

No. 661,167.

Patented Nov. 6, 1900.

H. P. COLE.
TIP FOR SYRINGES.

(Application filed Dec. 5, 1899.)

(No Model.)

Fig. 1.

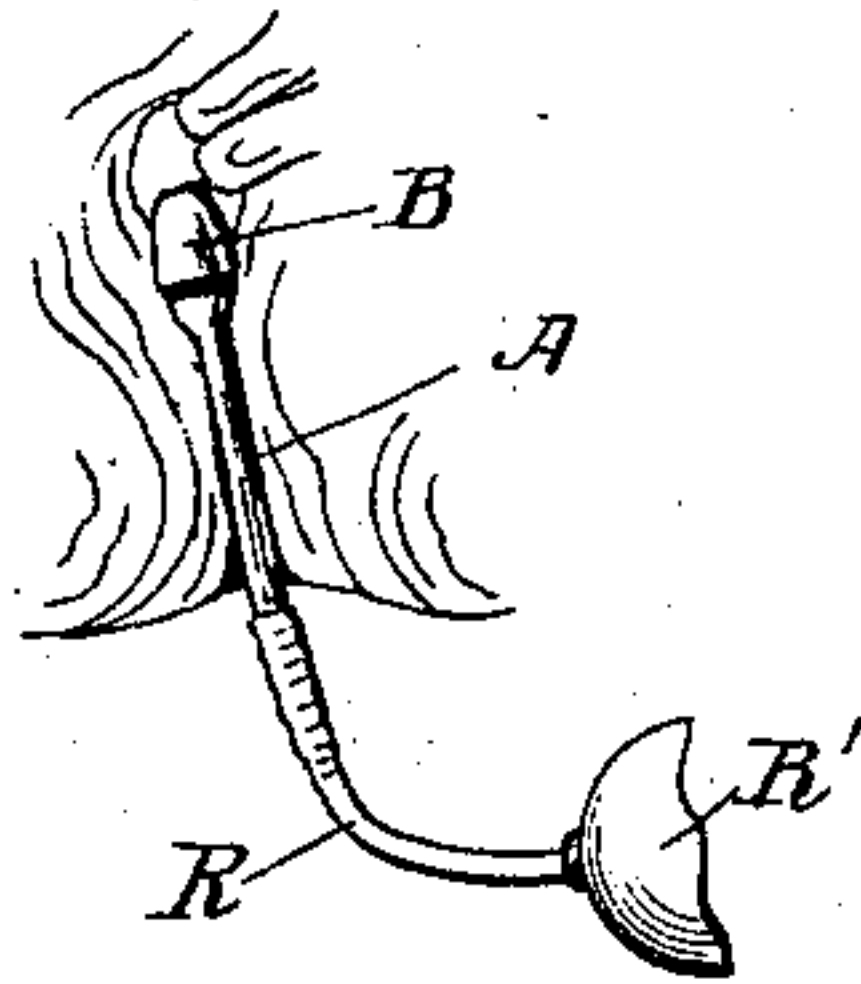


Fig. 2.

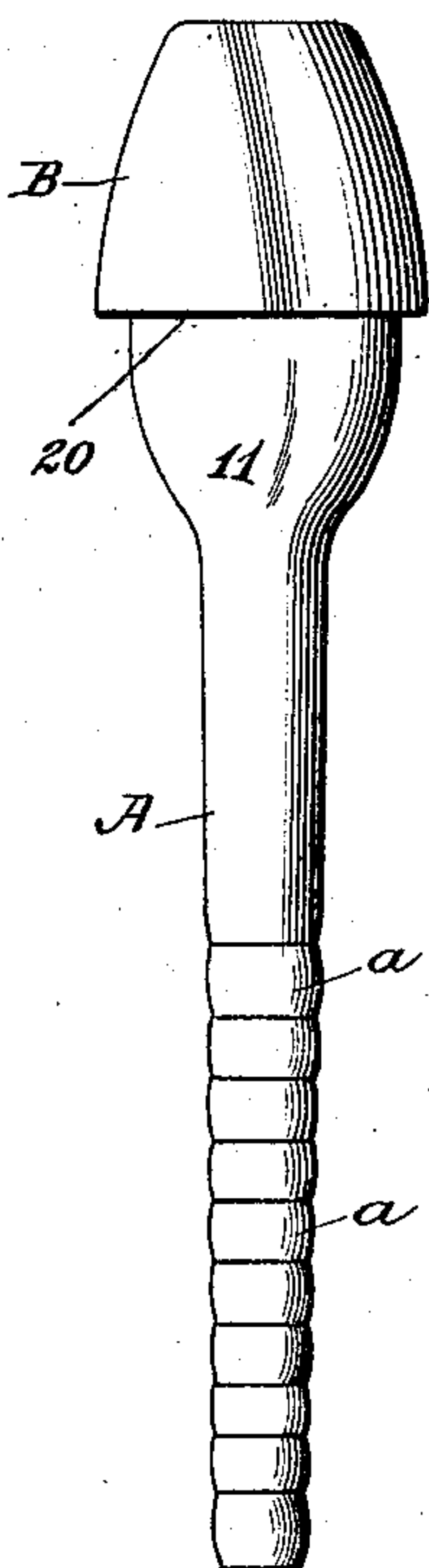


Fig. 3.

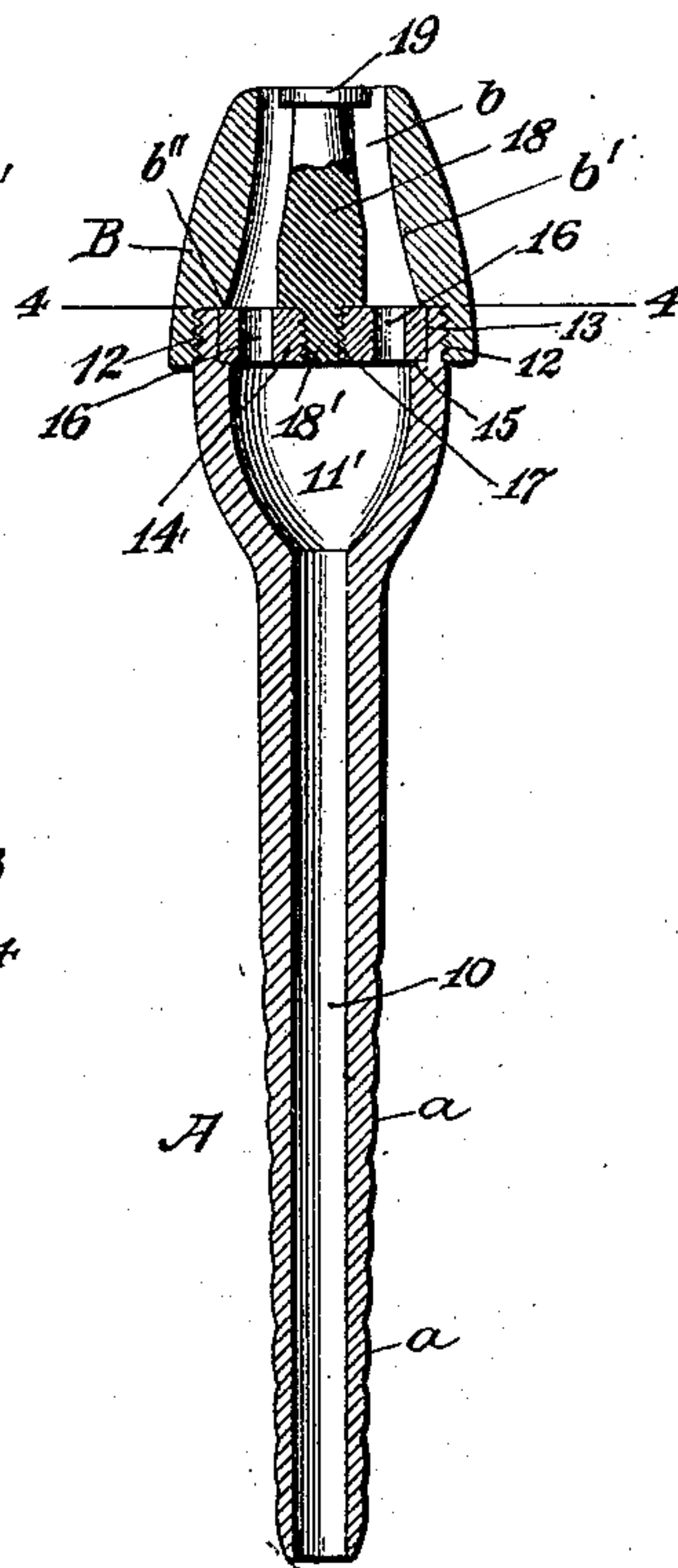
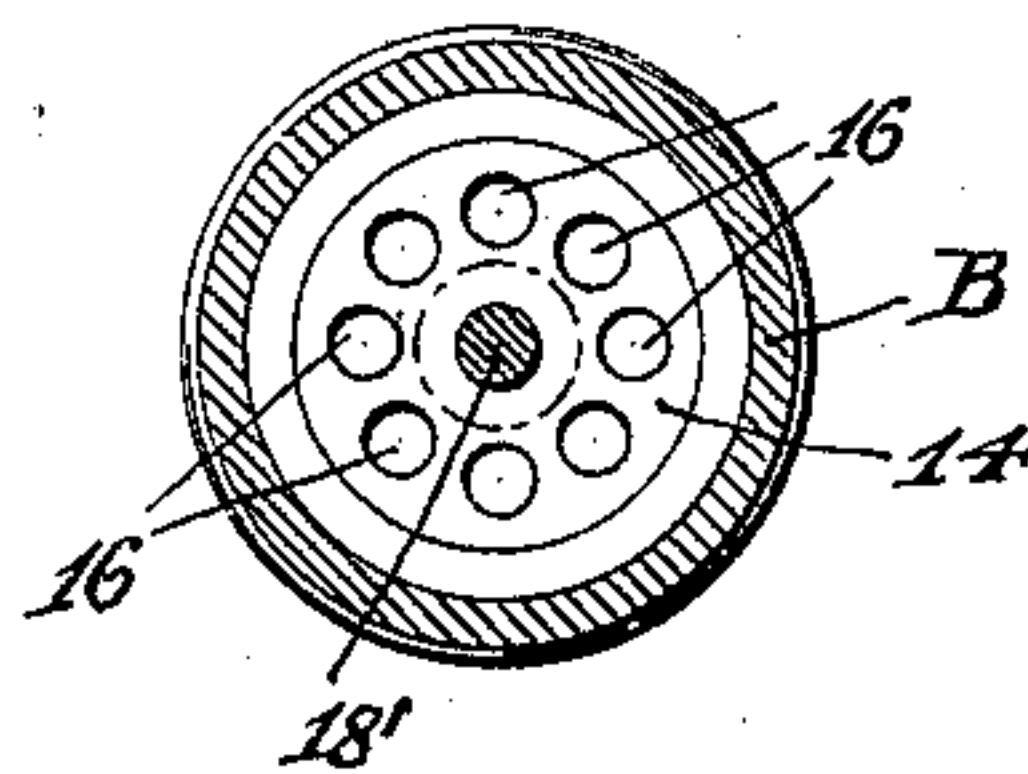


Fig. 4.



Witnesses:

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By his Attorney
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UNITED STATES PATENT OFFICE.

HARLAN P. COLE, OF HARTFORD, CONNECTICUT.

TIP FOR SYRINGES.

SPECIFICATION forming part of Letters Patent No. 661,167, dated November 6, 1900.

Application filed December 5, 1899. Serial No. 739,231. (No model.)

To all whom it may concern:

Be it known that I, HARLAN P. COLE, a citizen of the United States of America, and a resident of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Tips for Syringes, of which the following is a specification.

My invention relates to syringes and especially to the tips thereof. Heretofore in all devices of which I am aware the tips of these instruments have not been so formed that they can be readily retained in the passages in which they are inserted, and consequently much trouble has arisen in causing them to be maintained in the position required where the medicated or other fluid contained in the bulb of the syringe or elsewhere may be applied with the desired effect. These defects in the old forms of syringe-tips are particularly vexatious when it is desired to retain them, for instance, in the rectal or vaginal passages of the human body, and my invention is particularly designed to overcome these defects and to so form the tip of the syringe that when inserted into the desired passage it will dilate the walls thereof, which walls will then immediately contract and will retain as long as is desired the tip of the syringe in place at the required point. With this end in view I form the usual conical end of the syringe-tip with a shoulder or projection and gradually contract the end of the stem where it joins said tip with an easy curve until it meets the stem proper. While I have shown for purposes of illustration the tip proper of the syringe as secured to the stem thereof by a thread or other removable connection, yet it is to be distinctly understood that the invention is not limited thereto and includes within its purview any and all forms of syringe-tips for the purpose stated which are provided with a flange, projection, or other protuberance for the purpose of accomplishing the result stated, and, as is obvious, the invention is not limited to a tip made in sections, for it could readily be adapted to and employed with an integral tip.

Further details of my invention will be set forth in the following description, reference being had to the accompanying drawings, in which—

Figure 1 represents my invention in place within one of the passages of the human body. Fig. 2 is a side elevation of a syringe-tip embodying my invention. Fig. 3 is a longitudinal vertical section of my invention, and Fig. 4 is a cross-section thereof on the line 4 4 of Fig. 3.

Like characters of reference indicate like parts throughout the several views.

The syringe-tip is designated in a general way by B, and the stem thereof by A, said stem being provided with the usual corrugations or other projections *a*, over which the tube *R* of a syringe-bulb or other receptacle *R'* is slipped and retained in the usual manner. This tip B is shown as a tubular member having curved inner walls *b*, a shoulder *b''* for fitting upon the stem A, and a rabbeted portion or circular depending lip 12, shown as internally threaded to engage with an exterior thread on the periphery of the bulged or rounded portion 11, at the upper end of the stem A. As will be observed, this construction results in the formation of a shoulder 20, shown as extending entirely around the bulged portion 11 of the stem, which shoulder when the tip is inserted into the passage of the body as shown in Fig. 1 will subserve the purpose above stated. In this connection it may be stated that my invention is not limited to the continuous shoulder shown, for said shoulder may be interrupted, if desired, and yet accomplish the result sought to be obtained.

Located in a rabbeted portion 15 in the bulged part 11 of the stem of the tip is a perforated disk or plate 14, having a series of holes 16, said plate being held in place by the shoulder *b''* of the tip B. Rising from this perforated plate 14 is a short stem or rod 18, having a deflector 19 at its free end. This device 18 is shown as having a threaded stud 18', which is inserted in an opening 17, having threaded walls, in plate 14; but the connection of the device 18 to the plate 14 may be integral, if desired.

In operation my improved tip is first attached to the syringe-bulb or other receptacle in the usual manner and is then inserted within the passage of the body, as shown in Fig. 1. As will appear from said figure, when the tip is inserted the conical end thereof will

dilate or enlarge the walls of said passage, which will then contract over the bulging portion 11 of the stem and behind the shoulder or other projection 20 and will thus serve to seat and retain the tip in place until the desired medicament or cleansing fluid has been applied to the part requiring treatment. This fluid as it leaves the syringe-bulb or other receptacle will pass along the channel 10 of stem A, will enter the flaring chamber in the bulbous portion 11 of the stem, will pass through the perforations 16 in the disk or plate 14, and from thence through the passage *b* of the tip B to the deflector 19, by which it is spread into a fan-like sheet and is thus applied to the part requiring treatment.

Having thus described my invention, what I claim is—

1. A tip for syringes having a conical end with a circumferential flange adjacent to the point where said end is united to the body portion of the tip, said flange serving to retain the tip within a passage of the human body.
2. A tip for syringes comprising a tubular stem having a chambered end portion of large diameter, and a conical tip proper having a flange located at right angles to the stem and

serving to retain the tip in a passage of the human body.

3. A stem for a syringe having an enlarged bulging portion at its upper end, and also having a tip projecting from said portion and provided with a right-angular flange, said flange serving to retain the tip in a passage of the body.

4. A stem for a syringe having an enlarged portion with exteriorly-curved walls at one end, combined with a tip removably applied to said enlarged portion and having a right-angular shoulder on its under side, and a deflector located within said tip.

5. The combination with a source of fluid-supply, of a stem having an enlarged portion at one end, a perforated plate carrying a deflector removably seated in said enlarged portion, and a tip surrounding said deflector, said tip having a shoulder, substantially as set forth.

Signed by me at Hartford, Connecticut, this 2d day of December, 1899.

HARLAN P. COLE.

Witnesses:

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