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MIXING PIPETTE

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Fig. 1.

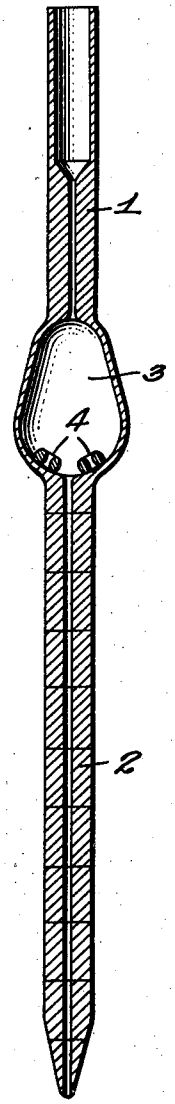
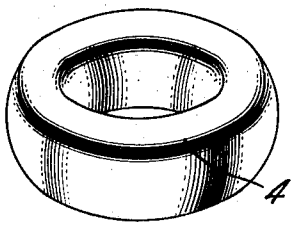


Fig. 2.



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MIXING PIPETTE

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3 Claims. (Cl. 23—292)

This invention relates to a mixing pipette such as employed particularly for blood analyses. These pipettes have an upper and a lower capillary tube with a mixing chamber, the so-called mixing ampulla, between the two. One or more movable bodies are accommodated in this chamber in known manner.

The known movable bodies are solid. Consequently, the objection arises that the movable body or if there are several, one of the movable bodies lodges in the mouth of the capillary tube of the instrument and more or less closes the same.

This objection is overcome by the invention as the passage or passages in the movable body ensure that the mouth of the tube remains open.

Consequently, according to the invention one is not confined as regards size and shape of the movable body which can be made in the most practical shape. However, the passage according to the invention produces an entirely novel effect when the instrument is shaken, for example for mixing and intermixing the liquid to be analyzed and the analyzing liquid in that the liquids to be mixed can flow back through the passage or passages of the movable body or bodies. By these novel flowing conditions and different kinds of eddy formation during the to and fro movement of the movable bodies a more intimate and more uniform mixing of the liquids takes place in the mixing ampulla. This results in a much more accurate measuring during the subsequent analyzing. Mixing pipettes of this type serve chiefly for analyzing the human blood and for ascertaining the presence of serious infectious diseases. As according to the invention the liquids no longer flow, as heretofore, exclusively around the outer surface of the shaking body or bodies but also through the passages, a more intimate and thorough mixing of the liquids is obtained.

An embodiment of the invention is illustrated by way of example in the accompanying drawing in which:—

Fig. 1 shows the mixing pipette in elevation.

Fig. 2 shows in perspective view a movable body on considerably enlarged scale.

The mixing pipette consists in known manner of an upper capillary tube 1 and a lower capillary tube 2 which tubes serve for drawing in the liquid to be tested and admitting the testing liquid. A mixing ampulla 3 is arranged between the two tubes 1 and 2 and accommodates one or more movable bodies.

According to the invention the movable body has one or more passages 4. These passages first prevent the shaking element or the movable body from stopping the capillary tubes. Secondly they enable the shaking element, independently of the mouth of the capillary tubes, to be made of any desired shape suitable for interwhirling the liquids and for this reason alone the passage improves the inter-mixing of the liquids and ensures a thorough intermixing even when the instrument is only slightly shaken. Thirdly the passages in the movable body produce absolutely novel conditions of flow and allow, as mentioned above, the return flow of the liquids thereby further improving the mixing effect.

The movable body may be of any desired shape. However, the form of construction shown in Fig. 2 has been found particularly suitable.

I claim:—

1. A mixing pipette especially a blood mixing pipette, comprising an upper capillary tube, a lower capillary tube, a mixing ampulla arranged between said upper and lower tubes, and at least one movable body accommodated in said ampulla and adapted to be shaken when said ampulla is reciprocated, said movable body having a passage formed therethrough.

2. A mixing pipette as specified in claim 1, in which the movable body has the form of a ring.

3. A mixing pipette as specified in claim 1, in which the movable body has the form of a disc of ring shape.

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