

In practice it was found convenient to administer the carbon dioxide in solution with ether. In order to do this, a can capable of acting like a syphon-soda bottle was used (such as shown in the diagram), the carbon-dioxide being injected into the ether under high pressure.



So far, only one narcotic in commercial ether has been dealt with, namely, di-ethyl ether. Other narcotic substances occurring in commercial ether and acting the same as di-ethyl ether, are:

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| 1. Alcohol—2 to 5 per cent. | } Only in ethers
made from methylated alcohols. |
| 2. Di-methyl ether (almost to saturation) | |
| 3. Methyl-ethyl ether (a trace) | |
| 4. Methy-propyl ether (a trace)? | |

These substances are all of a powerful narcotic aid. The last two—methyl-ethyl, and methyl-propyl ether—are very difficult to detect by odour as you will find by the samples, but the first two are easily differentiated.

But, of our ethers on the market, only a few contain carbon-dioxide in sufficient quantities to be of use, and therefore a further analgesic substance besides carbon-dioxide was looked for.

Absolute di-ethyl ether on being passed through a certain process was found to develop remarkable analgesic properties. With it almost major operations were performed with the patient still able to articulate clearly, without pain, and not at all sleepy. Its odour was found to be slightly sweeter than that of ordinary pure ether. It was the stage-acting of this substance that informed us there was something yet to learn concerning ether anaesthesia. The results obtained were so peculiar that men refused to believe them even on the word of our highest medical authorities unless they were witnesses. The symptoms were carefully studied in over two hundred cases. One case of special interest had administered to it in one month twenty-six such anaesthetics, as well as one nitrous oxide, one ether, and one ethyl-chloride. The duration of each administration was from fifteen to thirty minutes. With each of the old anaesthetics the patient was violently ill for some hours, but at no time after the analgesic ether was she to the slightest extent nauseated, even though she had had a meal immediately before. A description given by the patient of her sensations comes as near as possible to the truth:

"After a few breaths of a peculiar substance reminding me slightly of ether, but not so strong, I began to breathe heavily