

## CARBON DIOXIDE SNOW.

### ITS THERAPEUTIC USES, METHODS OF COLLECTION AND APPLICATION.

A book by Mr. J. Hall-Edwards, L.R.C.P., F.R.S.Edin., Hon. F.R.P.S., on the above subject, merits attention first because it deals with a comparatively little known question, and secondly because of its intrinsic interest.

It is published by Messrs. Simpkin, Marshall, Hamilton, Kent & Co., Ltd., to whom we are indebted for the illustrations of this article.

In his introduction the author reminds us that "heat has been used as a therapeutic agent through all ages, and has stood the test of time to such good purpose that even now it heads the list and holds its own against all competitors. The latest developments of electrotherapeutics depend to a great extent upon its action, whilst our means of administering it to the best advantage are constantly being improved and sought for." He goes on to say:—"It is the most popular remedy known, and without being in the least degree

pessimistic, I doubt if we shall ever find any therapeutic agent to replace it. Volumes have been written upon its therapeutic effects, and there is not a medical man on the register who has not prescribed it.

"Of the effects of low temperatures we know little, and of extreme cold, until quite recently,

we knew nothing. The introduction of liquid air opened up a new field for investigation, which was easily seized upon by experimenters, with the result that a new therapeutic agent of great usefulness was discovered. To Campbell White is ascribed the honour of first pointing out its usefulness, and the first surgeon in this country to read a paper and exhibit cases treated by it was the late Radcliffe Crocker.



Method of applying a cone of carbon dioxide snow contained in applicator. The skin is stretched between the thumb and first finger of the left hand, whilst the compressed snow is applied with the right hand.

"Liquid air which can be converted to the fluid state by the combined effects of pressure and extreme cold, has never been a popular therapeutic agent, not because it does not produce good results, but on account of the difficulties experienced in obtaining and transporting it."

The difficulty of transport has been overcome by Sir James Dewar, who invented a vessel in which it could be carried about with a minimum of loss, but even now it can only be obtained at considerable trouble and expense.

An alternative is the use of solid carbon dioxide, first used by Pusey in America. Today it is a well recognized method of treatment.

"Freezing by means of liquid air and carbonic dioxide snow produce similar results, which differ only in degree. It is," says the author, "an open question as to whether the degree of frost produced by carbon dioxide snow does not give it the advantage, but there can be no doubt that its ease of producing,

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