

this time, the name of William Procter, Jr., the Father of American Pharmacy—the one single individual who did more substantial work for the betterment of pharmacy in America than any other individual member of the fraternity.

For years before the organization, he had been quietly but earnestly at work with the preliminary elements of the Association. In 1831, he began his apprenticeship in the study of pharmacy. From the time of his graduation to the year of his death, he regularly contributed valuable papers published in the American Journal of Pharmacy. In 1841, he was appointed secretary to the committee on revision of the U. S. Pharmacopoea. In 1844, he opened a pharmacy at the southwest corner of Ninth and Lombard streets, which continued under his ownership and management to the time of his death. In 1846 he was elected Professor of Pharmacy in his alma mater, the first pharmacist to hold a professorship in the oldest college of pharmacy in America.

In 1846 he assisted Prof. Joseph Carson as co-editor of the American Journal of Pharmacy. In 1850 Prof. Carson resigned, and Prof. Procter succeeded him in editorial management of the Journal. A reference to the Journal and the proceedings of the American Pharmaceutical Association will demonstrate the value of his life to pharmacy.

THE MANUFACTURE OF GALENICALS BY THE RETAIL PHARMACIST.

Its Possibilities and Limitations.

HENRY C. BLAIR.

Pharmacy, according to Professor Remington, is the science which treats of medicinal substances, and comprehends not only a knowledge of medicines and the arts of preparing and dispensing them, but also their identification, selection, preservation, combination and analysis.

Accepting this as a correct definition, it follows that a pharmacist is one who knows theoretically and practically these arts.

It does not follow that he must practice these arts, or all of them, in the case of every medicinal substance that he uses in his business, though this seems to be the opinion of some writers.

On the other hand, a man who works in a drug store and who does not practice the arts of the profession can not be considered a pharmacist.

Where, then, shall the line be drawn? In order to serve the public properly, to derive from his business the largest return, and to practice pharmacy as a profession, the following rule in relation to galenicals will serve as a guide to the conscientious pharmacist:

Manufacture all galenicals unless they can be procured of a better quality than you can make or unless they can be purchased for a less price than they cost you to make, quality being equal.

The retail pharmacist should make the following galenicals because he can

do so just as well as the large manufacturer and at a much lower price than he must pay anyone else:

Waters, solutions, syrups, honeys, mucilages, emulsions, mixtures, glycerites, spirits, elixirs, collodions, liniments, infusions, decoctions, most tinctures, wines, vinegars, powders, triturations, masses, confections, pills, troches, cerates, essences, ointments, hypodermic tablets, compressed tablets, and filled capsules.

Of course, there are exceptions in each of these classes.

In the waters, we except rose, orange flower and cherry laurel for these can be made where the flowers can be procured in a fresh condition of a better quality than those made in any other way.

In the solutions, nitroglycerin for obvious reasons.

In the spirits, frumenti for government reasons. Likewise, wines.

Gelatin, sugar, and chocolate coated pills cannot be made on a commercial basis by the retail pharmacist, and in the opinion of the writer no physician who gives his patient proper advice will order these except in rare instances, where the medicine is extremely disagreeable, or for some other equally good reason.

Every pharmacist should have a machine for making compressed tablets. Any ordinary medicine ordered in a tablet may be made by a hand machine in a few minutes, and while the expense, in time, may be much greater than the cost of a ready-made tablet, the freshness of the medicines and softness of the tablet (less compression) will be sufficient to warrant the proceeding, and when the doctor and patient know that this is the practice, remuneration without objection will follow.

In the writer's opinion, compressed tablets are the poorest form of administering medicines.

For about two dollars a mould for making tablet triturates can be purchased; it requires only about fifteen minutes to make one hundred triturates. These are much more soluble than compressed tablets.

When business is slack, triturates can be made up for stock (such as will not deteriorate by keeping), and special formulae on prescription can be made so quickly that pharmacists should be prepared to do this work and so notify their physician friends.

The cost is considerably less than that charged by manufacturers.

Plasters, except the ready-made kind, are used but seldom. This is largely due to the fact that physicians do not know or have forgotten that a pharmacist can make plasters. For many purposes and for many reasons, specially prepared plasters are far superior to the factory-made ones, and if the matter is properly brought to the attention of the medical profession, they will again come into use.

It will be noticed that extracts, powdered, solid and fluid, are not mentioned in the foregoing list of galenicals. The reasons follow:

The average retail pharmacist uses a great many extracts, but comparatively little of any one. Unless he can use a large amount of any one the cost of making will be from two to ten times the price he must pay a manufacturer for them.

Unless he has apparatus and facilities, which include a vacuum pan and condenser, he cannot make them of as good quality as the large manufacturer.

The writer does not know of any retail pharmacist having a vacuum pan.

Therefore, these extracts are left out of the list of galenicals that a pharmacist should make.

Exceptions also must be made to the following tinctures: Aconite, belladonna, hyoscyamus, physostigma, stramonium and possibly cinchona, nux vomica and opium.

Unless a retail pharmacist uses large amounts of these and becomes expert enough to properly and accurately assay them, it does not pay, either financially or morally, to make them.

His cost of assaying makes them come to a much higher figure than that charged by the large manufacturer; and the writer has yet to see the active retail pharmacist who can afford time from his other work to make an assay every time it is required; the result being that this work must be left to an employe, possibly a college student, who can not be expert enough to be relied upon. On the other hand a reliable and trustworthy manufacturer employs expert chemists who are making assays every day and who become so expert that there is never and doubt as to their findings. In fact, most reliable houses make a number of assays of each lot of product, and these must correspond, thereby establishing beyond a doubt the exact strength.

Our state and federal laws require these tinctures to conform to the U. S. P. and, even if manufacturers were inclined to be dishonest, the chances are that they would not jeopardize their business by sending out unassayed tinctures.

There is no reason why a pharmacist should not purchase these preparations, any more than there is a reason why he should make his own chemicals, such as hyoscine, digitalin, iodoform, phosphorous or carbon bisulphide.

Certainly he should know how to make them and assay them, just as he should know how chemicals are made and tested, but when the cost of production and the end results are considered, it would be absurd, from a business point of view, for him to do so. If a retail pharmacist purchases his extracts or tinctures from another manufacturer he should assure himself that the manufacturer employs first-class chemists—then he should occasionally make tests or assays to see that he is getting standard preparations. If he finds that he is not, he should notify the manufacturer, who should replace the article complained of with first-class goods and pay all expenses, including costs of testing. Otherwise, the retailer should notify the state and federal authorities and sue for damages. One or two cases of this kind would be of signal benefit to the public.

Reputable manufacturers are always glad to have their attention called to their goods in case of a mistake or of an article found to be inferior, and to "make good" if they can do so.

Recently when a manufacturer sold to the writer an enzyme preparation, for which no test is given in any text book, but which did not respond to the test applied as it should have done, the manufacturer supplied a new lot at no cost to the writer, even though the test used was not that in use in the manufacturer's laboratory.

The galenical part of our business is not different from the drug or chemical part; we are advised by some writers that unless a man makes all his own galenicals, including extracts, he is no pharmacist, yet these same men ignore the chemical issue. Is there anyone so foolish as to think that a pharmacist

should make his own chemicals? Is it not just as ridiculous to expect the retailer to make galenicals that require even more complicated and expensive apparatus and more accurate manipulations?

When the question of assay enters into the value of a galenical, is it not better to rely on the expert chemists than to risk the health and even lives of the public by attempting to apply that part of our theoretic knowledge which is so little used that we cannot become expert?

We believe the answers to these questions by practicing pharmacists can be only in the affirmative. If a galenical requires apparatus for making or facilities for assaying or testing that are beyond the reach of the pharmacist, he is justified in purchasing such galenicals from the large manufacturer just as he purchases the alkaloids, and other chemicals.

THE PHYSICIAN AND THE PHARMACIST.*

W. A. PUCKNER.

Physicians need pharmaceutical advisers—those whom they may consult concerning desirable methods of preparing medicines for administration, their incompatibilities and similar questions, upon which it is difficult for physicians to keep posted. During recent years many physicians have been inclined to forsake their corner druggist, because he has been tried and too often found wanting, and have pinned their faith to pharmaceutical manufacturers and promoters of specialties and their detail men. Dependence on the specialty proprietors has, however, been disastrous—so disastrous that well informed physicians will have no more of the detail men.

The recent reports of Council on Pharmacy and Chemistry of the American Medical Association and of the Association's chemical laboratory demonstrate amply that entire dependence cannot be placed on manufacturing pharmacists and their endless assortments of ready-made tablets, elixirs and syrups.

While it has not been the aim of the American Medical Association in its propaganda for honest medicines to specially favor the retail pharmacist and to work in his interests, its publications are such that the retail pharmacist could use a large part of them as arguments that he deserves the confidence of the practicing physician. The recent reports from the Association's chemical laboratory giving the results of examinations of tablets of bismuth, phenol and opium and of certain compound digestive tablets might well be used by the pharmacist as an argument to physicians, that instead of using the thousand and one ready made tablets offered by manufacturers, it would be to the advantage of the physician as well as the patient if, instead, he would prescribe remedies to be put up by the pharmacist. Again, the reasons given by the Council on Pharmacy and Chemistry for not recognizing the chemical substance, quinine arsenate, can be used by the pharmacist as another argument why the physician should write prescriptions. Quinine arsenate, it should be stated, was rejected

*Read at the Meeting of the City of Washington Branch, December 20, 1911.