Careful concentration and extraction of gases, etc., from this product showed there to be present certain ethylenes and their by-products. As these were not present in the absolute ether base, they must have developed in the process.

Ethylene gas was then made by text book methods and added to absolute ether. It transformed it into a moderately good anaesthetic, but the results were not to be compared with those already obtained; in fact it was by no means as good as Squibbs. However, with careful synthesizing and research, we were finally able to obtain anaesthetic synergists of an exceedingly high value.

The material, which the medical profession recognizes as Cotton Process Ether, is simply ether purified to almost an absolute stage by the methods originated, plus these synergists. As these synergists were for the most part of a gaseous nature, it was considered suitable to retain them in the ether in greater quantities than would remain at ordinary atmospheric pressure. With this end in view, the ether was kept in sealed glass ampules of about 1 oz. capacity, the idea being to administer directly from these.

PECULIARITIES OF COTTON PROCESS ETHER FOR ANAESTHESIA

Although this ether was primarily developed for analgesia only, numbers of men have used it and reported it satisfactory for anaesthesia.

Method 1. Administration from open bottle. Used in open ether bottles (whereby most of its gaseous power would escape) Dr. Samuel Johnston reported a case only a few days ago.

Patient—Female, age 28, weight 160 lbs.

Operation—Intestinal Adhesions.

Induction method—Gas ether, time 4 to 6 minutes.

Time for operation—1 hour.

Amount of ether used—8 ozs. by vol. on open mask.

Condition during operation—Absolute relaxation; no mucous, color and pulse normal.

No after effects.

This method, though apparently successful, should never be used, as ether gases of great value are allowed to escape. By it, the anaesthetic power is about what we have been accustomed to obtain from any good commercial ether, the after effects being possibly less.

Fig. 1

Fig. 2

Method 2. Administration direct from gas ampule on open mask.

It has been found convenient to use a little device such as shown in Figs. 1 and 2. The glass top is broken off from the ampule and inserted into the rubber socket. Then proceed as with ethyl chloride, the ether gas pressure being sufficient to expel it.