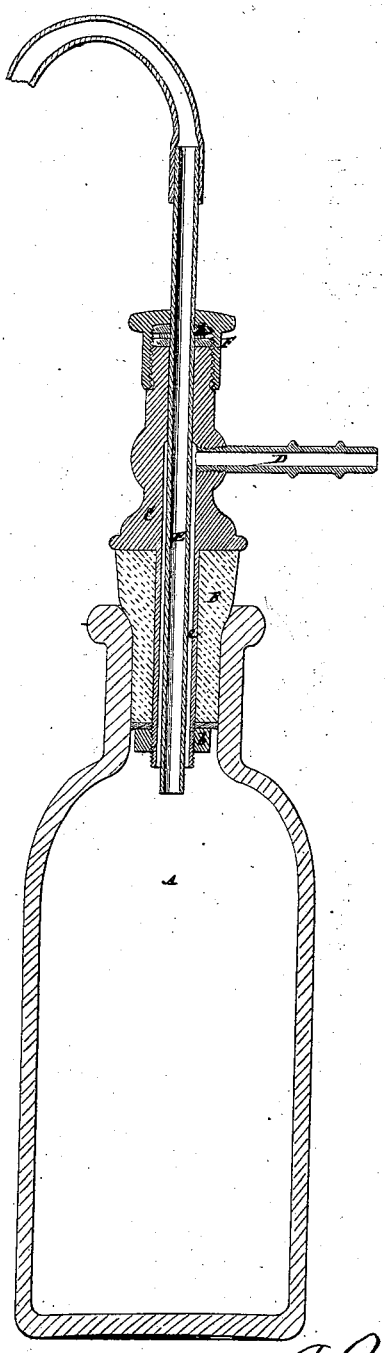
T. SIMMONS & D. H. LOWE.

BOTTLE FILLING APPARATUS.

No. 110,504. Patented Dec. 27, 1870.



Witnesses:

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THOMAS SIMMONS AND DAVID H. LOWE, OF BROOKLYN, NEW YORK.

Letters Patent No. 110,504, dated December 27, 1870; antedated December 16, 1870.

IMPROVEMENT IN BOTTLE-FILLING APPARATUS.

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

To all whom it may concern:

Be it known that we, THOMAS SIMMONS and DAVID H. LOWE, both of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Exhausters for Bottles, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing forming part of this specification, and which represents a sectional elevation of our improved bottle-exhauster as applied to a jar or bottle.

Our invention is mainly designed for chemical and pharmaceutical purposes, but it is applicable to the filling of jars or bottles with various liquids. It is chiefly intended to be used in connection with a sieve, percolating device or filter, through which the liquid is drawn by the exhauster, or rather by atmospheric pressure, as induced by suction applied to the exhauster, and which suction, that produces a vacuum within the bottle, may be effected by a pump or any other suitable device. By it a rapid and easy filtration is secured, and

The invention consists in a certain combination of pipes, and attachments connecting the same with a bottle-cork or stopper, which makes the exhauster applicable to different or ordinary jars and bottles. This will be found of great advantage in chemical or pharmaceutical experiments or operations.

Referring to the accompanying drawing—

A represents a bottle to be filled, and B a cork or stopper thereto, and which may be made capable of fitting other bottles having different-sized necks or mouths.

Mounted on said stopper, or forming part of the same, is a tubular head-piece, C, which is extended downwardly through the stopper, and secured by a washer and nut, *b*, below.

The tubular passage *c*, thus formed through the stopper B and its head-piece C, is of an enlarged capacity to or above a point in the head-piece C, where a junction is established with a branch-pipe, D; but beyond or above this the tubular passage through the head-piece C requires to be only of sufficient dimensions to receive through it an inner pipe, E, of smaller exterior dimensions than the passage *c*, and which is extended down through the latter, leaving a suction space or passage outside of it, in communication with the branch-pipe D.

The pipe E rests, by a shoulder, *d*, between washers on the top of the head-piece C, and is firmly connected with the latter by a screw-cap, F.

By the fitting or connection of the parts as described, every facility is afforded for making the same tight, and for attaching or detaching them as required. Various materials may be used out of which to form the pipes and connections exposed to the action of the liquid, accordingly as the latter possesses or is free from corroding properties.

To explain the operation of the exhauster it is only necessary to suppose the pipe D as connected with a pump or other suitable exhausting device, and the pipe E as connected with a filter or percolator, through which the liquid is required to be drawn when filling the bottle. On working the pump, a vacuum is formed in the bottle and pipe E, which hastens the operation of the filter by atmospheric pressure, or allows of filtration being effected easily and rapidly from below, and, by the exhauster being combined with the stopper of the bottle, it is made attachable or detachable in common with the stopper, which is a great convenience and advantage.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The combination of the exhauster, composed of the pipes D E, and the tube or tubular head-piece C, with the cork or stopper B, substantially as specified.

2. The combination and arrangement of the nut *b* with the tubular extension of the head-piece C, the stopper B, the pipes D and E, the collar *d*, and the screw-cap F, essentially as herein described.

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Witnesses:
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