

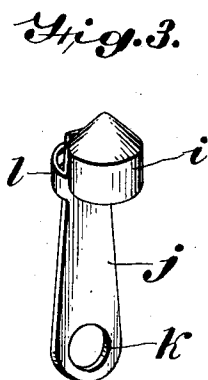
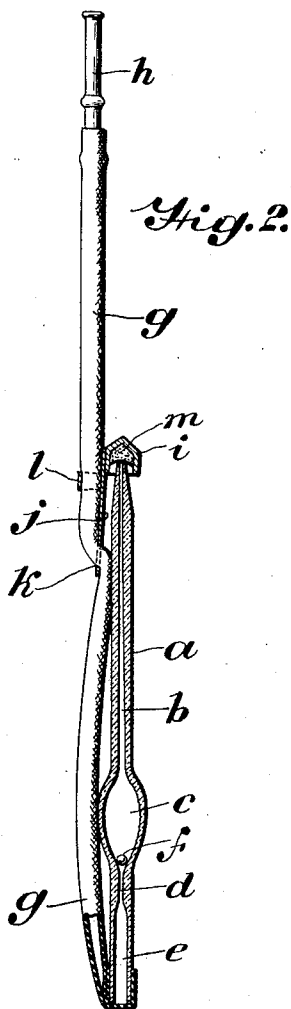
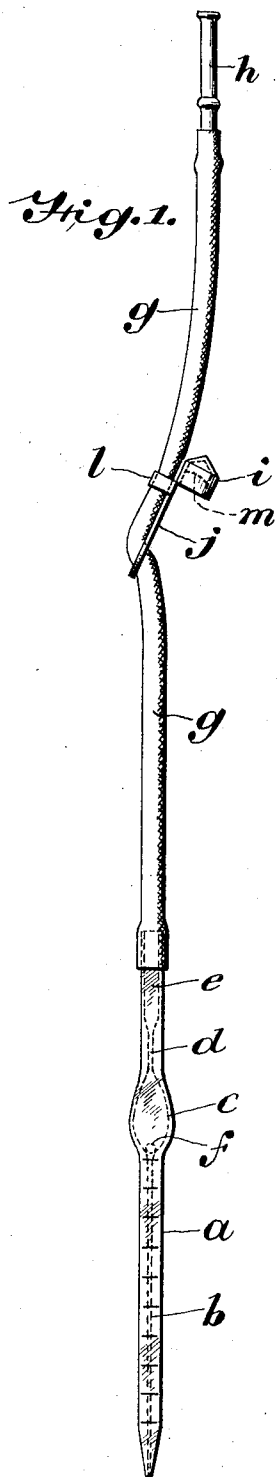
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PIPETTE

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PIPETTE.

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My invention relates to an attachment for a pipette or other similar article or apparatus.

In accordance with my invention an attachment, herein termed a cup-stopper, formed of metal or other suitable material is carried by the rubber tube forming part of the pipette and is adapted to be hooked over the end of the pipette stem.

Further, in accordance with my invention the cup-stopper is constructed in any desired manner so as to permit adjustment relative to, or ready withdrawal from, the rubber tube.

Further, in accordance with my invention tension is exerted by the rubber tube when the cup-stopper is positioned on the end of the pipette stem.

Further, in accordance with my invention the cup-stopper is provided with a wad of soft or flexible material.

My invention resides in apparatus of the character hereinafter described and claimed.

For an illustration of one of the forms my invention may take, reference is to be had to the accompanying drawing, in which:

Figure 1 is a plan view of a pipette with the cup-stopper in position on the rubber tubing.

Fig. 2 is a view, partly in section, showing the cup-stopper in engagement with the end of the pipette stem.

Fig. 3 is a perspective view of the cup-stopper.

Referring to Figs. 1 and 2 of the drawing, *a* represents the pipette stem formed of glass and having the longitudinally restricted passage *b*. The passage *b* opens into an enlarged, bulb-like opening *c* formed in any suitable manner. Communicating with the bulb *c* on its opposite side is another restricted passage *d*, opening in turn into the enlarged space *e* formed at one end of the pipette stem *a*. Within the bulb *c* is the pellet *f* having a diameter sufficiently large to prevent entry into the passages *b* or *d*.

Attached to one end of the pipette stem is the rubber tube *g* provided at its far end with the glass mouthpiece *h*.

The device described above is widely used by members of the medical profession. In operation, the pointed end of the stem is placed in engagement with a drop of blood obtained by puncturing the skin of the patient. The physician then places the mem-

ber *h* in his mouth and by suction causes the proper amount of blood to enter passage *b*. Thereafter, a suitable amount of diluting solution is likewise introduced through the passage *b*. Finally, by shaking the stem, the pellet *f* causes thorough mixing of the blood and diluting solution in the bulb *c*.

At this stage, the pipette with the specimen of blood contained therein must be transported to a laboratory having proper apparatus for counting the blood corpuscles. It becomes necessary, therefore, to temporarily close the ends of the pipette, and heretofore it has been customary to exert tension on the rubber tube, bend the same over the pointed end of the stem and tie it in position. Such an operation consumes considerable time, is injurious to the rubber tube and often the latter becomes loosened, the result being that another trip to the patient is necessitated.

My invention overcomes the difficulties that have heretofore been experienced in using devices of this character. As shown on the drawing, I provide a cup-stopper adapted for clutching or other suitable engagement with the rubber tube. This cup-stopper is formed of metal or other suitable material and comprises a cup portion *i* having a depending shank *j*. The shank is perforated as shown at *k* and is provided with a laterally extending ring-like member *l*. Preferably, the member *l* is formed integral with the shank *j*, but it is to be understood that it may be formed separately and attached to the shank in any suitable manner. Further, it is to be understood that the member *l* may be broken away on that side removed from the shank, thereby forming, in effect, two curved prongs, each extending partly around the rubber tube. Inserted in the cup portion *i* and held therein is a rubber cushion *m* or other suitable soft, flexible material such as cork. This cushion is adapted to tightly close the open end of the stem when the cup-stopper is in position thereon.

As shown in Figs. 1 and 2, the rubber tube *g* has been inserted through the perforation *k* and the ring-like member *l*. Due to the fact that the plane of the ring-like member *l* is disposed at an angle of substantially 90° to that of the shank *j*, the portion of the rubber tube adjacent and passing through the perforation *k* is forced to as-

sume and retain an angular position with respect to shank *j*, the result being that the cup-stopper is normally held in fixed position on the rubber tube. As shown in Fig.

5 1, the cup-stopper is positioned on the rubber tube a variable distance from the top of the pipette stem somewhat less than the length of the stem. After the specimen has been obtained, the rubber tube *g* is bent as is shown in Fig. 2, and then stretched so as to permit the cup portion *i* to be hooked over the pointed end of the stem. This simple operation places the device in condition for transportation to the laboratory.

15 It will be observed that once the cup-stopper is placed as shown in Fig. 2, the tension of the rubber tube will positively retain it in that position. It will also be observed that by my arrangement the pipette stem is closed at one end by the kink in the rubber tube and at the other end by the material in the cup-stopper and that both ends are closed simultaneously and by a simple operation. Further, it will be observed that with the cup-stopper in position on the end of the stem, there is an absence of lateral strain on this member.

What I claim is:

- 30 1. The combination with a pipette having a stem and a flexible tube attached thereto, of a member including a cup-stopper carried by said flexible tube at a distance from said stem substantially less than the length of the stem.
- 35 2. The combination with a pipette having a stem and a flexible tube attached thereto, of a member including a cup-stopper detachably carried by said flexible tube at a distance from said stem substantially less than the length of the stem.
- 40 3. The combination with a pipette having a stem and a flexible tube attached thereto, of a member including a cup-stopper adjustably carried by said flexible tube at a distance from said stem substantially less than the length of the stem.
- 45 4. The combination with a pipette having a stem and a flexible tube attached thereto, of a member including a cup-stopper carried by said flexible tube, and soft flexible material in said cup-stopper.
- 50 5. The combination with a pipette having a stem and a flexible tube attached thereto, of a member including a cup-stopper secured to said flexible tube, and a rubber cushion in said cup-stopper.
- 55 6. The combination with a pipette having a stem and a flexible tube attached thereto, of a member carried by said tube and including a cup-stopper adapted to be hooked over the free end of the stem.
- 60 7. The combination with a pipette having a stem and a flexible tube attached thereto, of a cup-stopper carried by said tube, said

cup-stopper comprising a perforated shank, 65 a laterally extending ring and a member forming an open chamber.

8. The combination with a pipette having a stem and a flexible tube attached to one end of the stem, of a member including a cup-stopper adapted to be hooked over the free end of the stem, said member being carried by the flexible tube at such position that appreciable tension must be exerted thereon to permit connection of the stem and cup-stopper. 75

9. A sealed pipette comprising a stem, provided with a longitudinal passage, a flexible tube connected to said stem at one end and reversely bent, and a cup-stopper attached to said flexible tube and closing the other end of said stem. 80

10. The combination with a pipette having a stem and a flexible tube attached thereto, of a cup-stopper carried by said tube and placed over the open end of said stem, the flexible tube exerting tension on the cup-stopper and holding the same in place. 85

11. The combination with a pipette having a stem and a flexible tube attached thereto, of a cup stopper carried by said tube and hooked over the open end of said stem, the flexible tube being under tension and holding the cup-stopper in place, and a rubber cushion in the cup-stopper. 90 95

12. An attachment carried by the flexible tube of a pipette comprising a cup-like element adapted to close the open end of the pipette. 100

13. An attachment carried by the flexible tube of a pipette comprising a shank having a cup-like element adapted to close the open end of the pipette. 105

14. An attachment carried by the flexible tube of a pipette comprising a shank having a laterally extending part and a cup-like element adapted to close the open end of the pipette. 110

15. An attachment carried by the flexible tube of a pipette comprising a perforated shank having a laterally extending part and a cup-like element adapted to close the open end of the pipette. 115

16. An attachment carried by the flexible tube of a pipette comprising a perforated shank provided with a cup-like element adapted to close the open end of the pipette. 120

17. An attachment carried by the flexible tube of a pipette comprising a shank having a cup-like element and soft flexible material in said cup-like element adapted to close the open end of the pipette. 125

18. An attachment carried by the flexible tube of a pipette comprising a shank having a cup-like element and a rubber cushion in said cup-like element adapted to close the open end of the pipette. 130

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