

(No Model.)

2 Sheets—Sheet 1.

O. UHLICH.

CONTINUOUS ACTING APPARATUS FOR PRODUCTION OF SPARKLING
DRINKS, &c.

No. 545,394.

Patented Aug. 27, 1895.

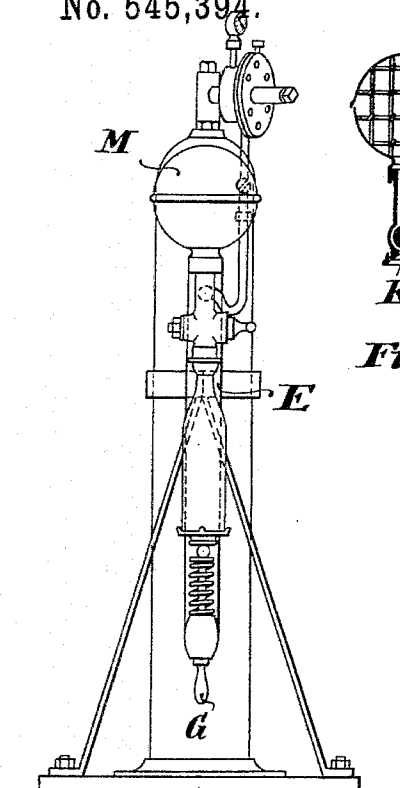


Fig. 1.

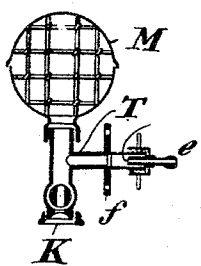


Fig. 3.

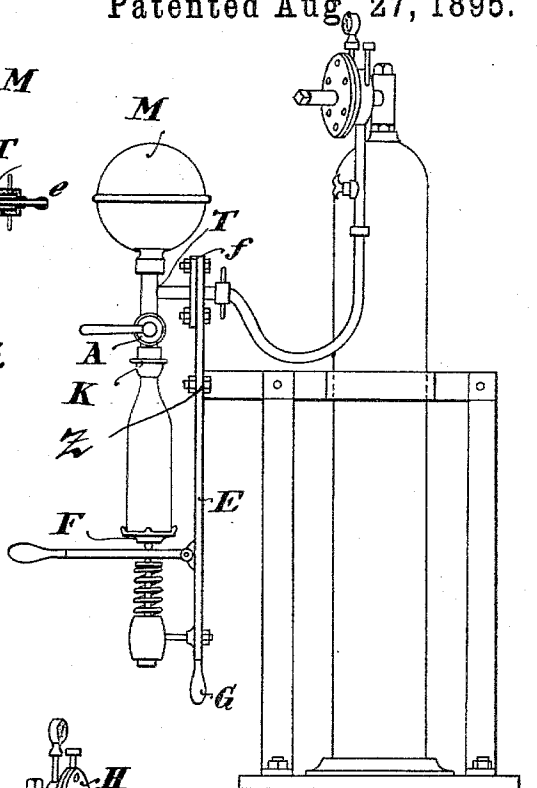


Fig. 2.

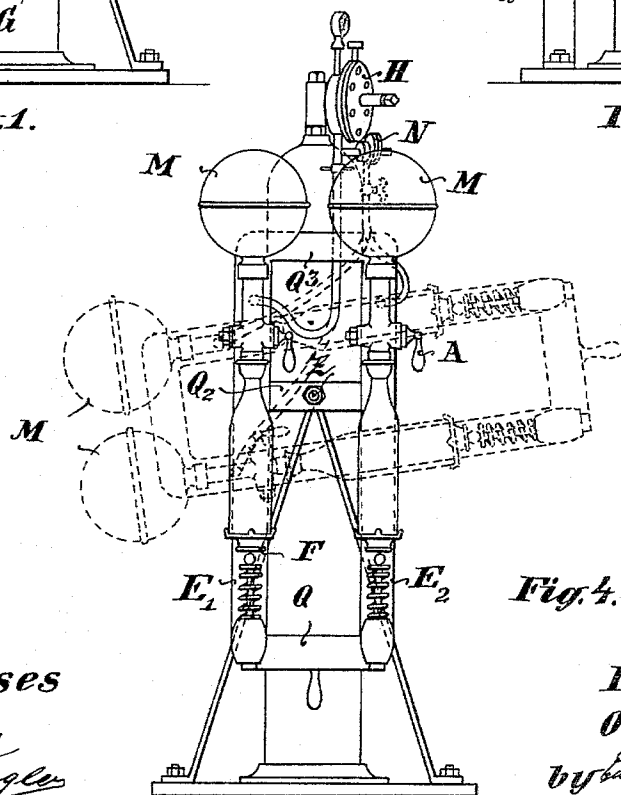


Fig. 4.

Witnesses

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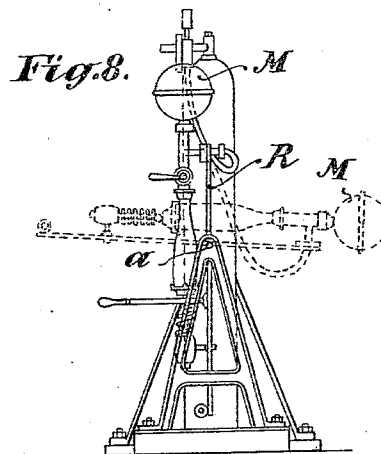
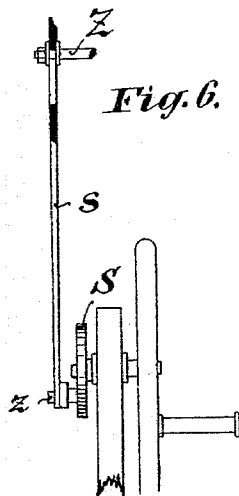
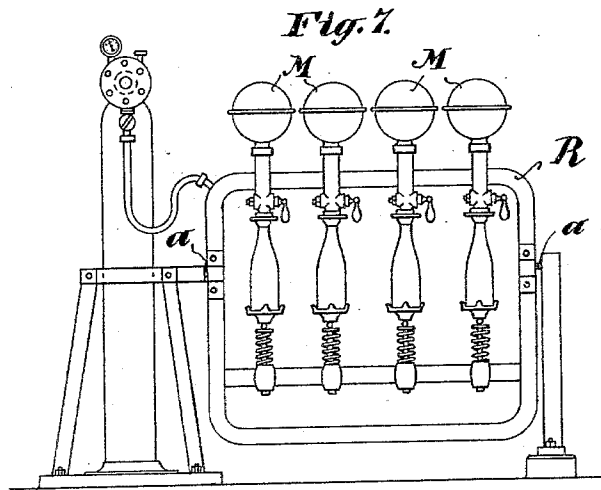
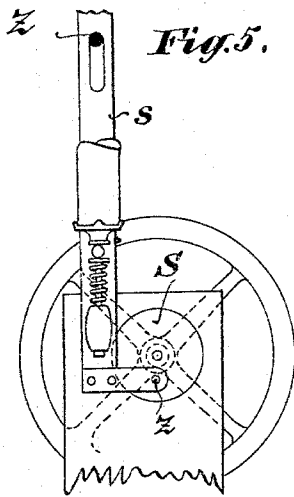
2 Sheets—Sheet 2.

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Witnesses.

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UNITED STATES PATENT OFFICE.

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OF SAME PLACE.

CONTINUOUS-ACTING APPARATUS FOR PRODUCTION OF SPARKLING DRINKS, &c.

SPECIFICATION forming part of Letters Patent No. 545,394, dated August 27, 1895.

Application filed May 19, 1893. Serial No. 474,840. (No model.)

To all whom it may concern:

Be it known that I, OTTO UHLICH, engineer, a subject of the King of Prussia, German Emperor, and a resident of Cologne, in the Kingdom of Prussia, Germany, have invented a certain new and Improved Apparatus for Making Effervescent Drinks, of which the following is a full, clear, and exact description.

The present invention consists of an apparatus for mixing liquids and gases and in the particular construction of the same, as set forth in the following specification and defined in the claims appended.

In order to make the present specification more easily intelligible, reference is had to the accompanying drawings, in which similar letters denote similar parts throughout the several views.

Figure 1 is a front elevation. Fig. 2 is a side view. Fig. 3 shows a section of the bottle head-piece with attachment and mixing-vessel. Fig. 4 is a double apparatus in front view. Figs. 5 and 6 show in front and side view means for shaking the apparatus. Figs. 7 and 8 represent the arrangement of the device for the production on a larger scale in front and side view.

A supporting-bar E, having its shorter end upward and the longer one downward, is mounted to revolve on a pin Z, fixed in suitable standards or frame. In case standing carbonic-acid receivers are used it is advantageous to fix the pin to the support of the said receiver. A bottle-carrying disk for one bottle is attached to the lower end of the supporting-plate, which is easily adjusted in position by means of a spring and a lever. At the upper end of E a corresponding head-piece K is arranged, having a stop-cock supported by a T-piece T, which is attached to the bar E and supports on its upward arm a mixing-vessel M. The lower end of the supporting-bar E terminates in a handle G.

In order to manufacture mineral water with the apparatus, a bottle filled with water is adjusted between the disk F and head-piece K. The cock A being closed, the gas-pressure from the carbonic-acid receiver is then allowed to pass to the mixing-vessel M through the T-piece T, and the cock A opened. Thereupon the bar E is tilted over by means of the handle

with everything that is attached to it in such a manner that the bottle stands on its head above the mixing-vessel M. The water will now flow out of the bottle into the mixing-vessel. By lowering the handle the apparatus is brought into a nearly horizontal position, as indicated by dotted lines in Fig. 4, and then by a repeated slight raising and lowering of the handle a swinging motion is imparted to the mixing-vessel, whereby the fluid and the gas are thoroughly mixed. Then the apparatus is again brought back into its initial position with the mixing-vessel at the top. The fluid is allowed to flow back into the bottle and the cock A closed. The bottle now contains highly effervescent water, is corked, and then removed. The whole process lasts about half a minute.

In order to effect a better and more rapid mixing of the fluid with the gas, ribs or bands may be formed on the walls of the mixing-vessel M inside the same, or metal rods may be placed in the mixing-vessel, so as to cross each other parallel to the three main axes, as shown in Fig. 3.

Fig. 3 also shows in detail the T-piece T, which is placed horizontally (thus T) and serves at the same time to support the head-piece K, and is also hollowed out and formed as a gas-conduit pipe, at the top of which is attached a lip-valve with supply-hose of well-known construction. The horizontal arm has at about the middle of its length a flange f, by which the entire head-piece is attached to the bar E, while the projecting nozzle e passes through a corresponding hole in the said bar E.

As shown in Fig. 4, two apparatus may be arranged on one common supporting-frame, which is formed of the two vertical bars E' E² and the lower middle and upper cross-bars Q' Q² Q³, the whole frame turning about the pin Z at the center of the cross-bar Q³.

If desired, two different kinds of effervescent drinks requiring varying pressures may be manufactured simultaneously—e. g., for mineral water five to six atmospheres being required, while milk only needs about two atmospheres.

In order to be able to produce drinks under different pressures at the same time, I arrange

on the carbonic-acid receiver a combination of a high-pressure reducing-valve H and a low-pressure valve N, of which the latter branches off from the former and brings these valves into connection with the corresponding T-pieces by a corresponding supply-hose.

As shown in Figs. 7 and 8 a larger number of single apparatus may also be combined on a common pivotally-attached frame R, as may be desirable for production on a large scale. In this apparatus, in order to mix the gas and fluid in the mixing-vessel M, the lower part of the frame is formed to a handle and the swinging motion of the frame and everything attached to it is effected in a similar manner to that of a hand fire-engine.

The shaking of the apparatus, instead of being effected by the pump-handle-like raising and lowering of the bar E, may be done at the lower end by turning a crank, if an eccentric disk S, Figs. 5 and 6, be attached to the crank-axle, which, by means of the rod s, revolving on the eccentric-pin z, swings the bar E and simultaneously operates the same to slide backward and forward by means of a slot engaging the pin Z.

I claim as my invention—

1. The combination of a pivotally mounted swinging frame vertically self adjusting spring pressed bottle supporting disks

mounted at the lower part of said frame, fixed bottle neck holders K at the upper part of said frame each vertically above one of said disks, mixing chambers M above said holders K rigid tubular connections from each of said mixing chambers to each neck holder flexible tube connection to connect said mixing chambers to a gas receiver and means for swinging said frame and to close the gas conduit substantially as described.

2. The combination of a pivotally mounted swinging frame, a spring pressed self adjusting bottle supporting disk mounted at the lower part of said frame, a neck holder K rigidly connected to the upper part of said frame a mixing chamber M above said neck holder tubular T-piece T having flange f to attach to said frame, and nozzle e, said T-piece connecting the holder K and chamber M, flexible tubular connection from said nozzle to a gas receiver and means to close said gas conduit and to swing said frame in the manner and for the purpose substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

OTTO UHLICH.

Witnesses:

CARL HALMENDIER,
FRITZ SCHROEDER.