

American Society of Baking

Technical Bulletin #101

Victor E. Marx, Secretary
1541 Birchwood Avenue
Chicago, ILL.

March, 1935

AN HISTORICAL SURVEY OF EARLY ACTIVITIES

By Harold Hall, Chicago, Ill.

Copyright 1935 by the American Society of Bakery Engineers

Even before the early 20's of this century there was felt to be a definite need for the formation of a society of bakery production men.

About twenty-five years ago down in New England a group of production men met regularly to discuss their mutual problems, and there is today hanging on the walls of the American Institute of Baking a cancelled check showing where this group of production superintendents disbanded and turned their funds over to the American Bakers Association.

At the Bakers' Convention of 1923 held at French Lick, Indiana, this feeling was again voiced and in November the same year a little group of interested men met at the apartment of Julian Livingston in the Webster Hotel, Chicago, to give this question more consideration. In addition to Julian Livingston there were present Dr. Barnard, Richard Wahl and William Walmsley.

At this meeting it was decided it was decided to make an effort to get bakery production men together from various parts of the country for a conference. This had its culmination in an announcement in Baking Technology, Vol. III, No. 1, dated January, 1924, under the heading "Bakery Managers to Meet."

It had been realized that production was a specialized task and merchandising was also a specialized task and Bakers' Conventions were catering to the bakery merchandising problems more and more with the result that the production man and his problems were left out of the general convention program.

The need for specialized technical training had been found necessary for production men in the bakery. As this training continued to win other converts there naturally came to an end that old time-honored principle of silence and secrecy that had so long been a stumbling block to progress in the production field.

Sharing knowledge was now the sincere desire where one man could trade his special knowledge for special knowledge which some other production man brought to the conference, thus helping to make those participating better production managers. It was perfectly logical to them that production men should become more and more convinced of the necessity of holding his own kind of conferences with his own kind of people all interested in the common problems of production and production management, and even at this time production men in Los Angeles were meeting quite regularly and discussing production problems.

First Meeting Called in 1924

It was felt at one time that such a conference as was called for the first time March 17, 18 and 19, 1924, should be a branch of the American Bakers Association. One of the most earnest and hard-working of the founders of this Society, which had its inception March, 1924, as the American Society of Bakery Engineers, was Julian M. Livingston, chairman of the Institute Committee of American Bakers Association. Mr. Livingston outlined some of the visions of the possibilities of the Society that made him work so energetically for its initial development.

“We can all remember back,” he said, “to the day when medical knowledge was very little organized. There was no American Medical Association to codify known knowledge and accumulate data until the best technique in each field could be made available to the medical profession. In those days, if a child became ill, every woman in the neighborhood felt at liberty to come in and state the remedy that somebody else had told her about. Old women, in fact, were more often called in than professional practitioners of medicine. The mid-wife was more known in maternity cases than the physicians.

“But the American Medical Association was formed. Professional knowledge was sifted out – the genuine from the spurious. Herbs long depended upon were found to be without curative qualities. They were abandoned, and with them went the quacks who had grown rich advocating their use. Knowledge that met the test of the scientific laboratory was glorified and distributed to all. Now nobody calls in an old woman any more, in case of sickness. Even the family doctor is little relied on. The surgeon and physician, known to be specialists in their respective lines, are trusted as never before with the healing of the sick.

“That is what I see ahead of the Society of Bakery Engineers. They are the professional men of the baking industry, and will bring together its soundest data, and make it possible to apply this data in all parts of the industry. To be a charter member is surely an honor any production manager will learn to covet more and more as the years pass.”

The Original Members of the Society

The following were the Founder Members of the Society who were present at that first meeting held at the American Institute March 17, 18 and 19, and joined the Society at that time:

| | | | |
|--------------------|---------------------|--|----------------------|
| Amidon, Geo. W. | Eilers, John B. | Livingston, Julian | Roberts, Thos. C. |
| Amidon, W. S. | Essel, Virgil | Lockhart, Robt. C. | Robertson, Wm. M. |
| Angus, John | Frantz, Charton C. | <u>Marx, Victor E.</u> ^{n d.} | Roth, Monroe |
| Arnold, J. J. | Giedlinski, Jos. W. | McCarthy, Chas. F. | Rudman, Chas. F. |
| Bachman, H. M. | Godde, B. E. | McCarthy, D. C. | Rumsey, L. A. |
| Baer, R. W. | Godwin, Chas. T. | McDuffee, C. A. | Schmidt, G. H. |
| Baker, Robt. J. | Gould, Geo. | McGill, Wm. A. | Schmitt, J. J. |
| Baldowski, K. W. | Gray, M. A. | Meyer, H. A. | Schulz, Edw. F. |
| Bamford, A. J. | Griffith, F. W. | Milford, H. E. | Schulze, Theo. |
| Beamish, Wm. M. M. | Grout, F. M. | Miller, Max E. | Siewert, Edw. |
| Bender, Frank H. | Haglund, Ed. | Mizutani, M. | Slough, Robt. K. |
| Berg, I. A. | Hall, O. W. | Mohr, E. J. | Smith, Thos. F. |
| Bertram, Wm. F. | Harrel, Chastain G. | Moore, H. G. | Stadelhofer, F. C. |
| Billings, Gerald | Hauck, Wm. | Morris, Wm. | Strand, Oscar |
| Blais, Bertram E. | Hecht, Armand | Oeken, W. J. | Stratton, C. R. |
| Bleier, W. D. | Heim, Herald | O'Connell, Edgar E. | Stritzinger, R. K. |
| Bolser, Lewis F. | Hicklin, J. W. | Odermat, Eugene M. | Thomas, G. Cullen |
| Bour, Edw. R. | Hopper, Horace | Olsen, Leslie R. | Thompson, Claud |
| Breternitz, E. H. | Inman, Roy V. | Parker, Wesby R. | Tod, Jack |
| Campbell, Stewart | Jackson, Maurice | Patterson, C. J. | Votteler, Theo. |
| Carey, J. R. | Jaeger, H. M. | Petersen, Oluf | Wahl, Louis |
| Cassie, Chas. | Joffe, M. H. | Phillips, M. C. | Wahl, Richard |
| Cassil, R. T. | Katzinger, Arthur | Piper, A. H. | Walmsley, Wm. |
| Caster, Louis E. | Keefer, Wm. F. | Pirrie, Peter G. | Ward, James E. |
| Chapman, G. M. | Keith, Roy | Prendergast, J. S. | Waitzman, H. |
| Chapman, Paul P. | Lane, Riley A. | Price, E. B. | Weil, Jos. B. |
| Corby, R. L. | Laub, Herbert | Raven, W. F. | West, Harold B. |
| Dewar, Robt. | Lind, Carl | Rega, Ralph J. | Weymouth, R. E. |
| Doty, W. E. | Littman, Benson | Reichert, Fred C. | Wihlfahrt, Julius K. |
| Duchaine, Jos. P. | | Rennicks, Crawford | Williams, Jos. P. |
| | | | Wilson, Jos. F. |

On the second night of the conference, March 18, a dinner was held at Hotel Sherman at which Raymond K. Stritzinger presided. I. K. Russell took the minutes of the organization meeting at the suggestion of Chairman Stritzinger until a permanent secretary be elected. The election of officers was as follows:

- RICHARD WAHL*President*
- ED O'CONNELL.....*First Vice President*
- W. E. DOTY.....*Second Vice President*
- VICTOR E. MARX.....*Secretary-Treasurer*

The first executive committee meeting was held, comprising as it did the officers and G. Cullen Thomas and Joseph B. Weil; and Cullen Thomas and Dick Wahl were instructed to draw up the By-Laws of the Society. R. L. Corby was appointed Chairman of the Membership Committee.

The next meeting of the Executive Committee was held July 30, 1924, when the Society Emblem was decided upon. The design offered by Joe Weil after slight alterations was accepted. C. J. Patterson was appointed Chairman of the Publicity Committee and the Secretary was instructed to work with C. J. in order to get proper representation of the Society at all Bakers' Conventions.

In August, 1924, the first bulletin was published entitled "Flour," by C. J. Patterson.

The Society held a session at the Atlantic City Convention of American Bakers Association in September, 1924.

Second and Third Meetings Held at Sherman Hotel

In March, 1925, the Society held its second annual meeting at the Sherman Hotel, Chicago. At this meeting the following officers were elected:

- C. J. PATTERSON.....*President*
- W. E. DOTY.....*First Vice President*
- E. B. PRICE.....*Second Vice President*
- VICTOR E. MARX.....*Secretary-Treasurer*

The next Executive Committee meeting was held August 1 for the purpose of preparing for the Fall meeting of the American Bakers Association at Buffalo, when the bakers held a big exhibit at the Buffalo Armory in September, 1925.

The third annual meeting took place at the Sherman Hotel, Chicago, in March, 1926. On this occasion the Society elected as its officers:

- ED. B. PRICE.....*President*
- GEO. W. TASSIE.....*First Vice President*
- HERBERT C. EARNSHAW.....*Second Vice President*
- VICTOR E. MARX.....*Secretary-Treasurer*

On August 7 and 8, 1926, an Executive Committee meeting was held, at which Messrs. Price, Patterson, Tassie, Doty and Marx were present. The plans for participation in the Atlantic City Convention of the American Bakers Association were prepared and a discussion of the publication of bulletins was also dealt with. The Executive meeting took place at the Edgewater Beach Hotel and an inspection was made of that hotel for the March meeting following.

Convention Headquarters Moved to Edgewater Beach Hotel

In March, 1927, the Society held its annual meeting for the first tie at the Edgewater Beach Hotel, Chicago. At this meeting the officers chosen by the Society were:

ED. B. PRICE.....*President*
E. B. NICOLAIT.....*First Vice President*
FRANK M. GROUT.....*Second Vice President*
VICTOR E. MARX.....*Secretary-Treasurer*

Again in September at the Sherman Hotel, Chicago, the Society conducted a session during the bakers' convention.

During these years the Society had been growing in both membership and in usefulness. These early members apparently strove to outdo each other in the amount of work and the amount of good which they could do to help to help the other fellow. As President Ed. Price put it in Bulletin 27, issued in July, 1927, "In order that a Society be successful and progressive it must be at work 365 days every year instead of only being active at convention time."

New Activities Started

An appointment of Chairman of a Committee on Affiliations of Local Chapters was made by the President and W. E. Doty was appointed to this job chiefly because of Bill's aptitude for work. The work of standardization and engineering which was started the year before, 1926, was consolidated under a new committee, of which Carl P. Schmidt was the chairman, and the work of this committee was considered so important that the Bakery Equipment Manufacturers' Association appointed a committee to work with the Engineers to solve our mutual problems and define a Code of Standards for bakery equipment as would meet the approval of the American Society of Bakery Engineers.

In 1927 holes in bread was still an unsolved problem and at that time the Committee on Publicity and Research of which E. H. Shields, Jr., was chairman, was working hard on this and other problems for the interests of the baking trade generally. This year, too, the Society was honored by being asked to cooperate with the American Society of Cereal Chemists and an Association Correlation Committee, of which Ed Price was the chairman appointed to work out the various problems with these committees as well as sit in on discussions relative to the activities of all baking and allied associations when called upon.

A very fine spirit of service, coupled with high idealism and characterized throughout by a vast capacity for work by the leaders of the Association have very effectively succeeded in actuating and putting into effect those visions which the Founder Members of the Society felt and saw at its inception three short years before.

Indexing Makes Literature More Valuable

During this time a good deal of credit must be given to Victor Marx for his painstaking and hardworking contribution to the interests of the Society in general, and all members in particular. Up to September, 1927, 28 bulletins had been published and that year Victor Marx compiled a Subject Index to the Proceedings of the 4th Annual Meeting held in March, which made that proceedings much more valuable to all members. Indeed, on thinking over the value of such an index, it would seem that the money would be well spent to have the whole proceedings to date indexed properly, and, no doubt about it, the value of these proceedings to members would be very greatly enhanced by such an index. Anyone who has attempted indexing material of this sort will have a pretty good idea of the magnitude of this job and this voluntary work only exemplifies that spirit of helpfulness and thoroughness which actuated all of the leaders in the Society who have helped to make it unique in the baking industry of this or any other country.

In September, 1927, at the Hotel Sherman, the Society again conducted a session with the Annual Bakers' Meeting.

At the fifth annual meeting, March, 1928, held at the Edgewater Beach Hotel, Chicago, the following officers were

elected:

GEO. W. TASSIE.....*President*
F. SMITH NORTON.....*First Vice President*
O. ROLAND READ.....*Second Vice President*
VICTOR E. MARX.....*Secretary-Treasurer*

A great deal of attention at this time was being given to equipment. Ingredients, too were being studied.

During this time bakers had been becoming more and more cake conscious. The bulletins are indicative of the spirit which actuated these leaders of the Society throughout and it is the continuance of this spirit which is to be earnestly desired so that the Society may continue to go on and on to still bigger and better accomplishments in the interests of the baking industry.

In October of this year Vic Marx again supplied a Subject Index to the Proceedings of the Fifth Annual Meeting and he did a very creditable job indeed.

The Society was brought into being primarily because of the need for specialized training for production men. It was easy to see that production men should adopt a more critical attitude towards job study and a very excellent paper on this subject was prepared.

Research Activities Increased

During this time the Research and Experiments Committee of the Society, under the chairmanship of I. A. Berg, had been working on the question of the taste and odor of bread being changed by wrapping. Some discussion along these lines was held at the American Bakers Association Convention at the Stevens Hotel in September, 1928, when the Society took part in the program. The result of the Research Committee's work covered several pages and was a very exhaustive tabulation of experiments which proved to be very helpful to bakers for wrapping at temperatures high enough to impair flavor, was to be avoided.

Junior National Convention Held on West Coast

In January, 1929, the West Coast, which had probably been the cradle of the Society, was developing growing pains and a Junior National Convention was planned and was put over in typical California style. Gordon Darnell of San Francisco was the general Convention Chairman and they opened with a registration of 272, which was very creditable indeed. Towards the end of the session the registration had grown to 436 and a total attendance at the banquet and dance of 670 shows very definitely how these California men do things.

The Society's activities by this time were not just confined from coast to coast on this continent. Members in Europe were coming into the Society as the program of publicity made itself known to other countries.

The Standardization Committee had not been inactive during this time, and its standardization efforts for the past two years were reported. They worked a lot towards standardizing equipment, particularly high speed dough mixers and flour handling equipment as well as water tanks.

This committee, under Bill Reece, has continued to work very closely with the equipment manufacturers. The standardization of humidifier practice in baking plants is another indication of the thorough and painstaking work of this committee.

In March, 1929, at the Edgewater Beach Hotel, the Society conducted its sixth annual meeting. Have the officers elected were:

GORDON H. DARNELL.....*President*
 WM. J. OCKEN.....*First Vice President*
 PAUL CHAPMAN.....*Second Vice President*
 VICTOR E. MARX.....*Secretary-Treasurer*

In May, 1927, a bulletin on Air Conditioning showed the Society was fully alive to the problem of manufactured weather in the bakeshop, and the following month a Bulletin covered very thoroughly the question of rye bread flavors, while to give one an idea of the versatility of the Society's activities another on Hearth Bread was followed in quick order by one on the topic of "Organization" which was typical of the development of leadership in the baking industry such as George Tassie represented.

So the march of progress, the foundations of which were laid probably on the East and West Coasts in the early 90's, proceeded. These production men still guided in their progress by the high ideals which activated and motivated the founders expressed themselves in contributions to the Society's literature on subjects, the treatment of which is both exemplary and oftentimes classical until, by the year 1935 at this writing, we have actually published one hundred bulletins, all of which occupy probably a unique place in the published literature of the baking industry.

Firm Stand Taken on Attending to Business

Much of the success of the Society has been due to the fact that the officers have steadfastly kept out of politics and have been guided in this action without fear and without favor. An example of this fearlessness took place after the election of Louis Caster, President, Earl A. Cox, First Vice President, John C. Summers, Second Vice President, and Victor Marx, Secretary-Treasurer, at the Seventh Annual Meeting at the Edgewater Beach Hotel, 1930. It was during this year that President Caster announced that liquor drinking and carousing would be curbed in order that strict attention to business could be enforced. The fearlessness and straightforwardness of this request met with immediate and sympathetic response from the allied trades and this forward policy is another illustration of the manner in which the Society's policies are molded and fearlessly carried out.

The eighth annual meeting, held at the Edgewater Beach Hotel, Chicago, in March, 1931, placed as officers:

ROSS E. ANDERSON.....*President*
 EARL A. COX.....*First Vice President*
 PETER G. PIRRIE.....*Second Vice President*
 VICTOR E. MARX.....*Secretary-Treasurer*

In May the same year in Louisville, Kentucky, the American Society of Bakery Engineers was represented on the program of the convention of the American Association of Cereal Chemists, while in October the same year, the Society again took part in the convention of the American Bakers Association held in Chicago. There seemed to be developing a very real desire on the part of scientific societies like that of the Cereal Chemists to cooperate and take part in our work and offer to do what they could to work in sympathy and harmony with the Society's program.

Following the ninth annual meeting in Chicago in 1932, at which time the following officers were elected:

ROBERT L. GERDES.....*President*
 CARLOS S. PICKERING.....*First Vice President*
 ALBERT R. FLEISCHMANN.....*Second Vice President*
 VICTOR E. MARX.....*Secretary-Treasurer*

Cooperation with Other Organizations Increases

There are many indications that the work which the A.S.B.E. was doing was being viewed with a good deal of sympathetic attention on the part of other associations in the bakery field. This participation in our programs on the part of the American Association of Cereal Chemists and the Bakery Sales Promotion Association is an indication of harmonious relationship. Perhaps one of the most interesting sessions on our annual program each year is the session conducted by the Cereal Chemists. Returning the compliment, the Cereal Chemists have asked the Engineers for several years now to put on an Engineers program at the Annual Cereal Chemists Convention.

Lou Caster represented the Society on the program of the Bakery Sales Promotion Association Convention, showing that the salesmen group were now "Engineers conscious."

Information Service Inaugurated

It was during Bob Gerdes' tenure of office that a new and valuable service to members was inaugurated known as A.S.B.E. Information Service. Bob realized that one of the main objects of our society is to assist members with their problems. The purpose and operation of this plan was set forth as follows:

1. To render continuous service of educational information to all members of the American Society of Bakery Engineers.
2. To promote more activity among all the members during the entire year.
3. To encourage all of our members to be free and broadminded in the exchange of ideas, opinions and suggestions among the members of our Society.
4. To assist Research, Publications and Standardization Committees in obtaining material and problems for solution and publication.
5. To enable the Program Chairman to use all questions and problems submitted and answered as a basis for planning discussions at the session of the annual convention.
6. To eliminate the repetition and discussion at our annual conventions of such questions that can be answered and disposed of otherwise, such as by this plan, thereby allowing more time for the presentation and discussion of more important subjects.
7. To offer those men who are unable to attend the annual convention a definite means of obtaining information and exchanging ideas with other members of the Society.

Questions are given out to those best qualified to answer and a reply is mailed as soon as possible. I. A. Berg, chairman of the Research Committee, was given the responsibility of handling the information service questions. The success of this service depends very largely upon the cooperation of all members.

Entertainment Not Overlooked

Perhaps one of the most enjoyable features of entertainment each year recently has been the popular Dollar Dinner and entertainment, and great credit is due to Al Fleischmann for his handling of this entertainment feature.

In 1932 an innovation was made in the progress of the Annual Convention by the presentation of baked products such as had never before been displayed. Bill Doty, who was chairman of the Program Committee that year, induced Bill Ocken to act as manager of this exhibition of baked products, a job which has been very creditably handled by "Manager" Ocken every year since that time.

Probably one of the most valuable publications in the baking field is the proceedings of the Annual Meetings of the Engineers. These proceedings report verbatim everything that transpires during the sessions. To insure accuracy the stenographic copy of the proceedings is sent to the member who took part in the discussion for correction. The result is that the proceedings then represent an accurate expression of everything that was said or done during the sessions on the convention floor. This very important work is in the hands of Secretary V.E. Marx and the success of this undertaking is very largely due to his patient and efficient work. Much of the delay which holds up the publication of

the proceedings each year is almost entirely due to the fact that members do not return the corrected sheets more promptly.

No survey of this kind would be complete without the mention of the excellent work of J.W. Hicklin, who so carefully and thoroughly audited the books of the Society up to the time of his death.

Second Junior National Convention on West Coast

“Growing pains” again on the West Coast were responsible for a very successful Junior National Convention held in Los Angeles in June, 1932, and great credit is due to the indefatigable work of the Chairman, Carlos S. Pickering. It was only natural then that Carl Pickering should be elected President at the tenth annual meeting, held at the Edgewater Beach Hotel in March, 1933, with Edward M. Joy, First Vice President; C. A. McDuffee, Second Vice President, and Victor Marx, Secretary-Treasurer.

By this time a new departure had marked a progressive step in convention programs by the advent of the moving picture on educational subjects. Several excellent films had been prepared and Dr. C. G. Harrel had been appointed Director of the Department of Visual Education. It is altogether likely that the convention of the future will use these educational films more and more as they fill a definite need on a convention program.

As another illustration of that spirit of cooperation which permeates the Society as a whole we cannot help but mention the fine work which members have done in preparing films for the use of the Society.

Convention Held While All Banks Were Closed

The 1933 Convention was held at a time perhaps unprecedented in the economic history of the world, and in spite of the closing banks and the black outlook, the Convention was well attended and an excellent spirit prevailed which marks the Society as a whole, and its members in particular, as “depression-proof.”

The 1934 meeting, held as usual in the Edgewater Beach Hotel, was an illustration of just how the Engineers stage a comeback, for the attendance was record for the Society and the high type of program provided by Ross E. Anderson, Chairman of the Program Committee, is another indication of how the Society is fulfilling its destiny. At this meeting Edw. M. Joy was elected President; Barney Evers, First Vice President; Matt Gray, Second Vice President, and Victor E. Marx, Secretary-Treasurer.

The American Bakers Association Convention was held October 22-25, and the Engineers had charge of the Tuesday morning session. Peter Pirrie had the honor of being appointed Chairman of this committee to prepare and present a program at this meeting, if and when we were asked to take part. A good deal of credit goes to Pete for the extremely good program he put on, especially in view of the fact that he was only informed about one month before the convention that we had been invited to take part. Edward M. Joy, our President, and Lou Caster, Past President of the Society, gave extremely interesting papers on “engineering” costs. These papers were considered of such merit that they were set aside for appearance as bulletins.

And so this brief outline covering the history of the activities of the Society for the past ten years has attempted to show how the individual efforts of every member has a definite place in the further progress and in the ultimate usefulness of the Society to its members. The spirit of 1924 which actuated the Founder Members in charting the initial course of the Society should be carefully preserved and fostered and the genuine desire for knowledge should be the prime requisite for membership in this Society.

One Hundred Bulletins Published in Ten Years

A complete list of the one hundred bulletins which have been published follows. The titles give some indication of

the nature of the contents of the Bulletin. For this reason the list of Bulletins should serve as an index to the subject matter contained in the Bulletins and should be used as such for reference. Missing Bulletins should be replaced at once before they are out of print. Information on how to obtain copies of the back Bulletins will be sent on request to the Secretary.

| No. | Bulletin Title | Author | No. | Bulletin Title | Author |
|-----|---|-----------------------------|-----|---|------------------------------------|
| 1 | Flour..... | C. J. Patterson | 36 | Shortening..... | Aspegren and Wall |
| 2 | Proper Handling of Dough Divider.... | F. C. Reichert | 37 | Job Study and the Progressive Baker.. | D. L. McIntyre |
| 3 | Proofing..... | Peter G. Pirrie | 38 | Bread Made in Dough Rooms..... | John C. Summers |
| 4 | Some Practical Considerations in Oil Firing..... | C. A. McDuffee | 39 | The Keeping Quality, Odor, and Taste of Bread Wrapped at Different Temperatures..... | I. A. Berg, Research Comm. |
| 5 | Report on Questionnaire No. 1—Motor and Wagon Boxes..... | Victor E. Marx | 40 | Machine Sweet Goods..... | Wm. E. Broeg |
| 6 | Report on Questionnaire No. 2—Formulas and Dough Time..... | Victor E. Marx | 41 | Report of Junior National Convention San Francisco..... | Victor E. Marx |
| 7 | Milk—Its Composition and Uses in the Bakery..... | Washington Platt | 42 | Bread Production in Australia.. | Wm. Shields |
| 8 | Announcement. | | 43 | Standards for High Speed Dough Mixers, etc.. | W. W. Reese, Standardization Comm. |
| 9 | Announcement. | | 44 | Constitution of A. S. B. E. | |
| 10 | Dough Cooling Questionnaire. | | 45 | Air Conditioning..... | Dell Thompson |
| 11 | Moulding Machines..... | W. E. Doty | 46 | Rye Bread Flavors..... | H. E. Turley |
| 12 | Organization Plans..... | E. O. Nicolait | 47 | Hearth Breads..... | F. Smith Norton |
| 13 | Report of September 1925 Meeting..... | Victor E. Marx | 48 | Organization..... | Geo. W. Tassie |
| 14 | Announcement. | | 49 | A Comparative Study of the Flavor and Taste of Bread Made With Sweetened Condensed Skim Milk—Dry Skim Milk..... | I. A. Berg, Research Comm. |
| 15 | Steam and Boilers..... | Peter G. Pirrie | 50 | 1929 New Crop Flours..... | I. A. Berg, Research Comm. |
| 16 | Human Engineering..... | Gerald Billings | 51 | Getting a Cake Batch Together.. | J. L. Sporer |
| 17 | Dough Mixer Questionnaire. | | 52 | Sliced Bread..... | L. E. Caster |
| 18 | Oven Questionnaire. | | 53 | Prevention of Mold..... | I. A. Berg |
| 19 | Pan Questionnaire. | | 54 | The Responsibilities of the Bakery Engineer..... | Murray Guthrie |
| 20 | Report of September, 1926, Meeting.... | Victor E. Marx | 55 | The Cleaning of Pans..... | Sam Hawthorne |
| 21 | Treatise on Yeast..... | Julius E. Wihlfahrt | 56 | Production With and Without Brains.. | W. S. Allison |
| 22 | Process Questionnaire. | | 57 | 1930 New Crop Flours..... | I. A. Berg |
| 23 | Make-Up Questionnaire. | | 58 | Helpful Suggestions. | |
| 24 | Treatise on Malt Extract..... | Julius E. Wihlfahrt | 59 | More Helpful Suggestions. | |
| 25 | Announcement. | | 60 | Steam Saturator..... | Chas. E. Misch |
| 26 | Announcement. | | 61 | Cost Control..... | John Thies |
| 27 | Announcement..... | Ed. Price | 62 | Eggs..... | A. K. Epstein |
| 28 | Experiments With New Crop—Northwestern and Southwestern Flours of 1927..... | Committee of Four Engineers | 63 | Sponge Cakes..... | Mary M. Brooke |
| 29 | Containers for Truck Deliveries..... | L. W. Parks | 64 | Flour Making..... | The Cereal Chemists |
| 30 | Report of September, 1927, Meeting.... | Victor E. Marx | 65 | Safety in the Bakery..... | C. H. Ribble |
| 31 | Manufacture and Care of Bread Pans... .. | Paul Chapman | 66 | Baking Powder..... | Charles P. Oliver |
| 32 | What We Know and What We Don't Know About Milk in Bread..... | Washington Platt | 67 | Wire-Cut Machine-Made Cookies..... | Arthur D. Blank |
| 33 | Bluestem Flours..... | J. L. Sporer | 68 | Maintenance and Repairs..... | H. Edward Hildebrand |
| 34 | Problems in Cake..... | M. Cavenagh | 69 | Some Observations in Employing the New Method of Making Cakes..... | Chas. A. Glabau |
| 35 | Wholesale Cake With Wholesale Bread.. | Chas. T. Godwin | | | |

| No. | Bulletin Title | Author |
|-----|--|---|
| 70 | Pullman Pans..... | Wm. J. Peters |
| 71 | Chocolate Liquors and Cocoa Powders... | A. G. Schreck |
| 72 | The Manufacture of Fruit Cake..... | James W. Buckle |
| 73 | Alcoholic Fermentation H. Ion Concen- tration and Colloid Chemistry..... | Pete Prinsen and Dr. C. H. Bailey |
| 74 | Standardization of Humidifier Practice in Baking Plants..... | W. W. Reece, Standardization Comm. |
| 75 | Mold and Rope..... | Pirrie, Marx, Broeg, Pickering, Berg |
| 76 | Enzymes of Flour..... | Harry E. Weaver |
| 77 | Action of Shortening in Bread..... | Washington Platt |
| 78 | Is Gluten Content the Only Factor in the Blending of Flour?..... | C. G. Harrel |
| 79 | Rye and Potato Breads..... | Josef Cryns |
| 80 | Correlating Laboratory and Shop Re- sults..... | C. A. McDuffee |
| 81 | Fried Cakes..... | D. M. Binger |
| 82 | Bakers' Questions on Cereal Chemistry.. | Cereal Chemists of the Northwest |
| 83 | Results of Questionnaire on Conditioned Cooling of Bread..... | W. W. Reece |
| 84 | The Function of Shortening in Cake.... | M. B. Graff, P. E. Minton, H. S. Mitchell |

| No. | Bulletin Title | Author |
|-----|--|--------------------------------------|
| 85 | The Interpretation of the Laboratory Analysis..... | Rowland J. Clark |
| 86 | Fundamentals of Rye Bread Production | Karl P. Keeney and Wm. H. Hauck |
| 87 | Shortening in French Bread..... | Wm. E. Broeg and Committee |
| 88 | Sponge and Dough Conditioning..... | H. E. Weaver and C. H. McIntosh |
| 89 | Yeast and Fermentation Interferences.. | E. B. Nicolait and James D. Veron |
| 90 | Effect of Pan Shapes on Loaf Characteris- tics..... | Carlos Pickering and F. Smith Norton |
| 91 | Studies on Bread Molds..... | H. G. Brouillett |
| 92 | Holes in Bread..... | L. W. Haas |
| 93 | In the Dough..... | Robt. W. Brooks |
| 94 | Bakery Casters—The Overhead Under- foot..... | F. B. Evers |
| 95 | The Care of Bake Pans... .. | Dr. E. B. Hutchins |
| 96 | Insects in the Bakery.... | Dr. R. C. Sherwood |
| 97 | Enzymes in Dough Fermentation..... | Robt. W. Brooks |
| 98 | The Use of Steam in the Bakers' Ovens | Peter G. Pirrie |
| 98a | Simplified Cost System.... | Edward M. Joy |
| 98b | Can We Engineer Merchandising?.... | Louis E. Carter |
| 99 | Holes in Bread..... | L. W. Haas |
| 100 | Proper Moulder Operation.... | D. M. Binger |