No. 665,371.

Patented Jan. 1, 1901.

W. H. PUMPHREY.

SYRINGE.

(Application filed May 23, 1900.)

(No Model.)

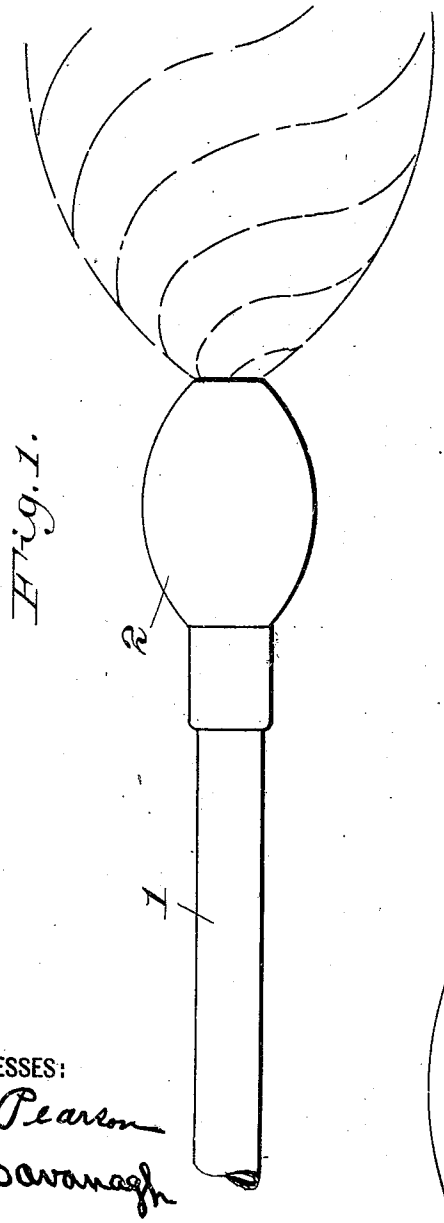


Fig. 1.

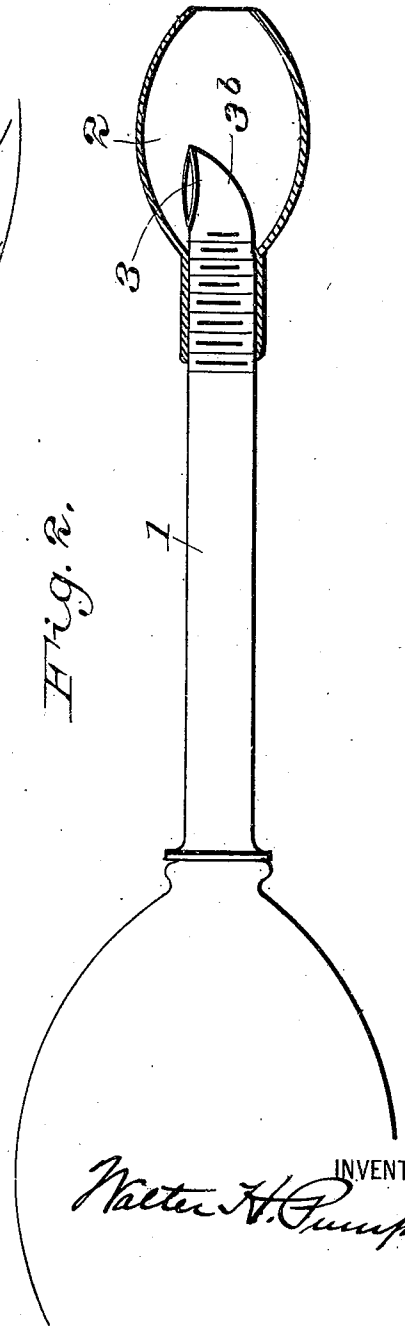


Fig. 2.

WITNESSES:

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SYRINGE.

SPECIFICATION forming part of Letters Patent No. 665,371, dated January 1, 1901.

Application filed May 23, 1900. Serial No. 17,772. (No model.)

To all whom it may concern.

Be it known that I, WALTER H. PUMPHREY, a citizen of the United States of America, and a resident of New York city, county of New York, State of New York, have invented certain new and useful Improvements in Syringes, of which the following is a specification.

My invention relates to improvements in syringes, and particularly to the class in which the liquid is discharged in the form of whirling spray.

Considerable difficulty has heretofore been experienced in the use of syringes, owing to the inconvenience and great amount of time required in thoroughly cleansing the same. The use of metal parts is objectionable, as they frequently present sharp edges, which are liable to inflict injury when the syringe is in use, and also by reason of the impossibility of preventing corrosion of such metal parts, and, finally, it is found objectionable to obstruct the syringe-pipe with so-called "spraying" devices, which prevent the entrance of the liquid when the syringe is being filled, &c.

It is the object of my invention to avoid the objectionable features above set forth in the production of a syringe in which all metallic parts are dispensed with and which is accessible at every point to permit the same to be thoroughly cleansed in a ready and convenient manner.

The novelty of the invention lies, mainly, in utilizing the outer end of the syringe-pipe and causing it to coact with the bore of a terminal sleeve in the production of a whirling-spray discharge.

The invention consists, essentially, of a syringe having a sleeve secured upon and projecting beyond the outer end of the tube or pipe thereof, such pipe having its outlet arranged in a manner to direct the liquid against the inner wall of the sleeve at an angle to the axis thereof.

One embodiment of the invention is illustrated in the accompanying sheet of drawings, throughout both views of which like numerals indicate like parts, and in which—

Figure 1 is a view in elevation of the discharge end of the syringe, the form of spray being indicated by dotted lines; and Fig. 2 is a view in sectional elevation of the syringe.

Referring to the drawings, 1 represents a syringe of any suitable type. The tube or pipe thereof may be straight or curved, flexible or rigid, and either tapered or of the same diameter throughout its length.

2 represents the tubular section, hereinafter termed the "sleeve," which is suitably secured at the outer end upon the tube as an extension thereof. The sleeve may be of uniform or varying diameter, its function being to provide a curved surface or wall against which the jet or jets of liquid flatten and spread when discharged from the syringe-tube and are caused to travel spirally therethrough.

3 represents the outlet of the syringe-tube, which may be formed by turning up the end of the tube, as indicated by 3^b. The liquid in passing through the same will be directed angularly—that is to say, at an angle to the axis of the tube and against the inner wall or cylindrical bore of the sleeve. By reason of the sudden deflection from a straight-away course the liquid will be given a whirl and pass spirally through the cylindrical sleeve-section. Being thus acted on centrifugally, the liquid is converted into a whirling spray, which in its discharge assumes a globular form.

Having therefore described my invention, I claim—

1. In a syringe, the combination of a jet-tube having its outer end turned laterally at an angle to the main portion thereof and provided with a discharge-opening, and a detachable sleeve inclosing said turned end and discharge-opening and providing an inner curved wall against which the liquid is directed obliquely, for the purpose specified.

2. In a syringe, the combination of a jet-tube having a lateral discharge-opening at its outer end, with a sleeve detachably fitted to the end of the tube and inclosing the said lateral discharge-opening, the bore of the sleeve being greater than the external diameter of the tube to provide an intervening annular chamber and a curved wall against which the liquid is directed obliquely, said sleeve being tapered toward its outer end and provided with a central outlet-opening.

Signed at New York, N. Y., this 16th day of May, 1900.

WALTER H. PUMPHREY.

Witnesses:
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L. E. PEARSON.