

FIG. 1.

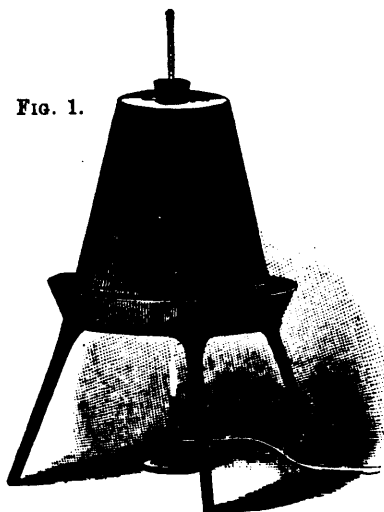


FIG. 2.

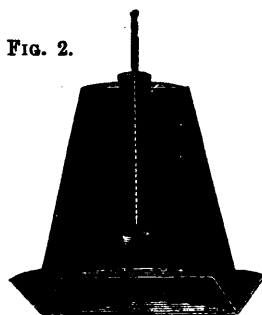


FIG. 3.

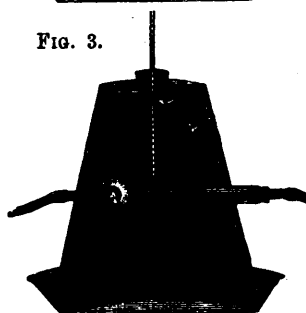


FIG. 5.

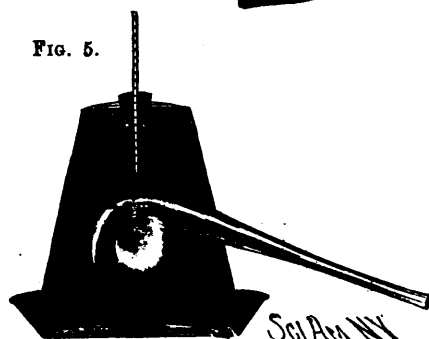
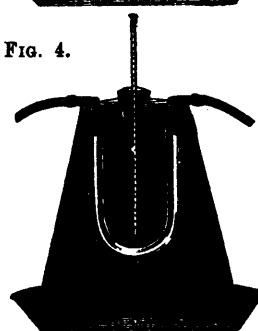


FIG. 4.



### A SIMPLE AIR BATH FOR LABORATORY USE.

straight drying tube. The holes to receive this tube can be drilled in a few minutes. The arrangement as shown is of the simplest kind, but if the usual bath was used, it would require a special tubulation to be introduced or contrived for the tube to pass through. Flower pots cost so little that there need be no hesitation in preparing them for special uses.

In Fig. 4 a U tube is shown as being heated, while in Fig. 5 a retort occupies the bath, and is in use for fractional distillation or other operation requiring a constant temperature. In all cases it is better to use the second bath inverted within the chamber. It conduces greatly to the maintenance of an even temperature throughout the whole space. A hint may also be taken from the heavy drying plate formerly perhaps more used than at present. If for the light metal pans a heavy plate one-eighth inch or more in thickness is substituted, the temperature will not be subject to as rapid variations, and less difficulty will be experienced in keeping a constant temperature. The tray furnished with the next large size of pot may be used instead of the sand bath upon which to rest the inverted flower pot. This gives an absolutely non-corrodible construction.

When the bath is in use for drying substances, its top, which is at a rather low heat, affords an excellent place for drying precipitates wrapped in their filter papers. It acts in two ways. It is generally just hot enough to dry them with

reasonable quickness without danger of spurting, and it also acts by capillarity to absorb the water directly. It represents in the last respect the porous tile or blotting paper—appliances too little appreciated by chemists here. It must be remembered that the drying of a precipitate by evaporation leaves all the impurities of the wash water concentrated therein, while capillary absorption removes a great part of both wash water and its impurities, thus conducing to the accuracy of the work.—*Scientific American*.

### THE SODA FOUNTAIN.

BY JAMES VERNOR.

The main points upon which the success of a soda water business depends are few in number, but although apparently trifling, they are in reality of the most vital importance.

First, we must be able to offer the public a beverage that the great majority will really like. It must not only be palatable, but satisfying, and the more satisfying it is, the better the result will be on the business. No matter how pleasant or palatable a beverage may be, if the public decide that it is "thin" or that it has "nothing to it," its sales will be limited. The day of "sweetened wind" has gone by, and the failure of many a fountain to pay may be accounted for by the fact that nothing but that article was ever drawn from it. There are dozens of good beverages offered by manufacturers in the form of "extracts," any one of which will yield hand-