IT CAN BE DONE, SERIES NO. 12.*

BY J. LEON LASCOFF.

INTRODUCTORY.

The author stated he was glad to conduct the Prescription Clinic at this time and referred to the series he had conducted. The first series was presented at the Baltimore meeting, when he was requested to continue the work, and was also invited to deliver similar talks by other associations. These were delivered as follows:

Series No. 2, before the Massachusetts Pharmaceutical Association; No. 3, before Baltimore Branch, A. PH. A.; No. 4, before Maryland Pharmaceutical Association; No. 5, before Philadelphia Branch, A. PH. A.; No. 6, before New Jersey Branch and Rutgers University College of Pharmacy; No. 7, at the Dallas meeting, A. PH. A.; No. 8, before Iowa Pharmaceutical Association; No. 9, before Pittsburgh College of Pharmacy; No. 10, at the Connecticut Pharmaceutical Association; No. 11, before Ohio Pharmaceutical Association, Toledo; and No. 12, the presentation before the AMERICAN PHARMACEUTICAL ASSOCIATION at the New York meeting. The author, in introducing his subject, stated:

"It is of the greatest importance that prescriptions, like Galenicals, be of uniform appearance, whether put up in one pharmacy or another. For this reason, we have the U. S. P. and N. F. standards for preparations. Formerly, a prescription put up in different pharmacies varied in taste, color and appearance. I have made a study of this and have decided that there must be uniformity."

Some time ago the author spoke of the abuse of the "Shake Label." All too often, the careless dispenser makes this his great salvation (in his own mind) with the explanation, "I filled it exactly as the Doctor wrote it." Recently a pharmacist in Washington did this, and the patient became very ill. As a result, the pharmacist was forced to pay the expense of a costly lawsuit. The author continued:

"If any changes are made in a prescription, the physician *must* be consulted first; this applies to doses as well. If a physician prescribes an incorrect dose, it is the pharmacist's duty to notify him immediately. Otherwise, the physician may go on prescribing the wrong amount. If a physician is not consulted about the changes in a prescription, he will prescribe again in the original manner and, if the prescription is filled as written, the finished product will differ from the first mixture." The speaker stated that some of the prescription problems which he would present had occurred in the Lascoff pharmacy and others in pharmacies in other sections. He had experimented with them and would try to convince the hearers of the value of this experimental work. Comparison of samples No. 1 and No. 2 of these examples will reveal marked differences.

℞ 1	Sodium Bicarbonate	gr. XII
	Atophan	gr. V
	Acetphenetidin	gr. III *ss*
	Acetylsalicylic Acid	gr. IV *ss*
	Codeine Sulfate	gr. $^1/_8$
	M. F. powders.	

* Section on Practical Pharmacy and Dispensing, A. PH. A., New York meeting, 1937.

The powders will not become pasty or caked if the prescription is compounded as follows: In an absolutely *dry* mortar, triturate the sodium bicarbonate, atophan and acetphenetidin together with 3 grains of sugar of milk for each powder. In a separate mortar which also *must be absolutely dry*, triturate the codeine sulfate and acetylsalicylic acid together with heavy magnesium oxide, 5 grains for each powder. Finally, mix the two lightly but thoroughly. As an added precaution, dispense in glassine or wax powder papers, the ends of which should be closed.

℞ 2	Tr. Belladonna	f℥ *ss*
	Citrate Potash	℥ I
	Tr. Hyoscyamus	f℥ II
	Water, *q. s.*	f℥ IV
	M. ft. Sol.	

This formula should be compounded as follows: Dissolve the potassium citrate in part of the distilled water. In a separate mortar, make a mucilage with 2 drachms of acacia, and add the solution to this. Mix the tinctures with the remainder of the water, and add this to the mucilage. The finished product will be a homogeneous mixture *without any separation.*

℞ 3	Acid Carbolic	gtt X
	Liq. Carbonis Detergens	f℥ II
	Acid Boric	℥ II
	Ung. Aquaphor	℥ I
	Aq. Font.	f℥ VI

The following procedure should be used in compounding the above: Rub the boric acid with six drachms of aquaphor. Dissolve the phenol in the water and incorporate in the aquaphor. Add the liquor carbonis detergens and a separation will be noted. Incorporating 2 drachms of liquid petrolatum results in a smooth, homogeneous ointment with no signs of separation.

℞ 4	Sodium Nitrite		
	Potassium Sulphocyanate	*aa*	gr. XXX
	Elixir Sodium Bromide		f℥ II
	Aqua Dist., *q. s.*		f℥ IV

This mixture should be compounded as follows: Dissolve the sodium nitrite in 1 ounce of distilled water. Dissolve the required amount of sodium bromide necessary to make a fresh elixir of sodium bromide in 1 ounce of distilled water. Dissolve the potassium sulphocyanate in 1 ounce of distilled water. In other words, dissolve all the ingredients separately. Add the simple elixir (necessary to make the elixir sodium bromide) and enough water to make four ounces. The elixir sodium bromide *must be freshly made.* It is advisable to dispense this 4-ounce mixture in a 6-ounce bottle. If the prescription is compounded as above no explosion will occur.

℞ 5	Bismuth Subgallate	℥ I
	Balsam Peru	℥ I
	Icthyol	♏ XL
	Benzoinated Lard	℥ IV

If compounded as written, this ointment will become gritty and a separation will occur. The following is the proper way to compound this: Rub the bismuth subgallate with 2 drachms of castor oil and 1 ounce of balsam peru. Add 2 ounces of benzoinated lard and mix gently. Mix the ichthyol with 1 ounce of benzoinated lard to make an icthyol ointment. Mix the two compounds and add the balance of the benzoinated lard. Keep in a cool place. If compounded as above, the result will be a smooth ointment with no signs of separation.

℞ 6	Phenol	2.0
	Tincture of Iron Chloride	15.0
	Adrenalin Chloride	4.0
	Tincture of Aconite	8.0
	Glycerin	30.0
	Glycothymoline, *q. s.*	120.0

When this compound is made up as written, a strong effervescence occurs which will blow the stopper from the bottle and cause the loss of part of the material. The trouble-maker here is the tincture of ferric chloride. As this is acid in reaction, it reacts with the glycothymoline, which is alkaline, and causes the effervescence and a precipitate of ferric hydroxide. Furthermore, adrenalin is decomposed by both alkalies and iron salts. The solution to the problem is one of the most interesting I have come across. As noted by the following comparison, the content of solution of ferric chloride is exactly the same in both tincture of ferric chloride and tincture of ferric citrochloride. The main difference between the two is the addition of sodium citrate (which is alkaline) to the tincture of ferric citrochloride.

Tr. Ferric Chloride.		Tr. Ferri Citrochloride.	
Solution Ferric Chloride	350 cc.	Solution Ferric Chloride	350 cc.
Alcohol to make	1000 cc.	Sodium Citrate	450 Gm.
		Alcohol	150 cc.
		Water to make	1000 cc.

Of course the pharmacist has no right to replace the glycothymoline with anything else, but, if in place of the tincture of ferric chloride, tincture of ferric citrochloride is used, the final product becomes a clear mixture with no trace of precipitation or change of color. The sample I have experimented with has now been standing for some weeks and looks exactly the same as when first compounded. Whether or not the adrenalin will decompose on standing, is a matter of debate. The pharmacist should discuss this matter with the physician, with a view toward removing this possibility.

℞ 7	Menthol	0.3
	Spiritus Vini Rect.	12.0
	Phenol	1.2
	Calamine	8.0
	Zinc Oxide	4.0
	Pulv. Camphor	8.0
	Aqua Hammamelidis *ad*	180.0

The difficulty in the above lies in the fact that there is not sufficient alcohol to keep the camphor and menthol in solution. The addition of 30 grains of tragacanth, making a smooth paste with the hammamelis water and adding the camphor and menthol previously triturated to a liquid, forms a smooth mixture, which shows no separation or lumpiness on standing.

℞ 8	Iron and Ammonium Citrate U. S. P. XI	ʒ III
	Syrup Orange	℥ I
	Distilled Water, *q. s.*	℥ VI

Iron and ammonium citrate in solution becomes alkaline on standing. Syrup of orange containing citric acid is sufficiently acid in reaction to cause the formation of gas, which burst the bottle. The British Pharmacopœia gives a formula for syrup orange without citric acid, in proportion of tincture of orange, 1 part in 8 parts of syrup. When this is used, effervescence will not occur, and there will be no difficulty.

℞ 9	Quinine and Urea Hydrochloride	0.6
	Mercury Salicylate	3.0
	Lanolin	1.0 Add to
	Olive Oil	30.0 the water

In the above formula, the quinine and urea hydrochloride will not dissolve in the olive oil, and therefore the mixture will not be uniform. The best way to compound it is as follows. Dissolve the quinine and urea hydrochloride in a few drops of water. Emulsify with the lanolin, then add the mercury salicylate, rubbing well with the olive oil.

℞ 10	Morphine Sulfate	gr. IV
	Flexible Collodion, *q. s. ad*	f℥ I

Morphine sulfate will not dissolve in the flexible collodion. It is therefore necessary to use morphine alkaloid. Dissolve the morphine alkaloid in about 1 drachm of alcohol. To this

solution, add the flexible collodion. The flexible collodion is miscible with the alcohol, and a perfect solution is obtained.

℞ 11	Boric Acid	ʒ II
	Zinc Oxide	ʒ II
	Ichthyol	10%
	Carbolic Acid	1/2%
	Petrolatum Liquid *ad*	ʒ IV

The addition of stearic acid will aid greatly in forming a non-separating liquid.

℞ 12	Cignolin	1/10%
	Acid Salicylic	ʒ I
	Ol. Amygd. Dulc.	fʒ II

Heat the oil with salicylic acid and cignolin. A clear solution is obtained, which, however, may precipitate. The addition of 10% castor oil will prevent this precipitation.

℞ 13 Acid Salicylic 1%, 2%, 3%, 4%, 5% in Sesame Oil

Salicylic acid is not as soluble in sesame oil as in castor oil. The addition of 10% castor oil will help to make a perfect solution.

℞ 14	Acid Salicylic	3.6
	Sulfur Præcip.	7.2
	Zinc Oxide	
	Talc	
	Glycerin *aa*	20.0
	Water *ad*	120.0

The addition of 35% to 50% of alcohol to replace that quantity of water will prevent the salicyclic acid from being thrown out of solution.

℞ 15	Balsam of Peru	
	Carron Oil	Each 22 parts

The addition of castor oil is necessary to make a homogeneous mixture.

℞ 16	Thigenol	4.0
	Resorcin	1.2
	Acid Salicylic	2.0
	Zinc Oxide	
	Calamine *aa*	8.0
	Glycerin	12.0
	Lime Water	16.0
	Rose Water *ad*	120.0

Make a mucilage with about 15 grains of tragacanth in which triturate the resorcin and salicylic acid until completely suspended. Mix the zinc oxide and calamine together. To this add the glycerin and lime water. Rub the thigenol (like ichthyol) with 50 cc. rose water. Mix with calamine mixture. Lastly add enough rose water to make 120 cc.

℞ 17 Iodine 40% in Ol. Sesame

The iodine is to be triturated with the oil of sesame, previously warmed. Transfer to a glass-stoppered bottle and allow to stand for a few days with frequent agitation. The result should be an iodized oil equivalent in iodine content to the U. S. P. preparation.

℞ 18	Chloral Hydrate	ʒ IV
	Sodium Bromide	ʒ I
	Aromatic Elixir, *q. s. ad*	ʒ IV

Use low alcoholic elixir.

℞ 19	Copper Citrate	gr. 1/40
	Iron and Ammonium Citrate	gr. 10
	Syrup of Orange	f℥ ss
	Distilled Water *ad*	f℥ I
	Make 23 doses.	

Copper citrate is not soluble in water. In order to dissolve the copper citrate in the above formula, it is necessary to triturate it with about 15 grains of citric acid. More may be added if necessary. Separately dissolve the iron and ammonium citrate in the balance of the water, and add to the first solution. Lastly, add the syrup of orange. In the finished product, there will be an equal subdivision of doses of the copper citrate.

℞ 20	Ephedrine Sulfate	0.18
	Terpin Hydrate	3.00
	Elixir Phenobarbital, *q. s. ad*	60.00

If compounded as written, the terpin hydrate will remain undissolved, due to the fact that there is not sufficient alcohol.

A.

Triturate the terpin hydrate with about 3 Gm. of acacia, previously made into a mucilage with a small quantity of water. Add part of the elixir phenobarbital. Separately, dissolve the ephedrine sulfate in a few drops of water and add to the first solution. Lastly, add sufficient of the elixir to make the desired quantity.

B.

Obtain permission from the physician to compound the prescription as follows: Inasmuch as the terpin hydrate is soluble in 13 parts of alcohol, dissolve the terpin hydrate in 39 cc. of alcohol. In this solution, dissolve the ephedrine alkaloid. Now, in order to make up the lost quantity of phenobarbital, it will be necessary to add 2 1/2 grains of phenobarbital alkaloid. The finished product will be perfectly clear. In my opinion, this is the best way to dispense this prescription.

℞ 21	Phenobarbital	gr. 3/4
	Sodium Nitrite	gr. I
	Thyroid	gr. 1/4
	Aspirin	gr. V
	D. T. D. Caps. No. 24.	

Triturate the phenobarbital together with the thyroid and aspirin. Separately, triturate the sodium nitrite with about 12 grains of magnesium oxide, heavy. Mix both triturations and dispense in a screw-cap vial. The mortar and pestle must be perfectly dry and the capsules must be filled very quickly to avoid the absorption, by the powder, of moisture from the air.

℞ 22	Spirit of Ethyl Nitrite	℥ II
	Sodium Salicylate	gr. XXX
	Elixir Amidopyrine	f℥ IV
	Aquæ	f℥ IV
	Syrup of Tolu, *q. s. ad*	f℥ II

When the above is compounded, a color change is noted because of the well-known incompatibility of Spirit of Ethyl Nitrite with sodium salicylate and more so with amidopyrine which is a derivative of antipyrine. Because of this reaction and the constant opening of the bottle, to administer doses of the medicine, there is not much ethyl nitrite left after a while. The attention of the physician should be called to this fact and his permission to use spirit of ether instead of spirit of ethyl nitrite solicited.

℞ 23	Codeine Sulfate	gr. 1/4
	Extract Belladonna	gr. 1/6
	Ammonium Carbonate	gr. II
	Acid Acetylsalicylic	gr. III
	Ft. Cap. No. 1. Disp. Cap. No. 24.	

The problem in this prescription is to prevent liquefaction. The acid acetylsalicylic was tested for free acid, and found to contain but 1/1000% and 1/1500 moisture. The ammonium carbonate was triturated to a very fine powder and added to the compound last, without any more trituration. Upon experimenting I found that magnesium oxide, heavy, would not help in keeping the capsules dry. I also used kaolin with little success. I decided that the best manner of compounding would be to make a capsule of the ammonium carbonate (using a No. 5 capsule). Make another capsule of the codeine sulfate, extract of belladonna and the acid acetylsalicylic. Leave sufficient space in the capsule to permit placing the No. 5 capsule with the ammonium carbonate in it. In my opinion, this is the best way to prevent the ammonium carbonate from coming in contact with the other ingredients.

℞ 24	Creosote	ʒ I
	Ol. Eucalyptus	fʒ I
	Ol. Pini Sylvestris	fʒ I
	Compound Tincture of Benzoin	fʒ V
	Lac Magnesia, *q. s. ad*	fʒ II

The following procedure should be used in compounding the above: To a mucilage consisting of about 10 grains of tragacanth with a small quantity of water, add the compound tincture of benzoin, the oils and the creosote. Lastly, add the milk of magnesia, little by little, with constant trituration. The finished product will be a uniform homogeneous mixture without any separation.

℞ 25 Aluminum c Lanolin 25%
(Special Base)

The physician requested that the above be compounded with a special base, and that if a base other than lanolin would be more suitable, it should be used. On display here may be seen the prescription compounded with lanolin and one in which protegin was used. Protegin is a cholesterinized base which enables one to turn out very fine ointments, where ordinary bases are unsuitable.

℞ 26	Crude Coal Tar	fʒ I *ss*
	Zinc Oxide	
	Amylum *aa*	ʒ III
	Nivea Cream, *q. s. ad*	ʒ IV

The Nivea Cream contains water. When this is mixed with the other ingredients, including the coal tar, the water of the cream will separate out. The proper method to employ is to dissolve the crude coal tar in a small quantity of carbon tetrachloride. Rub the zinc oxide and amylum with the Nivea Cream. Add to the coal tar. If the water separates, add a small quantity of aquaphor (also manufactured by the Duke Laboratories). This will absorb the water. If aquaphor is not available, use anhydrous lanolin or some other suitable absorbing agent.

℞ 27	Castor Oil	
	Spirit of Turpentine	
	Stronger Ammonia Water *aa q. s.*	fʒ III

There are two ways of preparing the above. If compounded in the order in which it is written, the castor oil and the turpentine will separate. However, if the castor oil (1 ounce) is mixed with the stronger ammonia (1 ounce) by shaking well in a bottle, and the turpentine is then added little by little, no separation will occur. Care must be taken that the ammonia does not evaporate.

"In conclusion, I wish to state that the samples presented here do not only apply to these particular prescriptions. Very often pharmacists come across similar prescriptions and therefore it is advisable that these prescriptions be kept on file so that they may be used as guides."