

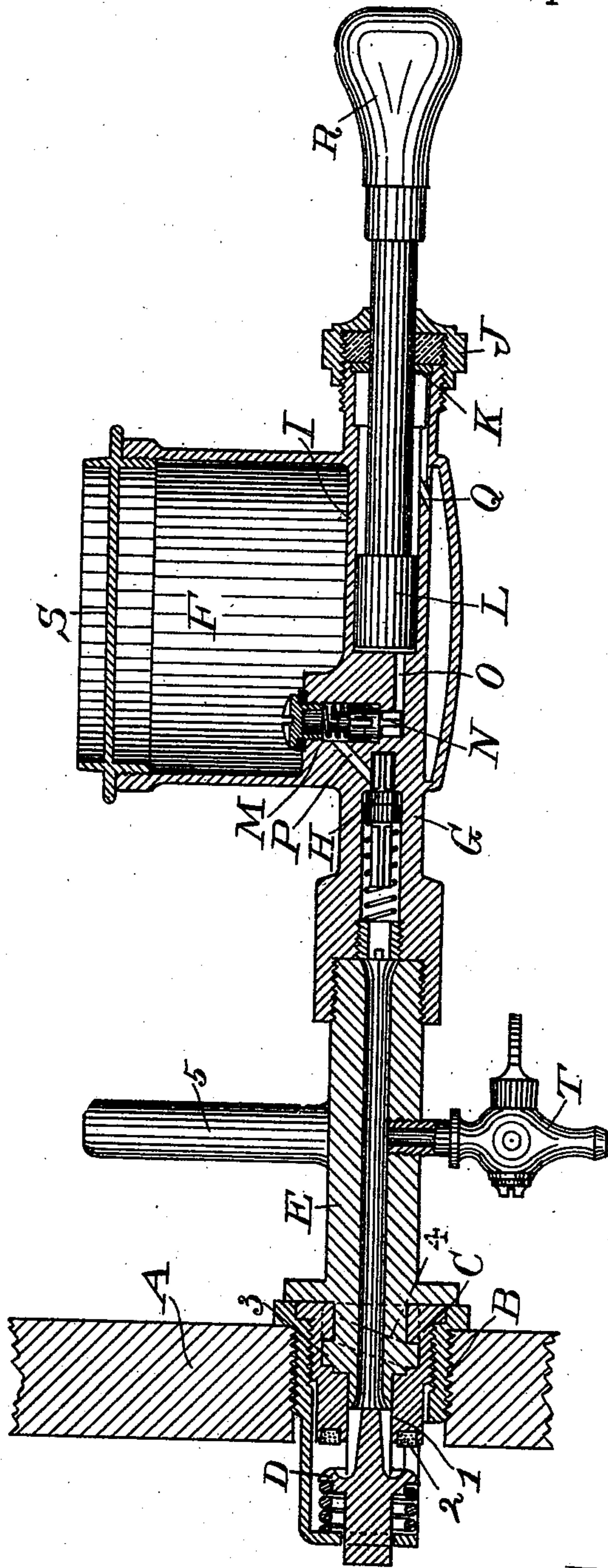
(No Model.)

G. W. ROBINSON.

APPARATUS FOR COLORING ALE, &c., UNDER PRESSURE.

No. 546,458.

Patented Sept. 17, 1895.



Witnesses:

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APPARATUS FOR COLORING ALE, &c., UNDER PRESSURE.

SPECIFICATION forming part of Letters Patent No. 546,458, dated September 17, 1895.

Application filed July 20, 1895. Serial No. 556,591. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. ROBINSON, of Albany, in the county of Albany and State of New York, have invented a new and useful
5 Apparatus for Coloring Ale and other Liquids while Under Pressure, of which the following is a specification.

It is a frequent experience among brewers that when they have a large stock of pale ale in store they will be called to furnish a dark,
10 but lively quality of ale immediately, and heretofore it has been impossible to fill such orders. The object of my invention is to remedy this difficulty by providing an apparatus by which a harmless coloring can be
15 injected into the ale while under pressure in a containing vessel, so as to impart to the liquid any shade of color desired without rendering the ale or other liquid in the least degree inconducive to health, said coloring being a liquid solution of burnt malt or burnt
20 sugar, either of which is perfectly innocuous.

The accompanying drawing, which is herein referred to and forms part of this specification, shows a longitudinal section of one form
25 or my apparatus.

As illustrated in the drawing, A designates the head of a barrel, cask, or other similar vessel in which ale or other liquid under
30 pressure can be stored until ready for use. Said head has a metallic sleeve B inserted therein for the purpose of connecting thereto a pipe by which the liquid can be conducted to any desired point of delivery. The sleeve
35 B has a bushing C screwed into it, said bushing having a central opening 1, which forms a passage for the discharge of the liquid contained in the vessel. The inner end of the
40 bushing C has a valve-seat 2, against which a spring-controlled valve D will bear to form a liquid-tight joint. The outer end of said bushing is chambered to receive one end of a
45 tubular key E, that is fitted to press the valve D away from the seat 2 when necessary. The key E is provided with wings 3, which take in spirally-arranged grooves 4, that are indicated
50 by dotted lines in the drawing, to move said key inwardly to open the valve D when occasion requires. A handle 5 is formed on the key E to afford the means for operating
said key.

The parts above described form a part of a

tap for barrels and other vessels for containing ale and other liquids under pressure, and of itself it forms no part of my invention, except as part of the combination of the elements
55 covered by the claims hereunto appended.

F is a receptacle for containing the coloring-liquid. Said receptacle is made in the form of a vertical cylinder whose top is open and
60 whose bottom is closed. Extending from one side of said receptacle there is a tubular neck G, that is fitted to screw onto the outer end of the key E, and whose opening forms an open communication with the bore of said
65 key. The neck G contains a spring-controlled check-valve H, that will prevent the liquid in the vessel from entering the neck. A cylindrical extension of the neck G is carried across the bottom of the receptacle F on its
70 inner side to form a barrel I for a pump which forms part of the apparatus, said pump-barrel being extended from the side of the receptacle and furnished with a stuffing-box J, which is provided with an annulus K,
75 whose bore fits the stem of a plunger L, that is fitted to slide in the pump-barrel I. At the inner end of the pump-barrel a valve-chamber M is formed to contain a spring-controlled valve N, which operates as an education-valve, and leading from the inner end of
80 the bore of the pump-barrel a passage O is made to communicate with the valve-chamber below the valve, and leading from said valve-chamber above the valve N an education-passage P is formed, to communicate with the
85 bore of the neck G between the check-valve H and the valve-chamber M. An induction-opening Q leads from the bore of the pump-barrel into the chamber of the receptacle F, said opening being formed so that when the
90 plunger L is drawn to the limit of its outward stroke it will uncover the opening Q to allow the liquid to flow into the pump-barrel and fill the space between said plunger and the inner end of the bore of the pump-barrel,
95 in which a vacuum will be formed by the outward movement of said plunger. The inward stroke of the plunger L will force the coloring-liquid from the pump-barrel into the vessel that contains the liquid to be colored.
100 A handle R is fixed upon the outer end of the plunger L, to facilitate the operation of the latter. Preferably a bonnet S is fitted to cover

the top of the receptacle F for the purpose of excluding dust and other impurities from the coloring-liquid that is contained therein. When preferred, a try-cock T can be inserted
5 in the key E to test the shade of color of the liquid under treatment.

It being understood that the sleeve B and its attached parts are permanently fixed in the head of the barrel or other vessel that
10 contains the liquid to be colored, the mode of operating my apparatus will be as follows: The apparatus is first connected to the bushing C by inserting the key E and fastening the same by the means provided for that pur-
15 pose, so that the receptacle F will be at the upper side of the apparatus. The coloring-liquid is then put in said receptacle while the plunger L is at the end of its inward movement. Then by drawing the plunger to the
20 outer end of its movement the pump-barrel I will be filled with the coloring-liquid. By an inward stroke of the plunger L the coloring-liquid will be injected into the liquid contained in the barrel or cask. A little expe-
25 rience will enable an operative to determine the number of injections of a particular coloring-liquid that will be required to produce the shade of color required for the liquid to be treated.

I do not claim the separate elements of the 30 combination herein claimed, for I am aware that when separately considered the same are old and well known; but,

What I claim as my invention, and desire to secure by Letters Patent, is— 35

1. The combination of a key, E, adapted to open a valve in a tap that is permanently fixed in a barrel or other vessel; said key being tubular, a receptacle for containing a coloring liquid, and an injecting-pump for in- 40 jecting said coloring liquid into the ale, or other liquid, under pressure in a closed containing vessel, as and for the purpose specified.

2. The combination of a tubular key, E, 45 adapted to open the valve of a tap that is permanently fixed in a barrel or other vessel for containing liquid under pressure; said key having a try-cock which communicates with the bore of the key, a receptacle for contain- 50 ing a coloring liquid as herein set forth, and a pump for injecting said coloring liquid into the liquid under treatment, as and for the purpose specified.

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Witnesses:

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