

A Frameless Reversing Waterbottle.

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This waterbottle is intended for use with reversing thermometers similarly to the waterbottle with frame previously described (*Publications de Circonstance No. 77, p. 9*) and the Nansen waterbottle with stopcocks. The volume and weight of the new instrument are about

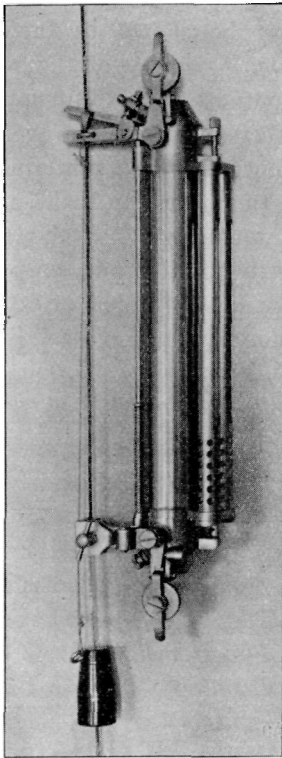


Fig. 1.

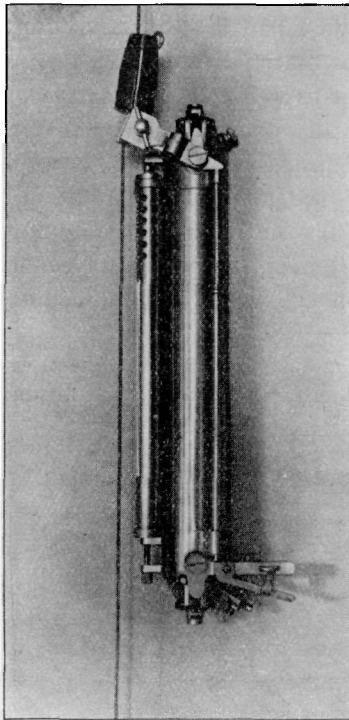


Fig. 2.

the same as those of the stopcock instrument, viz. 1.2 Liter and 3.3 Kilo (without thermometers). It is constructed with a view to using a number of instruments on the line at the same time, and consequently the price is kept as low as possible, viz., 150 Kr. with messenger and box.

The appearance of the waterbottle when hanging on the line ready to be closed and capsized is shown in fig. 1. Below the bottle is seen a messenger which is to go down to the next waterbottle and to effect the closing and capsizing of this latter; and so on. The waterbottle is first clamped to the line with the screw at the bottom, and then turned in the upright position and kept there by a small stop. The two thermometers are then fastened to the waterbottle with a single clamp, the two lids are opened, the messenger below is attached and the waterbottle is ready to go down into the water.

When a messenger is sent down the line it first hits the arm holding the stop. By the blow the stop is forced away, the messenger below is set free, the two lids close, pulled firmly together by a strong phosphor-bronze spring inside the bottle. The strain in the line causes the capsizing of the bottle to commence, and the bottle swings round to the position shown in fig. 2.

When the lowest messenger has reached the lowest waterbottle on the line, the hauling up can begin. When the waterbottle comes up, the two thermometers may be very easily disconnected from the bottle if it is considered necessary to put them in a waterbath to secure uniform temperature. For emptying, the bottle is provided with a small stopcock at the bottom and an air screw at the top.

The waterbottle is nickleplated inside and out, and is very strongly built. Its special advantages should be easiness of use, no grease, no large stopcocks to watch and better passage for the water through the bottle than can be effected by the use of stopcocks.
