a—Bureau of Chemistry and Pharmacy—where tests and assays of any products or substances shall be made for any member and an opinion given upon their compliance with laws if the member for whom it is done so desires.

b—Bureau of Laws and Accounting—where legal advice, trade marks, patents, costs systems and analysis, etc., shall be available for members.

c—Bureau of Exchange of Unsalable Goods—where members may exchange their unsalable goods for salable goods and thus reduce their overhead expenses. This might be extended later to a stock of rarer and costlier items not usually carried by pharmacists but available in an emergency to members.

d—Bureau of Employment—where records should be kept of employees and employers, as well as employers could apply to secure assistance and be brought together.

e—Bureau of Publicity—where under direction of a competent publicity man the central offices shall enter upon a systematic campaign of publicity in the public press and magazines of the entire country so as to make known to the public and our legislators the real value and services of the pharmacists of the United States.

Membership.—Membership in the federated association should be made Five Dollars, which would also include membership in the State Association, and in the Conference. Each national association should remit to the federated association this amount of five dollars for each of its members. In return for this each member is to receive the services of the Association and its publications. It is estimated that there are 28,000 members of state associations to which should be added the possible 7,500 members that would result from remittance dues from national associations. From both there should result about 25,000 members, which would give the association an income that would enable it to give service and publications to its members that would more than justify membership in it and through federation give pharmacy a weight and influence which would be helpful in legislation and publicity in many ways.

COMMITTEE REPORTS

REPORT OF THE COMMITTEE ON FEDERATION OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

In accordance with a recommendation made last year in the address of President F. J. Wulling, and approved at a general session of the Association, President Dohme on January 22nd appointed the following as members of a Committee on Federation: H. V. Arny, C. E. Caspari, C. H. LaWall, W. A. Hover, F. J. Wulling, J. H. Beal, J. U. Lloyd, S. C. Henry, A. R. L. Dohme, and W. B. Day.

The Committee was immediately organized by correspondence and since then four bulletins have been issued in which the basic principles of the federation of American pharmaceutical bodies were discussed. During the same time, largely through the energetic efforts of President Dohme, other National and State pharmaceutical organizations became interested in the plan of federation.

The discussion by correspondence showed that a satisfactory solution of the problems before us could be secured only by meeting of the Committee, alone and with representatives of other organizations likely to be included in the plan of federation.

Such meeting was held in Chicago on August 10th, on the morning of which day eight of the ten members of the Committee met and informally discussed federation and passed a motion reaffirming the principles of federation enunciated in the address of President Wulling last year.

In the afternoon, a conference, at which the Committee met with the representatives of National drug bodies, brought the results outlined hereafter. At this conference, H. V. Arny presided, while W. B. Day acted as secretary, and on roll call the following delegates were found to be present:

From the National Association of Boards of Pharmacy: H. C. Christensen.

From the American Conference of Pharmaceutical Faculties: T. J. Bradley, R. A. Lyman and Edward Kremers.

From the American Drug Manufacturers' Association: C. J. Lynn, R. C. Stofer and C. M. Woodruff.

From the Proprietary Association of America: F. A. Blair, E. F. Kemp and Z. O. Patten.

From the National Association of Retail Druggists: W. H. Cousins and S. C. Henry.

From the American Association of Pharmaceutical Chemists: C. H. Searles and W. S. Burdick.

From the American Pharmaceutical Association (Federation Committee): H. V. Arny, C. E. Caspari, C. H. LaWall, F. J. Wulling, J. H. Beal, J. U. Lloyd, A. R. L. Dohme, S. C. Henry and W. B. Day.

In addition to the foregoing delegates, H. M. Whelpley, H. P. Hynson and M. A. Mandabach were present, as guests, and were given the privilege of the floor.

The National Wholesale Druggists' Association selected a delegation consisting of J. W. Morrisson, Francis Keeling, Jr., and Paul Schuh, none of whom were present at the conference.

After a general discussion of federation, the following resolution was submitted by C. J. Lynn:

> WHEREAS, The experience of the last fifty years and more has demonstrated that one national organization has not adequately cared for the various interests of the several branches of American Pharmacy, which experience is the underlying reason for the organization of the several independent national associations now existing, which have heretofore most effectively represented their respective interests; and
>
> WHEREAS, Many of the delegates here present are without power to bind their respective organizations to any plan of federation; therefore be it
>
> *Resolved*, That it is the sense of this informal meeting that a mergence of such organizations in a larger federation at this time is not practical; and be it further
>
> *Resolved*, That having in the National Drug Trade Conference, an organization which has already accomplished much good for the common interests of the several associations here represented, it should be the aim and purpose of these bodies to further develop the conference so that it may be still more efficient in promoting the general welfare of scientific and commercial pharmacy, in which we are all concerned.

That resolution was put to a vote and was approved, Messrs. Wulling, Dohme, Caspari and Lyman asking to be recorded as voting against it.

There was then passed a motion that a conference of delegates from organizations invited to the 1918 meeting, be held on the Saturday prior to the 1919 meeting of the American Pharmaceutical Association, and that a committee consisting of one representative from each National drug body be chosen as a committee on arrangements for the 1919 conference. This motion carried and the chair selected the following Committee: J. W. Morrisson (N. W. D. A.), H. C. Christensen (N. A. B. P.), T. J. Bradley (A. C. P. F.), C. J. Lynn (A. D. M. A.), F. A. Blair (P. A. A.), W. H. Cousins (N. A. R. D.), C. H. Searle (A. A. P. C.), and H. V. Arny (A. Ph.A.)

On Monday, August 12th, the Federation Committee met again for a final discussion of the problems entrusted to it, notably those questions relating to the House of Delegates and the federation of State pharmaceutical associations, that is being accomplished through the work of the House.

At this meeting the following recommendations were adopted and are transmitted to the House and to the General Session of the Association for final action.

1. *Resolved*, That it is the sense of the Federation Committee that the By-laws of the House of Delegates should be so amended that all delegates to the House shall be members of the A. Ph. A. at the time they serve.

2. *Resolved*, That it is the sense of the Federation Committee that the continuation and strengthening of the House of Delegates and the active exercise of its functions present a great opportunity for the furtherance of the federation of pharmaceutical organizations for the better coördination of the efforts of such organizations in national and State affairs and for the proper development and evolution of pharmacy.

A third resolution (given hereafter) is based upon the fact that last year Chairman J. H. Beal, of the House of Delegates, proposed five additions to the functions of the House, as follows:

(A) Transfer the reception of fraternal delegates from other pharmaceutical and allied organizations or from departments of the United States Government from the General Sessions to the sessions of the House of Delegates.

(B) Abolish the Committee on Resolutions provided for in Articles I and IX, Chapter X, of the By-laws and transfer its functions to a similar committee of the House of Delegates.

(C) Instruct the Committees on the United States Pharmacopoeia and on the National Formulary to report to The House of Delegates in addition to the reports which they present elsewhere.

(D) Make it the duty of the Committee on Patents and Trade-marks to report to the House of Delegates as well as to the General Sessions.

(E) Transfer the reports of The Commission on Proprietary Medicines (except upon financial matters and upon the election of members) from the Council to The House of Delegates.

The first of the above recommendations was adopted at the Third General Session of The Association last year; the second recommendation was referred to the Committee on Constitution and By-laws, which has not yet reported thereon; the third, fourth and fifth recommendations were laid on the table.

Your Federation Committee gave this matter its careful attention, and believing that all of the five recommendations are of vital importance to the development of the House of Delegates, submits the following:

3. *Resolved*, That the recommendations made last year by Chairman Beal, of the House, should be adopted.

A final recommendation made by your Committee is:

4. *Resolved*, That the Committee on Federation be continued for another year.

In conclusion, your Committee begs, in summarizing its work, to say that as in all great undertakings, the work accomplished by it during the past year is not as great as was desired by some of its members. It has, however, made one great step toward federation by starting a movement toward the enlargement of the scope of the Drug Trade Conference, by which it is hoped that a broad federation of national drug organizations will be secured. It will make another advance if the plan of federation of State associations in the House of Delegates is strengthened by the adoption of the resolutions submitted above. These two basic purposes accomplished, the Conference and the House will be as two piers of a great bridge and when as years go on there is completed between the two a connecting span in the shape of service features so vitally needed by American pharmacy, the federation idea will then be a realized dream.

REPORT OF THE COMMITTEE ON THE STATUS OF PHARMACISTS IN THE GOVERNMENT SERVICE.

To the President and Members of the American Pharmaceutical Association:

Your Committee on the Status of Pharmacists in the Government Service has confined its efforts of the past year to obtain Congressional legislation for the establishment of a Pharmaceutical Corps in the U. S. Army. We believed it was our duty to concentrate our work on a single proposition, that contemplated a real war service for the men fighting for the country, by placing the dispensing of medicines in the hands of trained pharmacists, instead of, as at present, largely in those untrained. The enactment of such a measure would also advance the professional standing of pharmacy.

The results I am able to report are far from satisfactory, but the outlook is not hopeless. I believe that we have a fighting chance—but we must fight and fight continuously.

From the outset, your Committee recognized that the work before it was difficult and the progress must be slow, especially in view of the opposition of the Surgeon General. We,

however, succeeded in securing a hearing on March 19, 1918, before the Committee on Military Affairs, and, we believe, corrected many wrong impressions in the minds of the members of the Committee. The report of the hearing on H. R. 5531 has been generally distributed and widely read.

We deemed it advisable to learn the actual conditions existing with reference to the dispensing of medicines in the Army camps, so that we could present the facts at the proper time. We prepared a questionnaire and forwarded same through the office of the JOURNAL to the secretaries of the Boards of Pharmacy, requesting them to obtain, at first hand, the desired information. Responses were quite promptly received from twenty-six states and presented conditions that were as we anticipated, namely, the dispensing of medicines was often done by others than graduate pharmacists and sometimes those who had been bartenders, salesmen, bookkeepers and others, without any knowledge of drugs, were in charge of dispensaries, while pharmacists under them as privates could do no dispensing except under the direction of such non-commissioned officers. All of the data obtained were tabulated and presented to the Committee on Military Affairs, and became part of the record.

With the assistance of Congressman Edmonds, the National Pharmaceutical Service Association, as well as your Chairman, used every reasonable means to obtain a hearing on the Edmonds bill before the Committee on Military Affairs. Important matters pertaining to the Army, and the Army Appropriation Bill, occupied the undivided attention of the Committee until the middle of March, when a date was set and the hearing held March 19, 1918.

The National Pharmaceutical Service Association sent out a call for a conference to be held at Baltimore the day prior to the hearing. Fifty-one delegates were present, representing nearly one hundred colleges, national associations, State and local associations, and the afternoon was devoted to discussing plans for the presentation of our case at the hearing before the Committee on the following day.

Your chairman was called upon to preside, and Mr. R. P. Fischelis was elected secretary. After a general discussion it was decided that a committee be appointed to select the speakers to present arguments to the Committee on Military Affairs. After careful deliberation, the following gentlemen were selected: Prof. F. J. Wulling, the main speaker, was to cover the entire subject in a concise form. If time permitted, the following gentlemen would discuss the following special topics: Dr. J. Madison Taylor, "The Need of a Pharmaceutical Corps in the U. S. Army, from a Medical Point of View." E. G. Eberle, "The Need of the Same Protection as far as Pharmaceutical Service Is Concerned in the Army, as Provided by State Laws in Civil Life." Caswell A. Mayo, "Pharmaceutical Army Corps in Foreign Countries." S. C. Henry, "What the Edmonds Bill Is and What It Stands For." Prof. Charles Caspari, "What Pharmacy Has Done in the Compilation of Standards for Drugs and Medicines." W. L. Crounse, representing the National Wholesale Druggists' Association, "A Refutation of the Charge Made that Manufacturing Pharmacists Objected to the Formation of a Pharmaceutical Corps in the U. S. Army."

All branches of pharmacy were represented at the conference and the hearing of next day. The conference was exceedingly harmonious, every one present being desirous to do his bit. The following day we met at the office of Mr. Edmonds; additional delegates who were unable to attend the meeting of the previous day were present, so that about seventy to seventy-five delegates attended the hearing.

Mr. Edmonds opened the hearing with a brief statement and introduced the speakers. The program was fully carried out, much interest being shown and many questions asked by members of the Committee. It was the opinion of those present that a very favorable impression was made on the Committee. The Committee, however, has done nothing with respect to considering or reporting its conclusions and from what I am able to learn the bill may not be further considered or reported at this session. Mr. Edmonds has asked that a hearing be granted him and other members of Congress that have committed themselves to this legislation; as yet, no time has been set by the Committee and there is some doubt if they will be heard at this session of Congress. It is evident, if anything is to be accomplished, that the opposition of the Surgeon General must be overcome. How this can be consummated is problematic and difficult to predict at this time. Surgeon General Gorgas retires this Fall; who his successor will be and what his attitude is can not be predicted. We feel that now is the time when all drug industries must coöperate in a united endeavor in support of this measure. The future of pharmacy largely

depends upon taking this step. The medical, dental and chemical professions are listened to and usually obtain what they desire. This is best illustrated by the formation of the Chemical Warfare Service, by executive order, and similar action could have been had for pharmacy, at least for the period of the war, if the pharmaceutical profession had been fully and as well organized as the other professions.

Close contact with men of authority in the medical departments usually elicits the information that the pharmacists are not wanted, they know too much, that they want men without pharmaceutical training, so that they can train them as they desire. The younger men in the medical service want the pharmacists, but they have not the power to overcome the opposition and, as a result, our soldiers are not getting the best pharmaceutical service obtainable and thousands of trained pharmacists are working in the trenches and along other lines different from those they are best fitted for by training and education. This lack of coördination is not only detrimental to the Army but is wasteful of an important and national asset.

In closing, we want to urge that the American Pharmaceutical Association take the initiative and call on all drug organizations to take an active part and to use its utmost endeavor to convince the Surgeon General and Secretary of War of the urgent necessity for establishing a Pharmaceutical Corps, thereby eliminating the necessity for the large number of physicians that is now being called for and which will, beyond all question of doubt, work a hardship on those remaining at home and, that the men in the Army will get better pharmaceutical service than they are receiving at present.

We urge that every member of these pharmaceutical associations work with their Congressmen, pointing out the conditions now existing, show the necessity for such a Corps and demand legislation providing for a Pharmaceutical Corps along the lines that have been worked out and proven most satisfactory in foreign armies.

Respectfully submitted,

S. L. HILTON, *Chairman.*

SUPPLEMENTARY REMARKS BY CHAIRMAN S. L. HILTON.

S. L. HILTON: I want to make a few remarks supplementing my report as chairman. I listened to an able paper by Dr. F. W. Shepardson, of the Education Department of the State of Illinois, before the Section on Education and Legislation to-day. He contended that the Department recognized the situation in the drug business, that the commercial element far exceeds the educational or professional. He inferred that this had much to do with the difficulties in securing recognition for pharmacy by the establishment of a Pharmaceutical Corps in the U. S. Army. Doctor Shepardson is right. He presents the attitude of the Government correctly and the conditions in the drug business have made it difficult to impress the desires of those working for the establishment of a Pharmaceutical Corps, that we are not demanding a commission for every corner druggist, but contending for a Pharmaceutical Corps to be composed of trained pharmacists, and every one acquainted with American pharmacy knows that we have them. If others want to enlist that is their privilege, and if by study and perseverance they attain to the proper standard and pass the provided examination, they should have the opportunity. But the proposal is for the admission and advancement of educated pharmacists.

The idea is quite general, and also with Government officials, that all licensed pharmacists, regardless of qualification, should be commissioned in such a corps. Congressmen have expressed themselves that they would favor the bill for a pharmaceutical corps provided every licensed pharmacist would be entitled to a commission.

That is not what we are working for nor endeavoring to secure legislation for. If that is the object then we had better stop our efforts right now—the aim is to have a Pharmaceutical Corps composed of men qualified in pharmacy by education and training, men who are competent to render pharmaceutical service.

The statements made by Mr. Hilton received the unanimous support of the convention.

REPORT OF COMMITTEE ON QUALITY OF MEDICINAL PRODUCTS. AMERICAN PHARMACEUTICAL ASSOCIATION.*

The report of this Committee embraces a condensed statement of the quality of such finished medicinal products made by manufacturing and retail pharmacists and of the various ingredients and materials used, that have been brought to our attention during the current Association year.

When we consider that a slight variation from standard and an unconscious error in the wording of a label are tabulated as infringements of law, it is surprising that the record is as favorable as it is. Individual opinion seems to dictate standards in many cases of complaint for improper wording of labels. There is little wilful effort to substitute, yet the continued high range of prices offers a temptation that a few are unable to resist. Many reported instances are the result of carelessness rather than purpose. One State Board reports 27% of 371 samples adulterated; 18% consisted of deteriorated spirit of nitrous ether, 7% of camphorated oil deficient in camphor and 2% of spirit of anise, spirit of peppermint and tincture of iodine below standard. Of 1685 samples 20% were defective and consisted principally of the above-named products.

In the case of the spirit of anise, spirit of peppermint and liniment of camphor, their being sub-standard is the result of negligence, while the spirit of nitrous ether may have been carefully made but carelessly stored. Prof. Herman C. Lythgoe, Director and Analyst of the Massachusetts State Board of Health, has published a chart showing the comparative permanence of this product stored in full bottles in a cool place and the very rapid impairment stored in flint bottles exposed to sunlight. In the latter case the product was entirely worthless after the lapse of 82 days. Dr. Hodgson, in the *Pharmaceutical Journal* shows entire decomposition in 15 days stored in an open bottle, while the same product in a full, well-stoppered bottle lost only 4% in one month and about 30% in 3 months.

The condition of the market has led to the suggestion of numerous substitutes to favor conservation and reduce cost. Glucose and mucilage of chondrus have been recommended as substitutes for syrup and glycerin. Neither of these substitutes will represent the sweetness of syrup without the addition of saccharin; both are more subject to decomposition. The extensive advertising of glycerin substitutes that are nothing but invert sugar syrups is misleading. They are substitutes only in gravity and freedom from crystallization, but are entirely devoid of the solvent and preservative action of glycerin.

Many substitutes for *Adeps lanae* have been suggested, but none of them have the same composition as the original, nor the same essential value even though they may resemble the physical characteristics.

The condition of the sugar market has led to active use of saccharin. Pronounced harmless by many unquestioned authorities, and condemned by others, legally used in some states and illegally in others, pronounced of decided advantage in preventing stomach and intestinal fermentation, there seems to be no good reason why it cannot be used except where the food value and preservative action of sugar is required. Even at the market value of $23.00 per pound it is a cheaper sweetener than sugar. In Germany, laws forbidding the use of artificial sweetening substances, have been repealed. Saccharin and a new product dulcin, or sucrol, paraphenetolcarbamide, are largely used. Dulcin is 200 times as sweet as sugar and does not have the bitter after-taste of saccharin.

The offering of fictitious styrax at a price twenty times the former cost of the original genuine, now out of the market, has led to the questioning of its value and tincture of benzoin compound, substituting an equivalent of balsam of tolu for the styrax, is being used by several hospitals with perfect satisfaction.

The growth of some narcotic drugs in the United States that were formerly entirely imported, has served to somewhat reduce their price and to furnish products of exceptional value. There is still dispute about some such drugs. American cannabis is pronounced by some equal to, if not superior, to the foreign, while others consider it far inferior. While there is undoubtedly difference in quality in different lots of American grown, the wide range published may be due in part to the variation in results obtained by physiological tests of the same sample. The following reports were obtained from physiological tests of the same drug, the reports being submitted by three experts.

*Presented at Chicago meeting, A. Ph. A., 1918.

Report No. 1, using 7 times the U. S. P. quantity of drug: Three dogs had slight incoördination; three had considerable incoördination.

Report No. 2, using 4 times the U. S. P. quantity: All six dogs had slight incoördination.

Report No. 3, using the U. S. P. quantity: 0.03 mil of fluidextract of cannabis per kilo weight of dog.

Dog No. 1, considerable incoördination.
Dog No. 2, drowsy, lays down, no incoördination.
Dog No. 3, drowsy, very slight, no incoördination.
Dog No. 4, no incoördination.
Dog No. 5, no incoördination.
Dog No. 6, drowsy, slight, incoördination.
Dog No. 7, slight incoördination.

Report No. 3, using 0.04 mil of fluidextract of cannabis per kilo weight of dog:

Dog No. 1, marked incoördination.
Dog No. 2, drowsy, slight incoördination.
Dog No. 3, considerable incoördination.
Dog No. 4, shivers, considerable incoördination.
Dog No. 5, incoördination.
Dog No. 6, marked incoördination.
Dog No. 7, marked incoördination.

Drug is 80% of U. S. P. strength.

Report No. 4, using 0.03 mil of fluidextract:

Dog No. 1, no ataxia.
Dog No. 2, no ataxia.
Dog No. 3, used control Cannabis, questionable ataxia.
Using 0.04 mil, no ataxia.
Using 0.05 mil, no ataxia.
Using 0.03 mil of control. Very good ataxia.
Using 0.05 mil, possibly faint ataxia.
Using 0.06 mil, very fair ataxia.
Using 0.05 mil, slight ataxia.
Using 0.05 mil, slight ataxia.
Using 0.08 mil, very good ataxia.

Drug is 60% of U. S. P. strength.

Variation in some products is due to variation in method of manufacture. Syrup of tolu is frequently made from "Soluble Tolu" furnished by the manufacturer and these vary much in character. The U. S. P. calls for 50 mils tincture of tolu, representing 10 Gm. of balsam in 1000 mils of syrup. Triturating the tincture with magnesium carbonate and water and evaporating gives 2.144 Gm. of residue, equivalent to 0.2144 Gm. in 100 mils of syrup.

Manufacturer No. 1, Soluble Tolu: Alcohol 20%, residue 0.17%. Formula: $1^1/_4$ fluidounces to 15 ounces of syrup gives a syrup containing about 0.013 Gm. balsam, or one-sixteenth of the U. S. P. strength. Original product was acid in reaction; 10 mils required 1.54 mils N/10 KOH.

Manufacturer No. 2, Soluble Tolu: Alcohol 25%, residue 2.58%. Formula same as No. 1, gives a syrup containing about 0.2 Gm. balsam, or about 93% of U. S. P. strength. Original product was alkaline; 10 mils required 2.0 mils N/10 H_2SO_4.

Manufacturer No. 3, Alcohol 25%, residue 1.2%. Formula: Twenty mils of product and 80 mils of syrup give a syrup about $1^1/_8$ times the U. S. P. strength. Original product was alkaline; 10 mils required 2.8 mils N/10 H_2SO_4.

Manufacturer No. 4, Alcohol 25%, residue 1.6%. Formula: Twenty mils of the product and 80 mils of syrup give a syrup about $1^1/_2$ times the U. S. P. strength. Original product was alkaline; 10 mils required 2.8 mils N/10 H_2SO_4. These comparisons are of no value unless the residue is determined to come from tolu only.

Scarcity of labor has rapidly advanced the prices of most of our native botanicals and led to carelessness in maintaining the standard of excellence. Wild cherry bark has been mixed with black cherry bark; white pine bark marketed entire instead of inner bark only, excess of stems and fibers are left attached to roots.

Licorice root has advanced to eight times its former cost and much inferior quality has been offered. Some bales contained a notable quantity of stems. One sample of powder was not licorice root. It contained only 8.3% soluble matter of foreign taste and 3.5% ash. It is said that imports from Asia derived from *Glycyrrhiza uralensis* Fischer, an unofficial species, have been frequent. The quality of root is good but comes mixed with a considerable quantity

of stems. It contains about the same amount of glycyrrhizinic acid as the Spanish and Russian varieties.

The presence of glycerin in some chemical syrups and some tannin bearing fluid extracts should be retained and it should be dropped from preparations where it is valueless and merely adds to the cost, as fluidextracts of dandelion, hydrastis, tincture of gentian compound, etc. In aromatic fluidextract of cascara its mild laxative action may be of some service, but not proportionate to its high cost and it could well be replaced by syrup. It has been stated that glycerin is obtained by a new process from black strap molasses, 470 gallons yielding 506 pounds of glycerin and 145 gallons of absolute alcohol. Signed, E. L. PATCH.

The disarrangement of the collection of foreign drugs, due to the European war and the consequent disturbances in the collection of home drugs, and in the drug market is still in evidence. Almost every wild plant that grows is being gathered and submitted for inspection with the hope that it will prove to be *Hydrastis* or some one of the few drugs that under existing conditions are bringing and will bring for a limited period, a fancy price. Many have made large collections of non-medicinal plants before ascertaining the identity of the plant gathered and as a natural consequence, have had their trouble for their pains as well as in those cases where help was hired and paid for sustaining an actual money loss. Needless to say that these non-medicinal plants, gathered for the drug market, have not found their way into trade channels.

There is a tendency among collectors towards profiteering, as is shown by the gathering of those parts of plants not desirable. Examples are the presence of root leaves, stem bases and rootlets on rhizomes and roots which should be gathered free of these parts such as star grass, culvers root, trillium, etc.; the herb, whole or out for leaves, as in catnip, tansy, wormwood, etc.; inflorescences in place of flowers, etc. This tendency should be rigidly guarded against and strenuously combatted. Signed, O. A. FARWELL.

ABSINTHIUM: Various species of Artemisia that have the leaves white woolly on both sides are gathered in quantities and offered as Wormwood. O. A. FARWELL.

ACID BENZOIC: Several shipments offered for entry containing as high as 30% of powdered boric acid. *Spatula.* One lot not perfectly white, a heavy powder, contained a brown substance insoluble in ether; ignited left no residue. E. L. PATCH.

ACID HYDROCYANIC, DILUTE: One shipment assaying only 1.75% of absolute acid was rejected. H. ENGELHARDT.

ACID OLEIC, PURIFIED: It seems to be rather difficult to get U. S. P. acid. A number of shipments we received had a high congealing point, showing the presence of an undue amount of solid fatty acids and some contained unsaponified fats. H. ENGELHARDT.

ACONITE LEAF: Aconite leaves seem to be a rarity. The leaf has given place to the herb in either the flowering or fruiting stage. O. A. FARWELL.

ACONITE ROOT: Two samples were of good quality. H. ENGELHARDT.

The tuber that is now on the market may be topped by as much as four inches of stem base. The smaller, plumper, lighter colored Japanese root is often inter-mixed.

O. A. FARWELL.

Japanese Aconite, *Aconitum fisheri* Reich, has been substituted for the official *Aconitum napellus* L. It does not contain aconitine, but other alkaloids and should not be used in any preparations of the U. S. P. Japanese aconite usually consists of mother tubers with stem bases and daughter tubers with buds. They are smaller in size, lighter, smoother, less wrinkled and not twisted, generally more mealy (due to starch) and have a different arrangement of the fibro-vascular bundles, not so markedly star shaped. DEPARTMENT OF AGRICULTURE.

ALCOHOL: Two barrels of Cologne Spirit yellowed with KOH solution and turned brown rapidly with silver nitrate and were slightly deficient in strength. E. L. PATCH.

ALUM, DRIED: One lot was a mixture of potassium and ammonium alums, contained 6% of water (U. S. P. allows 10%), entirely soluble in hot water. One lot contained 15% of water and 1.5% insoluble in water. E. L. PATCH.

AMERICAN HEMP: No. 1 gave 3.6% ether-soluble resin. No. 2, 15.9%. No. 3, 9%. No. 4, 14.2%. No. 5, 14.2%. No. 6, 7.8%. E. L. PATCH.

Sample contained 11.5% of seeds; gave 15.3% of oleoresin. Physiologically tested: Normal doses *per os* and by intravenous injection, well-marked symptoms within one hour and a second injection rapidly killed the animal by cardio-inhibition. I am of the opinion that the

sample is a physiologically active product which is indistinguishable from the ordinary *Cannabis Indica*. ERNEST J. PARRY, London, Eng.

APOMORPHINE: The amorphous variety was offered and was rejected because it is a well-known fact that this modification produces physiological effects other than those produced by the crystalline variety and besides is considerably more toxic. H. ENGELHARDT.

ANTISEPTIC CORROSIVE TABLETS U. S. P.: Assayed 46.315% corrosive sublimate and 53.685% sodium chloride. It is difficult to maintain a uniform mixture of 50% of each. Second lot assayed 50.05% corrosive sublimate and 50.03% sodium chloride.

E. L. PATCH.

ARNICA FLOWERS: *Inula britannica* L. has been mixed with and substituted for arnica flowers. The ray flowers are smaller in length and width than those of true arnica. The veins number four, while those of true arnica are seven to twelve. The receptacle is smooth instead of hairy as in true arnica. DEPARTMENT OF FOOD AND DRUGS.

ASAFOETIDA: Of four samples we rejected one yielding only 26% alcohol-soluble matter and leaving 30% of ash on incineration. H. ENGELHARDT.

ASPIDOSPERMA: The official drug has come to be a rarity. The red quebracho has been substituted for it as well as some other unknown bark which bears a more or less close resemblance to the outer portion only of the official bark. O. A. FARWELL.

ASPIRIN: A spurious product has been found in nearly all large centers of Texas.

Pharm. Era.

BARIUM DIOXIDE: Assay 86.4% BaO_2, traces of chloride and nitrate.

E. L. PATCH.

BEEF EXTRACT: Proteid contents vary; 34.82%, 50.5%, 50%, 45.18%, 53.42%, 52.72%; salt from 3.65% to 8%. E. L. PATCH.

BEESWAX: Of fifteen samples of white wax only one was adulterated. This adulteration was white lead. K. F. EHMANN.

BELLADONNA LEAF: Sample sold for 0.690 assayed 0.389; other lots 0.390, 0.497, 0.720, 0.425. E. L. PATCH.

Since this drug has become scarce, the common nightshade, *Solanum nigrum* L., has been gathered in all sections of the country and offered in large quantities for belladonna.

O. A. FARWELL.

We examined 23 shipments of which only two had to be rejected on account of being below the U. S. P. standard. The quality of this drug which was cultivated in this country was very good; one lot assayed as high as 1.1% of total mydriatic alkaloids. One shipment was received which was marked as "belladonna herb," but did not contain any alkaloids; it was derived from a solanaceous plant. H. ENGELHARDT.

Examination of samples of importations of "belladonna leaves" has disclosed that *Solanum nigrum* L. has been substituted in some instances for the true material. Since this species contains alkaloids other than those present in genuine belladonna, it should be excluded.

DEPARTMENT AGRICULTURE.

BELLADONNA ROOT: Belladonna root seems to be unobtainable; two shipments were of good quality. H. ENGELHARDT.

Examination of samples of importations has disclosed that the roots of yellow dock, *Rumex crispus* L. were substituted in one instance for the true material. The yellow dock roots are externally reddish brown, deeply longitudinally wrinkled, finely annulate above and have a somewhat fibrous fracture, whereas those of *Atropa belladonna* are externally pale brownish gray, show only weak longitudinal wrinkles and have a nearly smooth fracture.

DEPARTMENT OF AGRICULTURE.

BETANAPHTHOL: One lot was dark colored, rank in odor and not completely soluble in ammonia water. E. L. PATCH.

BISMUTH SUBNITRATE: Two hundred pounds of precipitated chalk was fraudulently sold in packages labeled "Merck's Bismuth Subnitrate." Another lot bore the labels of "Mallinckrodt Chemical Company." Detectives are looking for the seller.

Pharmaceutical Record.

BLUE FLAG: The rootlets often are not removed. In addition it is frequently and sometimes largely intermixed with a rhizome similar in all respects to the official except in color,

which is white. Whether it is merely a color phase, or the rhizome of a different species has not been proven. O. A. FARWELL.

BORAGE: The leaves and even the inflorescence of an allied plant, the Bugloss (*Echium vulgare* L.) have found their way to the drug markets for borage.

The former are rougher and more densely pubescent and the hairs lack the broad disk-like base of the hairs of true borage. The flowers of the Bugloss are bilabiate while those of Borage are regular and rotate. O. A. FARWELL.

BUCHU: Attention is called to the fact that samples labeled as "long," "short" and "oval" buchu leaves offered in the trade have been found to be obtained from species not official in the U. S. P. The "long buchu" proved to be *Empleurum serratulatum*, the "short buchu" *Barosma pulchellum*, and the "oval buchu" *Barosma crenulata*, var. *latifolia*. The flavor of the three adulterants is markedly different from that of the official species. They should not be used in official preparations. DEPARTMENT OF AGRICULTURE.

BURDOCK ROOT: Large quantities of the root of the second year plant are put upon the market; the root at this stage is very woody and useless. O. A. FARWELL.

BUTTERNUT: This drug frequently is the source of much trouble because of the heavy cork on the unpeeled root and of the bark of the larger branches which are used as adulterants. O. A. FARWELL.

CALCIUM GLYCEROPHOSPHATE: A few small shipments contained too large an excess of chloride. H. ENGELHARDT.

CAMPHORATED OIL: Fifty-two samples deficient in camphor. Massachusetts State Board. Estimated by heat, 18.1%, 18.85%, 20.1%, 13.25%. U. S. P. 20%. E. L. PATCH.

CANNABIS INDICA: A very perceptable change is noticeable in this commodity. The percentage of matured seeds in the drug imported from India has greatly increased, probably in many instances beyond the maximum amount allowed by the U. S. P. The drug from the American plant does not answer the pharmacopoeial requirements at all since in most instances it consists of all those parts of the plant in fruiting stage, which cannot be used for the production of hemp. Even the male plant has been gathered and stored for medicinal purposes. The relative values of the crude drug originating in different countries, is still in the debatable stage; the value of the crude drugs may vary according to the time of collection and the part or parts of the plant gathered, but if the preparations made from these variable crude drugs were brought by physiological assay to a uniform standard for the finished product, it is more than probable that this drug as a fertile subject for future discussions of its variableness would immediately drop out of sight. O. A. FARWELL.

We may say that samples of Indian hemp submitted answered all the physiological tests prescribed by the U. S. P. but the samples of domestic hemp were generally far below the requirements. I do not wish to go into details about the rather unreliable physiological assay process required by the U. S. P., but only want to point out that a great deal can be done towards improving this process. Unless a more reliable method can be proposed the physiological assay of Cannabis should be discarded altogether. H. ENGELHARDT.

CAPSICUM: Extractive, alcoholic, 15, 21.6, 23.7, 23, 21.5, 25, 23.5, 25.6; ash, 7, 6.98, 6.9. E. L. PATCH.

CARAWAY SEED: Foreign seeds, 1.15% chaff and dirt; freed from above yields, 6.6% ash. E. L. PATCH.

CASCARA BARK: The adulterant previously mentioned has been identified as the bark of *Prunus padus*. JOURNAL AMERICAN PHARMACEUTICAL ASSOCIATION.

CHALK PRECIPITATED: Assay 94% (U. S. P. 98%) excess of chlorides, 98.85%, 98.85%, 98.35%. E. L. PATCH.

CHAMOMILE: Examination of importations of "Chamomile flowers," *Matricaria chamomilla*, L. have disclosed in some instances that the flowers of dog fennel, *Anthemis cotula* L. have been submitted in amounts up to 25%. The flowers of *Matricaria chamomilla* have naked, hollow receptacles, whereas those of *Anthemis cotula* are solid and chaffy. U. S. DEPARTMENT OF AGRICULTURE.

The flower heads of *Anthemis arvensis*, the field chamomile have been substituted; they are readily distinguished by the persistent chaff and solid receptacle. O. A. FARWELL.

CHENOPODIUM: *Chenopodium album* has been offered in place of the *C. anthelminticum*. Texas appears to be the source of origin. O. A. FARWELL.

CINCHONA: Lots have been offered for entry under names recognized in the U. S. P., but deficient in alkaloids. DEPARTMENT OF AGRICULTURE.

Four shipments of *Cinchona calisaya* and two of red cinchona answered fully the requirements of the U. S. P. H. ENGELHARDT.

Yellow bark 8.05 total alkaloids; red cinchona 7.2%. E. L. PATCH.

Many samples from different sources indicating a wide collection, have been received under the name "Cascarilla;" the bark does not resemble any of the official cinchona barks externally. It may be derived from one or more species of the genus cascarilla. It is said that the cascarilla barks do not contain the cinchona alkaloids. O. A. FARWELL.

COLCHICUM ROOT: Colchicum root is practically unobtainable. Four samples examined were of good quality. H. ENGELHARDT.

0.53%, 0.45%, 0.36%, 0.4%, 0.43%, U. S. P. 0.35%. E. L. PATCH.

CONIUM LEAVES: Parsley leaves have been used as a substitute; also the leaves of *Aethusa cynapium*. O. A. FARWELL.

COD LIVER OIL: One lot very inferior. Refractive index at 17.5° C. 1.4771. Would not stand the fuming nitric acid test. E. L. PATCH.

COD LIVERS: Powdered, 95% volume alcohol extracted 46.85%; 10% volume alcohol extracted 10.3%. Average loss by drying at 100° C. 11.95%. Extract made with 95% volume alcohol is insoluble in 10%, 15% or 20% alcohol. E. L. PATCH.

CUBEB: It is becoming increasingly difficult to obtain a first class quality of cubeb answering the U. S. P. requirements. The stems present are usually excessive; also the peduncled fruits of other species are in more or less evidence. O. A. FARWELL.

DANDELION ROOT: In some instances roots obtained from *Lactuca canadensis* L., *Lactuca spicata* (Lam.) Hitchc., or other species of lactuca have been substituted. The roots of *Taraxacum officinale*, true dandelion, may be distinguished by the concentrically arranged groups of laticiferous vessels and sieve tubes which alternate with whitish inulin-bearing parenchyma. Lactuca root is characterized by its tracheae which are arranged in radial rows, usually one cell wide, alternating with medullary rays, two or three cells wide.

U. S. DEPARTMENT OF AGRICULTURE.

Samples from importations disclosed the presence of 40% of roots which were badly discolored inside and did not show a porous, pale, yellow wood as required by the U. S. P. The appearance suggested that the material had been improperly dried. This fact was confirmed by microscopic examination, showing swollen brownish yellow masses indicating that inulin masses had been partially hydrolyzed and caramelized. Samples containing more than 15% of such dead roots should be rejected. U. S. DEPARTMENT OF AGRICULTURE.

DIGITALIS LEAVES: The domestic drug was generally found to be of very good quality. In connection with the physiological test for this drug I may call attention to the article published by Mr. H. C. Colson of this laboratory in the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION 1918, page 73. It was found that the twelve-hour frog test is more reliable than the one-hour official test and the cat test is superior to both of them.

H. ENGELHARDT.

Large quantities of *Digitalis thapsi* were imported under the name of "Spanish Digitalis;" but the substitution was quickly detected and its importation prohibited.

O. A. FARWELL.

Recent work has revealed the fact that American digitalis is as potent and valuable medicinally as any heretofore imported from Central Europe. It has been found that the digitalis plant growing wild in Oregon and Washington needs only harvesting and collecting to be of great assistance to war medical work. *Pharmaceutical Era.*

DITTANY: The European or Cretan dittany has been imported and offered as dittany.

O. A. FARWELL.

(*To be continued.*)