

with corks. The ether is quickly used and is never more than one week old. Bulk ether would not be recommended for small hospitals where the demand is less.

Since our hospital is a teaching institution, we also give the students instruction in tablet manufacture. Tablets of ephedrine, ephedrine and phenobarbital, sodium chloride, ammonia chloride, sodium acid phosphate, methenamine and some glandular tablets can be profitably made and with very little effort. We are equipped with a 3B Colton Tablet machine and wet granulator and it may be found practical for you to invest in a small tablet machine which can be purchased for as little as \$75.00.

Our hospital is divided into departments, each one having a separate budget. The drug room operates on a revolving fund, the income coming from the charges for drugs sent to the various departments. By such a plan not only the pharmacist but also the department head must carefully watch the purchases. A hospital of 450 beds can successfully function on a budget of \$7500 a year, for drugs.

The hospital pharmacist has a very responsible position to fill and can do much to strengthen the position of Pharmacy.

WHO WAS THE AUTHOR OF THE FIRST PHARMACOPŒIA PUBLISHED IN THE UNITED STATES?*

BY C. O. LEE¹ AND F. J. LEBLANC.²

The first pharmacopœia to appear in the United States is known as the military pharmacopœia published at Lititz, Pa., in 1778. It has been referred to as a diminutive formulary intended for the use of surgeons in the temporary hospitals during the Revolutionary War.

It is said that only two copies of this original pharmacopœia are in existence. One of these is in the Library of the Surgeon-General's Office at Washington, D. C. A second copy is said to be in the possession of a druggist in Lancaster, Pa.

Most writers upon the subject credit Dr. William Brown as being the author of this first pharmacopœia. Concerning him Wilbert (2) says that little is known about his life and personality. It is recorded that he succeeded Dr. Benjamin Rush as physician-general to the middle department of the Continental Army, July 2, 1777, which position he resigned July 21, 1780 (1).

The *Dictionary of American Biography* states that, "while serving in the Revolutionary Army in 1778, Brown brought out the first pharmacopœia ever published in the United States, a pamphlet of thirty-two pages, written entirely in Latin." It is said to have been based on the Edinburgh Pharmacopœia of the day (6).

The *Index Catalogue* (7) gives the full title of this text and places the name of Brown in brackets [Brown (W)] along with it.

Upon the first page of a reproduced copy of this pharmacopœia there is to be found a note in longhand, addressed to the Junior Physician and Surgeon, General Hospital in which it is stated, among other things, that "the following Pharmacopœia has been compiled." The signature of W. Brown is at the end of the note.

* Section on Historical Pharmacy, A. Ph. A., New York meeting, 1937.

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These references might indicate that the authorship of this book should be credited to Dr. Brown. There is nothing, however, so far as we can see, which states it to be a fact. His name was not printed in the text of 1778 as it was in the revision of 1781. The latter appeared a year after his resignation from the service of the Army (6).

DR. JAMES TILTON NAMED AS THE AUTHOR.

In the *Journal of the American Medical Association* for December 26, 1896, there is to be found an article entitled, "Early American Pharmacopœias and Their Authors." It is an editorial of three pages. The reference of Dr. Tilton as the author of the first American Pharmacopœia may be told best by quoting the first thirty-four lines which are as follows:

"The recent International Pharmaceutic Congress at Prague dealt with the history of pharmacopœias but devoted almost no attention to the evolution of pharmacy in the United States. The first attempt at a pharmacopœia in the United States resulted at Lititz, Pa., from the endeavors of Dr. James Tilton of Delaware to secure an official standard as a check on the rapacity of the contractors supplying Washington's army. Dr. Tilton was the first president of the Delaware State society organized in 1789. He was graduated from the University of Pennsylvania in 1771. In 1777 while in charge of the General Military Hospital at Princeton he exposed the "boodleism" and brutality which naturally resulted from laymen having charge of the medical department of Washington's army. Through Dr. Tilton the service was reformed. Relatively inexpensive, readily ventilated, log hospitals took the place of the old mansions previously used. The wounded did not suffer so much from unnecessary travel. Mortality decreased and the health of the convalescent was much improved. Dr. Tilton, like most physicians of the time, took an active part in modeling the statesman-like measures characteristic of the American Revolution. He was several times a member of Congress. During the war of 1812 he was made Surgeon-General U. S. A. He was a man of great executive ability and an excellent sanitarian. He died in 1822 at the age of 77. Among his contributions to medical literature was one advocating the sea-air in cholera infantum.

"The first edition of Dr. Tilton's pharmacopœia appeared in 1778. It was based on the Edinburgh Pharmacopœia and went through a second edition in 1781, Dr. William Brown editing it" (4).

It will be observed that this editorial is rather convincing concerning Dr. Tilton and his relationship to the first American Pharmacopœia. However, we have found but the one article naming him as the author of this book, while there are several which mention the name of Dr. Brown.

In a private communication of recent date the Assistant Librarian of the Army Medical Library, Washington, D. C., wrote, "regarding the Lititz Pharmacopœia, we find that Francis R. Packard in his History of Medicine in the United States is the authority for the statement, to wit:

"At Lititz, another Moravian village in Lancaster County, Penna., a Continental Army hospital was established and maintained from December 1777, until August 1778. In January, Dr. William Brown, one of the most capable medical officers in the Continental Army and author of the first American Pharmacopœia, was placed in charge of all the Continental Army hospitals in Lititz and its vicinity, and Dr. Francis Allison, Jr., was associated with him."

"The imprimatur of the copy of the Pharmacopœia in this Library bears the place and date of Lititz, March 12, 1778, and so far as known Dr. James Tilton is not associated with the edition of this work."

The few biographical references which we have consulted have much more to say about Dr. Tilton than Dr. Brown. The former served through both the war of the Revolution and the war of 1812.

In 1776 Dr. Tilton was surgeon to a Delaware regiment. 1777-1780 he was in charge of hospitals at Princeton, Trenton and New Windsor, Md. In 1780 he was promoted to senior hospital physician and surgeon and operated a hospital at Williamsburg, Va. At the close of the war he returned to practice at Dover. 1783-1785 he was a member of the Continental Congress. In 1813 he was made physician and surgeon-general of the Army and in 1814 formulated Regulations for the Medical Department to be issued in the general orders. His office was terminated in 1815 by act of congress (8). Tilton is frequently quoted with reference to the hospitals of his time (9).

No attempt is being made in this paper to draw conclusions from the meager evidence which is at hand. We merely wish to call attention to a confusion which should be properly clarified. It is a clear case of the thing that is so apt to happen when people write about matters historical without citing the sources of their information.

REFERENCES.

- (1) Brown, G. A., *J. Am. Med. Assoc.*, 74, 1346 (1920).
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- (3) Editorial, *JOUR. A. PH. A.*, 9, 1132 (1920).
- (4) Editorial, *J. Am. Med. Assoc.*, 27, 1349 (Dec. 26, 1896).
- (5) Private Communication, Army Medical Library (June 25, 1937).
- (6) Johnson, A., *Dictionary of American Biography*, 3, 157 (1929).
- (7) *Index Catalogue*, Library of the Surgeon's Office, United States Army, Third Ser., Vol. 8, 866 (1929).
- (8) Malone, D., *Dictionary of American Biography*, 18, 550 (1936).
- (9) Ashburn, P. M., "A History of the Medical Department of the United States Army" (1929).

INDUSTRIAL RESEARCH LABORATORIES.

REVISION OF BULLETIN 91, NATIONAL RESEARCH COUNCIL.

The increase in the number of research laboratories maintained by industrial concerns in the United States during the last few years has made it seem desirable to issue a new edition of the National Research Council's Bulletin, "Industrial Research Laboratories of the United States," fifth edition.

On March 25th questionnaires were mailed to the 1562 concerns which were included in the last edition of 1933, and to a large number of new concerns which are thought to maintain laboratories.

If the reader of this note is a member of a firm which maintains a laboratory where research looking toward the development and improvement of products is carried on, it is hoped that he will ascertain whether a questionnaire has been received by his company, and if not that he will request one from the Library, National Research Council, 2101 Constitution Avenue, Washington, D. C.

There is no charge for the entry in the bulletin, the only requirement being that the laboratory is undertaking research.

It is desirable to have the information for the bulletin in hand as soon as possible so that the publication may appear within the current year.