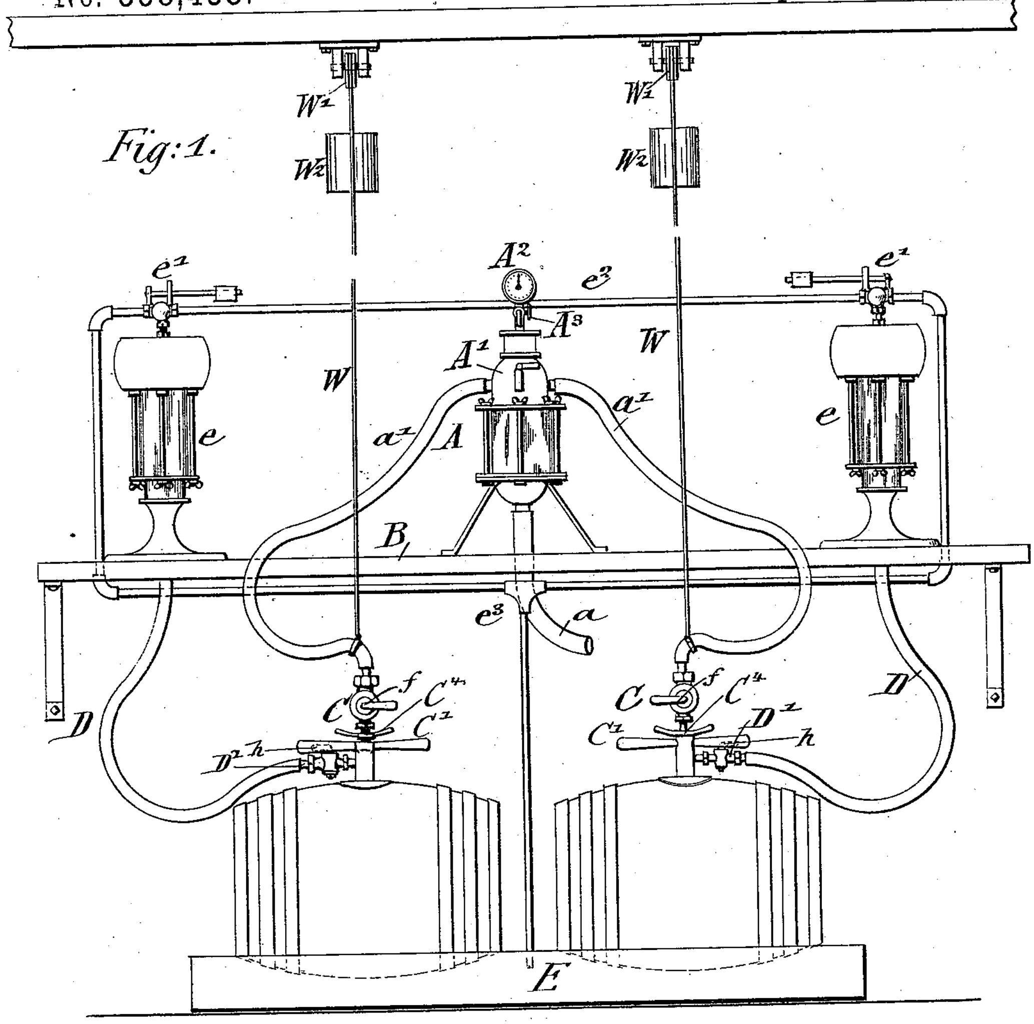


Fig:3.

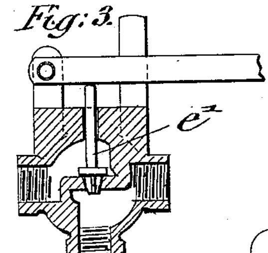


Fig:2

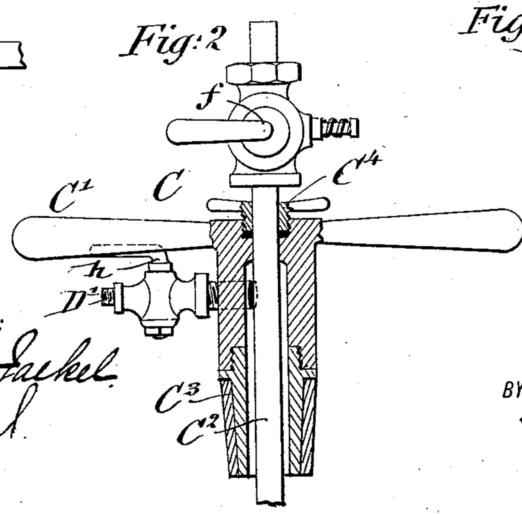
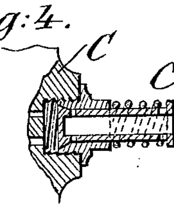


Fig:4.



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UNITED STATES PATENT OFFICE.

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APPARATUS FOR RACKING OFF BEER.

SPECIFICATION forming part of Letters Patent No. 558,438, dated April 14, 1896.

Application filed September 21, 1895. Serial No. 563,224. (No model.)

To all whom it may concern:

Be it known that I, HARRY TORCHIANI, a citizen of the United States, residing in the city of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Apparatus for Racking Off Beer, of which the following is a specification.

Heretofore in apparatuses of this class it was considered necessary that a counter-pressure tank be used in connection with the distributing-receptacles, racking-off faucets, and gage-glasses, so as to regulate thereby the flow of the fermented liquids into the kegs or barrels in which they were to be shipped, and permitting thereby the quick and almost continuous filling of said packages.

I have discovered that the counter-pressure tank can be dispensed with and that one of the kegs or packages to be filled can be used instead, whereby the construction of the racking-off apparatus is considerably simplified and the disposition of the beer obtained from foam and by the overflow of beer from the gage-glass can be made in a much more advantageous and effective manner than in the counter-pressure racking-off apparatus heretofore employed.

My invention consists, therefore, of an apparatus for racking off beer, which comprises a distributing-receptacle connected with the storage-cask and with the kegs to be filled, a racking-off faucet inserted into the bung-hole of the keg to be filled, gage-glasses, hose connections between the faucet and the distributing-receptacle and the faucet and the gage-glasses, respectively, the pipe connections between the safety-valves on the top of the gage-glasses, with the waste-collecting pan, and the pipe connections between the gage-glasses, as will be fully described hereinafter, and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a front elevation of my improved apparatus for racking off beer. Fig. 2 is an elevation of the racking-off faucet, partly in section. Fig. 3 is a detail sectional view of the safety-valve of the gage-glass, and Fig. 4 is a detail sectional view of the vent-valve of the racking-off faucet.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents a distributing-receptacle, which is made at its middle part of glass, so as to indicate the passage of the beer or any other fermented beverage through the same. The distributing-receptacle A is supported on a suitable stand which is attached to a suitable table B. The bottom of the receptacle A is made of metal and connected by a flexible hose *a* with the storage-cask from which the fermented liquid to be racked off is supplied. The upper metallic part A′ of receptacle A is connected by two flexible hose connections *a′* with two racking-off faucets C C, each of which is suspended by a separate chain or wire rope W from a pulley W′ on the ceiling, said ropes being each provided with a weight W^2 for counterbalancing the weight of the racking-off faucet, so that the same is held in raised position and can be readily inserted into or removed from the bung-hole of the shipping-keg. The receptacle A is provided at its upper part with a pressure-gage A^2, relief-valve A^3, and other accessories.

The apparatus shown in the drawings is constructed in the nature of a double apparatus, so that the beer can be alternately racked off into one shipping keg or barrel after the other, but in which apparatus, however, only one distributing-receptacle is used. Each racking-off faucet C is connected by a flexible hose D, which is applied to a branch pipe D′ thereof, with the bottom of a gage-glass *e*, which is likewise supported on the table B. A pipe e^2 connects the two gage-glasses *e e*, and each glass is provided at its upper part with a safety-valve *e′*, which valves are connected by pipes e^4 e^5, respectively, with a pipe e^3, which discharges into the stillion or trough E for collecting the waste liquid, as shown in Fig. 1.

The racking-off faucet C is inserted into the bung-hole of the shipping-keg to be filled, and is provided with a conical exterior portion or hollow plug C^3, provided with a rubber bushing, so that the faucet can be fitted tightly into the bung-hole of the keg. When the faucet C is forced down into the bung-hole, the soft-rubber bushing will tightly close it, so that no gas can escape from the same. The faucet C is provided with a handle C′, by which it can be conveniently inserted into

and removed from the bung-hole. The lifting of the faucet and the suspension of the same are facilitated by the counterbalancing-weight W^2, applied to the rope or chain attached to the upper part of the faucet.

The racking-off faucet C is provided with an interior supply-pipe C^2, the upper end of which is connected by the hose a' with the upper part of the distributing-receptacle. The interior supply-pipe C^2 is provided with a plug-valve f, and is made of sufficient length to extend nearly to the bottom of the keg, and is secured to the exterior hollow portion C^3, to which the handle C′ is applied. A tight connection is made between the exterior portion C^3, and the supply-pipe C^2 by means of a suitable packing and gland C^4. The exterior portion or shell C^3 is provided with a discharge-pipe D′ and plug-valve h, to which pipe the hose D, that leads to the gage-glass e, is applied.

When all the parts are properly connected and the beer is supplied from the storage-cask into the distributing-receptacle, the air in said receptacle is forced out, the presence of the beer therein being indicated by the glass portion, so that the condition and quality of the beer to be racked off can be readily observed. The liquid gradually rises in the distributing-receptacle A with little friction and foaming, passes through the hose a' and pipe C^2 into the keg, while the air in the receiver A, hose a', and keg is forced by the liquid through the exterior portion C^3 and hose connection D into the gage-glass e, connected with the racking-off faucet of the keg being filled, and is then conducted through the pipe e^2 into the second gage-glass e, and then through the hose D into the second keg, whereby the latter is gradually filled by the mixed gas and air, whereby the keg acts in the nature of a counter-pressure tank on the liquid racked off into the other shipping-keg. When a pressure greater than the pressure to which the safety-valve is adjusted is attained, the air forces the valve open and passes off through the pipes $e^4 e^3$ into the stillion E. As the filling of the keg proceeds the height of the liquor therein is indicated by the rising of the beer and foam in the gage-glass e connected with the racking-off faucet of the keg being filled. On the keg being filled the racking-off faucet is removed from the keg and raised by its counterbalancing mechanism, after which the keg is bunged.

In order that the beer remaining in the pipe C^2 may be discharged into the keg without spilling while the racking-off faucet is being withdrawn from the bung-hole, the vent-valve C^5 on the faucet is depressed, which permits the outer air to enter and force the beer out. A new keg is now applied and the racking-off faucet passed into the bung-hole of the same, so as to tightly fit therein. The second keg is then filled by opening the valve f of the hose connection with the distributing-receptacle A, so that the beer is supplied through the racking-off faucet to the keg, while the air and surplus gas contained in the same are conducted through the hose D to the gage-glass e, and through the safety-valve of the same and the pipe e^2, connecting the gage-glasses, back through the second gage-glass e and hose D and the discharge-faucet of the empty keg into the latter until the required pressure is obtained within the same. When a higher pressure is obtained, the safety-valve on the gage-glass connected with the empty keg is opened and the air and gas let off through the pipe e^3 in the stillion. When the normal pressure is established in the empty keg, the same acts as a counter-pressure tank for the keg, which at the same time is in the act of being filled. When the second keg is filled, the discharge-faucet is removed and the keg bunged. A new keg is supplied and closed by the racking-off faucet, so that the same can act in its turn as the counter-pressure tank for the other keg, and so on alternately.

I have found by practical tests made with a full-sized working apparatus that a gage-glass which is provided below its middle glass portion with a smaller glass portion is better adapted for racking-off purposes than the gage-glasses heretofore in use, as in the lower narrower portion the beer that passes into the gage-glass can be observed, while the foam rises in the upper larger portion. This feature facilitates greatly the operation of the apparatus and permits the rapid racking off of the beer into the shipping-kegs. The receiver is likewise provided with a narrow glass portion above the metallic top, which glass portion acts as an air-chamber and as an indicator of the uniform flow of liquid through the receiver.

My improved racking apparatus has the advantage that the usual counter-pressure tank and the accessories of the same can be dispensed with. In place of the same one or the other of the shipping-kegs is used as the counter-pressure tank. By this arrangement the receiver A and the gage-glasses can be mounted directly on one common supporting-table and packed and shipped, together with the racking-off faucets and their counterbalancing mechanism and hose connections, and can be put in place in a very convenient manner.

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

1. A racking-off apparatus provided with two racking-off faucets for alternately supplying two shipping-kegs, means for supplying liquid to said faucets, and valved pipes having gage-glasses and directly connecting said racking-off faucets whereby one shipping-keg is adapted to act as a counter-pressure tank for the other.

2. A racking-off apparatus provided with two racking-off faucets for alternately supplying two shipping-kegs, said faucets having air-passages connecting with the shipping-

kegs, two gage-glasses, pipes connecting said air-passages with said gage-glasses, and a pipe connecting said gage-glasses with each other whereby one keg is adapted to act as a counter-pressure tank for the other.

3. In an apparatus for racking off beer, the combination of a receiver connected with a storage-cask, two racking-off faucets for alternately supplying two shipping-kegs valved hose connections connecting the receiver with the supply-pipes of the faucets, two gage-glasses, a hose connection between each glass and its respective racking-off faucet, and a pipe connecting the gage-glasses with each other.

4. In an apparatus for racking off beer, the combination of a receiver connected with a storage-cask, two racking-off faucets for alternately supplying two shipping-kegs, valved hose connections connecting the receiver with the supply-pipes of the faucets, two gage-glasses, a hose connection between each glass and its respective racking-off faucet, safety-valves on said gage-glasses, a pipe connecting the gage-glasses with each other, and pipes connecting said safety-valves with the stillion.

5. In an apparatus for racking off beer, the combination of a receiver connected with a storage-cask, two racking-off faucets, two shipping-kegs into which the faucets are inserted, valved hose connections between the receiver and the supply-pipes of the faucets, two gage-glasses, a pipe connecting said gage-glasses, hose connections between the gage-glasses and the racking-off faucets, safety-valves on said gage-glasses, and pipes connecting the safety-valves with the stillion.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

HARRY TORCHIANI.

Witnesses:
PAUL GOEPEL,
GEO. W. JAEKEL.