

SYRUPS AND ELIXIRS OF THE U. S. P. IX AND N. F. IV.*

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U. S. P. SYRUPS AND ELIXIRS.

Aromatic Elixir.—This formula remains unchanged. It is unfortunate that the Purified Talc, which is not a satisfactory filtering medium, was not replaced by Purified Siliceous Earth (Kieselguhr), which has been made official. This latter substance greatly increases the speed of filtration and also clarifies the elixir promptly, requiring only the return of the first portion passing through the filter to insure a brilliantly clear elixir.

Elixir of Glycyrrhiza.—The most important change is in title—from Elixir Adjuvans (Adjuvant Elixir) to Elixir of Glycyrrhiza; 125 mils of the Fluidextract of Glycyrrhiza is used instead of the 120 mils of the U. S. P. VIII. This preparation now replaces the N. F. III Elixir of Glycyrrhiza.

Elixir of the Phosphates of Iron, Quinine, and Strychnine.—The omission of the Elixir of the Phosphates of Iron, Quinine and Strychnine is the most striking fact to record concerning the U. S. P. Elixirs. After much discussion this was omitted, first, because the combination of iron, quinine and strychnine in phosphate form introduces numerous complications in manufacture and is the cause of difficulty in producing a permanent elixir. Second, the N. F. contained a formula for an Elixir of Iron, Quinine and Strychnine, which was easily made and did not change in color nor precipitate. Third, physicians on the Committee contended that the phosphate present in such minute amount did not possess any special therapeutic value. Fourth, it was stated that the reputation for an Elixir of the Phosphates of Iron, Quinine and Strychnine was based upon an Elixir which contained no phosphate, except upon the label, and finally, fifth, because the several formulas of the U. S. P. and N. F. caused confusion, and it was hoped that with the entire omission of the formula from the U. S. P., the N. F. formula would alone survive.

Simple Syrup.—No change except that the percolation process has been placed first, presumably to show preference for that method.

Syrup of Acacia.—The only change in this formula is found in the details of manufacture. After the acacia and sugar have been dissolved, they are subjected to sterilization (100° C. for fifteen minutes), and preserved in small, sterilized bottles.

Syrup of Citric Acid.—No change in formula, but the product is to be preserved in bottles previously rinsed with boiling water and "the syrup must not be dispensed unless free from moulds and fermentation products."

Syrup of Hydriodic Acid.—The method of preparation is not changed but the strength has been increased from 1 percent by weight of hydriodic acid to from 1.3 Gm. to 1.45 Gm. in each 100 mils, equivalent to about 1.13 percent by weight, or 1.25 percent by volume, of hydriodic acid. This change brings the U. S. P.

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syrup into closer conformity in strength with other largely sold syrups of hydriodic acid.

Syrup of Almond.—This syrup was omitted since it was little used and no longer really represented "Orgeat Syrup," which is made from blanched almonds and has the appearance of an emulsion.

Syrup of Orange.—In this syrup the magnesium carbonate was replaced by purified talc since the alkaline carbonate was found to injure the delicacy of the orange flavor. No other change was made.

Syrup of Calcium Lactophosphate.—A portion of the sugar in the formula was replaced by glycerin. No other change.

Syrup of Ferrous Iodide.—Although many experiments were made upon this syrup, citric acid being especially recommended as a preservative instead of hypophosphorous acid, it was finally decided to retain the formula of the U. S. P. VIII, which had been very satisfactory, with but one modification, that is, the amount of sugar was reduced from 600 Gm. to 575 Gm.

Syrup of the Phosphates of Iron, Quinine and Strychnine.—Easton's syrup was not admitted to the U. S. P. IX, but has been recognized in the N. F. IV, the U. S. P. 1890 process being revived.

Syrup of Hypophosphites.—Here the lemon flavor has been dropped and 50 Gm. of the sugar replaced by 50 mils of glycerin. This will assist in its preservation, as it has been shown that small quantities of glycerin retard mould development in preparations of this kind. It might be desirable to mention here that this syrup may be made advantageously by mixing the hypophosphites with the sugar and percolating the mixture with the glycerin-water mixture. A clear filtered syrup is thus produced with little trouble or danger of contamination from dust and other foreign substances.

Compound Syrup of Hypophosphites.—This syrup has been transferred to the N. F. IV.

Syrup of Ipecac.—The formula for the syrup has not been changed although the formula for the fluidextract of ipecac had been devised especially to make a product which would be miscible with syrup without the further addition of acid. As it now stands, the fluidextract contains about one percent of hydrochloric acid and one percent of acetic acid is added to the syrup in addition. This is a case where two Sub-committees did not or would not harmonize their work.

Syrup of Krameria.—Transferred to the N. F. IV.

Syrup of Lactucarium.—No change in the formula.

Syrup of Tar.—The only striking changes are that the tar is no longer mixed with sand and washed with water before solution in alcohol, and the alternative percolation method is added. Tar of U. S. P. quality should not require water-washing and hence the omission of this detail.

Syrup of Wild Cherry.—The pendulum has again swung back and now the glycerin is to pass through the drug during percolation. It seemed that the U. S. P. VIII method, which placed the glycerin in the receiving bottle, to serve only as a preservative, and percolated the wild cherry with water, did not yield a syrup of sufficient color to satisfy those who liked it to "look strong." Glycerin, however, also takes out the tannin and the syrup made by the new method does not have so pleasant a flavor.

Syrup of Rhubarb and Aromatic Syrup of Rhubarb.—No change.

Syrup of Rose and Syrup of Rubus.—Transferred to the N. F. IV.

Compound Syrup of Sarsaparilla.—Here the oils are dissolved in a small quantity of alcohol and this solution added to the mixed fluidextracts and afterward to sufficient syrup. The U. S. P. VIII mixed the oils and fluidextracts with the water, filtered and dissolved the sugar in the filtrate. The new formula is a decided improvement in speed and simplicity of manufacture.

Syrup of Squill.—No change.

Compound Syrup of Squill.—Here again, as in the Compound Syrup of Sarsaparilla, the fluidextracts and solution of tartar emetic are mixed directly with syrup instead of first preparing an aqueous solution in which to dissolve the sugar as was directed in the U. S. P. VIII.

Syrup of Senega and Syrup of Senna.—No change in formula although the several fluidextracts were reconstructed with the special object of rendering them miscible with syrup.

Syrup of Tolu and Syrup of Ginger.—No changes.

N. F. SYRUPS AND ELIXIRS.

Anything to be said upon the large group of N. F. Elixirs and Syrups, in a paper of this character, must be much curtailed or the length will become prohibitive. Reference therefore will be made only to those preparations where a marked change has been made.

Bromide Elixirs.—This group, including Ammonium Bromide, Calcium Bromide, Lithium Bromide, Potassium Bromide and Sodium Bromide, of the former N. F., were all criticized because of their large alcoholic content, which counteracted the sedative effect of the bromide. The Committee first proposed to correct this by using as the vehicle—elixir a new, low-alcoholic strength elixir, flavored with cardamom and vanillin. This elixir has been made official but the Committee finally decided to retain the old aromatic elixir flavor, which had become well established, but they reduce the alcoholic content by using 20 percent of syrup and 46 percent of water with enough aromatic elixir to make 100 parts. This decision is open to the criticism that the flavor is much reduced and does not well cover the taste of the bromide.

Low-alcoholic Percent Elixirs.—Recognizing that elixirs were often too strongly alcoholic, especially those containing aromatic elixir, the Committee have offered several new vehicle-elixirs of low-alcoholic strength. They are Compound Elixir of Almond (about five percent alcohol), Compound Elixir of Cardamom (about 10 percent alcohol), Aqueous Elixir of Glycyrrhiza (about 5 percent alcohol), and Compound Elixir of Vanillin (about 10 percent alcohol). Pharmacists generally should call the attention of physicians to these new elixirs and send out samples for their inspection.

Red Aromatic Elixir.—A new red vehicle-elixir has been admitted, prepared by digesting 2 Gm. of cudbear in 1000 mls of aromatic elixir. This is the same color as the much used Digestive Elixir which has been omitted from the new edition.

Elixir of Bitter Orange.—This preparation, formerly called Elixir of Curaçao, is now termed "Elixir of Bitter Orange." The flavor has also been materially changed.

Elixir of Glycerophosphates.—Note that this title of the N. F. III has been changed to Elixir of Calcium and Sodium Glycerophosphate. This would seem to be an unnecessary lengthening of the title as it was well known and the U. S. P. Syrup of Hypophosphites provided a precedent for such a title.

Elixir of Cinchona Alkaloids.—To meet a Government criticism of misbranding, this title was changed from Elixir of Cinchona to Elixir of Cinchona Alkaloids. It is unfortunate that the more cumbersome title had to be adopted for it will never be popular among prescribers, especially the compound titles, such as Elixir Cinchonae Alkaloidorum, Ferri, Bismuthi et Strychninae.

Elixir of Formates and Compound Elixir of Formates.—These two new formulas should receive the approval of pharmacists since the carbonates of the several bases are used and converted into formates through the use of formic acid, thus avoiding the stocking of five new salts of formic acid. The new elixirs are excellent preparations, pharmaceutically.

Elixir of Gentian.—A new formula is offered here which is a vast improvement over that of the N. F. III. The treatment with ferric hydroxide to prevent discoloration when mixed with iron preparations is rendered unnecessary through the addition of sodium citrate and, in the Elixir of Gentian and Iron, the use of tincture of ferric citro-chloride. This simplifies the process and also retains the bitterness of the gentian which was much impaired through the former treatment with ferric hydroxide.

Compound Elixir of Glycerophosphates.—This new formula has already proven useful to many pharmacists and is an excellent pharmaceutical product.

Essence of Pepsin should now be recognized under its new title, "Compound Elixir of Pepsin and Rennin." The formula has been slightly altered, oil of myristica being added. This title will place the preparation upon its merits and the unscientific title, "Essence" for this class of preparation will be corrected.

Elixir of Terpin Hydrate.—The new formula for this elixir will be found more satisfactory than that of the N. F. III from which sugar persistently crystallized. Note that the amounts of codeine and of diacetylmorphine hydrochloride or heroin in the compound elixirs have been reduced to conform to the requirements of the Harrison Act.

Elixir of Three Bromides is a new formula with about 15 grains of the combined bromides to the teaspoonful.

Among the syrups attention may be called advantageously to the following:

Syrup of Ammonium Hypophosphite.—This new syrup has a distinctive flavor that should enable it to win its own place, if there is any special merit in the preparation.

Compound Syrup of Figs has been added containing figs, senna and aromatic fluidglycerate of cascara sagrada with the oils of fennel and peppermint.

Syrup of Iodotannin.—This new combination of iodine, which has been used abroad and is official in the French Codex, has been introduced.

Compound Syrup of White Pine.—This formula has been much improved and the morphine is omitted unless prescribed under the new title of Compound Syrup of White Pine with Morphine.

Syrups of Blackberry Fruit and Raspberry Fruit.—These are two new fruit syrups added to N. F. IV.
