

R. W. TERRY: In my paper of last year on the analyses of different brands of milk of magnesia, I pointed out the deficiencies in various formulas and that in the U. S. P. and N. F. formulas there was not sufficient alkali to precipitate all the magnesia. In the present paper the chemistry of the precipitation of magnesium hydroxide has been studied. Next year, I hope to be able to present some definite formulas for milk of magnesia.

L. E. SAYRE: Did the author report relative to the rapidity of precipitation?

R. W. TERRY: Yes, the more rapid the mixing the better the magma produced.

C. S. HERRON: My experience in making milk of magnesia is with 500-gallon lots. We use a 70 percent caustic with which a solution of a 1.17 specific gravity is made. The solution of magnesium sulphate is also of the same density. After precipitation, live steam is passed through the magma for about three hours. When the washing is completed the magma is free from sulphates. We have found that the specific gravity of the solutions is an important factor.

L. E. SAYRE: There is quite a variability in these magnesia preparations so far as the presence of sulphates in them is concerned.

Mr. Terry was questioned relative to certain qualities that milk of magnesia should possess. These questions were answered in the paper under the sub-head of "Desirable Qualities of Milk of Magnesia," hence, this part of the discussion is omitted.—The EDITOR.

THE ABUSE OF THE "SHAKE-WELL LABEL," WITH DEMONSTRATIONS.*

BY J. LEON LASCOFF.

The dispensing pharmacist frequently comes across difficult prescriptions, especially in the form of mixtures which do not contain insoluble matter. Unfortunately, being very busy with his routine work, very little or no attention is paid to such prescriptions. He mixes the constituents in the order written, does not consult any book of reference, and finds an easy way to overcome this need by the use of the "Shake-well Label," which he places on the bottle.

When this same prescription is dispensed in another store where the pharmacist prepares it scientifically the finished product is without a heavy sediment, transparent or a clear solution, and does not bear the so-called "Shake-well Label," used by the former pharmacist.

The abuse of the "Shake-well Label," by being placed on every mixture, has been practiced for some time. I do not mean to imply that we should do away entirely with these labels; on the contrary, sometimes even in clear solutions (in a mixture of an alkaloid and an alkali) it is absolutely essential to have such label on the bottle.

During the last two decades committees on propaganda were organized, for the purpose of holding joint meetings of the allied professions and to urge the medical men to prescribe combinations of their own, instead of the so-called proprietary articles.

The further object of these meetings is to prove to the physicians that we have scientific pharmacists who take an interest and pride in their work—and that is dispensing.

At the June meeting of the New York State Pharmaceutical Association President Smith, in his annual address, classified pharmacy as follows:

* Read before Section on Practical Pharmacy and Dispensing, A. Ph. A., New York meet-

Class A—The Apothecary or Ethical Pharmacy.

Class B—The Pharmacy.

Class C—The Drug Store (where no prescriptions should be compounded).

It would be a great relief if there were means of separating the different stores as classified above. In my opinion, Mr. Smith's idea is a splendid one.

At the same meeting I submitted a report on the work of the Propaganda Committee, on the U. S. P. and N. F., in which I mentioned that a remarkable change had come about in the last five years in regard to prescription writing. More official preparations are called for now than were prescribed five years ago. I have dealt only with facts in reaching this conclusion. I took the trouble of going over my prescription files and have tabulated a thousand prescriptions received in 1914, and a thousand received during the present year (not during the epidemic), which prove that physicians are prescribing more U. S. P. and N. F. preparations, and also evidence that a more scientific system of prescribing obtains among physicians than formerly.

Later, I tabulated a list of one thousand (1,000) prescriptions, and found more liquids (about 62 percent) are prescribed than capsules, pills, ointments, etc.

The prescriptions (liquid) which I will present, if put up correctly will not require the "Shake-well Label."

I will classify them as follows:

A—Not compounded according to the art and science of pharmacy, the finished product, instead of being clear and transparent, is an unsightly or cloudy mixture.

B—Where the compounding is done scientifically, with an equal subdivision of doses, and "Shake" label is not necessary.

PRESCRIPTIONS.

1. Oil of Cade.....	2 fluidrachms
Tincture of Cantharides.....	1 fluidrachm
Castor Oil.....	4 fluidrachms
Alcohol (50%) to make.....	8 fluidounces
Write: Rub into scalp at bedtime.	

A—Oil of Cade will be separated on account of the diluted alcohol.

B—By adding a few drops of fluidextract quillaja, resulting mixture will be homogeneous and uniform.

2. Lithium Citrate.....	1½ drachms
Sodium Salicylate.....	1½ drachms
Sodium Phosphate.....	2 drachms
Tincture of Cardamom.....	1 fluidrachm
Syrup.....	1 fluidounce
Water to make.....	3 fluidounces
Two fluidrachms 3 times daily.	

A—If compounded in order written a cloudy mixture with a heavy sediment will be obtained; this also occurs when lithium citrate is added to all the other ingredients.

B—Lithium citrate is prepared from lithium carbonate and citric acid. The addition of a few grains of citric acid will make a clear, transparent solution.

3. Salicylic Acid.....
 Lactic Acid.....
 Resorcinol..... Of each, 1 drachm
 Flexible Collodion..... 10 fluidrachms
 Make a solution.
 Write: External use.

A—In this prescription there is a heavy sediment due to the resorcinol.

B—The addition of a small amount of ether will clarify the solution.

4. Fluidextract Cascara Sagrada..... 2½ fluidrachms
 Nujol to make..... 3 fluidounces
 Mixture.
 Write: As directed.

A—An unsightly, cloudy mixture with the cascara floating on top even when shaken.

B—The addition of a few drops of fluidextract quillaja will form an emulsion, and a more uniform mixture will be obtained than in "A."

5. Ammonium Carbonate.....
 Potassium Iodide..... Of each 8.0
 Terpin Hydrate..... 2.0
 Anisated Solution of Ammonia..... 12.0
 Elixir of Orange to make..... 90.0

A—If compounded in order as written a heavy sediment occurs.

B—Dissolve the ammonium carbonate and potassium iodide in an ounce and one-half of elixir; the terpin hydrate in one ounce of alcohol. By then adding the anisated solution of ammonia, and mixing both solutions, a clear mixture will result.

6. Acetanilid..... 24 drachms
 Phenacetin..... 16 drachms
 Salol..... 8 drachms
 Caffeine..... 8 drachms
 Tartaric Acid..... 230 grams
 Sodium Carbonate..... 24 drachms
 Diluted Alcohol..... 1 gallon

I experimented with 4 fluidounces, dissolving the acetanilid in 3 fluidrachms of alcohol, the phenacetin in 1 fluidounce of alcohol, and the salol and caffeine in 5 fluidrachms of alcohol (2 fluidounces of alcohol in all), and then mixed the three solutions. The tartaric acid and sodium carbonate were dissolved together in 2 fluidounces of water; then the aqueous solution was gradually added to the alcoholic, when no untoward result ensued.

7. Sodium Iodide..... 20.0
 Elixir of Iron, Quinine and Strychnine Phos-
 phates..... 180.0
 Write: A teaspoonful 3 times a day, after meals.
 Note.—Same applies to mixtures of bromide with the elixir
 of above preparation.

A—A cloudy mixture with a precipitate. In this prescription the phosphate salts are incompatible with the sodium iodide.

B—Use the Elixir of the National Formulary, which makes a uniform and clear solution.

8.	Tincture of Iodine.....	20 drops
	Menthol.....	8 grams
	Albolene.....	1 fluidounce
	Write: Use as a spray.	

If compounded as written a turbid mixture results due to the alcohol and water in the tincture of iodine, and the oil. By using iodine crystals with a few grains of potassium iodide equivalent to tincture, the alcohol and water are eliminated and a clear mixture results.

9.	Salicylic Acid.....	2 drachms
	Ferric Pyrophosphate.....	1 drachm
	Sodium Phosphate.....	1 drachm
	Water to make.....	4 fluidounces
	Write: One-half tablespoonful 3 times daily, in water.	

A—If compounded in order written a precipitate will occur.

B—The sodium phosphate and the salicylic acid are to be rubbed well in a glass mortar, adding to it 3 fluidounces of boiling water; the iron pyrophosphate is to be dissolved in the remaining water. By adding the first solution to the other a clear solution will result.

10.	Precipitated Sulphur.....	0.20
	Eucalyptol.....	20.0
	Sesame Oil.....	80.0
	Write: From 2-5 mils, as an injection.	

A—Sulphur will not dissolve in the oil, even by rubbing.

B—Dissolve the sulphur in sesame oil by application of heat, and later, when cool, add eucalyptol. A clear solution will be obtained.

11.	Sodium Benzoate.....	2½ drachms
	Sodium Bicarbonate.....	4 drachms
	Liquid Triticum (P. O.).....	3 fluidounces
	Peppermint Water.....	4 fluidounces
	Syrup of Sarsaparilla Comp. to make.....	8 fluidounces
	Write: A tablespoonful in water four times a day, before meals and at bedtime.	

A—A sediment of the sodium bicarbonate will occur if prepared in order given.

B—A perfectly clear solution will be obtained by dissolving the sodium benzoate and sodium bicarbonate in the peppermint water and then triturating it with the liquid triticum. Effervescence takes place, probably due to presence of acetic acid in the latter.

12.	Menthol.....	5.00
	Phenol.....	3.00
	Zinc Oxide.....	20.00
	Magnesium Carbonate.....	6.00
	Glycerin.....	5.00
	Expressed Oil of Almonds.....	30.00
	Solution of Calcium Hydroxide.....	80.00
	Rose Water to make.....	240.00
	Write: Dab on skin every two hours.	

A—After standing for a while this mixture thickens and solidifies to such an extent that it is impossible to either shake it or pour it from the bottle.

B—Mix the zinc oxide with double the amount magnesium carbonate (12.00) in a mortar; to this add the almond oil and lime water (previously mixed); triturate this well, add the glycerin and rose water, and pour into an 8-oz. bottle. Then mix the menthol with the phenol in a mortar and add it to the mixture. The result is an elegant lotion, perfectly white and uniform. The reason for the added amount of magnesium carbonate is to make the preparation more alkaline.

13.	Creosote (Beachwood).....	1/2 fluidrachm
	Glycerin.....	
	Syrup of Yerba Santa.....	Of each, 2 fluidrachms
	Simple Elixir to make.....	2 fluidounces

A—If prepared in order written, a cloudy mixture, with the creosote floating on the surface, will result.

B—An addition of a small quantity of alcohol to the creosote will make a perfect solution. Simple elixir contains alcohol, therefore, it is not harmful to use an additional small quantity of the latter.

14.	Theobromine Sodio-Salicylate.....	3 drachms
	Tincture Digitalis.....	4 fluidrachms
	Simple Syrup.....	1 fluidounce
	Water to make.....	3 fluidounces
	Write: 1 fluidrachm.	

A—Frequently a turbid mixture will occur, owing to the decomposition of the salt when exposed to the air.

B—An addition of a few drops of 5% sodium hydroxide solution is necessary to correct the insolubility.

All of these prescriptions were presented in our store for dispensing. No eliminations or filtrations were made in either "A" or "B."

The pharmacist should never take any liberties with physicians' prescriptions in making any changes or additions.

In many cases I informed the physician of changes made, and he, indeed, was not only satisfied, but also thankful for my suggestions.

In conclusion, I would say that accuracy and neatness play a large rôle in dispensing. In liquids, where the ingredients are soluble, clear solutions, if possible, should be dispensed, thereby avoiding as much as possible the habit of using the "Shake Label." The customer judges the skill of the dispenser very largely by the appearance of the finished product. The same applies to the good quality of the cork—and the neatness of the label. If the cork breaks off the customer imagines that the quality of drugs is also poor.

A large percentage of proprietary articles are clear solutions. A very few, with the exception of liniments and emulsions, require that the bottle bear a "Shake Label."

In our U. S. P. only 14 galenicals, being mixtures, emulsions, liniments and oleoresins, should be dispensed with the "Shake Label." All the other galenicals are clear, transparent solutions; that is why it is our duty to see that all liquids

which are soluble should be dispensed as clearly and as neatly as possible, without this paster, "SHAKE WELL BEFORE USING."

ABSTRACT OF DISCUSSION.

Discussions followed each prescription, and are here briefly reported in abstract, whenever there were expressed differences of opinion; otherwise the comments of the author, following the prescriptions, only are given.

PRESCRIPTION NO 1.

MR. LASCOFF: The castor oil was dissolved in 4 fluidounces of alcohol, the tincture of cantharides was added and then the oil of cade; lastly 3 fluidounces of water, containing a small amount of fluidextract of quillaja, was added. The result was a homogeneous mixture, whereas mixing the ingredients in the order given in the prescription would have resulted in a preparation wherein the oil of cade would rise to the top.

MR. RAUBENHEIMER: Quillaja in a preparation for internal use is objectionable and harmful; this does not apply in a preparation of this kind.

In Prescription No. 2, only the salt formed by the addition of citric acid was discussed.

In Prescription 3, the harmful effects of quillaja were considered, but the amount added was conceded to be without such effects.

In Prescription 5, the amounts of alcohol and glycerin necessary to maintain solution were considered. It was also brought out that sugar was sometimes precipitated. Ivor Griffith stated that glucose in 25% alcohol will hold terpin hydrate in solution.

Prescription 12 brought out that considerable experimentation is necessary to evolve a scientific method of preparation. This was admitted by the author, and also that such service should receive compensation.

THE BUSINESS POSSIBILITIES OF MANUFACTURING IN THE RETAIL DRUG STORE.*

BY GEORGE M. BERINGER, JR.

In the matter of manufacturing, the Retail Druggists of the United States might be divided into two classes: those who prefer to devote all their energies to salesmanship, and, hence, make practically nothing; and those who make a few of the commoner preparations and specialties, but draw the line at certain preparations which tradition, rather than fact, says can be made more cheaply by the large manufacturer. Those of the first class buy Brown Mixture, Chalk Mixture, Syrup of Wild Cherry and Solution of Magnesium Citrate. They even buy five and ten cent packages of Epsom Salt and sell them again—as far as the contents go—sight unseen! These are the men who continually decry the advancements in Pharmacy, who would turn our colleges into mere schools of salesmanship, yet they, themselves, violate the first principle of modern salesmanship in that they know nothing about the goods they sell. The second class, I fear, are less numerous than the first. They are surely, fundamentally, better merchants than their pseudo-successful brethren of the first class, and would probably be more successful were they but fully alive to the business possibilities that their manufacturing offered.

The trouble is, that the average druggist of all classes thinks only of his profit as the difference between the cost and the selling price. If business were so simple, we would all be merchant princes. However, there are a number of factors which

* Read before Section on Commercial Interests, A. Ph. A., New York meeting, 1919.