

tion can never be brought about until the medical profession recognizes that pharmacy is an important part of medical practice, and physicians are willing to cooperate with pharmacists, and they with physicians, in pharmaco-therapeutic service.

The first step for the accomplishment of this desirable object must be the banishment of all systems of monopoly in pharmacologic practice, and the substitution of cooperation in place of competition in the introduction of new materia medica products, and the opening up of the educational institutions for the coordinate teaching of pharmacology to the medical and pharmaceutical students and practitioners of medicine and pharmacy. And it seems to me that the plan for the coordinate and cooperate introduction of materia medica products to science and brands of the same to commerce points out the way.

IMPROVED FORMULA FOR A TESTING INK FOR STERILIZERS AND AUTOCLAVES.*

BY IVOR GRIFFITH.

There have been placed upon the market several expedients for determining the reliability and accuracy of the numerous sterilization methods. Among the most popular of these articles might be named the tablets and powder tubes containing some mercuric compounds which have the power of radically changing color when the desired sterilization temperature has been reached. However, because of the expense of the available market articles, experimenters have attempted to work out some other method of obtaining the same results.

There recently appeared in a Hospital Journal a working formula for a so-called sterilizing ink. This ink was designed to be used in marking surgical dressings prior to their introduction to the sterilizing chamber, and the original color of the ink, which was red, would change, when sterilization temperature had been obtained, into a distinctly different color. Experimentation with this ink, however, proved it to be unsatisfactory in many respects. The so-called working formula refused to work, and the directions for compounding were entirely contrary to the usual practice.

Utilizing this formula as a working basis, the following recipe was conceived, and is perfectly capable of being transformed into a satisfactory article. There are advantages in compounding this ink in small quantities because of changes which occur when the ink is kept on hand too long. However, it has been our experience that ink in unopened bottles will keep unchanged for a long time, particularly if kept in amber-colored containers and away from the light. Formula:

Carmine.....	3 Gm.
Silver nitrate.....	30 Gm.
Potassium bitartrate	30 Gm.
Stronger ammonia water.....	120 cc
Simple syrup.....	15 cc
Mucilage of acacia.....	15 cc

* Read before Section on Practical Pharmacy and Dispensing, A. Ph. A., Cleveland meeting, 1922.

Working Directions.—Triturate the carmine with the stronger ammonia water until solution is effected. Add this to the silver nitrate, previously pulverized, and stir well. To this add the potassium bitartrate and again stir briskly. Next add the syrup which causes the mixture to become quite viscid. Finally add the mucilage of acacia, and the mixture is completely homogenized by thorough shaking. The result is a deep purplish red ink, which prints light red letters.

Method of Using.—Before the dressings are introduced into the sterilizer a piece of paper, upon which is written with the sterilizing ink the date of sterilization, is attached to the dressings. The sterilizing is conducted in the usual way. If sterilizing temperature (approximately 260° F.—20 pounds pressure) is attained, when the dressings are withdrawn the ink upon the paper which was originally red, will have changed to a black color, indicating the completion of proper sterilizing technique.

STETSON HOSPITAL,
PHILADELPHIA.

FURTHER NOTES ON TINCTURE OF CANTHARIDES.*

BY F. W. NITARDY.

As the U. S. P. process for Tincture Cantharides, as well as the process referred to in my paper presented to this Section in 1919,¹ do not always yield satisfactory results, further experiments have been made on the extraction of cantharides with the view of finding a simple method and suitable menstruum which will yield uniform and satisfactory results.

This paper should be considered in connection with my two previous papers on this subject,¹ and is not intended as a final report, but is offered for the purpose of recording the experiments which have been made and the results obtained. These experiments seem to indicate that it will be possible to prepare a Tincture of Cantharides by a simple extraction process, *i. e.*, the ordinary cold percolation method, with a menstruum that may prove acceptable for this preparation.

It has been claimed that glacial acetic acid, chloroform and acetone are excellent solvents for cantharidin, to which the activity of this drug is ascribed. Two preliminary experiments were therefore made, as follows:

Experiment No. 1.—100 Gm. of Powdered Cantharides were moistened, macerated for two days, and then percolated to obtain 1000 cc of tincture, using a mixture of 1 vol. of glacial acetic acid and 9 vols. of alcohol as a menstruum.

Experiment No. 2.—100 Gm. of Powdered Cantharides were moistened, macerated and percolated with acetone until exhausted; the acetone was then distilled off and the residue dissolved in alcohol to make 1000 cc.

Both tinctures were tested for blistering power by application to the skin of the arm. The tincture obtained in Experiment No. 1 produced a blister; the tincture obtained in Experiment No. 2 reddened the skin, but produced no blister.

A lot of Powdered Cantharides (assaying 0.9975% total cantharidin) was then set aside for further experiments, which were carried out as follows:

* Read before Section on Practical Pharmacy and Dispensing, A. Ph. A., Cleveland meeting, 1922.

¹ JOUR. A. PH. A., 8, 1030, 1919, and 10, 705, 1921.