

der: but when the piston is down, and the bolt at the bottom of the slot, the shoulder is just within the upper part of the cylinder. The wall of the upper part of the cylinder is beveled away to a long rounded slope. When to be used, the instrument is hung by the ring to the sounding-line, and a sufficient number of weights are suspended on an iron-wire sling, as in the "hydra" machine, the tube passing through the middle of them, and the sling hooking upon the shoulder of the piston-iron. When the tube and the weights touch the bottom, the brass cylinder is pushed upward the length of the slots, and the sling is slipped off the shoulder of the piston-iron by the upper rim of the cylinder, and allowed to slide down over its beveled upper end. This is a very simple plan, and the doing away with the steel spring of the "hydra" is an advantage. The larger tube also brings up a better and fuller sample of the bottom.

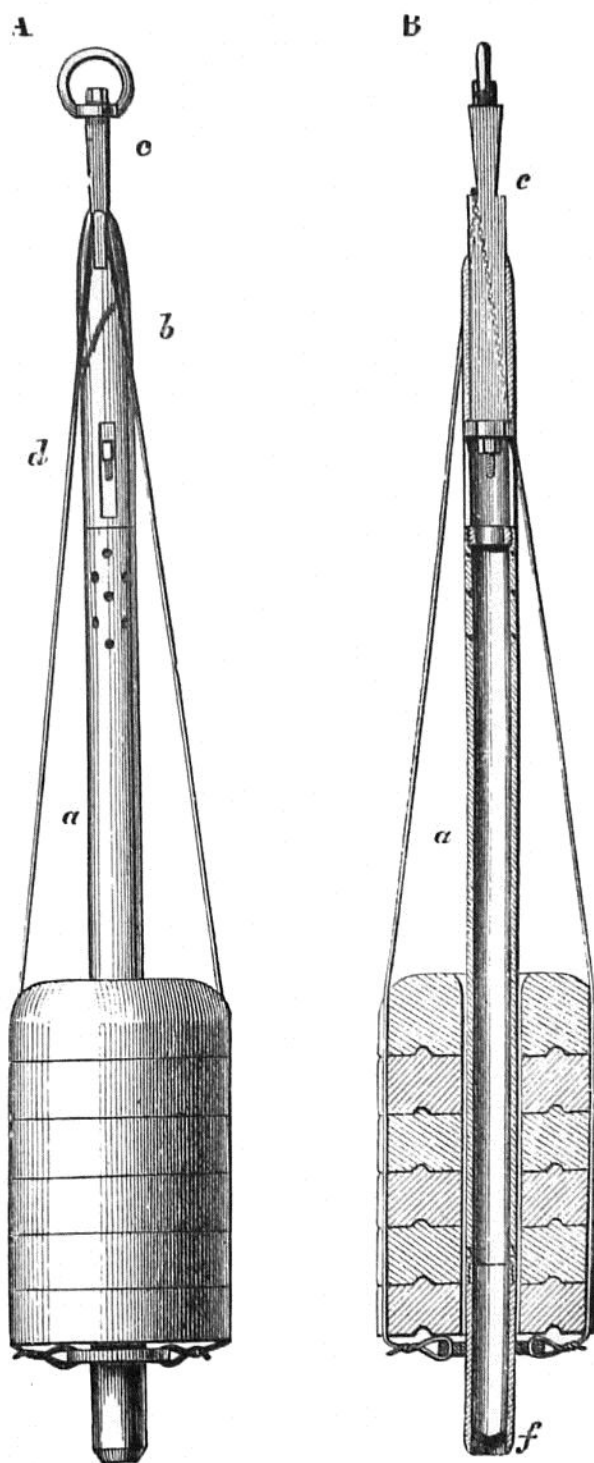


FIG. 14.—The Baillie Sounding Machine.

For less depths, where it is possible to recover the weights, a modification of the old cup-lead has been found very serviceable (Fig. 15). A 140-lb. or other deep-sea lead is cast round an