J. Matthews, Jr.,

Filling Bottles.

No. 61,627. Patented Jan. 29, 1867.

Fig: 1

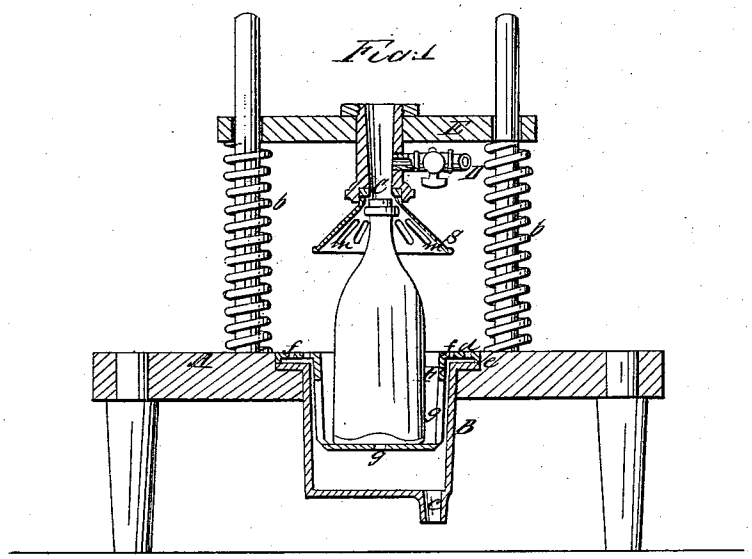


Fig: 2

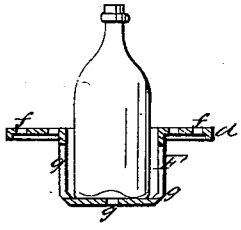
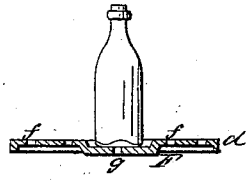


Fig: 3



Witnesses:
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JOHN MATTHEWS, JR., OF NEW YORK, N. Y.

Letters Patent No. 61,627, *dated January* 29, 1867.

IMPROVEMENT IN BOTTLING MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:.

Be it known that I, JOHN MATTHEWS, JR., of the city, county, and State of New York, have invented a certain new and useful Improvement on Bottling Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, and in which—

Figure 1 represents a vertical section of a bottling apparatus or machine, in part, with my improvement applied thereto and bottle under operation; and

Figures 2 and 3, vertical sections of my improvement as applied to bottles of different sizes.

Like letters indicate like parts throughout the several figures.

My improvement, which is more particularly adapted to bottling liquids under pressure, such as soda water and sparkling wines, has for its main object the accommodation, with greater convenience and celerity in the one machine, bottles of different sizes or heights. Heretofore it has been customary to construct bottling machines for such purpose of a size and height, between the bed on which the bottle rests and nozzle through which the liquid and cork are entered, sufficient to accommodate the largest-sized bottle, and either to employ separate machines for smaller-sized bottles, or blocks to pack up the latter till their mouths stand at a like level as did those of the larger description. This last is a clumsy and slow expedient, rendering necessary two separate screens to provide against accident in case of bursting of the bottles, and involving higher, more cumbersome and expensive machines than would otherwise be required for filling small or average-sized bottles, while to employ separate machines for different-sized bottles is both expensive and inconvenient.

The nature of my invention, in connection with such machines, consists in employing detachable wells varying in depth, and it may be diameter, to suit different-sized bottles, and constructed to fit a recess or chamber in the bed, whereby the one machine, which may be built low, serves, without the aid of packing-blocks, to accommodate different-sized bottles, and to bring their mouths to the same level, or thereabouts, under the filling nozzle, and whereby the one screen will answer for the various-sized bottles, and, in case of bursting or breakage, every facility be afforded for emptying the well of broken glass, so as to present but little or no interruption to a continuous or rapidly successive filling of the bottles. My invention also consists in a novel construction of the screen or guard.

Referring to the accompanying drawing, A represents the bed or table of the machine, provided with a recess, well, or chamber, B, of sufficient or more than sufficient depth and diameter to accommodate the usually largest-sized bottle known to the trade or in ordinary use, and so as to bring its mouth to the proper level under the filling and corking nozzle, C, which is, or may be, connected in the usual manner, by a supply pipe, D, with the reservoir containing the liquid to be bottled, and be hung in a cross-bar or frame, E, resting on springs, *b*, to adjust the nozzle to the mouth of the bottle. An escape pipe, *c*, is furnished the chamber B, for running off into a suitable vessel or reservoir any overflow of the liquid in the bottling process. F (figs. 1, 2, and 3) are detachable cups or wells of different internal depths and preferably varying diameters to suit different sizes of bottles. These cups should be made with a flange, *d*, of proper thickness and diameter to fit snugly within a countersink, *e*, in the bed, so as, when inserted, to bring said cups properly within the chamber B, and the tops of their flanges level with the table, to facilitate the sliding in of the bottles. It is also desirable that said flanges should be provided with perforations, *f*, to conduct waste or overflow into the chamber B, as well as the sides and bottoms of the cups furnished with apertures or openings, *g*, for the same purpose. In these detachable cups or wells, when in their place, the bottles are inserted, various-sized wells being used, according to the sizes of the bottles to be filled, by which means the mouths of the several sizes are brought to the same level, or thereabouts, under the filling nozzle.

Celerity being a great object in bottling, by this, my improvement, much time is saved in adapting the machine to different heights of bottles, by the facility with which the detachable cups or wells may be changed, instead of the clumsy and tedious process of packing up by blocks or otherwise, the smaller-sized bottles, to bring their mouths to the level of the larger ones. The one machine, also, instead of two or more, will suffice for most or all-sized bottles, and such machine need not be of an inconvenient height above the surface on which the machine rests, but may be built low, and comparatively cheap and light. Furthermore, a small and uniform size of screen, surrounding the bottle in its projection above the table, to protect against personal

injury in case of bursting, will answer for the largest as well as the smallest-sized bottle, while any broken glass produced by such occurrence may readily be removed, and a clear seat for the bottles re-established, by simply taking out the detachable cup or well and emptying it of the fragments, and afterwards replacing it with but little interruption or loss of time in comparison with the employment of a fixed chamber or well for the bottles to rest on, and which would require the picking out of the pieces. In case of the bottle-screen or guard being of a pendent description, attached, say to the filling nozzle C, instead of constructing it of wire, and semi-spherical shape, with the openings in or round it of a horizontal or annular character, as such guards have heretofore been constructed, I prefer to make the same in one piece, say of cast metal, and of conical form, substantially as represented at S, in fig. 1, with the openings *m* in it of a vertical character as regards their length, and without intermediate horizontal cross-bars or interruptions to catch or interfere with the neck or mouth of the bottle, the conical form of the guard also favoring its adaptability to different-sized bottles, while its construction, as described, in one piece, is preservative of its form, gives the necessary strength and protection against injury in case of a bottle bursting, and readily admits of its attachment by giving it a screw form at its junction with the filling nozzle. It may also be observed that this screen or guard, S, serves to guide or bring the mouth of the bottle under the filling nozzle, even though the bottle, by reason of the irregularity of its base, or otherwise, should not stand perpendicular, or be placed so that, without such guide, its mouth would fail to come centrally under the filling nozzle. In this respect this screen or guard, having no horizontal break or interruptions, serves automatically as a guide to direct the mouth of the bottle to its proper position under the filling nozzle.

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

1. The combination, in bottling machines, of perforated detachable cups or wells of different depths or sizes, essentially as and for the purpose or purposes herein set forth.

2. The bottle-screen or guard, made to form a guide to the mouth or neck of the bottle, by constructing it of a conical form or shape, with its guiding surfaces free from horizontal interruptions or breaks, substantially as specified.

JOHN MATTHEWS, JR.

Witnesses:

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