(No Model.)

3 Sheets—Sheet 1.

O. BRANDT & F. HOFFMANN.

SIRUP STRAINER.

No. 470,315. Patented Mar. 8, 1892.

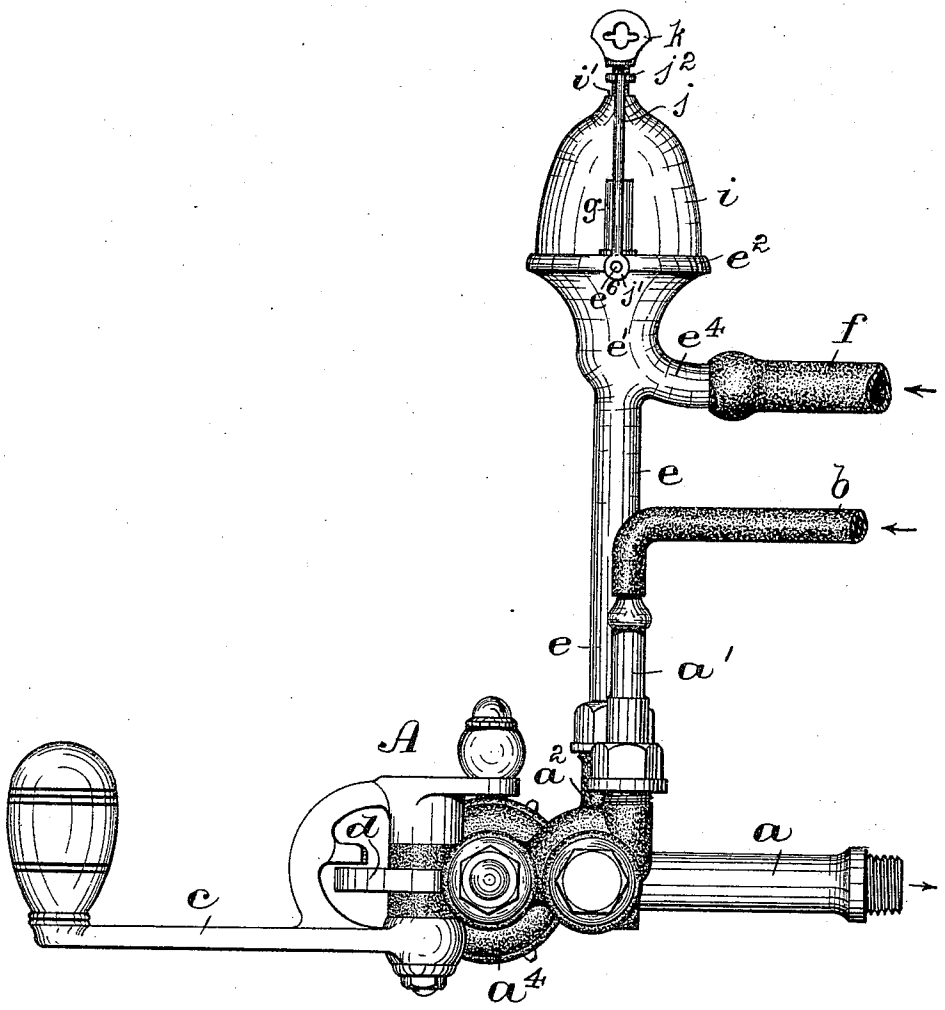

Fig. 1

WITNESSES:

Wm. H. Caulfield Jr.

Edward C. Dustin

INVENTORS:

Otto Brandt
and
Friedrich Hoffmann.
BY Fred'k C. Draentzel, ATT'Y.

(No Model.) 3 Sheets—Sheet 2.

O. BRANDT & F. HOFFMANN.

SIRUP STRAINER.

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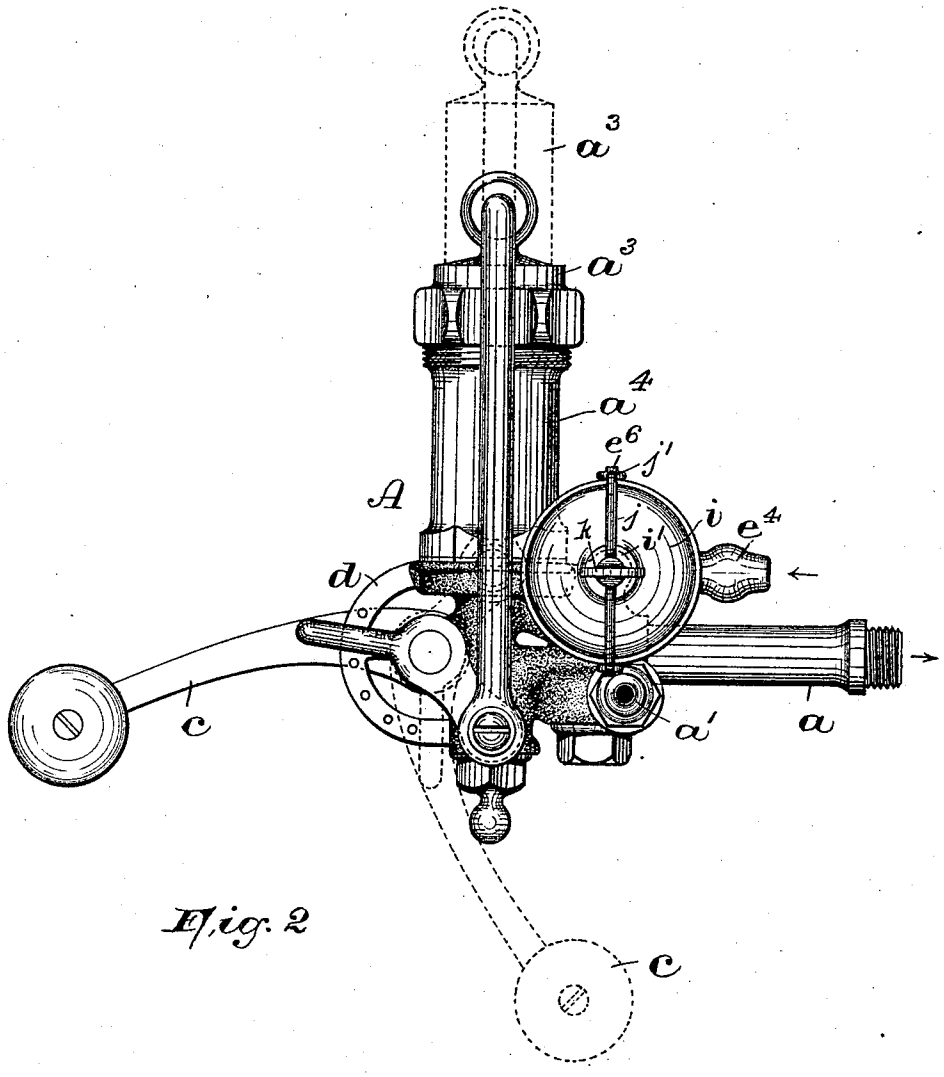

Fig. 2

WITNESSES:

Wm. H. Canfield, Jr.

Edward F. Duffy

INVENTORS:

Otto Brandt,
and
Friedrich Hoffmann,
BY Fred'k C. Graentzel, ATT'Y.

(No Model.) 3 Sheets—Sheet 3.

O. BRANDT & F. HOFFMANN.

SIRUP STRAINER.

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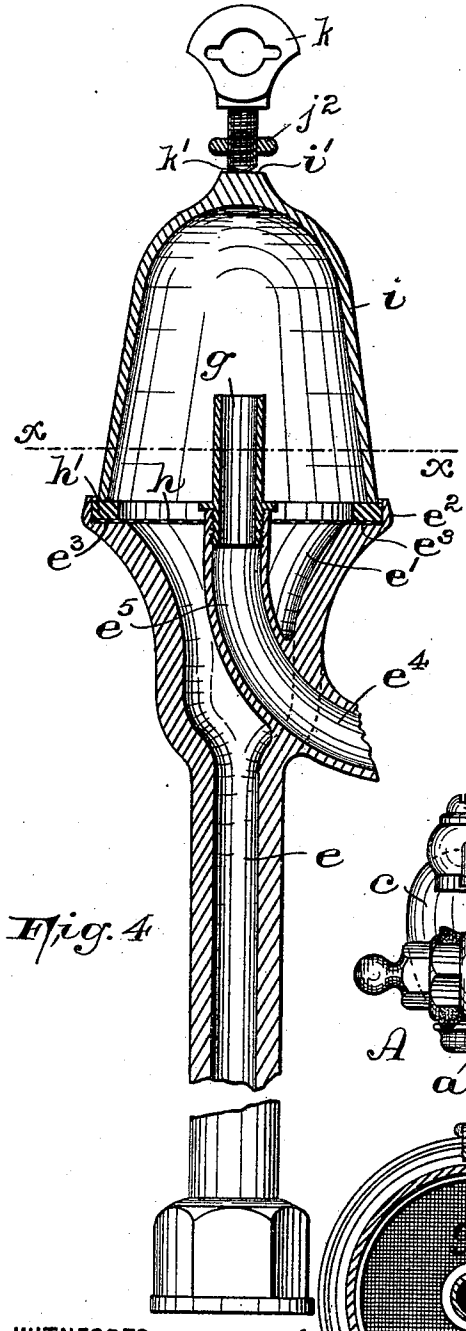

Fig. 4

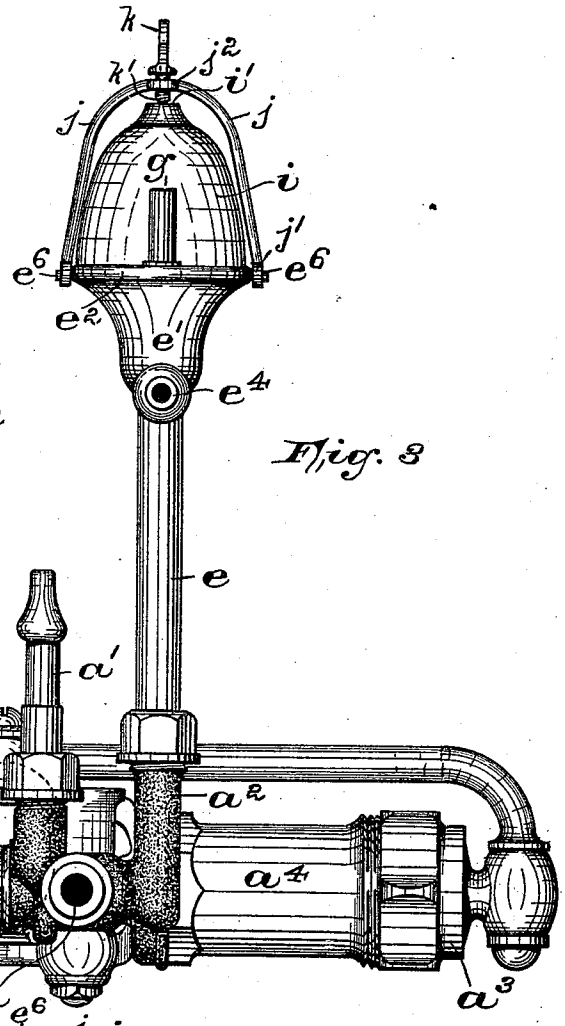

Fig. 3

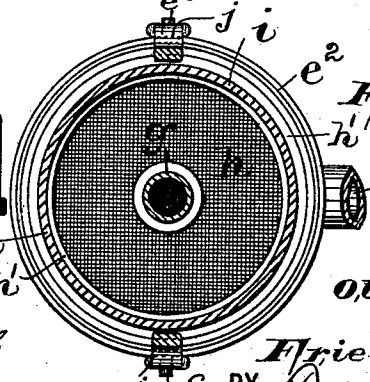

Fig. 5

WITNESSES:

William H. Campfield Jr.

Edward F. Mueller

INVENTORS:

Otto Brandt,
and
Friedrich Hoffmann.

BY Frederick C. Fraentzel, ATT'Y.

UNITED STATES PATENT OFFICE.

OTTO BRANDT AND FRIEDRICH HOFFMANN, OF NEWARK, NEW JERSEY.

SIRUP-STRAINER.

SPECIFICATION forming part of Letters Patent No. 470,315, dated March 8, 1892.

Application filed October 24, 1891. Serial No. 409,677. (No model.)

To all whom it may concern:

Be it known that we, OTTO BRANDT and FRIEDRICH HOFFMANN, citizens of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Sirup-Strainers; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to certain improvements in a device for successively supplying a bottle first with a measured quantity of one kind of liquid and subsequently with another kind of liquid, described and illustrated in Patent No. 201,593, granted March 26, 1878, for an improvement in sirup-gages.

Our improvement, which is applicable to such sirup-gage or to any other construction of force-pump constructed with valves for successively filling a bottle with a liquid, such as soda, and then with a sirup for flavoring the same, consists, essentially, of a tube attached to such pump, into which the sirup is forced into a reservoir on said tube, where it is strained and subsequently passes down into the force-pump or sirup-gage to be delivered into the bottle containing the soda or other liquid.

The primary object of the invention herein specified is to provide a device for straining the sirup and preventing flies or other small insects which are attracted by the sweetness of the sirup from passing down into the force-pump, closing the valve-passages therein, and thereby preventing the sirup from entering the bottle containing the soda-water.

The form of construction selected to embody the invention in an operative device is illustrated in the accompanying sheets of drawings, which show, in connection with the old features illustrated in the patent hereinbefore referred to, the novel features of our invention, said common portions of the several devices being included in the drawings to more clearly indicate the relation of the novel portions thereto.

In said drawings, Figure 1 is a front view of a combined sirup gage and pump, showing the arrangement of our sirup-strainer used in connection therewith. Fig. 2 is a plan view of the same, the plunger of the force-pump and its handle for operating the same being indicated in two different positions. Fig. 3 is a side view of the force-pump provided with our improved strainer. Fig. 4 is an enlarged vertical section of the sirup-strainer embodying our invention; and Fig. 5 is a horizontal section through the reservoir, taken on line x, Fig. 4, clearly showing the arrangement of the sirup-straining sieve.

Similar letters of reference are employed to indicate corresponding parts in each of the above-described views.

The construction and operation of the sirup-gage or force-pump which is described in the patent hereinbefore mentioned will be herein briefly described in order that a more complete understanding may be had of the relation of our improvement thereto and a clear line of separation drawn between what is old and what is new in the devices illustrated in the drawings. In said illustrated mechanism the old portions thereof, and to the construction of which we lay no claim, is the force-pump A, so constructed and combined with valves that by its movement it successively supplies the bottle, first, with a measured quantity of one kind of liquid, and, secondly, with a measured quantity of the sirup.

The method of operation of the force-pump is as follows: After connecting the device by means of the tube a to a bottle-filling machine of any suitable construction the one liquid—as, for instance, soda-water—is forced from a reservoir through a tube b into the pipe a', while the sirup or second liquid is allowed to enter into the pump by means of the inlet-pipe a^2. After having thus made the proper connections with the liquids and the vessel to be filled the lever c is pushed forward to the position indicated by dotted lines in Fig. 2, thereby forcing out the plunger or piston a^3 and causing a vacuum in the cylinder a^4. The pressure of the atmosphere on the liquid connected with the pipe a^2 forces the sirup liquid in front of the piston a^3 in the cylinder a^4. Now as the handle is

forced from the dotted position (indicated in Fig. 2) to its second position (shown in said figure) the liquid from the pipe a', which is under pressure, forces its way into the pump and soon mixes with the first liquid and is forced through the pipe a into the bottle-filling machine.

The pump or sirup-gage A may be provided with a regulator d to determine the stroke of the piston a^3, whereby any desired quantity of sirup liquid may be added.

The sirup-strainer, which forms the novel feature of our invention, consists, essentially, of a tube e, adapted to be secured to the inlet-pipe a^2 on the force-pump or sirup-gage. Said tube e is provided at its upper end with an enlarged or chambered portion e', surrounded by a rim or flange e^2 and provided with an annular shoulder e^3. Projecting from one side of said chamber e' is a pipe e^4, to which can be attached a piece of tubing f, connected with the reservoir containing the sirup. Said tube e^4 extends into said chambered portion e' and terminates into an upwardly-projecting pipe e^5, to which may be secured or attached in any well-known manner a tubular mouth-piece g.

Upon the annular shoulder e^3 of the enlarged portion of the pipe e is placed a piece of wire-netting or other suitable strainer h. Upon this strainer and upon the shoulder e^3 has been arranged an annular or rubber washer h', and upon this is placed a bell-shaped reservoir i, made of glass, through which the admission of the sirup from the pipe g can be seen at all times. Said reservoir i is provided on the top thereof with a flat portion i', and the annular rim or flange e^2 is provided with two oppositely-placed pins e^6, as will be evident from Fig. 3. A yoke provided at its free ends with eyes j' is pivotally secured to said pins e^6, and passing through a perforated boss j^2 in said yoke is a thumb-screw k, the lower end k' of which can be made to screw down upon the flat portion i' of the globe or reservoir i and the latter thereby firmly forced down upon the washer h', whereby an air-tight chamber is the result between the chambered portion e' of the tube e and the inner portion of the bell-shaped globe i. This device, as has been stated, is secured or attached to the pipe a^2 on the force-pump or sirup-gage, and, instead of attaching the tubing f coming from the sirup-reservoir directly to the inlet-pipe a^2 on the pump, said tubing is attached to the pipe e^4 on the straining device, as will be clearly evident from Fig. 1. Now when the handle c has been pulled forward to the position indicated in dotted lines in Fig. 2, the sirup will enter through the tube e^4, tube e^5, and the mouth-piece g into the bell-shaped reservoir i above the strainer h, through which the sirup passes into the chambered portion e', down the pipe e into the pipe a^2 on the force-pump, where it mixes with the other liquid, such as soda-water, and is forced from the pump through the pipe to the machine for filling the bottles.

It very often happens that foreign matter will get into the sirup-tank, such as flies or other insects, and which pass down with the liquid into the valves of the pump and perhaps into the bottles to be filled, very often clogging up the valves of the pump or the passages for the sirup, and there is no remedy except to take the several parts of the pump apart and clean them. By our improvement, however, should any foreign matter pass through the pipe e^4 into the reservoir i, the same will be retained upon the strainer h, and the clear liquid or sirup passes down the pipe through the tube e into the pump. Furthermore, the bell-shaped globe i, being made of glass, enables the operator of the machine to see when the flow of sirup becomes exhausted. In the machines as heretofore made there was no means by which the workman was enabled to know whether the flow of sirup had become exhausted or not, and it would very often happen in the manufacture of soda-waters that the bottle would be filled with the one liquid and not with the sirup or other flavoring extracts employed. The reservoir i can be removed and the sieve or other strainer taken out and cleaned when necessary.

Having thus described our invention, what we claim is—

1. The combination, with a sirup or force pump adapted to be attached to a bottle-filling machine provided with an inlet-pipe a^2, of a sirup-strainer adapted to be attached to said pipe, consisting, essentially, of a tube e, provided with a strainer, a globe or reservoir secured above said strainer, and an inlet-pipe formed integral with one side of the tube e and extending up and terminating centrally in the chamber on said tube e, substantially as and for the purposes set forth.

2. The herein-described sirup-strainer for use on a force-pump employed in connection with a bottle-filling machine, consisting, essentially, of a tube e, terminating at the top in an enlarged chambered portion e', a pipe e^4, communicating with said chambered portion and extending up into the same and provided with mouth-piece g, said chambered portion e' being provided with an annular rim or flange forming a shoulder e^3, a strainer arranged on said shoulder, a washer on said strainer, a transparent bell-shaped globe on said washer, and means for tightening said globe down on said shoulder e^3, substantially as and for the purposes set forth.

3. The herein-described sirup-strainer for use on a force-pump employed in connection with a bottle-filling machine, consisting, essentially, of a tube e, terminating in the top in an enlarged portion e', a pipe e^4, communicating with said chambered portion and extending up into the same, said portion e' being provided with an annular rim or flange

forming a shoulder e^3, a strainer on said shoulder, a globe or reservoir on said strainer, pins e^6 on opposite sides of said shoulder, a yoke pivoted on said pins e^6, provided with a perforated boss, and a thumb-screw k, adapted to be secured down upon the flat upper portion of said reservoir or globe, substantially as and for the purposes set forth.

In testimony that we claim the invention set forth above we have hereunto set our hands this 21st day of October, 1891.

OTTO BRANDT.
FRIEDRICH HOFFMANN.

Witnesses:
FREDK. C. FRAENTZEL,
WM. H. CAMFIELD, Jr.