LABORATORY TROMP AND OTHER APPARATUS.

A NEW LABORATORY TROMP.

The suction apparatus formerly used in laboratories consisted of a bottle from which water was allowed to flow, and which had the inconvenience of being cumbersome. For obtaining a vacuum, recourse was had to the air pump—a costly apparatus ; and for forcing air into the blow pipe, the device used was bellows operated by foot. All this is now replaced by the suction and force tromp, which merely requires to be connected with the faucet of a water pipe. With this remarkable apparatus, one has nothing to do now but open and regulate two cocks in order to obtain a continuous supply of air under pressure. The apparatus is shown in its entirety at T, in Fig. 1, where are also shown some of its applications. In the first place, it communicates with a safety bottle, F, which is provided above with a valve to prevent the water from entering the vacuum apparatus—an event that would occur should the pressure of the water happen to diminish suddenly

in the pipes. R is a board, to which are affixed two glass cocks, forming a double T. This arrangement permits of obtaining a vacuum in two different directions. M is a pressure gauge that shows the degree of the vacuum produced in the various apparatus. M' is a pressure gauge that can be moved from place to place. These two instruments are so constructed that they can be easily filled and cleaned, and their scales are detachable. C is a bell glass with polished edges, and which is provided at the top with a polished glass cock. It rests upon a base which has been polished with emery, and which is cemented to a metallic frame supported by four legs. This bell glass covers a stand upon which capsules or vessels containing extracts may be placed. Under the lower shelf of this stand is placed a vessel containing sulphuric acid. The degree of vacuum is ascertained through a small manometer.

In the foreground may be seen the gas burner that the tromp converts into a blow pipe when air is forced into it. It only