

'70's. An English translation of the items was turned over to the Section. In brief, the papers are summarized as follows; the originals are in possession of the Alumni Association of the St. Louis College of Pharmacy:

1. The birth and baptismal record of Carl Ludewig Lips, an apothecary of St. Louis during the fifties and sixties and seventies.
2. His school certificate.
3. Proof of requisite preliminary education.
4. Certificate of apprenticeship.
5. Diploma.
6. The apothecary's oath taken by Lips.
7. Proof that Lips has taken the oath in this body.
8. Reports of two of Lips' pharmacy inspections.
9. Certificate of Lips' honorable discharge from military service.
10. Testimonials received by Lips from his several employers.

Dr. H. M. Whelpley presented reprints from Meyer Brothers' Druggist of reminiscences of Professor C. Lewis Diehl by his daughter. The personality of this lovable character is clearly shown. The article is printed in the publication mentioned for August 1917, pp. 250-251.

Following the reading of each paper the contributors were given a vote of thanks. The next order of business was the election and installation of officers for the ensuing year as follows: *Chairman*, L. E. Sayre of Kansas, and *Secretary*, Hugo Kantrowitz of New York. After extending a vote of thanks to the retiring officers the Section adjourned.

THE DEVELOPMENT OF MANUFACTURING PHARMACY IN INDIANA.*

BY J. K. LILLY.

Until the period following the close of the Civil War there were no manufacturing pharmaceutical establishments in the State of Indiana, such operations being limited to small laboratories in wholesale or retail drug houses. The house of Craighead & Browning, afterwards Browning & Sloan, located in Indianapolis, had a large wholesale and retail business and made a great many of their own preparations, but did not sell them to others. It is an interesting piece of history that as late as 1885 or 1886 the retail department of Browning & Sloan did a larger volume of business than any other concern in the United States. A force of twenty-five or thirty clerks were employed. A prescription counter about fifty feet in length literally swarmed with prescription clerks, and a very large portion of the dispensing of drugs for Central Indiana was handled by the store. A large building on Washington Street was occupied by a large stock of merchandise and nothing but drugs and immediately allied lines were handled. The synonym for the firm name of "Apothecaries Hall" was employed and appeared on all signs and printed matter. George W. Sloan, of this firm, was a life-long member of this Association and at one time its president.

The first laboratory for the manufacture of pharmaceutical preparations in Indiana was established by Mr. James E. Lilly at Evansville, Ind., in the year

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1870. The title of this firm was James E. Lilly & Company, the company being his father-in-law, Captain Dexter, a noted steamboat captain and owner of several boats running on the Ohio river. In 1872 Capt. Dexter's interests were purchased by a Mr. Phelan, the firm becoming Lilly & Phelan. Considerable progress was made by this concern during the few years of its existence and a catalogue on display in the historical exhibit of this meeting shows that considerable quantities of goods must have been shipped outside the confines of the State. In those days river traffic was very heavy and Evansville was favorably located for all Ohio and Mississippi River points, also their tributaries. Owing to financial speculations by the junior member of the firm of Lilly & Phelan, financial embarrassment overtook the concern and it went out of business in 1874. Mr. James E. Lilly then entered the employ of Wm. R. Warner & Company, of Philadelphia, but in 1878 became associated with his brother Eli at Indianapolis and has been continually associated with Eli Lilly & Company as partner and officer since that date.

About the year 1875 the firm of Buntin & Armstrong, of Terre Haute, began the manufacture of a line of pharmaceutical preparations consisting principally of elixirs and syrups, and secured a substantial volume of trade throughout Indiana and Illinois. Subsequently this line was abandoned by this concern upon its dissolution, W. H. Armstrong establishing a surgical instrument house and Mr. Buntin establishing the Buntin Drug Company, of Terre Haute, which is still in existence as a retail drug store.

In 1873 Eli Lilly, associated with Dr. John F. Johnston, established the firm of Johnston & Lilly at Indianapolis.

In response to a request by the committee of your Association, a brief synopsis of the life of Eli Lilly is given as follows:

He was born in Baltimore, Md., in 1838, the Lilly family having been established in and around Baltimore from a period antedating the Revolution. During infancy he removed with his parents to the Blue Grass region of Kentucky, first residing at Lexington and later upon a farm near the town of Warsaw, in Gallatin County. When still quite a small lad the family removed to Greencastle, Ind. This town remained the family home for many years. Along in the fifties young Eli paid a visit to his Uncle Caleb, at Lafayette, Ind. In those days Lafayette was looked upon as the coming metropolis of the West, being at the head of navigation of the Wabash and also on the thriving Wabash & Erie Canal. In wandering about the public square, taking in the sights of the city as country-town boys are wont to do, his attention was attracted to a large sign depicting the story of The Good Samaritan. This sign occupied a goodly portion of the front of a building over the door of the drug store of Henry Lawrence. Mr. Lawrence was a highly educated English apothecary and enjoyed the confidence and patronage of a large following of physicians and the laity. He called his store "The Good Samaritan Drug Store." This caught the youthful fancy of Eli, and upon returning to the office of his uncle he solicited his assistance in securing a job in that Good Samaritan Drug Store. This was very fortunately accomplished and Eli immediately entered the employ of Mr. Lawrence as an apprentice on the old English plan of pharmaceutical apprenticeship. It was a thorough school and Eli succeeded in winning the approval of his preceptor.

Many are the interesting stories told of pharmaceutical manipulations of those early days in The Good Samaritan Drug Store—the manufacture of pills by hand in large quantities, the powdering of gamboge and other noxious substances in iron mortars, with one's respiratory organs protected by wet cloths, the daily study hour, the hour of recitation before retiring, the early hours of opening, building the fire on cold mornings, will all be familiar to those informed on early pharmaceutical training. In due course Mr. Lawrence announced that Eli was competent to conduct his own store. He thereupon returned to Greencastle and after a brief clerkship his father assisted him in establishing a store in which he was just beginning to make some progress when the Civil War began in 1861. Having always possessed a love for military affairs, he immediately volunteered for service, literally locking his front door and leaving for the front. He served his country continuously throughout the war, first as Lieutenant in an Infantry Company on the three months' service, then Captain of Artillery for several years, in which he took part in Chickamauga, Hoover's Gap, Mossy Creek and other important battles. Later he entered the Cavalry service and was mustered out as Colonel of the 9th Indiana Cavalry.

At the close of the war he undertook cotton planting in Mississippi. This venture, however, proved disastrous, droughts and malaria ruining him in health and purse. Coming north in '67, he secured a place with the wholesale drug house of H. Dailey & Company, in Indianapolis, having charge of the little laboratory and the filling of certain kinds of orders. In 1869 he formed a co-partnership with Mr. James Binford, of Crawfordsville, Indiana, and opened a retail store in Paris, Edgar County, Ill., under the firm name of Binford & Lilly. This store still exists under the name of the Binford Drug Company. This proved a successful venture and gave him a small amount of capital with which he joined with Dr. John F. Johnston, as previously stated, and formed the manufacturing pharmaceutical concern of Johnston & Lilly, in Indianapolis, in 1873. In 1876 Mr. Lilly withdrew from the firm of Johnston & Lilly and established his own business under his own name, as sole proprietor. The Johnston & Lilly establishment continued for some years under the name of John F. Johnston, but was eventually discontinued. The business of Eli Lilly prospered from the beginning and in 1878 larger quarters were secured. In 1880 it was incorporated as a stock company, the stock other than Mr. Lilly being held by his brother, James E. Lilly, and other members of the family. The growth of this and other concerns now in Indiana has been along parallel lines with the establishment and development of concerns in other States and is not particularly worthy of notice other than they may deserve no mean place in the great development of manufacturing pharmacy in the United States since the Civil War.

One accomplishment in which the Lilly concern took some satisfaction in the earlier years was the invention of the first process by which pills could be coated with gelatin without the necessity of impaling each pill on the end of a needle. This process is being shown in your historical exhibit and will not be elaborated upon here. Since then other and better methods have been devised by others and are in general use.

Another accomplishment was a line of assayed fluid extracts, being the first to be introduced under that name and a part of the small beginnings of the now

generally adopted plan of standardization. The lines covered by Indiana concerns are in concert with others of like nature, constantly broadening until including almost everything in a pharmaceutical and biological way.

The next concern to appear in Indiana along manufacturing lines was the McCoy-Howe Company, of Indianapolis, established in 1892. This concern has grown to large proportions and supplies a generous line of products to the physicians of Indiana and adjoining States. From time to time other houses have been established until to-day we have in Indiana the following active concerns:

Central Pharmacal Co., Seymour, Ind.

Lafayette Pharmacal Co., Lafayette, Ind.

Frank S. Betz Co., Hammond, Ind.

C. M. Bundy Co., Indianapolis (Specializing in compressed tablets and pills).

Pitman-Moore Company, Indianapolis (Also producers of hog cholera serum in a very large way).

Swan-Myers Company, Indianapolis.

Swan-Williamson Company, Indianapolis.

Eli Lilly & Company, Indianapolis and Greenfield.

The writer was recently delegated by Governor Goodrich, through Dr. Chas. P. Emerson, Chairman of the Medical Section of the State Council of Defense, to make a survey of the pharmaceutical and biological resources of the State of Indiana. Calling together representatives of all the houses, this survey was made and reported to the State authorities. The information secured by this survey was a revelation to even those of us who should have been informed. It is quite possible that the output of pharmaceuticals of this State is only exceeded in volume by but one other State in the Union. We discovered that the total annual output of these houses, when based on most conservative figures, exceeded anything of which we had thought—if we had thought at all. It was found that liquid preparations of various kinds were supplied in amounts approximating five million pounds annually. That in the matter of compressed tablets of various kinds and uses, the units would approach the number of dollars in the first Liberty Loan. We found an output of empty gelatin capsules exceeding a half billion, and other things in proportion. Realizing fully that quantity is not a criterion of success and usefulness, it was gratifying to find all establishments observing the latest methods of scientific standardization and a general air of enterprise and progress throughout the guild.

It would seem that this brief account of manufacturing pharmaceutical progress in Indiana would hardly be complete without the mention of the industry devoted to the collection of crude drugs. Indiana has always been a great State for ginseng and hydrastis, although the supplies of both of these have now become nearly exhausted. At Madison, Ind., Sulzer Brothers have for many years conducted a large business in this line. Their supplies come from Southern Indiana, Kentucky, Tennessee and other points south of the Ohio River. They supply not only Indiana manufacturers but those located in other States and also ship quantities abroad. It is quite possible that in this concern Indiana has the largest facilities for supplies of native drugs.

Manufacturing pharmacy in Indiana is also well supplied in the matter of alcohol, as we are in the corn belt and we have distilleries of great capacity for the manufacture of this essential solvent and preservative.

Again, we are well served in the matter of bottles, having a number of excellent plants for the manufacture of this indispensable item.

A little start has been made in the matter of drug culture, in both an experimental and commercial way.

Another factor of great importance in the development of the drug business in Indiana is the fact that since the early day the State has had an excellent system of wholesale distribution by houses in Indianapolis, Ft. Wayne, Terre Haute, Evansville, and Richmond. Today there are seven wholesale drug houses serving the retail druggists of Indiana and portions of Ohio, Illinois and Kentucky. This is a fewer number than existed in former years, but the volume of business handled is much greater and the service constantly improving.

I would not like to close this paper without a mention of some of the pioneers in the wholesale drug business, which is so closely allied and so essential to the retailer and the manufacturer.

Mr. Augustus Kiefer was one of the pioneers of the modern wholesale drug guild entering the business in 1872 in Indianapolis, and when he passed away a few years ago he left one of the most thoroughly organized institutions in the United States.

Mr. Daniel Stewart, another pioneer, came to Indianapolis in the early day from Decatur County, forming the firm of Stewart & Barry, which finally became the Daniel Stewart Company, doing business in a large and efficient manner.

Recently these two concerns have merged into the Kiefer-Stewart Company.

Another old firm in service was Ward Brothers, of Indianapolis, the surviving member of that firm being Mr. Marion Ward, now of the Mooney-Mueller-Ward Company, which concern has a large and useful plant, being a merging of the interests of Mooney-Mueller Drug Company and Ward Brothers Drug Company.

E. H. Bindley & Company and Cook, Black & Hoffman, of Terre Haute, are also pioneer houses.

Chas. Leich & Company, Evansville, date back many years and have served that section of the State and Kentucky acceptably.

A. G. Luken & Co., of Richmond, supply a certain section of Eastern Indiana and Western Ohio.

The youngest member of the guild is the Ft. Wayne Drug Company, that splendidly serves the northeast section of Indiana with portions of Ohio and Michigan.

With all of these interests working harmoniously together to serve that which is best in medicine and pharmacy, it would certainly seem that there is comparatively little left to be desired other than a continuation of scientific and commercial growth.

Altogether, those of us who have been a part of this development in our Hoosier State may possibly be pardoned for expressing a degree of satisfaction in the development of manufacturing pharmacy in Indiana in the last generation.
