al copper vessel 5½ inches in diameter, with a block-tin worm. The lower end of the worm is attached to the receiver *c* by a bent-glass tube with a flexible joint, *k*, from which a glass tube leads to the bottom of the receiver. The flexibility thus obtained is of the greatest use in practice, enabling one by shaking to expose constantly fresh surfaces of the baryta-water to the passing gases. The receiver *c* is connected by india-rubber tubes with the two bulbed U-tubes *d*, *d*; the aspirator *e* enables a stream of air to be drawn through the apparatus, and between it and the U-tubes there is a soda-lime safety-tube, *x*, the water running from the aspirator out at the port by the tube *m*, which passes through a hole in the sash.

The flask *a* is supported on a ring by the clamps *n* and *o*; both of these, along with the spirit-lamp *p*, are fixed in the usual way to the iron rod *q*, which is attached to the projecting beam of the ship's side by the eye-bolt *r*, in which it has a play of rather more than an inch. When not in use, the rod is pushed up out of the hole in the working-table in which it is inserted and laid along the roof, its lower end being supported by the hook *s*.

The carbonic acid is determined by boiling it out of sea-water and receiving it in baryta-water of known strength; the amount of baryta neutralized is then ascertained by titration. The sea-water is boiled in the flask *a*, and the baryta-water is distributed between the receiver *c* and the U-tubes *d*, *d*. When a sample of water is to be examined, the apparatus is put together, and a stream of air freed from carbonic acid passed through it; the corks in the receiver and tubes are then eased, and 15 to 20 cc. of baryta-water, usually about tenth-normal strength, run into them. The water to be examined is introduced into the flask *a*, and 10 cc. of a concentrated chloride of barium solution added to it to precipitate the sulphates. The apparatus is then put together, and heat applied to the flask *a*. The boiling is continued until less than 50 cc. remain in the