temperature of 20° C., the mercury-thread would have expanded a little, giving a reading perhaps of 2.25° C. instead of 2.00° C. This secondary change is easily calculated when the temperature of the mercury at the reading-off is known, and so inside the protective tube Richter has placed a small auxiliary thermometer (*d*), which gives the reading temperature, and thereby a correction for the reading.

Two thermometers used simultaneously.

In many cases it is necessary to have the temperature determined with the highest possible degree of accuracy, and Richter's reversing thermometer is very satisfactory in this respect. During the "Michael Sars" Atlantic Expedition the temperature series were taken almost exclusively by the aid of these thermometers, and in most instances two thermometers were used simultaneously, so as to make quite sure of the determinations. When the readings were corrected it was found that the mean difference between the values given by the two thermome-

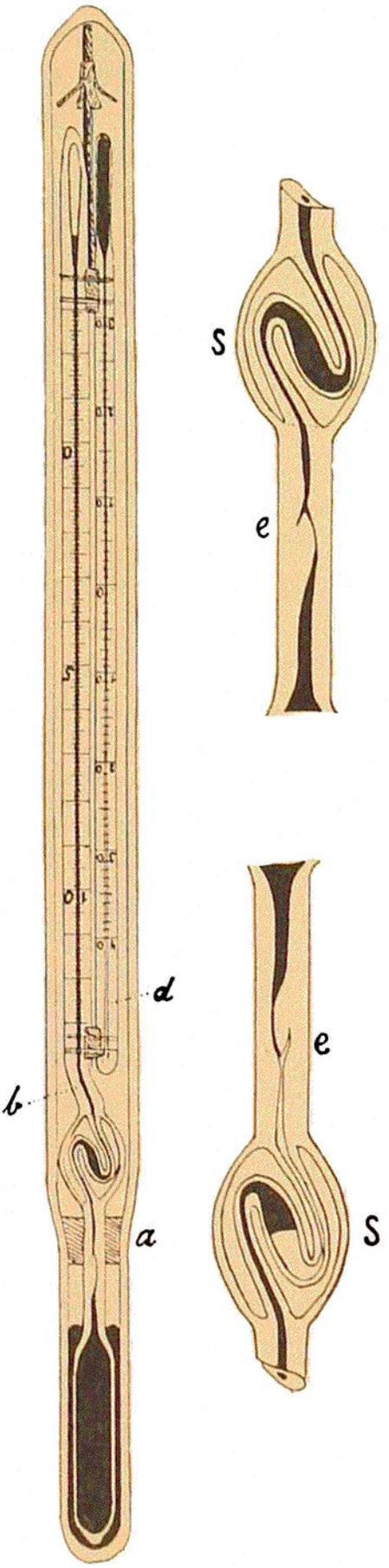

FIG. 156.—RICHTER'S REVERSING THERMOMETER.
The mercury breaks at *e*; the figure on the left and the upper one on the right show the position of the mercury before reversing. The lower figure on the right represents part of the thermometer immediately after reversing.