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CANADIAN DRUGGIST,

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ENGLISH OFFICE,

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LONDON, N.

Sensitive Iodine Preparations.

G. H. CHAS. KLEIE.

Read before the Missouri Pharmaceutical Association.

The officinal preparations of Iodine which may be styled sensitive are: Syrup of Hydriodic Acid, Iodide of Iron, Saccharated Iodide of Iron and Syrup of Iodide of Iron. Formerly light and air were excluded from these preparations under the supposition that both contributed toward their decomposition. At the present time it is known that light has no such effect, and that decomposition is caused by the oxygen of the air. Anybody can convince himself of this fact by filling small bottles with Syrup of Hydriodic Acid or Iodide of Iron. The bottles ought to be filled up near to the cork and well corked. They can now be placed in the light without any change becoming noticeable for a long time. The first change which becomes perceptible, especially in Syrup of Iodide of Iron, will originate in the layer of syrup nearest the cork. At first, say after three or four months' keeping, a slight straw colored tinge is noticed, which deepens with age.

SYRUP OF HYDRIODIC ACID.

Syrup of Hydriodic acid may be called a sensitive Iodine preparation, because, prepared according to the Pharmacopœia and kept in bottles from which air is not perfectly excluded, the syrup gradually darkens. Its preparation according to the Pharmacopœia offers no special difficulties. Hydrosulphuric acid gas is led into a mixture of Iodine in a very fine state of subdivision in thin syrup. The Iodine is soon changed into Hydri-

odic Acid. The surplus of the Hydrosulphuric Acid gas is expelled by heat, the precipitated sulphur is separated by filtration, sugar is dissolved in the filtrate, spirit of orange is added and the syrup is ready for use.

I have made syrup according to this formula, and have observed that after a time it always turns dark.

Gardner's Syrup of Hydriodic Acid is much prescribed and keeps tolerably well. I cannot see that it looks any better, keeps any better or acts any better than the syrup I make myself. It does not claim permanency. The label says: If decomposition should set in at any time this syrup will be cheerfully exchanged.

I have here six samples of Hydriodic Acid.

No. 1, prepared March 3, this year, according to the Pharmacopœia. 10 oz. were kept in a pint bottle, corked and exposed to the light. It has deepened in color more than the other two samples prepared about the same time. No. 2 was prepared on Mar. 7, after the same formula as No. 1, except that 1½ ozs. of glucose were substituted for sugar. This sample has not changed in color. No. 3 was prepared on Mar. 15, after the same formula as No. 1, except that glucose was substituted for sugar. No change in color has occurred in this sample up to date. All three samples were flavored with Spirit of Orange, made from the fresh peel, not from the oil. This accounts for the yellow color. Syrup flavored with Essence of Orange made from the ethereal oil does not exhibit a yellow color when fresh. I have one sample of Gardner's syrup, about a year old, which is of a decidedly straw color. It is No. 4. I would not call it spoiled, by any means.

I will show after a little that a syrup may be much older and much darker and not show a trace of free Iodine.

No. 5 is a sample of Gardner's syrup about eight months old. It is in good condition. No. 6 is a syrup made in January, 1881. It is over eight years old. It was prepared according to the Pharmacopœia. Originally 10 fl. ozs. were kept in a glass stoppered bottle, protected from the light and in a cool place. About half was used, the balance was allowed to stand in the same bottle and after it had acquired color the wrapper was removed and it was allowed to stand near a window in the cellar. I suppose, most anybody would pronounce the syrup spoiled and would not think of dispensing it,

Still, incredible as it may seem, it does not contain a trace of free Iodine, as I will show presently. This shows pretty plainly that even if the syrup is not very carefully kept, it takes a very long time before free Iodine is evolved.

IODIDE OF IRON.

Iodide of Iron is a preparation difficult to preserve intact. I have always dispensed Saccharated Iodide of Iron instead. This can be kept in good condition, if carefully kept, about one year. I keep it in one or two ounce wide mouthed bottles, securely corked with nice, soft, smooth corks in the coolest and driest place in the store.

Here is a sample about four months old which is still in prime condition, as a test will show.

The test shows free Iodine in the proportion of 1-8000. This is only a trace but it is free Iodine nevertheless. We ought to have an Iodide of Iron which will not show a trace of free Iodine. I have experimented a good deal with this point in view, and would propose the following formula as furnishing a preparation that is unexceptional in every respect.

Ferri Iodidum Saccharatum.

Iron, in the form of fine wire and cut in to small pieces, six parts	6
Iodine, seventeen parts	17
Distilled water, twenty parts	20
Pulverized iron, one part	1
Sugar of milk, seventy-nine parts	79

The text should be changed to read as follows:

Transfer the mass quickly to a heated iron mortar containing Pulverized Iron and the remainder of Sugar of Milk and reduce the whole to powder.

The product will not exhibit the same color as heretofore. It can be dissolved in water, filtered, and the Syrup of Iodide of Iron can be made extemporaneously if desired. Saccharated Iodide of Iron which exhibits free Iodine much more freely than the four months old sample referred to above, can be restored to pristine quality by the addition of one per cent. or q. s. of Pulverized Iron.

In spite of all care and precaution Saccharated Iodide of Iron will show traces of free Iodine in about a year if not made according to above formula.

Many years ago I thought I had solved the problem of a permanent Iodide of Iron. I prepared a solution of Iodide of Iron, added Gum Arabic to make a thick mucilage and spread this on glass to obtain the salt in scales. A beautiful clear and transparent scale salt was the result,