it is difficult to insert th
the bottle after it has bee

udiometer it might be co
es, but it is not absolute
d a rubber tubing with bul
ire of the drying tube, an
her end by pressing on th
ear the end, and let the a
If valves are used on th
an ordinary atomizer.

TE THE DECOMPOSITION
OCHLORIC ACID.

he decomposition of wat
Fig. 15 shows a piece
which may be used for th
ubing about the size of
test-tube or dryi
tube, and have mad
as in Fig. 15. Leav
tubes (*a*), (*b*), (*c*) an
(*d*) open. Have fitte
into (*b*) and (*c*) tw
uniform test-tubes
equal size which wi
slip up and dow
easily, without pe
apparatus is filled. U
ut one inch long, for ele
nd (*d*). Make a groove i
wire, and insulate the wi
stoppers, through whic
g of the tubes (*a*) and (*d*

When making the gases (in the dark, if necessary) invert the test-tube in (*c*), so that the sealed end will come down nearly to the carbons. Now incline the apparatus, and the mixed gas will pass up (*b*). Attach a drying tube, rubber tubing and bulb (as in Fig. 14*a*), and pass the gases into the eudiometer and explode. Thus it will be seen that the analysis and synthesis of a compound may be shown in one experiment. This cannot be done unless the gases come off in the proper proportions. When decomposing hydrochloric acid, some text-books recommend mixing one volume of concentrated hydrochloric acid with ten volumes of a saturated solution of common salt. This is not satisfactory, unless the current passes through the mixture until it becomes thoroughly saturated with chlorine, which takes considerable time. In most cases it will be found more convenient to prepare the gases separately, and pass into the eudiometer.

The best method of filling the apparatus is to put a stopper in the aperture (*a*), put the test-tubes into place; pour the solution into (*b*), slightly tilting, until completely full. Then slowly slip the electrodes into position, as in the diagram (Fig. 15).

Should the apparatus be used to decompose salts, fuse pieces of platinum, one inch long and half an inch wide, to copper wire, and insulate the wire. Place the platinum tips in the apertures (*a*) and (*d*). This apparatus can be cheaply made by any glass-blower. It prevents leakage, etc.

The apparatus cannot be used without a stand. Figs. 16 and 17 show convenient stands for this purpose. Take two blocks of wood of

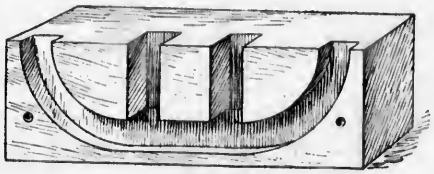

FIG. 16.