AGENDA
MEETING OF THE MCA BOARD OF DIRECTORS
8:30 a.m. (EST), April 11, 1972
The Madison (Mount Vernon Room), Washington, D. C.

I. MINUTES OF MARCH 15, 1972, MEETING.

II. REPORT OF THE SECRETARY-TREASURER.

III. BOARD OF DIRECTORS.
(b) Proposed Amendment of Association's Corporate Charter. (Enclosure)
(c) Report of Ad Hoc Committee on Patent Data Retrieval. (Enclosure)
(d) Executives of Foreign Chemical Trade Associations in
Attendance at Centennial Meeting as Guests of MCA. (Enclosure)
(e) Report of the Membership Committee:
The Shepherd Chemical Company.

IV. COMMITTEE APPOINTMENTS.
(a) Economic Policy Review Committee.
   Robert Keeton, The Procter & Gamble Company
   William W. Spear, Standard Oil Company of Indiana
(b) Safety and Fire Protection Committee.
   John Jorgensen, Rohm and Haas Company -- As Chairman*
   J. J. Walker, Union Carbide Corporation -- As Vice Chairman*
   R. B. Howard, Shell Chemical Company

*Effective July 1, 1972.

V. STAFF REPORT.

VI. COMMITTEE REPORT.
   Government Relations Committee -- Sam Pickard, Chairman

VII. ADJOURNMENT.

Next Meeting of the Directors -- Union Club, Park Avenue and 69th Street,
New York City, May 9, 1972, at 11:00 a.m. (EDT).
MINUTES of the two hundred twelfth meeting of the Directors of the Manufacturing Chemists' Association, Inc., held at The Madison, Washington, D.C., on Tuesday, April 11, 1972, following breakfast at 8:30 a.m.

There were present: Max A. Minnig, Chairman
                      H. E. Hirschland
                      Werner C. Brown
                      James A. Hughes
                      C. C. Candee
                      William W. Huisking
                      John T. Connor
                      L. G. Lillico
                      Herschel H. Cudd
                      Robert A. Lucht
                      Lee V. Dauler
                      Harry D. McNeeley
                      David H. Dawson
                      Thomas B. Nantz
                      Edward J. Donley
                      P. C. Reilly
                      William P. Drake
                      Luther S. Roehm
                      William J. Driver
                      George W. Russell
                      Carl A. Gerstacker
                      Robert J. Whitesell
                      William B. Graham
                      John E. Wood, III
                      John M. Henske
                      James R. Carnes

Alternates:          Wayne T. Barrett (for L. G. Bliss)
                      Donald T. Brophy (for Robert J. Whitesell)
                      John L. Gillis (for Edward J. Bock)
                      Gordon Kiddoo (for D. G. Stevens)
                      Earl C. Ray (for Robert A. Lucht)
                      Thomas E. Reilly, Jr. (for P. C. Reilly)
                      William S. Sneath (for F. Perry Wilson)
                      Francis W. Theis (for John W. Brooks)
                      Dickson L. Whitney (for C. C. Candee)
                      Robert J. Zedler (for H. E. Hirschland)

General Counsel:     Lloyd Symington

Present by invitation:  Bruce M. Barackman, MCA
                        George E. Best, MCA
                        Marjorie V. Campbell, MCA
                        James G. Morton, MCA
                        Sam Pickard, Monsanto Company
                        Victor H. Peterson, MCA

I. MINUTES OF MARCH 15, 1972, MEETING.

With the addition of the name of William W. Huisking to the list of those present, the minutes of the March 15, 1972, meeting of the Board of Directors were duly approved as submitted to the members.
II. REPORT OF THE SECRETARY-TREASURER.

The financial report for the ten months ended March 31, 1972, was summarized by the Secretary-Treasurer.

ON MOTION, duly made and seconded, it was,

VOTED: That the report be accepted and placed on file.

III. BOARD OF DIRECTORS.

(a) Budget and Financing for Fiscal 1972-73. Chairman McNeeley of the Finance Committee reported that the Executive and Finance Committees had met on the previous afternoon to consider the budget and financing proposals for fiscal 1972-73. Based on estimated income, the total budget of $1,911,130 in the present membership fee schedule, could be financed from the Association's reserve without reducing it below 57 percent of the annual budget, above the six months operating expense level to be maintained under Board policy. As the result of their study, the Executive and Finance Committees had endorsed the management-recommended budget and financing proposals which will be forwarded to Directors for their study in advance of the May Board meeting.

(b) Proposed Amendment of Association's Corporate Charter. Furnished to Directors in advance of the meeting and summarized by Mr. Symington was a proposed amendment of the Association's corporate charter to be filed with the Secretary of State of the State of New York upon adoption by the membership at the next annual meeting. In addition to stipulating that the total number of Directors shall be as provided in the Bylaws while retaining the present minimum of ten, the amendment would make clear that the internal affairs of the corporation shall be regulated as provided in the Bylaws, certify that the Association is a Type A Not-For-Profit Corporation, and designate the Office of the U. S. Corporation Company in New York City as the post office address to which official notices shall be sent by the New York Secretary of State.

ON MOTION, duly made and seconded, it was,

VOTED: That the proposed amendment to the Association's corporate charter, copy appended as Exhibit A, be approved for submission to the members of the Association at the next annual Meeting.
and, upon adoption by them, be filed with the Secretary of State of the State of New York.

(c) Report of Ad Hoc Committee on Patent Data Retrieval.

Furnished to Directors in advance of the meeting and summarized by Chairman Dawson of the Executive Committee was a report of an ad hoc committee appointed by the Board of Directors on February 9, 1971, to study the desirability of an MCA Patent Data Retrieval Service, copy appended as Exhibit B. The ad hoc committee concluded that a patent information retrieval service within MCA would not be desirable but recommended instead that a standing MCA Committee on Patent Information Retrieval be established to monitor the quality of services provided by vendors of patent information. The Executive Committee approved the ad hoc committee report, suggesting however that consideration be given to a name for the proposed standing committee not containing the word "patent" to avoid confusion with the Patent and Trademark Committee. Accordingly, the ad hoc committee now proposes that the committee be designated the Technical Information Retrieval Committee.

In the discussion which followed, concern was expressed regarding the possibility of overlap between the functions of the Patent and Trademark Committee and those of the proposed committee and it was suggested that it would be better if the proposed information retrieval group were a subcommittee of the Patent and Trademark Committee. It was therefore recommended that the proposal be reconsidered by the Executive Committee.

ON MOTION, duly made and seconded, it was,

VOTED: To refer the recommendation for establishment of a standing Technical Information Retrieval Committee to the Executive Committee for further study.

(d) Executives of Foreign Chemical Trade Associations Attending Centennial Meeting as Guests of MCA.

Mr. Driver invited the attention of Directors to the enclosure to the meeting agenda listing the names of those heads of foreign chemical trade associations who had accepted MCA's invitation to attend its Centennial Meeting which had been extended at the suggestion of the Centennial Committee. Any Director whose company might wish to entertain any of the foreign visitors while at the Greenbrier was requested to inform Assistant Secretary-Treasurer Bruce Barackman who is charged with the coordination of plans for such entertainment.

(e) Report of the Membership Committee: The Shepherd Chemical Company. Chairman Drake of the Membership Committee reported that an application had been received from The Shepherd Chemical Company.
and that, in the opinion of the Membership Committee, the applicant was qualified for membership under the Association's Bylaws.

ON MOTION, duly made and seconded, it was,

VOTED: That the applicant be elected to membership in the Association.

IV. COMMITTEE APPOINTMENTS.

The following committee appointments were approved:

(a) Economic Policy Review Committee,
   Robert Keeton, The Procter & Gamble Company
   William W. Spear, Standard Oil Company of Indiana

(b) Safety and Fire Protection Committee,
   John Jorgensen, Rohm and Haas Company -- As Chairman*  
   J. J. Walker, Union Carbide Corporation -- As Vice Chairman*  
   R. B. Howard, Shell Chemical Company

*Effective July 1, 1972.

V. PROPOSED SPECIAL ISSUE OF "CHEMICAL WEEK" RECOGNIZING MCA CENTENNIAL.

Chairman Minnig reported that a representative of Chemical Week magazine had approached him regarding its desire to publish a special issue later in the year in recognition of the MCA Centennial and including a condensation of the MCA Centennial History now under preparation, together with other material telling the story of the industry's wholesome effect on the American way of life. It was proposed that, in the absence of objection by the Board of Directors, a copy of the Centennial History would be furnished to Chem Week for the purpose outlined and subject to MCA's right to review Chem Week's condensation prior to publication. There being no objection, Chairman Minnig stated that he would advise Chem Week of the decision and the stipulated conditions.

VI. STAFF REPORT.

Mr. Driver summarized recent regulatory and legislative related activities of the MCA Transportation and Distribution, Transportation Equipment, and Chemical Packaging Committees, followed by a report of significant economic data regarding the chemical industry which had been
compiled from published sources for inclusion in the Annual Report. A copy of his written report concerning legislative developments and Association activities since the preceding meeting of the Board of Directors, copy appended as Exhibit C, was forwarded to Directors in advance of the meeting.

A complete list of those who attended the reception for members of the Congress and other government officials on the previous evening, completed subsequent to the Board meeting, is attached as Exhibit D.

VII. COMMITTEE REPORT.

Introduced by Chairman Connor of the Board Liaison Committee for Government Relations, Chairman Sam Pickard of the Government Relations Committee reported on the projects and activities of that committee, copy of his report appended as Exhibit E. Following his report, Mr. Pickard and Mr. Morton, staff Director of Government Relations, responded to questions of Directors regarding the Hartke-Burke bill, the Muskie Water Pollution Control bill, and prospective tax reform and trade policy legislation. In connection with possible tax reform legislation, Mr. Connor reported that a study of the value added tax by his company indicated that it would be highly undesirable for a capital intensive industry and he urged that the management of member companies make a careful study as to its possible impact on their operations.

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There being no further business to come before the meeting, it was unanimously resolved to adjourn.

James R. Carnes
Secretary-Treasurer

Certified correct:

Max A. Minnig
Chairman of the Board
PROPOSED AMENDMENT OF ASSOCIATION'S CORPORATE CHARTER

The attached proposed amendment of the Association's Corporate Charter would do the following:

1. Provide that the total number of Directors shall be as provided in the Bylaws, while retaining the present minimum figure of ten (10) in the Certificate.

2. Make clear that regulation of the internal affairs of the corporation shall be as provided in the Bylaws.

3. Certify that the Association is a Type A Not-For-Profit Corporation, in accordance with Section 113 of the recent New York Not-For-Profit Corporation Law.

4. Specify the Office of the U. S. Corporation Company in New York City as the post office address to which official notices shall be sent by the N. Y. Secretary of State.

Items 3 and 4 are included in this proposed amendment in order to include in a single document all pertinent requirements of the recent New York Not-For-Profit Corporation Law to which MCA is subject.
CERTIFICATE OF AMENDMENT
OF THE CERTIFICATE OF INCORPORATION (CERTIFICATE OF CONSOLIDATION)
OF
MANUFACTURING CHEMISTS' ASSOCIATION, INC.
UNDER SECTION 803 OF THE NOT-FOR-PROFIT CORPORATION LAW

Pursuant to the provisions of Section 803 of the Not-For-Profit Corporation Law, we, the undersigned, William J. Driver and James R. Carnes, being respectively the President and the Secretary-Treasurer of MANUFACTURING CHEMISTS' ASSOCIATION, INC., hereby certify:

1. That the name of the corporation is MANUFACTURING CHEMISTS' ASSOCIATION, INC.

2. That the Certificate of Incorporation (Certificate of Consolidation) of said corporation was filed by the Department of State, Albany, New York, on the 22nd day of June, 1950, and that the corporation was formed under the Membership Corporations Law.

3. That it is a corporation as defined in subparagraph (a)(5) of Section 102 of the Not-For-Profit Corporation Law. Under Section 201 it is a Type A Not-For-Profit Corporation.

4. That the post office address within or without the state to which the Secretary of State shall mail a copy of any notice required by law is: c/o United States Corporation Company, 60 Wall Street, New York, N. Y. 10005.
5. (a) The Certificate of Incorporation (Certificate of Consolidation) is amended to remove the present maximum figure of twenty-seven (27) for the number of Directors of the corporation, maintain the present minimum figure of ten (10), and provide otherwise that the number of Directors shall be as provided in the by-laws of the corporation; also a new provision is added to make clear that regulation of the internal affairs of the corporation shall be as provided in the by-laws.

(b) To effect the foregoing, Article FIFTH of said Certificate relating to the number of Directors is amended to read as follows:

"FIFTH. The number of Directors of the corporation shall be as provided in its by-laws, but in no event shall be less than ten (10). Regulation of the internal affairs of the corporation shall be as provided in the by-laws."

6. The foregoing amendment was authorized by the concurring vote of a majority of the members of the corporation at the Annual Meeting thereof held on June 8, 1972, at which a quorum was present.

IN WITNESS WHEREOF, we have signed this Certificate on the day of June, 1972, and we affirm that the statements contained therein are true under the penalties of perjury.

William J. Driver
President

James R. Carnes
Secretary-Treasurer

[SEAL]

CMA 069801
Report of Ad Hoc Committee on Patent Information Retrieval

The ad hoc Committee on Patent Information Retrieval, established February 9, 1971, has completed its study and submitted its report, which is attached.

The Committee was directed "to study and prepare recommendations concerning the desirability of establishing, under the auspices of MCA, a cooperative effort in the area of patent information retrieval for chemicals and related products."

Briefly, the Committee has concluded that it would not be desirable to establish a patent data bank or other patent information retrieval service within MCA, as this would duplicate to a great extent existing information services, and would undermine the efforts of these services.

However, the ad hoc Committee believes that there is a need for a unit or group representing the U.S. chemical industry to maintain a channel of communications with commercial information services, to monitor these services, and to keep the vendors of information services advised concerning the shortcomings of and needed improvements in existing information services. To this end, the ad hoc Committee has recommended the establishment of a standing MCA Committee on Patent Information Retrieval.

The ad hoc Committee's report has been reviewed by the MCA Patent and Trademark Committee, the large majority of whose members concur in the conclusions and recommendations of the ad hoc Committee. Minority views were expressed by two members of the Patent and Trademark Committee:

One expressed reservations concerning the formation of a new standing MCA Committee on Patent Information Retrieval and recommended instead that the Patent and Trademark Committee assume the responsibility of monitoring the quality of services provided by vendors of patent information. (The majority of this Committee is of the opinion that its members do not have the proper background or experience to undertake this function.)

Another expressed concern with regard to the possible antitrust hazards to the Association which could result from less than carefully controlled activities of such a Committee. He suggested that counsel for the Association review the recommendation to establish a Committee on Patent Information Retrieval with this in mind.
The ad hoc Committee report has been reviewed by the Association's General Counsel, who interposes no objection to the recommendation that a Patent Information Retrieval Committee be created. Should the Board of Directors approve the ad hoc Committee's recommendation to establish a Patent Information Retrieval Committee, the Association's General Counsel will participate in the formulation of the Rules of Organization and Procedure of the new Committee in order to avoid any possible antitrust involvement by the Committee.

The Executive Committee has reviewed the report and recommends approval of the conclusions and recommendations of the ad hoc Committee as set forth in the report.

In the Executive Committee's consideration of this item a suggestion was made that consideration might be given to selecting a name for the proposed new committee on patent information retrieval which does not contain the word "Patent," in order to avoid confusion with the Patent and Trademark Committee. With this thought in mind, it is suggested that the new committee, if approved by the Board of Directors, be named the "Technical Information Retrieval Committee." While this name is somewhat more general in description, the terms of reference of the committee would restrict the operation of the committee to matters relating to patent information retrieval.

It is recommended that the Board of Directors approve the conclusions and recommendations of the ad hoc Committee.
OUTLINE OF REPORT OF
AD HOC COMMITTEE
ON
PATENT DATA RETRIEVAL

MANUFACTURING CHEMISTS ASSOCIATION

SUMMARY
CONCLUSIONS
RECOMMENDATIONS
BACKGROUND
APPROACH TAKEN BY COMMITTEE
ACTION OF COMMITTEE
POSITION OF COMMITTEE
ECONOMIC ASPECTS OF PATENT DOCUMENTATION

APPENDICES

I  TERMS OF REFERENCE

II  CHECKLIST OF NEEDED SERVICES

III  TABULATION OF RESPONSES TO PATENT INFORMATION QUESTIONNAIRE
Summary

On February 9, 1971 the Board of Directors approved terms of reference for an ad hoc committee whose primary function was "to study and prepare recommendations concerning the desirability of establishing, under the auspices of MCA, a cooperative effort in the area of patent information retrieval for chemicals and related products." The Committee was also to consider the needs of the MCA membership for patent information services in the electrical, electronic, and mechanical fields. Under the terms of reference the Committee was to complete its study and submit its report within one year, if practicable.

The Committee was organized and held its first meeting on February 26, 1971 under the chairmanship of Dr. Robert H. Blaker of E. I. du Pont de Nemours & Co. The Committee held eight additional meeting sessions during the year. The Committee met with representatives of commercial and nonprofit organizations furnishing patent information services, of the U.S. Patent Office, and of MCA member companies not represented on the Committee, to obtain the views of both vendors and users of the services in question.

The principal role of the ad hoc Committee has proved to be that of a catalyst, serving to encourage and to spur action on the part of commercial vendors in providing expanded and improved retrieval services for published patent information. As a result of the Committee's work, it appears that two such services will go forward. A standing MCA patent information retrieval committee, maintaining a channel of communications with commercial information services, would serve to encourage vendors to continue to improve their offered services. The major vendors have concurred in this idea and welcome establishment of such a committee.

Conclusions

The Committee has reviewed the state of the art of patent information retrieval, has considered the needs of the MCA member companies, and has reached the following conclusions:

1. Member companies of MCA, especially the companies engaged in substantial R&D activity, are faced with the prospects of having to spend increasingly larger amounts of money each year to identify pertinent information in issued patents. There is an increasing awareness among those companies who have invested significant sums of money in processing patents internally that a wise, and indeed necessary, course of action would be to develop some way of sharing the cost of processing patents among all companies who have a need for information.
2. While abstracting services presently available are generally acceptable, none of the services presently offered commercially are completely satisfactory from the viewpoint of depth and sophistication of indexing for machine retrieval.

3. Although vendors of information services hold periodic user conferences to receive the views of their subscribers, in general, recommendations of many companies concerning the caliber of service do not receive the desired attention from either commercial or non-profit patent information activities, which have responded instead to the least common denominator views of all the users.

4. The interests of MCA members would be best served if MCA would encourage vendors of patent information to acquire the best systems and files now available anywhere in the world and to repackage these for American companies on a subscription basis. The goal is a computer-based retrieval system for both U.S. and foreign chemically related patents to best serve the chemical industry.

5. Collectively the member companies of MCA appear to have sufficient interest in acquiring computer-based retrieval systems for their patent literature that the Manufacturing Chemists Association should accept responsibility for contributing to a satisfactory resolution of the patent information problem.

6. A patent data bank or other patent information retrieval service established within MCA would, to a great extent duplicate presently available information services, and would undermine the efforts of present vendors.

7. While the chemical industry has some interest in information retrieval relating to electrical, electronic and mechanical products, primary focus should be restricted at this time to patent information retrieval relating to chemical products.

8. The proposals of the U.S. Patent Office concerning full text searching are interesting and ingenious, but are not considered likely to lead to a computer-based search system of value to the chemical industry in this decade.

Recommendations

Based on the foregoing conclusions, the ad hoc Committee recommends that:

1. MCA establish a standing committee on patent information retrieval whose function would be:
"To serve as a forum for discussion of problems involving the retrieval of information from published U.S. and foreign patents of interest to the chemical industry; to formulate general positions which describe the needs of the chemical industry in the area of patent data retrieval, to monitor the quality of services offered by vendors of patent information; to keep vendors informed of any deficiencies or shortcomings in the quality or scope of their services and to suggest improvements in the services for the benefit of all; to encourage other research and development in the area of computer-based retrieval of information, especially patent information; to act as a forum for interchange of this information in the chemical industry; and to meet with and exchange information of common interest with similar groups representing the chemical industry abroad."

Members of this Committee should be knowledgeable individuals of balanced judgment who thoroughly understand the dual role of patent data and patent data retrieval systems in that they must at once serve the needs of scientists who require information for use in their research and development work and the often different needs of patent lawyers who require information for use in their patent work. These needs overlap and a clear understanding of both is essential. Members should have a working familiarity with manual retrieval systems as well as currently-used machine retrieval systems. They should be of stature sufficient to enable them to speak for their respective companies.

2. MCA not establish a patent data bank or other patent information retrieval service at this time.

3. The ad hoc Committee be discharged upon acceptance of this report by the Board of Directors.

Background

Within recent years it has become more and more evident to the chemical industry that the accelerating pace of technological development has resulted in continuously rising costs to individual companies in maintaining an up-to-date awareness of information relating to U.S. and foreign chemical patents. With this factor in mind the MCA Executive Committee requested at its May 12, 1970 meeting, that the MCA staff look into the feasibility of establishing a patent data bank within MCA. After preliminary study, it was the opinion of MCA that this project could best be carried out by an ad hoc Committee comprised
of MCA company representatives who were knowledgeable in the field of patent information retrieval. The Executive Committee approved the formation of such a committee and on February 9, 1971, the Board of Directors approved terms of reference for the committee (Appendix I). Those MCA companies believed to have a substantial interest in patent matters were invited to nominate representatives to serve on the committee. The Committee members, drawn from this group, are listed below:

Dr. Robert H. Blaker  
Manager, Central Patent and Report Services  
E. I. du Pont de Nemours & Co.

Mr. W. F. Boeke  
Manager, Patent Department Services  
The Dow Chemical Company

Mr. H. A. Dutcher  
Manager, Technical Branch Patent Division  
Phillips Petroleum Company

Mr. J. J. Hagan  
Patent Counsel  
American Cyanamid Company

Dr. Robert A. Harman  
Patent Counsel  
Allied Chemical Corporation

Mr. T. D. Hunt  
Coordinator, R&D Information Services  
Union Carbide Corporation

Dr. W. P. Metzner  
Manager, Patent Services  
Monsanto Company

Dr. Patrick T. O’Leary  
Manager of Patent Information Section  
Gulf Oil Corporation

Mr. Marvin Turkin  
Patent Counsel  
Celanese Corporation

Mr. Hoke Woodruff  
Patent Department  
Eastman Kodak Company

Approach Taken by Committee

There was a consensus of committee members attending the first meeting on the following points:

1. In consideration of the problems involved in the storage and retrieval of patent information, any significant advances in the art of patent information retrieval would involve machine retrieval.

2. While the patent abstracts services offered to the chemical industry by vendors were in general adequate, considerable improvement was desirable in commercially available computer-based retrieval systems.
3. It would be unwise for the Manufacturing Chemists Association itself to become involved in attempting to duplicate existing services. Anything done by MCA in this field should be in furtherance of efforts of commercial vendors and not in attempting to set up independent services.

4. The primary focus of any efforts should be on retrieval of patent information relating to the chemical arts and that retrieval systems involving mechanical, electrical or electronic art should be given strictly secondary consideration.

5. First consideration should be directed to the retrieval of information from patents. The efforts of this committee should not be diluted in considering methods for retrieval of information from scientific journals or technical or trade publications.

6. The most profitable approach for the committee would be to agree in general on the kind of retrieval services which were now possible based on the committee members' knowledge of the state of the art in this area and then to determine if it were possible to encourage the present vendors of patent information to increase the degree of sophistication of offered services.

7. The basic goal should be a patent information retrieval system which embraces both U.S. and foreign chemically related patents. If separate systems are provided, the retrieval systems developed should be mutually compatible.

8. The most logical role for MCA would be to act as a "channel of communication" for the chemical industry so that a consensus might be conveyed to the vendors. It was felt that the recommendations and/or complaints of many U.S. companies in the past have been given insufficient consideration by some vendors of information services.

9. Since the problems involved in retrieval of patent information are common to all the chemical industry -- U.S. and foreign -- it was felt there was merit in establishing a group representing U.S. companies to deal on an equal basis with associations representing the European and Japanese chemical industry so that the best thinking of the entire chemical industry might be coordinated for the benefit of all.

**Action of Committee**

Collectively, the members of the committee drew on the experience of the companies they represented and prepared a checklist of patent services which they felt were well within the state of the art and were services that they felt a reasonable percentage of member MCA...
companies might consider purchasing from responsible vendors. This checklist is presented in Appendix II. Briefly, the committee felt that the greatest need was for a more sophisticated indexing system suitable for retrieval by computer. For example:

1. Significant concepts (legal and technical) should be described by terms selected from a controlled thesaurus.

2. Indexes to chemical compounds should include ability to retrieve by functional groups as well as by complete chemical structure.

3. Specific or generic (e.g., Markush) claim chemicals should be indexed so that all pertinent patents could be retrieved.

4. Chemicals disclosed in important examples and discussions not included specifically in claims should, nevertheless, be indexed.

5. Indexing of polymer information should provide for retrieval that distinguishes homo- from co-polymers, untreated from after treated polymers; and retrieval by type of polymer and by substructure of the monomer.

6. The committee was aware of the problems associated with indexing of chemical processing and apparatus patents and expressed some interest in improving indexing of patents of this type.

7. The committee was well aware that efficient search programs would have to be provided that could be easily adapted to a variety of computer machinery available in member companies and that files provided by vendors should be updated at intervals no less than quarterly.

It was the consensus of the committee that the primary thrust toward identifying ways of obtaining for the industry more efficient patent data retrieval was to encourage vendors to provide indexing information and search programs to permit member companies to do searching in-house. It was recognized that once such files were created by vendors the vendors could then repackage information in small subsets in either magnetic tape edition or in hard copy edition or in microform edition for sale to companies who have limited ranges of technical interest.

Selective Dissemination of Information (SDI) has been developed to date to the point where it is being used routinely on scientific
literature files to alert people interested in current developments. Some of these services are in-house and others are available from service bureaus. It would be worthwhile to have U.S. and foreign patents handled in the same manner. Such a system would eliminate much time spent by research and patent people in reviewing patent gazettes and abstract bulletins to find references that might be of interest to them. Such SDI service demands prompt supply of information from the vendors.

The committee made a survey to determine those vendors who might be interested in providing improved methods for patent data retrieval. As a result of the survey, representatives of the following organizations were invited to attend the committee meeting in Washington on April 2, 1971:

IFI/Plenum Data Corporation
Derwent Publications Limited
Central Abstracting and Indexing Service of the American Petroleum Institute
Chemical Abstracts Service of the American Chemical Society
United States Patent Office

The committee described for representatives of the above organizations the kind of patent indexing services which the committee felt would be of optimum usefulness to the chemical industry. Committee members indicated that they felt that the Manufacturing Chemists Association should not attempt to supply information services but might appropriately encourage these organizations to provide services of greater potential utility than were now offered. The committee indicated that they could not speak for member MCA companies as a group and hence were in no position to guarantee any given number of subscriptions to improved information services, but they could encourage companies who have need for improved services to seriously consider new offerings by vendors. The committee suggested that if the organizations present were interested in expanding services or offering new services to the chemical industry the committee would provide a forum for exchanging of ideas on the merits of new services.

In due course, three of the five organizations responded by making detailed presentations to the committee describing services which were in all cases considerably more sophisticated and of broader coverage than are currently being offered to the chemical industry. These were the Central Abstracting and Indexing Service of the American Petroleum Institute; IFI/Plenum Data Corporation; and Derwent Publications Limited. The Chemical Abstracts Service of the American
Chemical Society did not take advantage of the offer by the ad hoc committee. The U.S. Patent Office understandably was not in a position to offer a commercial service.

Proposal by the Central Abstracting and Indexing Service of the American Petroleum Institute

The proposal of the American Petroleum Institute (API) was to undertake the indexing of approximately 92,000 patents a year of interest to the chemical industry. The selection of the patents would be based on the choice made by the Derwent Publications Limited in that API proposed to index essentially all of the patents abstracted by Derwent for its Central Patents Index and, in fact, would prepare the indexing information from the Derwent documentation abstracts. The proposal was that the indexing would be done with an expanded edition of the API thesaurus of standard indexing terms including structure fragments designed for a coordinate indexing system and suitable for machine searching. The depth of indexing would result in an average of 25 to 35 terms per patent. API realized that considerable work would have to be done to develop an expanded system for retrieval of chemical fragments. The suggestion was made that this development work would be the joint responsibility of the Central Abstracting and Indexing Service of API and a working committee representing member companies of the American Petroleum Institute and Manufacturing Chemists Association. The estimated annual cost of the proposed indexing was one million dollars a year or approximately eleven dollars per patent included in the coverage. The proposal considered the problems involved in preparing the search programs and stated that approximately one year would elapse before the new service could be in operation. A development fund of $100,000 would be needed for recruiting and training of staff necessary to operate the system and subscription rates would have to be set to recover all costs of the new system on a no-profit basis. The proposal was that a graduated scale of subscription rates -- based on the size of the subscribing company -- would be employed similar to that now used by the American Petroleum Institute for its existing services. API proposed that MCA subsidize the $100,000 start-up costs and, in conjunction with API, guarantee sufficient subscribers to cover an annual operating cost of $1,000,000.

Proposal by IFI/Plenum Data Corporation

IFI/Plenum Data Corporation (IFI) proposed a system which initially would only cover U.S. patents. The proposed system would be expanded to cover selected foreign patents after 1973 if there were a sufficient demand for this service. The proposal in essence was to
combine the existing IFI file of U.S. patents, which covers a period 1950 to 1971, with a file of information to be obtained from E. I. du Pont de Nemours & Company covering a period from 1964 to the present. The plan was to combine the best features of the IFI and the Du Pont file producing a new retrieval system which was stated to be considerably more useful than either file alone. The features of the new system not contained in the existing IFI file would be an improved system for retrieval of patents citing specific chemical compounds as well as families of chemical compounds in response to generic questions or Markush questions. It was proposed to combine the Du Pont thesaurus and the IFI working thesaurus and also to combine the general term files of IFI and Du Pont for improved retrieval of technical and legal concepts. IFI stated that they could produce the new system which would provide access to U.S. patents issued for the years 1950 through 1971 for a one-time charge of $25,000 per subscriber. In addition, they estimated that they could index the U.S. patents which issue in 1972 for an additional charge of $16,000 per year/per subscriber, assuming that approximately 18,000 patents would be issued by the U.S. office in the field of the chemical arts. Additional patents over 18,000 would be charged at a rate of 25¢ each. Subscribers to the new system who had not earlier subscribed to services provided by IFI would be charged an additional $10,000 for the combined 1950 to 1971 file.

IFI would also make available an equivalents file for all chemical patents issued in Belgium, France, Germany, Great Britain, Netherlands and the United States covering the years 1950 to 1970. This file would be arranged by assignee, priority date, and country and would contain references to approximately 900,000 patents. IFI further proposed to offer access to the improved retrieval service on a search bureau basis.

Proposal by Derwent Publications Limited

Mr. Hyams, managing director of Derwent Publications Limited, expressed interest in extending the indexing information now provided by his organization. Derwent has gained a well-deserved reputation for supplying abstracts for the important patents covering the chemical arts issuing in the important industrial countries of the world. Currently, Derwent abstracts approximately 100,000 patents annually from 12 countries; namely, the United States, Belgium, Canada, East Germany, France, Japan, the Netherlands, South Africa, the Soviet Union, Switzerland, the United Kingdom, and West Germany. For a number of years Derwent has supplied indexing information on patents issuing in the important countries covering well-defined art areas. These are the "Plasdoc," "Agdoc," and "Farmpdoc" services which are highly regarded. In 1970 Derwent expanded the indexing service to
cover the entire 100,000 patents a year using the same "Chemical coding" concept as had been developed for the use of "Farmdoc" and "Agdoc."

At the meeting of the ad hoc committee on July 9, 1971, Mr. Hyams described in considerable detail the new proposal for indexing the entire 100,000 patents a year handled by the Derwent organization. In broad outline, this proposal was to adopt certain features of the indexing system developed by E. I. du Pont de Nemours & Company and combine these features with the existing chemical coding and indexing schemes currently employed by Derwent. The new features of the system involved the adoption of "minor non-chemical descriptors" to describe concepts in the patents using the Du Pont thesaurus as a guide. Specific compounds were to be described using the Du Pont registry as a means of control. Complex fragments were to be introduced based in general on this system developed by Du Pont. A new search system would be developed which would retain features of the punched card system now used for "Farmdoc," "Agdoc," and those used in the Du Pont system. Mr. Hyams stated that new search programs would have to be written but that, in general, he visualized, a number of options to be made available to Derwent subscribers. These options would make it possible for those current subscribers who are well-pleased with existing Derwent services to continue to receive from Derwent the indexing information of the type they are now purchasing. Other options would make it possible for those subscribers who wished a more sophisticated system to obtain indexing information covering the entire information available in the files. Mr. Hyams stated that the proposal was tentative and the decision to offer the proposed system would be based in part on private negotiations between Derwent and Du Pont for access to Du Pont information.

At a meeting on October 29, 1971 Mr. Hyams gave some additional details about the proposed system described above. He stated that he had made a decision to acquire not only the Du Pont information but a back file of U.S. patents from Du Pont. Mr. Hyams stated that the new indexing proposal would cover approximately 100,000 patents a year covering the chemical arts of important industrial countries of the world. He reaffirmed that he proposed to continue to supply his existing customers with the kind of information they are now receiving from Derwent and -- for a surcharge -- would supply the additional sophistication he proposed based in part on Du Pont's system. He stated that the new indexing information would be available to current subscribers for a surcharge of approximately $4,000 for patents now covered in "Plasdoc" and a similar surcharge for those patents covered in "Chemdoc," or $7,000 for the two combined. He further stated that the back file of U.S. patents indexed by Du Pont would be made available in separate art areas. For example, the
patents covering polymer chemistry would be available for $8,000 and those patents equivalent to the coverage of "Chemdoc" would be available for a similar surcharge of $8,000.

Subsequently, Derwent invited its subscribers to attend a meeting in Washington on December 2 and 3, 1971. At this meeting Derwent described an expanded indexing plan. The descriptions of the proposed services differed significantly from that described by Mr. Hyams to the committee first on July 9 and later in more detail on October 29, 1971. The current plan is to make significant improvements to existing chemical coding employed by Derwent but to rely on a detailed classification scheme rather than employing general terms to provide for retrieval of concepts of "must" and "possible" in connection with the retrieval by the use of fragment. No mention was made at this meeting of acquiring any information from E. I. du Pont de Nemours & Company, either of Du Pont know-how or files of U.S. patents.

These latest proposals should provide for a considerable increase of efficiency of retrieval over the indexing information now supplied by Derwent. Derwent customers will be offered the option of purchasing indexing in 1972 either by the system employed in the past or by a system proposed at this meeting. The cost of the new system will be approximately twice that of current Central Patent Index subscription prices. It was also stated that there were plans to reindex patents processed in 1970 and 1971 using the new system and that this information would be available at twice the cost of equivalent indexing in 1972. However, there are no plans to reindex the Derwent backlog of five to seven years of patents for improvement in retrospective searching.

On December 15, 1971 the chairman of the ad hoc committee received a letter from Mr. Hyams confirming that the proposals presented at the December 2 and 3 meeting in Washington represented his current proposal and stating that "the cost would be far less than originally indicated on 29th October in Washington." He indicated that a detailed description of his proposal would be furnished to subscribers in January 1972.

Position Taken by Committee

The consensus of the committee was that each of the three proposals represented a significant advance over the information services now available to member MCA companies. The committee was attracted primarily to the proposals made by IFI/Plenum Data Corporation and Derwent Publications Limited because of the expressed intent of these two vendors to go ahead on a for-profit basis to produce the services they described regardless of whether or not MCA would provide.
a subsidy. The committee was further attracted by the proposal of IFI/Plenum Data Corporation because it promised to give access to patents issued in the U.S. over the last twenty-one years. The committee was attracted to the Derwent proposal because it represents access to patents not only in the U.S. but in eleven foreign countries. Their retrieval system promised to be considerably more efficient than now provided. It was the opinion of some committee members that the Derwent services might prove to be more economical. Several committee members had reservations regarding the API proposal as they were not convinced that API was in as good a position as other vendors to provide the service sought by the committee.

The committee was not unaware of the potential difficulties involved in encouraging two organizations to provide competing services. However, it was felt that there were significant differences both in coverage and in technical substance in the two services proposed by Derwent and IFI and that it was anticipated the larger member companies in MCA might find it desirable to subscribe to both services.

The committee invited all member MCA companies to send representatives to a meeting held in Washington on October 29, 1971, to review the position taken by the ad hoc committee. Representatives of 22 member companies attended in addition to the ten companies represented on the committee. The chairman of the ad hoc committee described the genesis of the committee, the information that had been accumulated, and a tentative position taken by the committee. Following the overview of the activities of the ad hoc committee, opportunity was given to representatives of the Central Abstracting and Indexing Service of the American Petroleum Institute, IFI/Plenum Data Corporation, and Derwent Publications Limited to discuss in detail the services their groups were prepared to provide to the chemical industry. The presentations were followed by a question and answer period.

At the close of this session representatives of the member companies were told that it was the purpose of the ad hoc committee following the frame of reference established by the executive committee to determine the interest of member MCA companies in the recommendations of the ad hoc committee. Representatives were told that the major recommendation of the ad hoc committee would be the establishment of a permanent committee within the MCA structure of committees to monitor performance of vendors of information services and to provide a forum for exchange of views on patent data retrieval of member companies of MCA. They were told that a questionnaire would be sent to each of the companies represented at the briefing session and the representatives were encouraged to give serious consideration to their position on the major recommendation of the ad hoc committee.
The questionnaire and tabulation of the results received from member MCA companies not represented on the committee is shown in Appendix III.

Subsequent to the meeting with the MCA companies, a representative of International Documentation for Chemistry, Frankfurt, Germany -- Dr. Grunewald -- visited the chairman of the ad hoc committee to discuss possible areas where there could be effective interaction between member companies of MCA and representatives of the German chemical industry. Dr. Grunewald was informed that it was the intention of the ad hoc committee to recommend the formation of a permanent group representing MCA member companies in the field of patent documentation and that the consensus of the committee was that one of the responsibilities of the permanent committee would be to set up satisfactory channels of communication with representatives of the European chemical companies and the Japanese chemical companies in the area of patent documentation. Dr. Grunewald stated that the organization he represented would be willing to send a representative to Washington to meet with representatives of MCA. It is the consensus of the ad hoc committee that this meeting should be postponed until a permanent MCA committee on patent data retrieval is established.

Members of the committee were generally aware of the program for full text computer searching of the patent literature being developed by the U. S. Patent Office. The chairman of the committee met with Mr. William R. Nugent, Assistant Commissioner for Search Systems Development, U.S. Patent Office, on July 27, 1971. Mr. Nugent described his proposals in considerable detail. In general, he visualized computer searching of the full text of all U.S. patents, of mechanized ways of handling structural formulas, electrical schematics, and diagrams of mechanical devices. He visualized the system would be fully operative in 1978 and would contain at least 1.8 million patents. He stated that the system was being designed primarily from the point of view of the Patent Examiner but suggested after the system became fully operative in the late 70's, there would be consideration given to making the search system available in some fashion to private industry. He estimated the cost of the system would be in excess of fifty million dollars.

The information available concerning the Patent Office plans for full text searching was discussed by the committee. The consensus of the committee was that the proposals of the Patent Office, however interesting and ingenious, were not likely to lead to a search system of value to the chemical industry in this.

Economic Aspects of Patent Documentation

The committee has made only a preliminary study of costs
which might be involved in the operation of a "patent data bank."

Members of the committee discussed the inevitable costs which would be involved in indexing large numbers of patents. First of all, a copy of the patent has to be acquired, then a competent person -- preferably a person with a technical background and some experience in working with patents -- must read the patent and determine the critical features, technical and legal, represented by the patent. If the patent is to be indexed for manual retrieval, then it is common practice to select four to eight terms or subjects which represent the critical information contained in the patent. Access to these terms or subjects -- if the system is a manual system -- is then provided by preparing subject cards and often patentee and/or assignee cards and these cards are filed. Assuming that the average cost per technical hour on a full accounting base is approximately $20 an hour including supporting clerical effort, the total cost of handling an average patent is in the order of $10 -- the range being from $5 to $15 per patent. If, on the other hand, a reasonably sophisticated machine retrieval system is being operated, the experience of one company representative on the committee is that the cost on a full accounting basis for processing an average U.S. patent is in the range of $25 per patent.

If the above costs are taken to represent the range of costs of processing patents, then it follows that a system which covers the chemical arts represented in the annual issue of U.S. patents (approximately 20,000 patents) in recent years would be in the order of $200,000 annually for a manual system or $500,000 annually for a sophisticated machine retrieval system. If, in addition to U.S. patents, the system would cover all patents covering significant innovation in the field of chemical art in the important industrial countries of the world, the system would be forced to process in the order of 100,000 patents a year and the accompanying costs would be approximately $1 million for a manual system and $2.5 million for a sophisticated computer base system. These costs are based on the current salary scales in the United States for competent professional employees. The committee recognized that the cost of building such systems offshore would be less, probably 40 to 50 percent less.

It is evident that the costs are high and that it is unlikely that any single company would find it desirable -- at least over a long period of time -- to operate for its own account a patent system covering all of the patents that would be of potential interest.

In view of the costs associated with the processing of patent information, the committee made a quick review of the associated economic factors. The ten companies represented on the committee have
total sales of chemicals in excess of $10.3 billion per year. The companies, in aggregate, spend over $500 million per year in R&D activities. The companies employ approximately 400 registered patent attorneys and/or agents and in a given year will be granted approximately 3,500 U.S. patents and an additional 4,000 to 5,000 patents in the other important industrial countries of the world.

Many chemical companies continue to rely wholly, or in part, on manual searches. Several companies stated that they expect to replace much of this manual searching by computer searching when it becomes reliable, so a change to computer searching can be, at least partly, a replacement cost, rather than an additional cost.

Based on information developed in committee discussion and meetings with representatives of other MCA member companies, the market for chemical patent information in the U.S. can be divided into the following groups of users:

1. Companies that have people (either in research or patent departments or both) that are convinced that machine searching of patents is useful to them. These companies have sufficient in-house need, computer facilities, and budget to warrant purchase of the machine readable patent files that are available. They realize that these files need to be improved and in the past, they have worked with the vendors of the files to effect some improvement.

2. Companies which believe in the reliability of the machine searchable patent files but do not have a high level of need for patent information or do not have suitable computer facilities to warrant their purchase of such files for in-house use. These companies use the files at service bureaus operated by the vendors of the files and pay either an annual fee or a fee for each use of the file.

3. Companies which are large enough and have enough patent work to justify purchase of use of the machine searchable patent file now available but which do not purchase them for in-house use or use them at service bureaus because they do not consider the files or machine searching reliable and economical.

In the past the income of the vendors of patent files from the first and second types of companies have not been great enough to enable them to market the product that the chemical industry considers necessary. Help from the pioneer users of the file has aided the vendors in upgrading their products to a great degree, but wider
participation by companies in the chemical industry will be necessary to generate the money needed to guarantee a high quality product. Some companies which are not classified in the third category had purchased copies of the machine readable files in the past, found them unsatisfactory and cancelled their subscription. Their disillusionment in some cases may have been due to their own inability to use the files properly, and careful education of the users is essential to get the full benefit of the file. Others have become disillusioned with the quality of the files.

The committee believes that world-wide there are approximately 50 companies which have the balance of interest in patents and economic resources which would make them potential candidates for sharing the cost of indexing of all the important chemical patents issued each year in the world. The committee recognizes that there are many more companies -- perhaps 500 -- which only have a need for and are consequently only interested in a system covering a part of the total chemical patent literature each year. It is for these reasons that the committee felt it would be to the best interest of all concerned if responsible vendors could be encouraged to offer sophisticated patent information retrieval services. Once the data bases are produced, the vendors could use the information to prepare retrieval systems of interest to both large and small companies and could, therefore, by spreading the cost, price the systems to attract 500 potential subscribers -- both large and small.