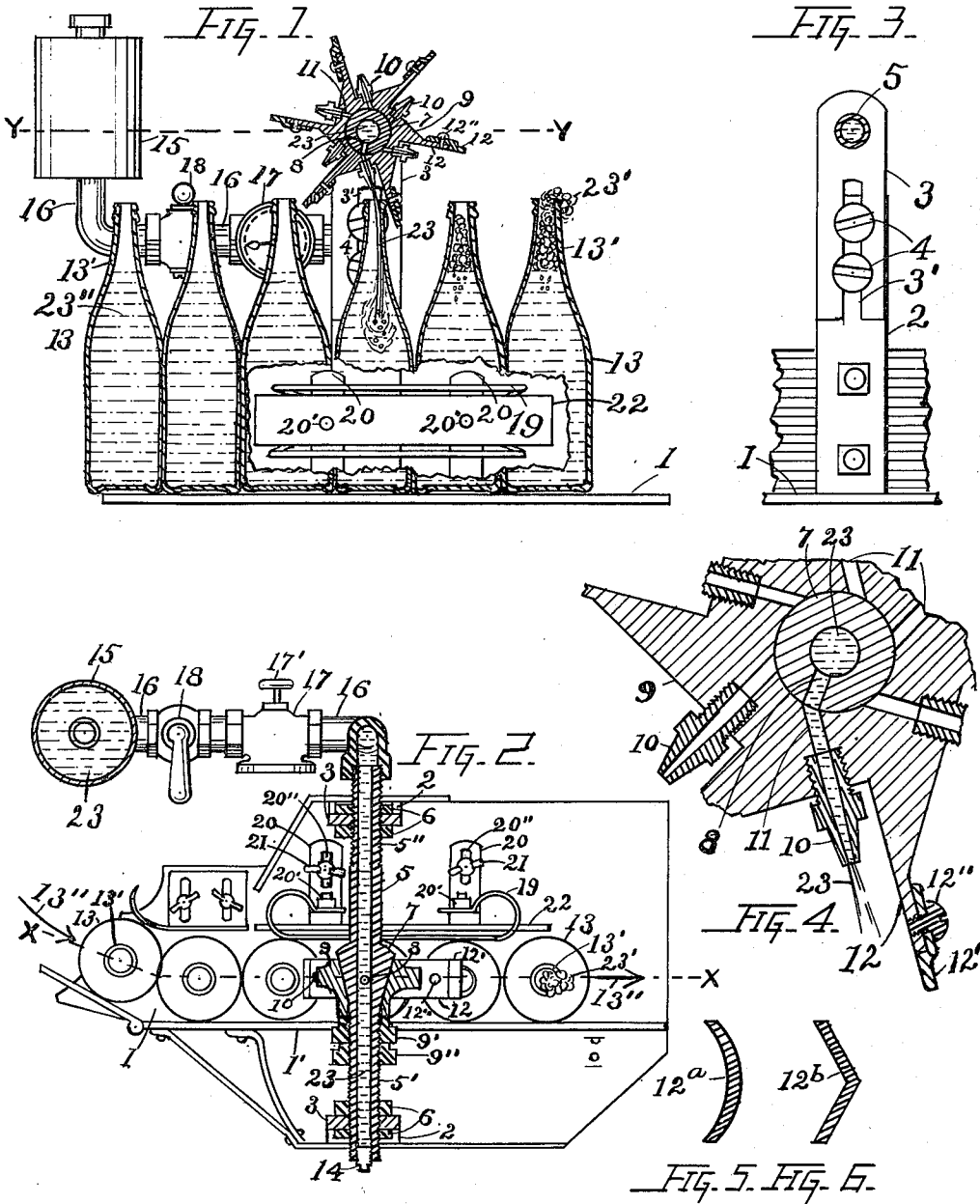


A. N. KETTERER.
JETTING ATTACHMENT FOR BOTTLE FILLERS.
APPLICATION FILED AUG. 23, 1910.

981,768.

Patented Jan. 17, 1911.



WITNESSES:

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JETTING ATTACHMENT FOR BOTTLE-FILLERS.

981,768.

Specification of Letters Patent. Patented Jan. 17, 1911.

Application filed August 23, 1910. Serial No. 578,536.

To all whom it may concern:

Be it known that I, ALVIN N. KETTERER, a citizen of the United States of America, residing at St. Joseph, in the county of Buchanan and State of Missouri, have invented certain new and useful Improvements in Jetting Attachments for Bottle-Fillers, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in jetting attachments which are designed to control and direct jets of beer into bottles, one at a time in succession; the objects of which are to provide an attachment of this class, which can readily be attached to the discharge chute of beer bottle fillers now generally in use, be easily and quickly adjusted to fit bottles of various widths and heights, and by the use of which, jets of beer, adjustable as to quantity are automatically controlled and directed into bottles of beer, one at a time, in succession as the same are discharged through said chute; thereby agitating the beer in said bottles, which causes a gaseous foam to rise and fill the necks of said bottles, thereby ejecting the air therefrom, thus removing the element which causes deterioration of bottled beer.

Further objects are to so construct a jetting device that the same shall be extremely simple, substantial and durable, and not liable to get out of order, be extremely cheap in cost of manufacture, and require but little attention or care.

I attain these objects by the mechanism illustrated in the accompanying drawing in which:—

Figure 1 is a vertical section, on the line X X, seen in Fig. 2, looking toward the parts shown in the upper portion of said Fig. 2. Fig. 2 is a horizontal section, on the line Y Y, seen in Fig. 1, looking downward. Fig. 3 is a front elevation of one of the tube supports, in detail. Fig. 4 is an enlarged section, similar to Fig. 1, of a portion of the jetting means. Figs. 5 and 6 are transverse sections of two of the other various forms in which the spokes may be made.

Referring to Figs. 1 and 2, to the ordinary discharge chute 1 (provided with bottle guide 1' secured thereto,) of a bottle filler not shown, is secured the supports 2, to each

of which a member 3, provided with a slot 3', is adjustably secured by screws 4 for adjusting the height of tube 5, above chute 1. The end portions of said tube, screw threaded at 5' and 5'', are passed through annular apertures through the upper portions of members 3 and are longitudinally adjusted and secured therein by nuts 6. Tube 5 has tapered jet stem 7, (provided with port 8,) formed therewith, on which is rotatably mounted the jet body 9, adapted to fit on said tapered stem and in which is secured a plurality of jet nozzles 10, communicatively connected with ports 11, formed through said body. Body 9 has a corresponding plurality of spokes 12, suitably spaced to adapt the same to be operated by bottles 13 of a given width. Each of said spokes is provided with an extension 12', detachably secured thereon by a screw 12'', for extending the length of said spoke and thereby forming wider spaces between the outer end portions thereof, for admission of wider bottles therein. Said extensions may be formed of any length required by the width of said wider bottles, or may be made in sets, each set of a certain length for adapting the spaces between the spokes extended thereby to receive bottles of various widths.

Nut 9' is screwed on the screw threaded portion 5' of tube 5, against jet body 9 for longitudinally moving the same on stem 7 and thereby adjusting said body to any desired pressure against said stem, and from time to time for readjustment of said pressure when said body becomes loose on said stem from wear. Lock nut 9'' is screwed in the same manner against said nut, for securing said parts in said adjustment.

Tube 7 is closed at one of its ends by removable plug 14, while the other end of said tube is communicatively connected with beer tank 15 by pipe 16, which is provided with an ordinary pressure regulating valve 17 and shut-off cock 18.

Bottles 13 are pressed against bottle guide 1' by elastic bottle guide 19, secured to guide supports 20, by bolts and nuts 20'. Said supports have slots 20'' formed there-through, through which thumb screws 21 are passed and screwed into chute 1, for adjustably securing said supports on said chute. Bottle guide plate 22 is also secured to guide supports 20 by bolts and nuts 20'. If bottles

13 are of slightly varying widths, as shown, the elastic guides 19 are used, and where said bottles are uniformly of one width said elastic guide may be removed and the use of same be dispensed with; said bottles being guided between bottle guide 1' and guide plate 22.

In operation beer 23 is placed under pressure in tank 15, bottles 13 are moved in the direction indicated by arrow 13'' through bottle discharge chute 1, by the previously mentioned bottle filler, which forms no part of this invention and of which only chute 1 and bottle guide 1' are shown. The necks 13' of said bottles are thereby moved in succession into contact with and in succession move spokes 12, thereby rotating jet body 7. As each one of said bottles is thus moved, a port 11 is thereby rotated into register with and past port 8. During the said passage of port 11 a jet of beer 23 is forced from tank 15 through pipe 16, cock 18 and pressure regulating valve 17 into tube 5, and therefrom through port 8, a port 11 and a jet nozzle 10, into and through bottle neck 13' into bottle 13, as seen in Fig. 1. Said jet of beer agitates the beer 23'' in bottle 13, previously placed there by the previously mentioned bottle filler, and by said agitation of said beer causes a gaseous foam 23' to rise therefrom and fill said bottle neck to overflowing, which ejects all the atmosphere therefrom. While said neck is thus full of gaseous foam, the same is crowned or otherwise hermetically closed, in any usual manner. Since bottles 13 are moved as described, at one regular speed, the amount of beer which is jetted into each bottle is easily regulated by rotating the regulating wheel 17' of pressure regulating valve 17, thus regulating the pressure at which said beer is jetted.

Since valve 17 may be any one of the well known pressure reducing and regulating valves, now generally in use, the same being simply used as a combination with the described jetting attachment is therefore neither shown nor described in detail.

When the described jetting attachment is not in use shut-off-cock 18 is closed. Said cock may be any one of the well known types, used for opening and closing communicating and conducting means.

While I have shown and described spokes 12 in the foregoing manner as being flat faced, it is evident that the same could be made of various forms without departing from the spirit of my invention. Two of such various forms are shown, in Figs. 5 and 6, one with a concaved surface 12^a, seen in Fig. 5 and one with a V shaped surface at 12^b in Fig. 6, for causing necks 13' of bottles 13, to be self centering as to the centers of said spokes, when said necks are pressed against the same, and I reserve the right to

so form said spokes or to otherwise change the shape of same as to adapt them to be moved by variously shaped bottle necks.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. A tube, provided with supporting means therefor, and adapted to have beer conducting means connected therewith; a tapered jet stem formed with said tube, said stem having a stem port formed through one side thereof; a jet body, rotatably mounted on said stem and adapted to fit the tapered shape of same, said body being provided with a plurality of body ports formed therein, said ports being adapted to be rotated into register with and past said stem port; a plurality of jet nozzles, communicatively connected with said body ports, one port to each one of said nozzles respectively; a plurality of spokes radiating from said body, said spokes corresponding in number with the number of said nozzles; adjusting means on said tube for adjusting the pressure of said body against said stem, and securing means on said tube for securing said adjusting means in said adjustment.

2. The combination with the discharge chute of a beer bottle filler of a bottle guide secured thereto; elastic bottle guides adapted to press bottles against said guide and allow said bottles to be moved along said chute between said elastic guides and said guide; guide supports for supporting said elastic guides; adjustable support securing means, whereby said supports and the elastic guides supported thereby are adjusted at varying distances from said guide, and are secured on said chute, and jetting means supported above said chute over the space between said bottle guides, adapted to direct a jet of beer into each one of said bottles as the same passes beneath said jetting means.

3. A tube having one of its ends closed and having a tapered jet stem formed on the central portion thereof, said stem having a stem port formed through one side thereof; a jet body rotatably mounted on said stem and adapted to fit the tapered shape of same, said body being provided with a plurality of beer conducting and jet directing means; means whereby said jet body is rotated for rotating said plurality of beer conducting means into register with said stem port, one at a time in succession; adjusting means screwed on said tube for adjusting the pressure of said body against said jet stem and securing means on said tube for securing said adjusting means in said adjustment, a tank, adapted to hold beer under pressure; other beer conducting means, connecting said tank with the open end of said tube; pressure regulating valve in said other beer conducting means, for regulating the pres-

sure of said beer as the same is admitted into said tube, and thereby regulating the amount of beer passed through said tube and jet directing means in a given length of time; and shut-off cock in said other beer conducting means.

4. Two tube supports each one of which is adapted to be secured to the discharge chute of a bottle filler; a supporting member for each one of said supports, each member having an annular aperture through the upper end portion thereof and a slot in its lower end and securing means through said slot, whereby said member is adjustably secured on its respective support; a tube having one end closed and both end portions thereof screw threaded and passed through the annular apertures in said members for supporting said tube; nuts at each side of said members, and screwed on said end portions of said tube for securing the same in said members; a jet stem formed on the central portion of said tube, said jet stem having a stem port formed through one side thereof; a jet body rotatably mounted and secured on said stem, said body being provided with beer conducting and jet conducting means, adapted to be moved into and out of register with said stem port; means whereby said body is rotated; a tank adapted to hold beer under pressure and beer conducting means whereby said tank and said tube are communicatively connected.

5. The combination with the discharge chute of a bottle filler of a bottle guide secured thereon; a bottle guide plate adapted to guide bottles along said chute and between said plate and said bottle guide; guide plate supporting means adjustably secured

to said chute, whereby said plate is supported; spring bottle guides detachably secured to said plate supports; jet directing and controlling means supported above said chute and adapted to control and direct jets of beer, one at a time, into said bottles, a tank adapted to hold beer under pressure and regulatable beer conducting means adapted to conduct beer from said tank into said jet directing means and regulate the pressure of said beer.

6. In a jetting attachment for bottle fillers, said filler being provided with a discharge chute therefor; a tube adapted to have beer conducting means communicatively connected therewith; supporting means whereby said tube is supported above said chute; a jet stem formed on said tube, said stem having a stem port formed through one side thereof; a jet body rotatably mounted and secured on said stem; said body having a plurality of ports formed therein and jet directing means for each of said ports connected therewith; a plurality of spokes formed with and radiating from said jet body, said spokes being adapted to be contacted and moved by the necks of bottles, one at a time in succession; extensions for said spokes whereby the length of the same is extended and securing means whereby said extensions are detachably secured on said spokes.

In testimony whereof I affix my signature in the presence of two witnesses.

ALVIN N. KETTERER.

Witnesses:

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CARRIE STUBER.