

shorter process than that of the B. P. This has doubtless already suggested itself to, and been practically tested by, other chemists, but, so far as I am aware, it has not hitherto been published. It is as follows:—

SYRUP OF PHOSPHATE OF IRON.

Phosphate of Iron.....96 grs.
Water 9 fl. drms.
Syrupy Phosphoric Acid, sp. gr. 1.500 7 fl. drms.
Syrup 10 fl. oz.

Rub the phosphate of iron with the water in a glass mortar, add the phosphoric acid and filter the mixture into syrup.

As thus prepared, it contains the same proportion of iron, about 2 minims less of the dilute acid (25 instead of 27), and rather more sugar than when prepared according to the Pharmacopœia.

The phosphate of iron is made by the B. P. process, and dried at a temperature not exceeding 100° F. The specimens I have found in the ordinary course of trade are not readily soluble in the acid. This want of solubility is, I believe due to the length of time they have been kept before sale.

I have obtained the best results with phosphate only a few days old, and find it advantageous to make as much as is required frequently.

Syrupy phosphoric acid of sp. gr. 1.500 may now be obtained of any manufacturing chemist, and according to Dr. Watt's table, contains about 50 per cent. of P₂O₅. It is made by the action of nitric acid on phosphorus, the excess of acid being driven off in a platinum vessel.

Manganese is sometimes prescribed with or without iron, and according to Pereira, the former is a useful adjunct to ferruginous preparations, and occasionally a desirable substitute for them.

SYRUP OF PHOSPHATE OF MANGANESE

May be prepared in a similar manner with the following ingredients:—

Phosphate of Manganese.....96 grs.
Water 9 fl. drms.
Syrupy Phosphoric Acid, sp. gr. 1.500 7 fl. drms.
Syrup 10 fl. oz.

Strength—1 grain phosphate of manganese and acid equal to about 25 minims of the dilute phosphoric acid in each fluid drachm.

The phosphate of manganese is made in the same manner as the phosphate of iron, substituting sulphate of manganese for the ferrous sulphate.

SYRUP OF PHOSPHATE OF IRON WITH MANGANESE.

Phosphate of Iron.....96 grs.
Phosphate of Manganese.....48 grs.
Water 8 fl. drms.
Syrupy Phosphoric Acid..... 8 fl. drms.
Syrup 10 fl. oz.

Rub the powders with the water, and the acid and filter into the syrup.

Each fluid drachm contains $\frac{3}{4}$ grain phosphate of iron, $\frac{3}{4}$ grain phosphate manganese and acid equal to about 30 minims of the dilute phosphoric acid, B. P.

The tendency of modern practitioners of medicine to encourage the exhibition of substances which may assist in the formation of bone, etc., has led to the introduction of the—

SYRUP OF PHOSPHATE OF IRON AND LIME.

Take of Phosphate of Iron..... 96 grs.
Phosphate of Lime.....192 grs.
Water..... 8 fl. drms
Syrupy Phosphoric Acid,
sp. gr. 1.500..... 8 “
Syrup 10 fl. oz.

Mix the powders with the water in a glass mortar, add the acid and filter into the syrup.

Each fluid drachm contains 1 grain of phosphate of iron, 2 grains of phosphate of lime, and an amount of acid equal to about 30 minims of the dilute phosphoric acid, B. P.

The phosphate of lime is made by precipitation from solutions of chloride of calcium and phosphate of soda, and dried at 100° F., and should not be kept too long before use. That made from *bone ash*, as the Pharmacopœia directs, is much less readily soluble.

The following formula may be useful as an appendix:

SYRUP OF PHOSPHATE OF ZINC.

Phosphate of Zinc.....192 grs.
Water 11 fl. drms.
Syrupy Phosphoric Acid, sp. gr. 1.500..... 5 fl. drms.
Syrup 10 fl. oz.
Rub the phosphate with the water, add the acid and filter into the syrup.

Each fluid drachm contains 2 grains of zinc phosphate, and about 18 minims of dilute phosphoric acid.

SYRUP OF PHOSPHATE OF QUININE.

Take of Phosphate of Quinia*...96 grs.
Water.....13½ fl. drms.
Syrupy Phosphoric Acid,
sp. gr. 1.500..... 2½ fl. drms.
Syrup 10 fl. oz.

Mix the acid with the water, add the quinin, and filter into the syrup.

Each fluid drachm contains 1 grain of phosphate of quinine, and acid equal to about 10 minims of the dilute phosphoric acid.

SYRUP OF PHOSPHATE OF IRON WITH QUININE.

Take of Phosphate of Iron.... 192 grs.
Phosphate of Quinia*... 96 grs.
Water..... 7 fl. drms.
Syrupy Phosphoric Acid
sp. g. 1.500..... 9 fl. drms.
Syrup 10 fl. oz.

Rub the powders with the water, add the acid and filter into the syrup.

Each fluid drachm contains 2 grains of phosphate of iron and 1 grain of phosphate of quinine.

SYRUP OF PHOSPHATE OF IRON, QUININE AND STRYCHNINE.

Easton's Syrup,

Take of Phosphate of Iron.....192 grs.
Phosphate of Quinia*..... 96 grs.
Strychnia (in crystals)..... 3 grs.
Water..... 7 fl. drs.
Syrup Phosphoric Acid, sp. gr. 1,500..... 9 fl. drs.
Syrup..... 10 fl. oz.

Rub the phosphate of iron with 5 drachms of the water in a glass mortar, dissolve the strychnia and quinia in the acid, previously mixed with the remaining 2 drachms of water; mix and filter into the syrup.

Each fluid drachm contains 2 grains of phosphate of iron, 1 grain of phosphate of quinine and 1-32nd of a grain of strychnine.

* The same weight of quinin, prepared by precipitating an acidulated solution of the *disulphate* by solution of ammonia, collecting, washing and drying at 100° F., may be used, in the absence of the phosphate.

SYRUP OF PHOSPHATE OF IRON AND STRYCHNINE

May be prepared in the same manner as the last, omitting the phosphate of quinine.

I am conscious of the objections that may be urged against the prescribing of these *compound* preparations, but in the face of the constant and increasing demand for many, it appears to me futile to attempt to discourage them by declining to publish formulæ. Such a course tends to perplex both the medical profession and pharmacists, and to the introduction of quasi-secret remedies of unknown, and, possibly, of uncertain strength.

FERRATED ELIXIR OF CINCHONA.*

BY JOHN M. MAISCH.

A correspondent requests us to publish a good formula for this elixir. The first one published is that of Mr. James T. Shinn. † Another one, differing somewhat from the former, was communicated to this journal by Mr. Wm. C. Bakes. ‡ At our request, Mr. Wm. McIntyre, of this city, has furnished us with the following formula for elixir of calisaya with pyrophosphate of iron, in which calisaya bark is employed:

Take of Calisaya,..... ʒiv.
Sweet Orange Peel, recently dried... ʒiij.
Coriander,..... ʒvi.
Ceylon Cinnamon,..... ʒiv.
Cardamom,
Anise, aa,..... ʒij.

Prepared these for percolation, and displace with a mixture of one quart stronger alcohol and three quarts water.

To this tincture add
Oil of Orange (fresh),..... 40 m.
“ Lemon, “ 16 m.
“ Almonds, “ (essential)..... 4 m.
dissolved in Alcohol, four fl. dra.

Agitate this mixture with moist freshly precipitated hydrated sesquioxide of iron (well washed), prepared from an aqueous solution of the sesquichloride, for three or four days, or until a portion filtered off shows no reaction with the tincture of chloride of iron. Filter, and dissolve in it, without heat, two and a half pounds (av.) sugar. Add 1024 grs. pyrophosphate of iron, previously dissolved in a small portion of water, and make up the measure of one gallon, if necessary, by the addition of water. If a more reddish color is wanted, use a few grains of soluble citrate of iron.

The elixir thus prepared will keep well in color, and has a resemblance to the article extensively advertised under the same name.

If the cinchona bark contains 3 per ct. of alkaloids, and supposing the bark to be entirely exhausted, one gallon of elixir prepared according to the above formula would contain about 60 grains of alkaloids, or nearly half a grain to the fluidounce. Cinchona bark, however, cannot be completely exhausted by weak alcohol, § and after the treatment of the resulting tincture with hydrated sesquioxide of iron, the natural combination of the cinchona alkaloids is broken up, and nothing of medicinal value is retained by the liquid except the alkaloids. || The aromatics used in most of the formulas I believe add comparatively little to the medicinal virtues of this preparation, which has, ostensibly, to unite the tonic properties of

* From the American Journal of Pharmacy.

† Am. Jour. Ph. 1861, 193. ‡ Ibid. 1861, 304.

§ Am. Jour. Ph. 1862, p. 204. || Ibid. 1819, 220.