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Industrial Property

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Contents

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Notifications

Budapest Treaty

Acquisition of the Status of International Depositary Authority

NATIONAL COLLECTION OF AGRICULTURAL AND INDUSTRIAL MICROORGANISMS (NCAIM)

The following written communication addressed to the Director General of WIPO by the Government of the People's Republic of Hungary under Article 7 of the Budapest Treaty on the International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure was received on April 18, 1986, and is published by the International Bureau of WIPO pursuant to Article 7(2)*(a)* of the said Treaty:

"As provided in Article 7(1)*(a)* of the Budapest Treaty on the International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure, the Government of the Hungarian People's Republic notify the Director General of the World Intellectual Property Organization that they nominate the Mezőgazdasági és Ipari Mikroorganizmusok Magyar Nemzeti Gyüjteménye (MIMG), i.e., National Collection of Agricultural and Industrial Microorganisms (NCAIM) as an International Depositary Authority. The Government of the Hungarian People's Republic furnish their assurances that the nominated institution complies and will continue to comply with the requirements specified in Article 6(2) of the Treaty and request the Director General to carry out the procedures in accordance with the provisions of Article 7(2)*(a)*.

"The information concerning the nominated institution as provided in Article 7(1)*(b)* is set out below.

"1. The National Collection of Agricultural and Industrial Microorganisms (NCAIM) is located on the territory of the People's Republic of Hungary; its address is:

Kertészeti Egyetem, Mikrobiológiai Tanszék, i.e.,
Department of Microbiology, University of Horticulture,
Somlói ut 14-16,
H-1118 Budapest.

The institution is under the control of the Ministry of Agriculture and Food.

"2. The organization of the NCAIM was established in 1974 and it contains the strain collections of about 30 research and higher education institutes engaged in agricultural and industrial activity. The center of the strain collection is the Department of Microbiology of the University of Horticulture which has been functioning since 1969 as an independent organizational unit of the University founded more than 130 years ago.

"The NCAIM has a staff of 19, of whom nine hold university degrees. Of those, three professionals and three technical assistants deal exclusively with the work of the strain collection; the other members of the staff perform such tasks in 1/4-1/5 part of their working time. This staff is fully competent and adequate to perform the scientific and administrative tasks required under the Budapest Treaty. The area of the main premises of the NCAIM is about 370 m^2. Two rooms are used for placing the strain preserving equipment and the safes containing the preserved strains, while the further parts of the area are occupied by the laboratories and preparatory rooms necessary for the cultivation and testing of the strains.

"With its work up to now, the NCAIM has proved to be qualified for performing the tasks according to the requirements arising in international relations. Being a member of the World Federation for Culture Collections (WFCC) (No. 485), formerly called Hungarian Microbiological Gene Bank (HMGB), its activity is generally known and it maintains widespread international connections. At present, the collection contains over 1,000 strains of bacteria, 1,400 strains of fungi and about 100 strains of viruses. For the time being, 220 strains are deposited for patent purposes.

"3. The NCAIM has all the facilities to keep the deposited microorganisms viable and uncontaminated. All strains of microorganisms are preserved by either freeze-drying (lyophilization) or freezing (in liquid nitrogen). For safety's sake, both methods are used simultaneously, when it is possible, to maintain permanently the same strain. In addition, traditional strain preserving methods are also applied. The strains are stored in sealed ampoules, at least in 24 copies by strain, in fire-proof safes or insulated containers, and in locked rooms used only for this purpose. Strains deposited for patent purposes are kept separately. Records relating to the strains are kept in locked metal cases. Only authorized staff has access to both the strains and the records.

"4. The NCAIM accepts strains for deposit in connection with patent applications, on the following conditions:

— the depositor sends at least 25 lyophilized ampoules, which will be qualified as stored material after viahility examination, or at least three lyophilized or active cultures from which the NCAIM will prepare storahle material.
— the depositor presents a written statement, under Rule 6.1*(a)* or 6.2*(a)* of the Regulations under the Treaty, on the established forms, in one of the applicahle languages.
— the depositor pays the fees charged by the NCAIM for the storage under Rule 9.1 of the Regulations under the Treaty.

"5. The NCAIM is generally willing to accept for deposit in connection with patent applications strains of agriculturally and industrially important hacteria and fungi whose cultivation and preservation do not call for special conditions and which do not involve any health or other hazard to the environment.

"The following may be accepted for deposit:

— bacteria (including Streptomyces) except obligate human pathogenic species (e.g., Corynebacterium diphtheriae, Mycobacterium leprae, Yersinia pestis, etc.)
— fungi, including yeasts and moulds, except some pathogens (Blastomyces, Coccidioides, Histoplasma, etc.), as well as certain basidiomycetous and plant pathogenic fungi whicb cannot be preserved reliably.

"Apart from tbe above-mentioned, the following may not, at present, be accepted for deposit:

— viruses, phages, rickettsiae,
— algae, protozoa,
— cell lines, hybridomes.

"After the necessary preparations, the NCAIM will in future accept for deposit the aforementioned and users will be so notified.

"6. The following fees are payable to the NCAIM:

	Ft.
(i) for the storage of the microorganisms in accordance with Rule 9.1	15,000.-
(ii) for the issue of an attestation in accordance with Rule 8.2	500.-
(iii) for the issue of a viability statement, except in the cases provided for under Rule 10.2(e) .	1,500.-
(iv) for the furnishing of a sample in accordance with Rule 11.2 or 11.3	2,000.- plus cost of transport
(v) for communication of information under Rule 7.6	500.-

"7. The official language of the NCAIM is Hungarian; correspondence may, however, be conducted also in the English, French, German and Russian languages.

"8. The NCAIM will acquire the status of international depositary authority as from June 1, 1986."

[End of text of Communication]

Pursuant to Article 7(2)*(b)* of the Budapest Treaty, the NCAIM acquires the status of international depositary authority as from June 1, 1986.

Budapest Communication No. 27 (this Communication is the subject of Budapest Notification No. 51, of May 2, 1986).

Activities of the International Bureau

The World Intellectual Property Organization in 1985*

Industrial Property and Patent Information Activities

I. Revision of the Paris Convention for the Protection of Industrial Property

Objective

The objective is to revise the Paris Convention for the Protection of Industrial Property in order to introduce in it new provisions and to change certain existing provisions to meet better the needs of developing countries. Furthermore, the revision should introduce new provisions giving full recognition to "inventors' certificates," a form of protection of inventions existing in several socialist countries.

Activities

Synoptic tables reproducing the proposals made during the Diplomatic Conference concerning Articles 1, 5A and 5*quater* of the Paris Convention (WIPO document PR/DC/INF/51) were prepared in English in February 1985 (and in French, Russian and Spanish in May and June 1985).

In June 1985, the *First Consultative Meeting on the Revision of the Paris Convention* took place in Geneva pursuant to the decision taken at the ninth session, in September 1984, of the Assembly of the Paris Union that the machinery for consultation would consist of consultative meetings, as well as pursuant to the decisions taken by the Spokesmen of the three Groups (Group of Developing Countries, Group B and Group D) at the preparatory meeting held in Geneva on December 20, 1984.

Representatives of the following 27 States members of the Paris Union participated in the first consultative meeting: (i) *for the Group of Developing Countries*: Brazil (Spokesman), Algeria, Argentina, Cuba, Egypt, Philippines, Syria, United Republic of Tanzania, Uruguay, Yugoslavia (10 representatives, 10 States); (ii) *for Group B*: United Kingdom (Spokesman), Australia, France, Germany (Federal Republic of), Italy, Japan, Portugal, Sweden, Switzerland, United States of America (10 representatives, 10 States); (iii) *for Group D*: Soviet Union (Spokesman), Bulgaria, Czechoslovakia, German Democratic Republic, Hungary, Poland (10 representatives, six States); *China* (one representative, one State) also participated.

The Director General was unanimously appointed by the three Spokesmen, and with the agreement of the Representative of China, as Chairman of the meeting. The meeting dealt with one article only, namely, with Article 5A of the Paris Convention. The report of the meeting states that the extensive and detailed discussions that took place have, doubtless, usefully contributed to a better understanding among the three Groups and China.

II. Industrial Property Questions of Topical Interest

Objective

The objective is to look for solutions to specific questions of a legal nature, and of topical interest, in the field of the protection of industrial property. These questions are of topical interest because they are raised by recent changes in the social, economic or technological environment in which mankind lives.

Activities

International Registration of Marks. The Committee of Experts on the International Registration of Marks held its *first session* in Geneva in February 1985. Forty-two States participated in the meeting: Algeria, Argentina, Austria, Bahrain, Belgium, Bulgaria, Canada, Cuba, Czechoslovakia, Democratic People's Republic of Korea, Denmark, Dominican Republic, Finland, France, German Democratic Republic, Germany (Federal Republic of), Greece, Haiti, Hungary, Indonesia, Ireland, Italy, Japan, Malawi, Morocco, Netherlands, Norway, Panama, Peru,

* This article is the second part of a report on the main activities of WIPO in general and in the field of industrial property. Activities in the fields of copyright and neighboring rights are covered in a corresponding report in the review *Copyright*.

The first part dealt with the activities of WIPO as such and with development cooperation activities in respect of industrial property and patent information. This second part deals with other industrial property and patent information activities.

Portugal, Romania, Soviet Union, Spain, Sri Lanka, Sudan, Sweden, Switzerland, Thailand, Tunisia, United Kingdom, United States of America, Yugoslavia. Five intergovernmental organizations and 20 non-governmental organizations were represented in an observer capacity: Benelux Trademark Office (BBM), Commission of the European Communities (CEC), European Free Trade Association (EFTA), African Intellectual Property Organization (OAPI), Secretariat of the Council of Ministers of the European Communities, American Bar Association (ABA), American Intellectual Property Law Association (AIPLA), Benelux Association of Trademark and Design Agents (BMM), European Communities Trade Mark Practitioners' Association (ECTA), European Association of Industries of Branded Products (AIM), International Association for the Protection of Industrial Property (AIPPI), Center for the International Study of Industrial Property (CEIPI), International Chamber of Commerce (ICC), Committee of National Institutes of Patent Agents (CNIPA), Council of European Industrial Federations (CEIF), Deutsche Vereinigung für gewerblichen Rechtsschutz und Urheberrecht e.V. (DVGR), International Federation of Pharmaceutical Manufacturers Associations (IFPMA), International Federation of Industrial Property Attorneys (FICPI), Institute of Trade Marks Agents (ITMA), Pharmaceutical Trade Marks Group (PTMG), Trade Marks, Patents and Designs Federation (TMPDF), Chartered Institute of Patent Agents (CIPA), United States Trademark Association (USTA), Union des fabricants (UNIFAB), Union of Industries of the European Community (UNICE).

The Committee of Experts was convened following a decision taken by the Assembly of the Paris Union at its ninth session at which the Assembly had examined a document that reported on a letter received by WIPO from the AIPPI. In its letter, AIPPI had expressed ideas on the system of international registration of marks and had suggested, in particular, a "variant" of the Madrid Agreement Concerning the International Registration of Marks containing provisions differing from the current text of the Madrid Agreement and more attractive to countries that were not at present party to the Agreement.

The Committee of Experts was convened in order to give advice on a number of proposals contained in a memorandum drawn up by the International Bureau entitled "Some Ideas on a Possible Treaty on the International Registration of Marks" (document IRM/CE/I/2). That memorandum highlighted the limited territorial scope of the Madrid Agreement, the reasons for its lack of attractiveness for the member States of the Paris Union not party to the Agreement, the need to seek solutions that could be accepted by the greatest possible number of countries as well as to devise a system that was as simple and as cheap as possible for users. The memorandum set out the main possible differences between the Madrid Agreement and a new treaty which would coexist with that Agreement and which would institute an international system of registration of marks that would be attractive both to the countries of the Madrid Union and to those that had remained outside the Union.

The Director General opened the meeting. Following a general discussion, during which the representatives of the participating States and organizations expressed their views on the memorandum by the International Bureau and on the ideas it contained, the Committee of Experts held a full exchange of views on the substantive matters involved and on new solutions to improve and extend the system of international registration. It also examined the financial aspects of a new treaty.

At the close of the session, the Director General stated, *inter alia,* that the International Bureau would draw up a detailed outline of a new treaty and would carry out studies on the links with regional systems and on the financial aspects of such a new treaty.

The said outline is contained in a memorandum of the Director General of WIPO, entitled "Detailed Outline of a Proposed New Treaty on the International Registration of Trademarks" (document IRM/CE/II/2).

The proposed new treaty would, according to the said outline, have the following main features. Trademarks belonging to nationals or residents of countries party to the new treaty could be registered with the International Bureau of WIPO in Geneva. Such international registration would have the same effect as if the trademark had been registered in the national trademark registers of those countries party to the new treaty in which the applicant wishes protection and which, accordingly, he designates in his application for international registration. A similar effect can be achieved by designating a group of countries having a regional trademark system. Any national or regional trademark office could, within a period of two years, notify its refusal, or intent of refusal, of such effect in the country or countries that that office serves on the same grounds on which it could refuse an application for national or regional registration but such grounds could, naturally, not be grounds not admitted by the Paris Convention.

The new treaty would be similar to the Madrid Agreement, except that the new treaty would not require, as a condition of international registration, the existence of a previous national registration in the country of origin of the applicant. The new treaty would be similar also to the Trademark Registration Treaty, except that the new treaty would contain no provision that would limit the freedom of any country to provide actual use of the trademark as a condition of its registration. The new treaty would co-exist with the Madrid Agreement, and applicants who, because of their nationality or residence, may use both treaties, could use either or both. The new treaty would allow switching over from an existing national registration to interna-

tional registration and vice versa. The renewal of an international registration would have the same effect if the national or regional registrations had been, separately, renewed. The treaty would make the protection of trademarks, where protection in several countries is desired, cheaper, simpler and more secure. It would have no drawbacks, and anyone who would not wish to use it could apply separately, in any national or regional office, for registration.

In December 1985, the Committee of Experts on the International Registration of Marks held its *second session* in Geneva in order to discuss the above-mentioned memorandum outlining the proposed new treaty. Thirty-four States were represented: Algeria, Austria, Belgium, Bulgaria, Canada, China, Czechoslovakia, Democratic People's Republic of Korea, Denmark, Equatorial Guinea, Finland, France, Germany (Federal Republic of), Greece, Hungary, Ireland, Italy, Japan, Morocco, Netherlands, Norway, Panama, Portugal, Romania, Soviet Union, Spain, Sudan, Sweden, Switzerland, Tunisia, United Kingdom, United States of America, Viet Nam, Yugoslavia. Two intergovernmental organizations and 27 non-governmental organizations were represented as observers: EFTA, BBM, ABA, AIM, AIPPI, Association française des praticiens du droit des marques et des modèles (APRAM), International Association for the Advancement of Teaching and Research in Intellectual Property (ATRIP), Bundesverband der Deutschen Industrie (BDI), BMM, CIPA, CNIPA, ECTA, European Federation of Pharmaceutical Industries' Associations (EFPIA), European Federation of Agents of Industry in Industrial Property (FEMIPI), FICPI, ICC, IFPMA, Institute of Patent Attorneys of Australia (IPAA), International Patent and Trademark Association (IPTA), ITMA, International League for Competition Law (LIDC), Max Planck Institute for Foreign and International Patent, Copyright, and Competition Law, PTMG, TMPDF, Union of European Practitioners in Industrial Property (UEPIP), UNICE, UNIFAB, United States Council for International Business (USCIB), USTA. The participants began with a general debate on the advisability of establishing a new system for the international registration of marks, in addition to those established by the Madrid Agreement Concerning the International Registration of Marks and the Trademark Registration Treaty, and proceeded to discussions on a few specific issues. The discussions on some of those issues are summarized below.

With respect to whether international applications should be based on a national (or regional) registration, a national (or regional) application or neither of the two, and to where international applications should or could be filed, the delegations representing countries not party to the Madrid Agreement that took the floor unanimously stated that a new system of international registration of marks in which an international application would be required to be based on a registration of the mark in a national or regional trademark register would be totally unacceptable. The majority of those delegations were also of the opinion that an international application should in no case be required to be based on an application for a national registration and that filing an international application directly with the International Bureau should be allowed.

The majority of the delegations of the countries party to the Madrid Agreement, while expressing their satisfaction with the requirement of a national registration as presently in force in the Madrid Agreement, stated that they were willing to accept that a national application be a sufficient basis for the filing of an international application, in order to facilitate the adherence of countries not members of the Madrid Union to the new system for the international registration of marks. A number of those delegations stated, however, that the national application should, in order to be able to serve as a basis for an international application, lead to a national registration and that, should the national application be refused within a certain time limit after the filing of the international application, the effects of the international registration would cease to exist; another delegation suggested that the possibility, in such a situation, of the international registration being transformed in each designated State into a national registration benefiting from the filing or priority date of the international application be studied. A delegate of a country party to the Madrid Agreement suggested that a solution along the lines of Articles 4(6) and 5(2) of the Trademark Registration Treaty be explored, which would allow the country of origin of the applicant to require that the mark be the subject of a national application in that country at the time of the (direct) filing of the international application with the International Bureau.

As to the possibility for a central attack of the international registration, the majority of the delegations representing countries party to the Madrid Agreement stressed the advantages of a system in which, during a certain period of time, the effects of the international registration may come to an end in all the designated countries as a consequence of the registration in the country of origin ceasing during that period of time either as the result of an action brought against the registration (central attack) or as a result of some other fact. Those delegations, however, recognized that central attack could lead to unjust results since a ground for cancellation in one country might very well not be a ground for cancellation in other countries, and said that alternative solutions allowing the elimination of such unjust consequences should be studied.

All the delegations of countries not party to the Madrid Agreement that took the floor on the central attack question expressed their strong opposition to including the institution of central attack in the envisaged new system. The majority of the representatives of non-governmental organizations, speaking largely in the name of trademark owners who can and do use the Madrid Agreement, expressed their preference

for a central attack system, since it allowed for good protection of owners of prior rights.

A possible compromise solution that was suggested for further study would provide that the owner of an international registration that loses its effect as a consequence of a successful central attack could file applications for national registrations in the designated countries and that such applications would be considered as if they had been filed on the filing or priority date of the application for international registration.

In respect of what the effects of international registration should be, attention was drawn to the fact that it was conceivable to give very different effects to an international registration in the designated countries. As a minimum, the internationally registered mark would be treated in each designated country as if it had been the subject, on the same day, of a national application in that country, whereas all other conditions for protection would be left to the national law of the designated country. As a maximum, the international registration would have the full effects of a national registration in each designated country. Several intermediate solutions could also be envisaged.

The Committee agreed that the International Bureau would study various alternative solutions and would analyze the consequences of each of them.

Concerning the question of fees, a number of delegations not party to the Madrid Agreement considered that a solution whereby each country party to the new treaty would have the choice between a system comparable to that of the Madrid Agreement (in which the designation fee for each country is the same and is fixed by the Assembly of the Madrid Union and in which the fees are distributed among the member States taking into consideration the degree of examination to which they must proceed under their national laws) and a system under which each designated State would charge the same amount as for national applications was acceptable. The delegations of countries that undertook a substantive examination of applications for the registration of marks stated that their countries' choice would be for the second system. It was said that even if all countries opted for that system, it would still be financially advantageous for applicants.

The Committee next considered the question of what, under any future system of international registration of marks, should be the time limit for issuing a notice of possible refusal, or "provisional refusal." A considerable number of delegations (including member countries of the Madrid Agreement) stated that the time limit of 12 months for the provisional refusal under the Madrid Agreement was too short, in particular for countries with a more elaborate examination system. Several member countries of the Madrid Agreement, however, stated that they were satisfied with the existing time limit under that Agreement and were of the opinion that it gave sufficient opportunity for timely refusal.

As to the desirable time limit for the envisaged new system, it was noted that there was a general willingness in the Committee of Experts to move toward a limit of 15 to 20 months from the publication of the international registration, while some delegations expressed a preference for 24 months.

As for the languages to be used under the new treaty, the Committee noted with approval the proposal of the International Bureau that those languages should be English and French. Several delegations expressed the opinion that the introduction of English should also be envisaged in connection with the Madrid Agreement.

Lastly, in respect of the planned continuation of the work of the Committee of Experts, the Director General said that the discussions had shown that views were divided on whether the conclusion of a new treaty or the revision of the existing Madrid Agreement should be aimed at, although the mandate that had been received thus far was the exploration of possibilities for the conclusion of a new treaty. He thus said that, in respect of the continuation of the work, he would convene a third session of the Committee of Experts and would prepare a preparatory document containing new proposals that would, in the light of the present discussions, contain various alternatives as to the effect of an international recordal. Furthermore, the Director General said that since the delegates of several countries of the Madrid Union declared that they would be ready to make some modifications in the Madrid system and since the delegates of several countries not party to the Madrid Agreement declared that they might be interested in a revised Madrid Agreement, he would ask the Assembly of the Madrid Union to give, if it so wishes, directions to the International Bureau concerning the preparation for a possible conference of revision of the Madrid Agreement. If such a mandate—which did not exist at the present time—were given, the International Bureau would work on proposals for a possible revision on the basis of the statements made in the Committee of Experts.

Intellectual Property in Respect of Integrated Circuits. In June 1985, the International Bureau published the text of the first version of a Draft Treaty on the Protection of Intellectual Property in Respect of Integrated Circuits (document IPIC/CE/I/2), pursuant to a decision taken by the Assembly of the Paris Union in September 1983. The work was preceded by informal discussions that the Director General had in Tokyo (April 1985) and Washington (May 1985) and in informal meetings of consultants in Geneva in January and May 1985.

The main features of the Draft Treaty are the following. Each country party to the treaty would have to grant to nationals and residents of the other countries party to the treaty the same protection that it grants to its own nationals with respect to original integrated circuits (popularly called "microchips"). However, in any case, each country would have to consider unlawful the copying of an integrated circuit, the incorporating of

the design of the integrated circuit in a product, as well as the importing, selling or otherwise distributing products that are copies of, or incorporate, the design of the integrated circuit; these acts would, naturally, be lawful if they are performed with the authorization (license) of the proprietor of the rights protected. Unlawful acts would have to give rise to an order to discontinue them and to the payment of damages. The treaty would allow that a country require, as a condition of protection, that a copy of the design of the integrated circuit be deposited with a public authority of its country and that it be registered with such authority; however, it would have to allow, for the fulfillment of these formalities, at least two years counted from the first commercial exploitation of the integrated circuit, and it could not require additional formalities. Finally, the treaty would provide that the protection that each country has to give must last at least 10 years counted either from registration or from first commercial exploitation. It is to be noted that the treaty would leave free any country to choose the kind of protection it wishes: such protection could be *sui generis* (as it is today in Japan and the United States of America) or it could be granted under the copyright, patent, industrial design or any other intellectual property law.

The Draft Treaty was discussed in the first session of the *Committee of Experts on Intellectual Property in Respect of Integrated Circuits*, which took place in Geneva in November 1985. The following 30 States participated in the session: Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, China, Denmark, Finland, France, Germany (Federal Republic of), Greece, Hungary, India, Ireland, Israel, Italy, Japan, Morocco, Netherlands, Nigeria, Norway, Pakistan, Republic of Korea, Soviet Union, Sweden, Switzerland, United Kingdom, United States of America. In addition, representatives of three intergovernmental organizations and 14 non-governmental organizations participated in an observer capacity: United Nations Educational, Scientific and Cultural Organization (UNESCO), CEC, European Patent Organisation (EPO), AIPPI, ATRIP, British Computer Society (BCS), Computer and Business Equipment Manufacturers Association (CBEMA), CNIPA, European Electronic Component Manufacturers Association (EECA), Electronic Industries Association of Japan (EIAJ), FICPI, ICC, International Publishers Association (IPA), IPTA, LIDC, UEPIP, UNICE.

The aim of the Draft Treaty is to provide a system of international protection for the design or layout of integrated circuits (often referred to as "microchips"). The need for such a system stems from the fact that integrated circuits, the development of which requires great investments in money and manpower, are playing a crucial role in modern technology and are the object of intense international trade and competition. The prevailing view is that the design or layout of integrated circuits is neither an invention eligible for patent protection nor a work eligible for copyright protection, and at least in those countries in which such a view is followed, the existing patent or copyright conventions (i.e., the Paris Convention for the Protection of Industrial Property, the Berne Convention for the Protection of Literary and Artistic Works and the Universal Copyright Convention) do not ensure protection for the design or layout of integrated circuits of foreign origin. The Draft Treaty, if adopted, would remedy that situation by obliging the Contracting States to consider unlawful the unauthorized reproduction of the design or layout of integrated circuits, the incorporation of the design or layout of an integrated circuit in a product and the distribution of reproductions of the design or layout or of products that incorporate the design or layout.

On the whole, the participants fully endorsed the need for a new multilateral treaty for the protection of the original design or layout of an integrated circuit; they also stressed the importance of such a treaty being based on the principle of national treatment rather than reciprocity. Although proposals for additional clarification and some suggestions for changes were made, much support was given to the Draft Treaty, which was considered to be a solid basis for further consideration.

With respect to the provisions of the Draft Treaty, the participants discussed, *inter alia,* the following issues.

The Draft Treaty does not contain a definition of "integrated circuit" and other technical expressions. The majority of the participants suggested including, either in the text of the Treaty, in an accompanying memorandum or in explanatory notes, definitions of the object of protection and of certain key terms, such as "integrated circuit," "layout-design" and "commercial exploitation." Several delegations made proposals for such definitions, which were discussed by the Committee of Experts. Several other delegations, however, were of the view that definitions were not indispensable, as shown by other important international instruments, including the Paris Convention. It was emphasized that the search for suitable definitions should in no way jeopardize the realization of the Treaty and that all agreed-upon definitions must be sufficiently broad and flexible to ensure that national legislation would not be unduly constrained and that the Treaty would not be surpassed by rapid technological advances.

The Draft Treaty mentions the condition of originality but does not define the notion of originality. The question was discussed whether originality should be an internationally required condition of protection. While most of the participants who spoke on the matter considered that originality should constitute a requirement of protection and that the concept should be referred to in the Treaty, several delegations expressed the view that it would be preferable for the Treaty to remain silent in that regard in order to permit the Contracting States greater flexibility in adopting national systems of protection. As an alternative, the

suggestion was made to make protection conditional on either originality or novelty.

It was emphasized that, regardless of the criterion used, the purpose of the Treaty was to establish minimum rights and maximum formalities that could be adopted on an international level in order to prevent piracy in integrated circuits; the type of system adopted on the national level, therefore, need not be defined in the Treaty, provided that the national system complied with the Treaty's requirements as to minimum rights, minimum duration of protection and maximum formalities.

The Draft Treaty enumerates the acts which, if performed for commercial purposes, would, as a minimum, have to be considered unlawful by the Contracting States. Those acts are reproducing or copying the layout (or design) of an integrated circuit, incorporating such layout into a product and distributing products that are reproductions or copies of such layout or that incorporate such layout. The Draft Treaty provides that these acts need not be considered unlawful if they are performed for the purpose of teaching or research, for the purpose of creating another original layout ("reverse engineering") or for the purpose of the distribution of products that have already been put on the market with the consent of the proprietor of the layout. No basic objections were raised to these proposals, although it was suggested that the concepts of "commerial purposes" and "reverse engineering" should be further clarified.

The Draft Treaty permits Contracting States to require—as a condition of protection—that a copy of the layout or design or other identifying material be filed with a national or international public authority and that the proprietor's claim to protection be registered by such authority. Some delegations questioned whether such possibilities should be maintained since the need to comply with such formalities in several countries would be burdensome, particularly to small businesses. It was noted, however, that the United States of America and Japan already had such systems in place.

With respect to the term of protection, while the Draft Treaty only provides for a minimum duration of 10 years counted either from the date of registration or the date of first commercial exploitation, several delegations suggested, in addition, that the event from which protection must start, for example, the first fixing of the layout, should also be specified. Some delegations found the proposed 10-year minimum too long and proposed that it be reduced to five years to reflect rapid developments in technology which made new integrated circuits rapidly obsolete.

In addition, two delegations indicated their desire that the Treaty provide a system of preferential treatment for developing countries, and one delegation introduced a proposal for consultation procedures for the settlement of disputes between Contracting States concerning the implementation of treaty provisions.

Finally, the Committee of Experts noted a statement made by the Director General that he was prepared to consult with a few consultants to clarify some technical issues involved in integrated circuit protection and that the next session of the Committee of Experts would probably take place in mid-1986.

Harmonization of Certain Provisions in Laws for the Protection of Inventions. In July 1985, the Committee of Experts on the Harmonization of Certain Provisions in Laws for the Protection of Inventions held its first session in Geneva. The following States were represented at the session: Barbados, Belgium, Cameroon, China, Denmark, Egypt, Finland, France, Germany (Federal Republic of), Hungary, Japan, Madagascar, Malawi, Netherlands, Norway, Soviet Union, Sudan, Sweden, Switzerland, United Kingdom, United States of America, Uruguay (22). In addition, representatives of two intergovernmental organizations (CEC, EPO) and 18 non-governmental organizations participated as observers (AIPLA, Asian Patent Attorneys Association (APAA), AIPPI, BDI, ICC, CNIPA, International Confederation of Professional and Intellectual Workers (CITI), Deutsche Vereinigung für Gewerblichen Rechtsschutz und Urheberrecht (GRUR), FEMIPI, IFPMA, International Federation of Inventors' Associations (IFIA),FICPI, Licensing Executives Society (International) (LES), LIDC, CIPA, The New York Patent, Trademark and Copyright Law Association, Inc. (NYPTCLA), UNICE, UEPIP).

The new name of the Committee of Experts reflects the extension of the terms of reference of the earlier committee, namely, the Committee of Experts on the Grace Period for Public Disclosure of an Invention Before Filing an Application, which had met in Geneva in May 1984; the earlier terms of reference had been enlarged to include, in addition to the question of the grace period, other subjects in respect of which the harmonization of patent laws should be considered. They were, in this session: (i) requirements in respect of the naming of the inventor by an applicant who is not the inventor and in respect of evidence to be furnished concerning the entitlement of such applicant and (ii) requirements for granting a filing date to an application for a title of protection for an invention. The discussions were based on proposals, drawn up by the International Bureau reviewing the need for harmonization and containing draft treaty provisions establishing a uniform solution in respect of each of the three subjects.

On the question of a *grace period for public disclosure*, the International Bureau proposed that Contracting States agree that the patentability of an invention would not be affected by the fact that a disclosure of the invention, subject matter of a patent application, was made before the patent application concerning that invention was filed, provided that the said disclosure occurred six or 12 months before the filing or priority date of the application and that it was

made (i) by the inventor, or (ii) by a third party, based on information acquired from, or in consequence of acts performed by, the inventor, or (iii) by an industrial property office, pursuant to an application filed without the consent of the inventor and based on information acquired from, or in consequence of acts performed by, the inventor.

The experts of nine countries were in favor of the proposed solution, whereas the experts of seven countries were opposed to it.

Views were divided on the question of whether the claiming of a grace period could be subjected to formalities, such as a statement by the applicant to be submitted together with the application, to the effect that a specific disclosure made before filing should be treated as a disclosure benefiting from the grace period. As regards the duration of the grace period, the majority of the experts was in favor of six months. Several experts were in favor of 12 months. Some of the experts favored six months indicating that they could also accept 12 months. It was generally agreed that, in any case, the grace period should be counted backwards from the date of a validly claimed priority, and that it should be uniform for all countries.

With respect to the requirements concerning the *naming of the inventor* by an applicant for a patent who is not the inventor, the International Bureau proposed that the Contracting States agree that the inventor must be named by the applicant in the patent application or in a separate document by indicating the applicant's name and address and the legal grounds of the entitlement to file the application; furthermore, that any refusal of the patent application because of non-compliance with the said requirement could be pronounced only after a reminder by the industrial property office with which the application was filed remains unheeded by the applicant; finally, that a Contracting State may reserve the possibility of requiring a statement certifying that the inventor is aware of the application.

The Committee of Experts agreed that the mandatory minimum requirement for all Contracting States should be the obligation for the applicant to name the inventor and, where necessary for the purposes of identification, to indicate his address, but that each Contracting State should be free to require or not that the applicant furnish a declaration indicating the legal grounds of his entitlement to file the application. The Committee of Experts also agreed that each Contracting State would have to allow the applicant 16 months after the filing date or the priority date for the naming of the inventor and for the furnishing of the declaration of the applicant's entitlement (if such declaration is required), and that each Contracting State would have to provide that, in case the applicant does not spontaneously comply with any of the said requirements, its industrial property office has to remind the applicant to comply and has to allow not less than two months for such compliance. Finally, the Committee of Experts agreed that the question whether Contracting States should be allowed to require the furnishing of a statement certifying that the inventor is aware of the application should be further studied.

Concerning the requirements for *granting a filing date*, the International Bureau proposed that Contracting States agree that any patent application, in order to be granted a filing date, must comply with the following conditions: it must be in the prescribed language; it must contain an indication of the title of protection (patent, inventor's certificate, utility model, etc.) requested; it must identify the applicant; it must contain a description and claims; and, in the case of international or regional applications, it must contain the indication ("designation") of at least one State in which protection is desired. The International Bureau also proposed that the Contracting States should agree that any country may, if it so desires, make the granting of a filing date dependent on compliance with any of the following additional conditions: the application must name the inventor and, where the applicant is other than the inventor, it must contain a declaration and evidence of the legal grounds for the applicant's entitlement; it must bear the signature of the applicant or his representative; and it must be accompanied by the payment of the filing fee.

The Committee of Experts agreed that each Contracting State should require, for the granting of a filing date, that the application contain the disclosure of the invention, a request for protection and the identification of the applicant ("minimum requirements"). The Committee of Experts also agreed that possible additional requirements should be listed in the treaty, it being understood that no other requirements would be permitted and that such a list of maximum requirements should include claims, the language of the application and the designation of a Contracting State under filing procedures covering several States. It was suggested that, with respect to those three possible additional requirements, applicants should have a time limit for correction without losing the filing date.

In conclusion, the Committee of Experts agreed that the three questions deserved a continued effort of harmonization at the international level. The Committee of Experts recommended, in essence, that the draft treaty provisions on the grace period should be revised in the light of its conclusions and, as far as the questions of the naming of the inventor and the requirements for granting a filing date were concerned, the International Bureau should, taking into account the recommendations that the Committee had made, not only revise the draft treaty provisions but also the arguments supporting them. The new texts should be submitted to the Committee at its next session.

In endorsing the continuation of the work of the International Bureau of WIPO in the field of the harmonization of patent laws, the Committee of Experts agreed that treaty provisions should cover further topics, such as: manner of claiming; unity of invention; manner of description; state-of-the-art effect of applica-

tions prior to their publication or the grant of a patent; extension of process protection to products and reversal of burden of proof in respect of products manufactured by the protected process.

Industrial Property Protection of Biotechnological Inventions. In July 1985, the International Bureau published a study, prepared by a WIPO consultant, entitled "Industrial Property Protection of Biotechnological Inventions" (document BIG/281). The study analyzes several basic issues concerning the protection of biotechoological inventions, iocluding an overvicw of biotechnology and the categories of biotechnological inventions, biotechnology and the concept of invention, the exclusion from protection of certain sectors of biotechnology and the application of the conditions of patentability to biotechnological inventions.

In November 1985, the International Bureau issued a report also entitled "Industrial Property Protection of Biotechnological Inventions" (document BioT/CE/II/2), which was based in part on the abovementioned study. The report was the subject of discussions at the second session of the Committee of Experts on Biotechnological Ioventions and Industrial Property, which took place in February 1986.

III. Information and Teaching in the Field of Industrial Property

Objective

The objective is to increase and spread knowledge about the doctrine, legislation, frequency of use aod practical administration of industrial property.

Activities

The periodicals *Industrial Property* and *La Propriété industrielle* continued to be published each month. The June issues of those periodicals contained a series of "Special Studies" entitled "The Pateot Cooperation Treaty (PCT): Using It More Through Knowing It Better."

Industrial Property Statistics. In January 1985, the volume containing the detailed tables of the industrial property statistics (publication "B") for 1983 was distributed. It consists of 391 pages. In August 1985, basic industrial property statistics (publication "A") for 1984 were issued. In December 1985, the detailed tables of the industrial property statistics (publication "B") for 1984 were finalized for publication.

Surveys of the Practical Administration of Industrial Property Laws. The survey entitled *The Situation of Industrial Property in the Countries of Asia and the Pacific*, which was completed in December 1984, was published in February 1985.

Work commenced on the preparation of the survey cntitled *The Situation of Industrial Property in the Countries of Africa.* Two WIPO consultants from Cameroon and Ghana were engaged to assist in the drawing up of prcliminary country reports. The 50 countries included in the survey were requested to provide updated information. The preliminary country rcports were received in December 1985 for review and harmonization by the International Bureau.

Collection of Industrial Property Laws and Treaties. WIPO continued to keep up to date its collection of the texts of industrial property laws and regulations of all countries and of treaties dealing with industrial property, both in their original languages aod in English and French translations. The most important tcxts were published in *Industrial Property Laws and Treaties*, annexed to the periodical *Industrial Property.*

The *International Association for the Advancement of Teaching and Research in Intellectual Property (ATRIP)* held the fifth session of its Assembly and its annual meeting at the headquarters of WIPO in Geneva in September 1985. WIPO provided conference facilities and other financial support for the Assembly and annual meeting, in which 60 professors and researchers from 26 countries participated. WIPO was represented by a member of the staff of the International Bureau who is also a member of ATRIP.

The Assembly of ATRIP noted with approval the reports on the activities and accounts of the Association. In particular, it expressed its satisfaction that 22 professors and researchers had become new members of ATRIP since the previous session of the Assembly, with the result that the membership of the Associatioo, which had been 69 in 1981 when ATRIP was founded, had grown to 243 as of the start of the fifth session (from 43 countries, including 53 members from 19 developing countries).

The Assembly also considered and approved the program of activities and budget for 1986 and, on the basis of proposals made by the Nominations Committee, elected new officers of the Association for a two-year period.

At the annual meeting, discussions were held on two subjects: "Choice of Research Topics in the Field of Intellectual Property"; and "Management of University Inventions and Innovations." In addition, tbree working sessions were held: the first session was devoted to an "Exchange of Experiences and Information in Respect of Recent Legislative or Judicial Developments in Intellectual Property"; the secood dealt with the subject of "Piracy—Counterfeit Goods: Implications for Intellectual Property Law and its Devclopment"; the third session was consecrated to the "Consideration of the Third Draft Questionnaire on the Ownership and Exploitation of Academic Results."

IV. Promotion of Patent Information and Development of Patent Classification

WIPO Permanent Committee on Patent Information (PCPI)

Objective

The objective is to encourage and institute close cooperation among national and regional industrial property offices and the International Bureau in all matters concerning patent information, including, in particular, the standardization of the forms of patent documents, the indexing and classifying of patent documents in order to facilitate the retrieval of their contents and searching for the purposes of patent examination.

Activities

The *WIPO Permanent Committee on Patent Information (PCPI)* consists of the States members of the Paris Union that have informed the Director General of their desire to be members, States members of the PCT Union, States members of the IPC Union, and (without the right to vote) the African Regional Industrial Property Organization (ARIPO), EPO and OAPI. By December 31, 1985, the members of the PCPI were: Algeria, Australia, Austria, Barbados, Belgium, Brazil, Bulgaria, Burkina Faso, Cameroon, Canada, Central African Republic, Chad, China, Congo, Cuba, Cyprus, Czechoslovakia, Democratic People's Republic of Korea, Denmark, Dominican Republic, Egypt, Finland, France, Gabon, German Democratic Republic, Germany (Federal Republic of), Ghana, Hungary, Iran (Islamic Republic of), Ireland, Israel, Italy, Japan, Kenya, Liechtenstein, Luxembourg, Madagascar, Malawi, Mali, Mauritania, Monaco, Netherlands, Norway, Philippines, Poland, Portugal, Republic of Korea, Romania, Rwanda, Senegal, Soviet Union, Spain, Sri Lanka, Sudan, Suriname, Sweden, Switzerland, Togo, Trinidad and Tobago, Uganda, United Kingdom, United States of America, Viet Nam, Yugoslavia, Zambia, ARIPO, EPO and OAPI (68).

The PCPI held its ninth session in Geneva in September 1985. The following 20 States and one intergovernmental organization were represented: Australia, Austria, Barbados, Canada, Czechoslovakia, Denmark, Finland, France, German Democratic Republic, Germany (Federal Republic of), Japan, Netherlands, Norway, Republic of Korea, Soviet Union, Spain, Sweden, Switzerland, United Kingdom, United States of America, EPO. The CEC, the International Patent Documentation Center (INPADOC), the Patent Documentation Group (PDG), and *World Patent Information* were represented by observers.

The PCPI approved the report prepared by the International Bureau on the various tasks assigned to it in 1985. After taking note of the annual technical reports for 1984 prepared by 29 members and submitted in 1985, the PCPI encouraged its members to continue their efforts to submit such reports also in 1986, and to adhere to the guidelines which it had formulated in that respect.

The PCPI noted that INPADOC's data base contained, on July 26, 1985, information on a total of 12,001,311 patent documents. In respect of the CAPRI system (the Computerized Administration of Patent Documents Reclassified According to the IPC), the PCPI noted that the total of subclasses covered was 597 out of a total of 614, and that it was very likely, in view of further commitments taken, that the CAPRI project might be brought to a successful conclusion by the end of 1988.

In respect of the WIPO *Handbook on Patent Information and Documentation*, the PCPI noted that a first set of updating pages had been published in November 1984 and a further set of updating pages, to incorporate decisions taken at its ninth session, would be published in November 1985. Similarly, the PCPI noted that the *List of Titles of Classes and Subclasses* of the fourth edition of the IPC had been published and was available in English and in French.

The PCPI reviewed the activities of its Working Groups in 1985 on the basis of the reports of their sessions held in 1985. It approved the actions taken by its Working Groups on the tasks that it had assigned to them, and congratulated the Working Groups on the work that they had done.

The PCPI reviewed and approved the recommendations made by the PCPI Working Groups in 1985. Those recommendations concerned the carrying out of the tasks assigned to the PCPI under its program for the 1984-1985 biennium.

The PCPI endorsed the evaluation made by its Planning Group on the effectiveness of the work performed by the PCPI Working Groups in 1985 and welcomed statements made by the President of the German Patent Office and by the Commissioner of the Australian Patent, Trade Marks and Designs Office concerning the general thrust and future policy of the work of the PCPI.

The PCPI adopted its program for the 1986-1987 biennium. That program contains a total of 42 tasks. Furthermore, it decided that the five Working Groups established for 1985 be continued in 1986 with unchanged mandates and distributed the tasks under the revised program among the five Working Groups. Finally, the PCPI established a schedule of sessions for itself and for its Working Groups in the biennium 1986-1987.

The *PCPI Working Group on General Information* held its seventh and eighth sessions in Geneva in March and October 1985. At its seventh session, the following 15 States and one intergovernmental organization, members of the Working Group, were represented:

Canada, Czechoslovakia, Denmark, Finland, France, German Democratic Republic, Germany (Federal Republic of), Japan, Norway, Soviet Union, Spain, Sweden, Switzerland, United Kingdom, United States of America, EPO. CEC and INPADOC were represented by observers.

The Working Group took note of the tasks newly given to it by the PCPI in the revised PCPI Program for the 1984-1985 biennium.

The Working Group recommended a revision of WIPO Standard ST.7/E (Guidelines for Photo-optically Generated Microfiches) and gave instructions to the International Bureau on the revision of two appendices to WIPO Standard ST.16 (Standard Code for the Identification of Different Kinds of Patent Documents). Furthermore, recommendations concerning patent gazettes and guidelines for the publication, by industrial property offices, of periodical indexes were dealt with and forwarded to the PCPI for approval.

The Working Group considered the fourth draft of a recommendation concerning name indexes to patent documents prepared by the International Bureau, and agreed upon the text of guidelines on this subject, requesting the International Bureau to prepare certain annexes to the said guidelines, and to propose a magnetic tape merged record layout to be used to record names existing in various standardized computer lists.

The Working Group discussed technical, economic and legal questions concerning the reciprocal admittance of priority documents on microfiche, and came to a majority view that work towards a corresponding WIPO standard should be further pursued.

The Working Group discussed the situation with regard to the standardization of coded character sets to be used in the exchange of machine-readable records and, after comparing different approaches, recommended to the PCPI that a future WIPO standard should be based upon one of the said approaches.

It was also recommended to the PCPI to develop a standard for the generic coding to be applied to a patent document to define the structure of a patent document in a machine-readable record.

At the eighth session of the PCPI Working Group on General Information in October 1985, the following 16 States and one intergovernmental organization were represented: Canada, Czechoslovakia, Denmark, Finland, France, German Democratic Republic, Germany (Federal Republic of), Japan, Netherlands, Norway, Soviet Union, Spain, Sweden, Switzerland, United Kingdom, United States of America, EPO. The CEC, INPADOC and the PDG were represented by observers.

The Working Group approved a revised Appendix II to WIPO Standard ST.16 (Standard Code for the Identification of Different Kinds of Patent Documents).

The Working Group considered the fourth draft of a Recommendation Concerning Name Indexes to Patent Documents and the draft of a model preface to name indexes, and, after having made some final amendments, approved the texts of the Recommendation and the model preface.

The Working Group considered two proposals aimed at reducing the bulk of priority documents filed, sometimes together with a translation, with patent applications made under the Paris Convention, namely, the so-called "paper" solution which would result in a four-to-eight times reduction in bulk and the so-called "microfiche" solution in which the text of the priority application would be filed on a microfiche together with an authenticating certificate. The Working Group agreed that sufficient interest had been shown by offices, to exchange priority documents according to one or the other of the solutions, to warrant further work on the task, and the International Bureau was requested to prepare the first draft of a recommendation to cover both proposed solutions.

The Working Group noted the revised textual portion of the proposed standard for coded character sets for the exchange of machine-readable records of patent documents as prepared by the International Bureau on the basis of the results of the trilateral agreement among the European, Japanese and United States industrial property offices, and agreed upon the wording of the said portion as a basis for further discussion.

The Working Group also had preliminary discussions on proposals to revise WIPO Standard ST.3 (Two-Letter Code for Countries, Organizations and the Like) and WIPO Standard ST.9 (Recommendation Concerning Bibliographic Data on and Relating to Patent Documents).

The *PCPI Working Group on Search Information* held its fourteenth and fifteenth sessions in Geneva in May and in November/December 1985. The following 12 States and one intergovernmental organization were represented at the fourteenth session: Denmark, Finland, France, German Democratic Republic, Germany (Federal Republic of), Japan, Norway, Soviet Union, Spain, Switzerland, United Kingdom, United States of America, EPO.

The Working Group dealt with 53 of the 55 IPC revision projects that were pending. Of those projects dealt with, 12 were priority projects in the mechanical field, five were priority projects in the electrical field, and five were priority projects in the chemical field. Substantial amendments were agreed to in respect of subclass E 04 B, relating to "floor, roof or ceiling construction with regard to insulation."

The Working Group also dealt with 35 of the 59 new IPC revision projects. Of those projects dealt with, six were priority projects in the mechanical field, one was a priority project in the electrical field, and seven were priority projects in the chemical field. Substantial amendments were agreed to in respect of subclass G 09 B, relating to "flight simulation."

The Working Group considered the three X-notations (that is, patent documents dealing with subject matter which apparently cannot be satisfactorily classified according to the IPC) before it, allotted by various industrial property offices, and approved amendments, in one language version, to four subclasses. These amendments will permit appropriate classification of the patent documents in question.

In May 1985, an *ad hoc Working Group of the PCPI Working Group on Search Information* met at the German Patent Office in Munich to deal specifically with a major revision of subclass G 03.

At the fifteenth session of the PCPI Working Group on Search Information in November and December 1985, the following 12 States and one intergovernmental organization were represented: Denmark, Finland, France, German Democratic Republic, Germany (Federal Republic of), Japan, Norway, Spain, Sweden, Switzerland, United Kingdom, United States of America, EPO.

The Working Group dealt with 21 pending IPC revision projects. Of these projects, 17 belonged to the mechanical field and four to the chemical field. Substantial amendments were agreed to in respect of subclasses C 07 D and C 07 J relating to "coating compositions" and "adhesives compositions," respectively.

The Working Group dealt with 38 of the IPC revision projects in the program for the 1984-1985 biennium. Of those projects, 24 belonged to the mechanical field and 14 to the chemical field. Substantial amendments were agreed to in respect of subclass A 61 J relating to "medical or pharmaceutical containers."

The Working Group approved the report of Subgroup J which, in May 1985, dealt with the IPC revision project for class G 03 relating to "photosensitive compositions," and expressed its satisfaction with the results achieved. The Working Group decided to create, and entrust to, Subgroup K the IPC revision project for subclass C 07 C, relating to "organic compounds."

The *PCPI Working Group on Special Questions* held its seventh and eighth sessions in Geneva in June and November 1985. At the seventh session, the following 13 States and one intergovernmental organization were represented: Australia, Austria, Denmark, Finland, France, Germany (Federal Republic of), Japan, Soviet Union, Spain, Sweden, Switzerland, United Kingdom, United States of America, EPO. The International Federation for Documentation (FID) was represented by an observer.

The Working Group discussed the general comments on the subject of consistency in the application of the IPC and specific comments in respect of a study of the 10 selected subclasses. The Working Group appointed the EPO as Rapporteur to consider all comments received in connection with the said study with a view to defining, if possible, reasons for inconsistency which were common to several or all of those subclasses.

The Working Group recommended to the Permanent Committee that further work on the project for extending the CAPRI Data Base beyond 1973 should not be undertaken for the time being.

The Working Group agreed, with respect to the subject "Means of Reducing the Bulkiness of Search Files," to recommend to the PCPI that, in the light of comments received, the International Bureau should be requested to prepare a detailed proposal to update the existing text of the "Guidelines for the Organization of Search Files Based upon the IPC."

In respect of the subject "Possibilities of Using Microforms and other Mass Storage Media," the Working Group requested the International Bureau to prepare an updated version of the microform catalog contained in the WIPO *Handbook on Patent Information and Documentation* by inviting offices to submit updated information. Further, a detailed questionnaire was to be prepared to collect information on the requirements of, the equipment used, and experiences gained, by offices in conjunction with various mass storage media.

At the eighth session of the PCPI Working Group on Special Questions in November 1985, the following 14 States and one intergovernmental organization were represented: Australia, Austria, Canada, Denmark, Finland, France, Germany (Federal Republic of), Japan, Soviet Union, Spain, Sweden, Switzerland, United Kingdom, United States of America, EPO. The FID was represented by an observer.

The Working Group discussed the consistency in the application of the IPC, based upon a report submitted by the EPO. The report analyzed 10 IPC subclasses that had earlier been selected for detailed study, and found that the lack of consistency in classifying according to the IPC was due to two reasons: (i) in three subclasses, the inconsistency was caused by mistakes made by the classifiers or for other reasons, (ii) in the other seven subclasses, the lack of consistency arose from the difficulty in classifying in areas where documents could be classified according to the "function-oriented" and/or "application" principles. The Working Group agreed that one and the same IPC subclass should not be subdivided according to both the principles unless the subclass was structured as a hybrid system.

The Working Group noted a detailed proposal prepared by the International Bureau concerning the amendments to the existing text of the "Guidelines for the Organization of Search Files Based on the IPC" and requested the International Bureau to invite offices to submit written comments on the said detailed proposal.

The Working Group discussed in detail the draft of a questionnaire prepared by the International Bureau concerning the possibilities of using microforms and other mass storage media for patent files; it agreed to

request the International Bureau to circulate the said revised questionnaire to all members of WIPO, invite them to submit replies to the questionnaire and to prepare a compilation of those replies.

The Working Group noted that the index to the Inventory of Computerized Search Systems, which had been prepared by the International Bureau, would shortly be published in the 1985 set of updating pages for the WIPO *Handbook on Patent Information and Documentation*, and would contain the details, as available to the International Bureau in July 1985, of 30 computerized search systems.

In connection with the exchange of experience gained in the use of computerized systems for search and examination, the Working Group agreed upon the following:

(a) a fact-finding survey should be urgently undertaken to identify those offices that, up to the end of 1985, had access to and actively used one or more computerized search systems during the search and examination of applications for patents or other similar industrial property titles;

(b) the offices identified under (a), above, should be asked to provide information on the number of computerized searches made in 1985, the systems in which those searches were done, the average time for those searches, the speed of transmission ("baud" rate) used, and a breakdown, for example, by percentage, of those searches according to technical fields (e.g., according to the IPC);

(c) the said offices should also be asked to provide information concerning the effectiveness of computerized search systems compared with traditional (manual) search systems, their views on the problems encountered and how they might be overcome.

Finally, the Working Group agreed that the preparations for an advanced IPC seminar to be held during the latter half of 1987 should be started and that the subject of the seminar should be the question of classifying in areas of the IPC where documents could be classified both in "function-oriented" places and in "application" places.

The *PCPI Working Group on Planning* held its fifteenth and sixteenth sessions in Geneva in June and November 1985. The following 13 States and one intergovernmental organization were represented at the fifteenth session: Australia, Austria, Denmark, Finland, France, Germany (Federal Republic of), Japan, Soviet Union, Spain, Sweden, Switzerland, United Kingdom, United States of America, EPO.

The Working Group discussed various new requests and proposals for possible inclusion as new items on the PCPI Program for the 1986-1987 biennium. Among the new requests and proposals to be included were the revision of WIPO Standard ST.3 (Two-Letter Code for Countries, Organizations and the Like) and of WIPO Standard ST.9 (Recommendation Concerning Bibliographic Data on and Relating to Patent Documents), as well as the holding of advanced training courses in the use of the fourth edition of the IPC.

The Working Group prepared its report to the PCPI on the effectiveness of the PCPI Program in the 1984-1985 biennium.

The Working Group also prepared the draft PCPI Program for the 1986-1987 biennium to be decided by the Permanent Committee. It recommended a distribution of tasks in the said draft program among the PCPI Working Groups.

The Working Group also prepared a draft "Long-Term Program of the PCPI" for the consideration and decision of the PCPI.

At the sixteenth session of the PCPI Working Group on Planning in November 1985, the following 14 States and one intergovernmental organization were represented: Australia, Austria, Canada, Denmark, Finland, France, Germany (Federal Republic of), Japan, Soviet Union, Spain, Sweden, Switzerland, United Kingdom, United States of America, EPO.

The Planning Group reviewed a detailed proposal submitted by the Japanese Patent Office concerning the revision of WIPO Standard ST.8 (Standardized Recording of IPC Symbols on Machine-Readable Records) and a detailed proposal submitted by the PDG concerning revision of WIPO Standard ST.10/C (Presentation of Bibliographic Data Components).

The Planning Group expressed its appreciation to the Australian Patent, Trade Marks and Designs Office for having prepared the first draft of a questionnaire for a study concerning the use of patent statistics for technological assessment and forecasting; it agreed that the results of the proposed study would be beneficial to industrial property offices which produce, or are planning to produce, reports concerning technological assessment and forecasting based on patent documents. The Planning Group agreed that the task was complex and required an initial survey. It agreed to circulate the said draft questionnaire to its members for comment.

In September 1985, the *PCPI Working Group on Patent Information for Developing Countries* held its sixth session in Geneva. The following 17 States and one intergovernmental organization were represented: Algeria, Austria, Brazil, Canada, Egypt, Finland, France, German Democratic Republic, Germany (Federal Republic of), Japan, Senegal, Soviet Union, Spain, Sweden, Switzerland, United Kingdom, United States of America, EPO. The Arab Industrial Development Organization (AIDO), FID and INPADOC were represented by observers.

The Working Group noted that an updated inventory of computerized search systems was to be published shortly in the WIPO *Handbook on Patent Information and Documentation* and that discussions

had been started, with encouraging preliminary results, between the International Bureau and various data base brokers and vendors on steps to be taken to assist developing countries in their access to and use of computerized data bases.

Furthermore, the Working Group discussed in detail the present situation of the WIPO State-of-the-Art Search Program and Related Services, and noted that the scope of contributions to this program had broadened to cope with the increasing demand from users in developing countries.

The Working Group also noted the analytical surveys prepared by the International Bureau based on the return of completed evaluation questionnaires which had been distributed together with search reports, and requested the International Bureau to continue analyzing the technological, economic and legal impact of those reports.

The Working Group noted the bibliographic survey, compiled by the International Bureau, of technical monographs based on patent documents published so far by various industrial property offices and other institutions, and requested the International Bureau to ensure the regular updating of the said survey and its publication.

The Working Group also approved a Methodology for the Elaboration of Technical Monographs Based on Patent Documents and recommended it to the PCPI for adoption and subsequent inclusion in the WIPO *Handbook on Patent Information and Documentation.*

The Working Group discussed proposals for a revision of WIPO's "Guidelines for the Planning and Organization of a Patent Information and Documentation Center in a Developing Country."

Annual technical reports for 1984 were received from 29 national industrial property offices, the EPO and the Industrial Property Organization for English-Speaking Africa (ESARIPO, now known as the African Regional Industrial Property Organization (ARIPO)) for circulation to the members of the Permanent Committee.

In 1985, 12 issues of *JOPAL (Journal of Patent-Associated Literature)* were published by WIPO. The said Journal is a compilation of bibliographic data of articles of relevance to patent searching appearing in periodicals included in the list of minimum documentation under the PCT, arranged according to the IPC. The selection and the classification of the said articles are undertaken by the industrial property offices that cooperate in the project (Australia, Austria, Brazil, Bulgaria, Czechoslovakia, France, German Democratic Republic, Germany (Federal Republic of), Japan, Soviet Union, Sweden, United Kingdom, United States of America, EPO).

In February, July and December 1985, WIPO was represented at sessions, and in April 1985, at a working group, of the Supervisory Board *(Aufsichtsrat)* of the *International Patent Documentation Center (INPADOC)* in Vienna.

In March and May 1985, a WIPO official participated in meetings held at INPADOC with representatives of the Central Patent Office of Italy and the Registry of Industrial Property of Spain.

Four issues, one of which was a special double issue on on-line use of patent information, of the periodical *World Patent Information (WPI)*, a joint periodical of the CEC and WIPO, were published in 1985. In April 1985, a Deputy Director General attended a meeting of the Management Committee of WPI in Luxembourg.

In April and November 1985, WIPO was represented at a *DATIMTEX* meeting organized at the EPO in Munich. In April 1985, WIPO was also represented at a meeting of the *Committee for Patent Documentation* of the FID in Luxembourg, and at the second meeting of the CEC *"Task Force on Patent Information"* in Luxembourg.

In June 1985, two Deputy Directors General participated in a meeting concerning the *CAPRI system* (Computerized Administration of Patent Documents Reclassified According to the IPC) with the three cooperating offices for the basic CAPRI Data Bank (Austrian Patent Office, German Patent Office, EPO) and with INPADOC at the German Patent Office in Munich. The meeting discussed possibilities of concluding the input to the CAPRI Data Bank by the cooperating offices. Agreement was reached to distribute the remaining work in establishing and delivering machine-readable lists of patent documents (16 out of 614 subclasses of the IPC) between the German Patent Office and the EPO. It is expected that the CAPRI Data Bank will be completed by the end of 1988.

International Patent Classification (IPC)

Objective

The objective is to continue the improvement of the International Patent Classification (IPC) by continuously revising it.

Activities

In January 1985, the *Committee of Experts* of the International Patent Classification (IPC) Union held its thirteenth session. The following 14 member States and the EPO were represented: Brazil, Denmark, Finland, France, Germany (Federal Republic of), Japan, Netherlands, Norway, Soviet Union, Spain, Sweden, Switzerland, United Kingdom, United States of America.

This session was the first one of a series of sessions of the Committee of Experts to be held over the next four years, which will lead to the adoption of the fifth edition of the IPC (to be published in 1989).

The Committee of Experts approved amendments (in both the English and French versions) submitted to it by the Working Group on Search Information of the PCPI. Those amendments affect one class and 38 subclasses of the IPC.

Furthermore, the Committee of Experts considered and adopted the revised text of the Specific Instructions for the Revision of the IPC, which forms part of the WIPO *Handbook on Patent Information and Documentation.*

The Committee of Experts considered and adopted the revised text of the *Introductory Manual to the IPC*, the text of which is intended for non-initiated users of the IPC and will form part of the above-mentioned *Handbook.* It will also be published as a separate publication.

The Committee of Experts, in response to a request by ARIPO, agreed to invite that Organization to make proposals for amendments to the IPC, in accordance with Article 5(5) of the Strasbourg Agreement Concerning the IPC, and amended its Rules of Procedure accordingly.

The Committee of Experts noted the survey of the number of groups in the third and fourth editions of the IPC, according to which the total number of groups had risen from 55,326 to 58,096 (2,770 more groups). This represented a 5% increase. The survey also showed the creation of four subclasses and a main group intended for indexing purposes only, with a total of 344 indexing codes.

Publications. In 1985, translations of the *fourth edition of the International Patent Classification* (Int. Cl.[4]) were published in Chinese, Czech, Japanese, Polish, Russian, Serbo-Croatian and Spanish.

In 1985, the *fourth edition (1984) of IPC Class and Subclass Titles* was published in English, Finnish, French and Norwegian. In December 1985, the *IPC General Information Brochure* was published in English and French.

V. Development of Trademark and Industrial Designs Classifications

Objective

The objective is to continue the improvement of the International (Nice) Classification of Goods and Services for the Purposes of the Registration of Marks, an important tool in the orderly registration of trademarks and service marks, and the International (Locarno) Classification for Industrial Designs, an important tool in the orderly registration of industrial designs. "Improvement" means, for the Nice Classification, the covering of new products and services and, for the Locarno Classification, the covering of new kinds of goods in which designs are incorporated, as well as the more precise description and classification of existing products, services and goods, in addition to the updating of the Classifications in various languages.

Activities

Classification Service for Marks. The WIPO Classification Service for Marks, created in 1984, received an ever-increasing number of requests for classification reports. In 1985, a further 63 classification reports were prepared, compared with 35 reports in 1984.

In 1985, the *translations of the Nice Classification* in German, Italian and Portuguese prepared by the industrial property offices of Germany (Federal Republic of), Italy and Portugal, were stored in the computerized Nice data base during the period under review for publication, later in 1985, as bilingual versions.

In April, August and November 1985, the *fourth edition of the Nice Classification* was published in three bilingual versions, in German and French, Portuguese and French, and Italian and French, respectively.

In October 1985, the *Committee of Experts of the Nice Union* adopted, at its fifteenth session, a number of modifications, to be introduced into the Nice Classification, which would then be published as the fifth edition of the Classification, and also decided on the creation, in French and English, of a *Keyword Index* as a new tool for the users of the Classification.

The *fourth edition of the International (Locarno) Classification* was published in a bilingual version in German and French in April 1985.

VI. Registration Activities in the Field of Industrial Property

Objective

The objective is to maintain the registration and similar activities under the Paris Convention, the Patent Cooperation Treaty, the Madrid Agreement (Marks), the Hague Agreement (Industrial Designs) and the Lisbon Agreement (Appellations of Origin), in particular by accurately and promptly providing the services required under those treaties.

Activities

Paris Convention for the Protection of Industrial Property

Communication of State Emblems, etc. WIPO continued the communication of official signs under Article 6*ter* of the Paris Convention. In 1985, seven communications of official signs, coming from Canada, Ireland, Sweden, Viet Nam, the International Maritime Organization (IMO), the International Olive Oil Council (IOOC) and the Nordic Council of Ministers, were made under the said Article.

Patent Cooperation Treaty (PCT)

Information Services. A new brochure containing the latest text of the PCT and its Regulations was published in German, Italian and Spanish in February, May and December 1985, respectively.

Replacement pages were issued in January, June and December 1985 to update Volume I of the *PCT Applicant's Guide*, and in February and October 1985 to update Volume II of that Guide.

The fortnightly publication of the *PCT Gazette* in separate English and French editions was continued throughout 1985. Special issues were published in March and December 1985 to consolidate information of a general character.

In January 1985, WIPO published a document entitled "A New Era for the PCT System" concerning the modifications made to the PCT and the PCT Regulations by the PCT Assembly in February 1984. That document was updated in November 1985.

The June issue of the periodicals *Industrial Property* and *La Propriété industrielle* included four "special studies" devoted to the topic of "The Patent Cooperation Treaty (PCT): Using It More Through Knowing It Better."

Meetings. In March 1985, a *meeting on the advantages of the PCT* was held in Vienna with the participation of government officials, representatives of industry and patent agents. Lectures were given by a Deputy Director General and another WIPO official.

In April 1985, a *meeting on the advantages of the PCT* was held in Bad Homburg (Federal Republic of Germany) with the participation of representatives of industry and patent agents. Lectures were given by a WIPO official.

In May 1985, two *meetings on the advantages of the PCT* were held in Milan and Rome with the participation of government officials, representatives of universities and industry and patent agents. Lectures were given by a Deputy Director General and another WIPO official.

In May 1985, a *meeting on the advantages of the PCT* was held in Zurich with the participation of patent agents. Lectures were given by a Deputy Director General.

In September 1985, a *meeting on the filing of international applications* was held in Essen (Federal Republic of Germany) with the participation of senior clerks of patent departments of enterprises. Lectures were given by a WIPO official.

In November 1985, a *meeting on the advantages of the PCT* was held in London with the participation of representatives of industry and patent agents. Lectures were given by a WIPO official.

In February 1985, four government officials of Italy visited WIPO to discuss questions concerning the implementation of the PCT. In February and March 1985, two WIPO officials visited Barbados to discuss similar questions. In May and October 1985, three government officials of Yugoslavia and two government officials of Bulgaria, respectively, visited WIPO to discuss PCT matters. In December 1985, a WIPO official visited the Chinese Patent Office in Beijing also to discuss PCT matters.

In August 1985, an official of the Industrial Property Office of Barbados began training on the processing of patent applications, particularly on PCT procedures, at the Royal Patent and Trademark Office of Sweden.

Operational Services and Statistics. The operational services under the PCT are the activities performed by the International Bureau of WIPO and by various industrial property offices and international authorities in relation to individual international applications filed under the PCT. Those offices and authorities are:

(i) the *receiving Office*, which receives the international application filed by the applicant, accords an international filing date, checks the international application as to form, invites the applicant to correct any formal deficiencies, transmits the record copy of the international application to the International Bureau and the search copy to the International Searching Authority; the receiving Office is normally the national Office of the country of the applicant; however, the receiving Office for applicants from Barbados, Sri Lanka and member countries of OAPI is the International Bureau, the receiving Office for applicants from Liechtenstein is the Swiss Federal Patent Office, and the EPO is an optional receiving Office for applicants from countries which are party to the European Patent Convention;

(ii) the *International Searching Authority*, which carries out an international search of the prior art relevant to the international application and establishes an international search report which it transmits to the applicant and the International Bureau; the International Searching Authorities are the national Offices of Australia, Austria, Japan, the Soviet Union, Sweden and the United States of America as well as the EPO;

(iii) the *International Preliminary Examining Authority*, which receives any demand for international preliminary examination filed by the applicant, carries out such examination, considers arguments and amend-

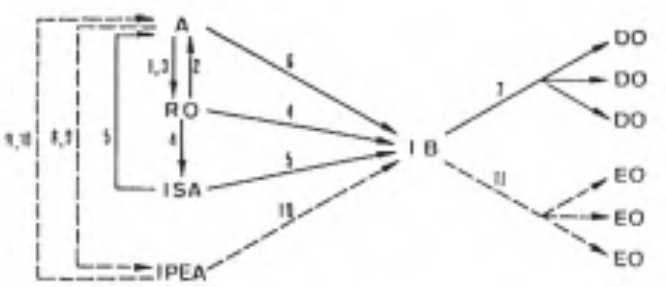
ments to the claims, description or drawings of the international application (if presented by the applicant), establishes an international preliminary examination report in which it gives its opinion on whether the claimed invention fulfills the main criteria of patentability and transmits that report to the applicant and the International Bureau; the International Preliminary Examining Authorities are the national Offices of Australia, Austria, Japan, the Soviet Union, Sweden and the United Kingdom as well as the EPO;

(iv) the *International Bureau*, which receives the record copy, receives any amendments to the claims filed by the applicant, receives any priority document(s), publishes the international application, together with the international search report, in the form of a pamphlet, announces such publication in the *PCT Gazette*, communicates the international application and, where applicable, the priority document(s) to the designated Offices (i.e., the Offices of, or acting for, the States designated in the international application which will decide on the granting of protection for the invention claimed in the international application) and, where applicable, transmits the international preliminary examination report together with any required translation thereof (which it establishes itself) to the elected Offices (i.e., those designated Offices with respect to which the applicant intends to use the results of the international preliminary examination);

(v) the *designated Offices* and the *elected Offices* (see preceding sub-paragraph).

The main tasks, as summarized above, of the receiving Office, the International Searching Authority, the International Preliminary Examining Authority and the International Bureau, are illustrated by the following (simplified) flow chart:

Flow Chart of International Applications[1,2,3]



[1] Abbreviations: A = applicant; RO = receiving Office; ISA = International Searching Authority; IPEA = International Preliminary Examining Authority; IB = International Bureau; DO = designated Office; EO = elected Office.

[2] Codes of actions: 1 = filing of international application; 2 = checking as to form and, where applicable, invitation to correct; according of international filing date; 3 = filing of corrections; 4 = transmittal of search copy and of record copy; 5 = international search and transmittal of international search report; 6 = filing of amendments to the claims; 7 = international publication and communication of international application; 8 = filing of demand for international preliminary examination; 9 = international preliminary examination, including possible amendments; 10 = transmittal of international preliminary examination report; 11 = transmittal of international preliminary examination report and translation thereof.

[3] Dotted lines refer to actions performed under Chapter II of the PCT, which is optional.

During 1985, the International Bureau received the record copies of 7,095 international applications from the receiving Offices.

The number of international applications filed, in the same year, according to information provided by the receiving Offices, amounted to 7,305. The total numbers of international applications filed in each calendar year since the beginning of PCT operations are as follows:

June to December 1978	687
1979	2,734
1980	3,958
1981	4,321
1982	4,713
1983	5,050
1984	5,733
1985	7,305

The increase in filings was 27.25% in 1985 as compared with 1984.

The table below shows the country of origin of international applications whose record copies were received by the International Bureau in 1985, and the corresponding percentages.

Country of Origin *	*Record copies received* * *Number*	/ *Percentage*
Australia	324	4.57
Austria	68	0.96
Belgium	32	0.45
Brazil	11	0.16
Bulgaria	2	0.03
Denmark	120	1.69
Finland	111	1.56
France	377	5.31
Germany (Federal Republic of)	917	12.93
Hungary	83	1.17
Italy	96	1.35
Japan	716	10.09
Luxembourg	4	0.06
Netherlands	69	0.97
Norway	79	1.11
Republic of Korea	22	0.31
Romania	2	0.03
Soviet Union	113	1.59
Sri Lanka	2	0.03
Sweden	539	7.60
Switzerland**	284	4.00
United Kingdom***	603	8.51
United States of America	2,521	35.52
Total	7,095	100.00

* The record copies were received from the national Office of the country. However, nationals and residents of the following countries can file either with the European Patent Office (EPO) or with their national Offices (the figures which appear below in brackets after the name of the country divide the above total of record copies received in 1985 into those received from the national Office (before the slant) and those received from the EPO (after the slant)): Austria (57/11), Belgium (21/11), France (373/4), Germany (Federal Republic of)(453/464), Italy (48/48), Luxembourg (1/3), Netherlands (53/16), Sweden (535/4), Switzerland/Liechtenstein (180/104) and United Kingdom (595/8). Altogether, 673 record copies were received in 1985 from the EPO as receiving Office, which represents 9.49% of the total number of record copies received in 1985. The receiving Office for nationals and residents of Sri Lanka is the International Bureau of WIPO.

** The national Office of Switzerland is the receiving Office also for nationals and residents of Liechtenstein.

*** The national Office of the United Kingdom is the receiving Office also for residents of Hong Kong and the Isle of Man.

The average number of designations of Contracting States per international application (on the basis of the record copies received in 1985) was 12.12 in 1985. The average number of designation fees payable, however, was 5.43. This difference is due to the fact that in the case of the designation of several countries for regional (European or OAPI) protection, only one designation fee is due and the fact that each designation beyond the first 10 for which designation fees are due is free of charge. The difference also shows that applicants eliminate a certain number of designations—made at no cost at the time of filing—by the time they pay the designation fee, a natural and desirable result of the PCT procedure.

The table below shows the total of designations for the year broken down according to the designated States and the number of times a Contracting State is designated per 100 international applications, expressed as a percentage.

Designated State	*Number of designations for national and/or regional protection**	*Percentage of designations*
Australia	3,054	43.04
Austria	4,626	65.20
Barbados	232	3.27
Belgium	4,847	68.32
Brazil	1,860	26.22
Bulgaria	386	5.44
Democratic People's Republic of Korea	533	7.51
Denmark	2,201	31.02
Finland	1,818	25.62
France	5,852	82.48
Germany (Federal Republic of)	6,246	88.03
Hungary	715	10.08
Italy	4,032	56.83
Japan	5,544	78.14
Luxembourg	4,306	60.69
Madagascar	359	5.06
Malawi	346	4.88
Monaco	462	6.51
Netherlands	5,256	74.08
Norway	2,117	29.84
Republic of Korea	1,627	22.93
Romania	575	8.10
Soviet Union	1,183	16.67
Sri Lanka	368	5.19
Sudan	298	4.20
Sweden	5,099	71.87
Switzerland**	4,964	69.96
United Kingdom	6,244	88.01
United States of America	4,383	61.78
OAPI***	417	5.88

* Only one designation is counted where a State member of the EPO is designated both for national protection and for a European patent. In 1985, a European patent was asked for in 6,076 record copies, which represents 85.63% of the cases.

** Includes the simultaneous designation of Liechtenstein.

*** Includes the simultaneous designation of Cameroon, Central African Republic, Chad, Congo, Gabon, Mali, Mauritania, Senegal and Togo.

The languages in which the international applications received in 1985 by the International Bureau were filed and the corresponding percentages are as follows:

Language of filing	*Number of applications*	*Percentage of total*
Danish	71	1.00
Dutch	15	0.21
English	4,171	58.79
Finnish	49	0.69
French	452	6.37
German	1,198	16.69
Japanese	725	10.22
Norwegian	39	0.55
Russian	115	1.62
Swedish	260	3.66
Total:	7,095	100.00

In 1985, 444 demands for international preliminary examination under Chapter II of the PCT were filed with the Offices, indicated below, which act as International Preliminary Examining Authorities. In the following table, these demands are broken down according to the International Preliminary Examining Authorities having received the demands, and the corresponding percentages are indicated.

Authority (country or organization)	*Number of demands*	*Percentage of total*
Australia	65	14.64
Austria	2	0.45
Japan	25	5.63
Soviet Union	—	—
Sweden	195	43.92
United Kingdom	65	14.64
EPO	92	20.72
Total:	444	100.00

Entries relating to the 5,741 international applications which were published in the form of PCT pamphlets (in English, French, German, Japanese or Russian, depending on the language of filing) were published on the same day in the *PCT Gazette*. The numbers of international applications published as pamphlets in each of the above-mentioned languages (and the corresponding percentages) are as follows:

Language of publication	*Number of applications published*	*Percentage of total*
English	3,978	69.29
French	337	5.87
German	794	13.83
Japanese	565	9.84
Russian	67	1.17
Total:	5,741	100.00

Madrid Agreement Concerning the International Registration of Marks

Meetings. In March 1985, an *Ad Hoc Working Group* set up by the Assembly and the Committee of Directors of the Madrid Union Concerning the International Registration of Marks, met in Geneva and adopted the text of a draft recommendation concerning the identification of bibliographic data relating to marks (INID Codes).

In their sessions of March 1985, the *Assembly and the Committee of Directors* invited the International Bureau to call for tenders for the input in a computer of the data necessary for the production of unofficial notices of expiry in respect of marks registered in the International Register in 1966 and 1967 and for writing of the corresponding computer programs (see documents MM/A/XIV/3 and MM/CDIR/XIV/3, paragraph 7). The call for tenders was made on April 11, 1985, with a time limit expiry on May 13, 1985. No offers were received by the International Bureau by that date.

Pursuant to a decision of the Assembly and the Committee of Directors of the Madrid Union at their fifteenth sessions in September and October 1985, the International Bureau published, in November 1985, a draft Protocol and a draft Decision, which were discussed, in January 1986, in the Working Group on Links Between the Madrid Agreement and the Proposed (European) Community Trade Mark.

The draft Protocol aims at enabling the Madrid Agreement and the future Community Trade Mark Regulation to be used in parallel. In their current form, neither the Agreement nor the Regulation establish mutual links. However, the provisions of the draft Protocol would apply not only to Community registration but also to the other systems of regional registration of marks under which the applicant has the choice, in respect of any mark, (i) between national registration and regional registration or (ii) between national registration, on the one hand, and such registration plus regional registration (optional regional system of registration), on the other. The Protocol offers the possibility for the applicant for an international registration to request the effect of a regional registration (Article 2). It also deals with the possibility of a regional registration serving as the basis for an international registration under the Madrid Agreement (Article 3). In view of the aim of the Protocol and the legal and practical implications of the application of Articles 2 and 3, both for users and for Offices, a draft Decision is proposed in order to provide, following the entry into force of the Protocol after ratification or accession by three States party to the Madrid Agreement, and until such time as all the countries party to the Madrid Agreement have ratified, or acceded to, the Protocol, that its key provisions (Articles 2 and 3) have effect in respect of all the countries party to the Madrid Agreement.

Coefficients. On becoming party to the Madrid Agreement, Bulgaria, Mongolia and Sudan informed the Director General that the coefficient referred to in Article 8(5) of that Agreement for the distribution of the supplementary fees and the complementary fees was to be *four* in respect of the three countries.

Following the entry into force of its new trademark law, the German Democratic Republic informed the Director General that the coefficient *four* was to be applied to it henceforth; this new coefficient was applied to the German Democratic Republic as from January 1, 1986.

This information was communicated to the Assembly and the Committee of Directors of the Madrid Union (see document MJ/CD/III/Etr.10, paragraphs 45 and 46).

Training. In April and May 1985, a government official from the State Committee on Science and Technology of Mongolia underwent training at WIPO headquarters relating to the international registration of marks.

In June 1985, a WIPO official participated in working sessions on the implementation of the Madrid Agreement organized in Sofia for officials of the Institute of Inventions and Rationalizations of Bulgaria, in view of the entry into force of the accession of Bulgaria to the Madrid Agreement on August 1, 1985.

In October 1985, three government officials from the Invention Committee of the Democratic People's Republic of Korea, two officials from the Institute of Inventions and Rationalizations of Bulgaria, and two officials from the State Administration for Industry and Commerce of China undertook study visits to WIPO to study the administrative procedures relating to the Madrid Agreement.

Registration of Marks and Connected Tasks. WIPO continued to perform the tasks provided for in the Madrid Agreement. In 1985, the total number of registrations effected was 8,961. To this figure should be added 4,736 renewals under the Nice and Stockholm Acts of the Madrid Agreement. The total number of registrations and renewals effected during the period under consideration was therefore 13,697, as compared with 13,043 in the previous corresponding period. The total number of changes recorded in the International Register of Marks was 15,610, as compared with 17,501 in the previous corresponding period.

WIPO continued to maintain its *Trademark Search Service*, a service open to the public for identifying identical or similar marks among those registered. The total number of trademark searches carried out in 1985 was 1,478, as compared with 1,946 in 1984.

Information Service. The review *Les Marques internationales*, containing the publication of registrations of marks, renewals and changes recorded in the International Register, continued to appear each month.

The Guide to the International Registration of Marks was published in German and Russian in March and November 1985, respectively.

The Hague Agreement Concerning the International Deposit of Industrial Designs

In their sessions in September and October 1985, the *Assembly and the Conference of Representatives* of the

Hague Union adopted new Regulations under the Hague Agreement. Those Regulations, and the Administrative Instructions established by the Director General pursuant to Rule 31 of the said Regulations, entered into force on January 1, 1986.

Receiving Industrial Designs and Connected Tasks. WIPO continued to perform the tasks provided for in the Hague Agreement, in particular the registration and monthly publication (in the periodical *International Designs Bulletin/Bulletin des dessins et modèles internationaux*) of industrial designs deposited with it. A special issue of the *Bulletin* was published in December 1985; this issue contains the text of the Regulations and Administrative Instructions under the Hague Agreement, in force as from January 1, 1986. In 1985, the total number of international deposits was 1,799 and the total number of prolongations and renewals was 597.

In June 1985, a government official from the National Office of Inventions, State Committee for Science and Technology of Viet Nam visited WIPO to study the administrative procedures relating to the Hague Agreement.

In November 1985, an official of the Japanese Patent Office and an official of the Japan Trade Center in Dusseldorf visited WIPO to study the administrative procedures relating to the Hague Agreement.

Lisbon Agreement for the Protection of Appellations of Origin and their International Registration

In 1985, 35 applications were filed for registration and publication (in *Les Appellations d'origine*) of appellations of origin under the Lisbon Agreement.

VII. Cooperation with States and Various Institutions in Matters Concerning Industrial Property

Objective

The objective is to ensure that, through regular contacts between WIPO on the one hand and the governments of States and international organizations on the other, there should be full awareness of what is being done and planned on either side in order mutually to inspire more and more useful activities, to combine forces whenever possible and to avoid unnecessary duplication.

Activities

WIPO continued to cooperate with States, with intergovernmental organizations, and with international and national non-governmental organizations.

States

Austria. In December 1985, the Director General had discussions with the President and a Vice-President of the Austrian Patent Office in Vienna. Also in December 1985, a WIPO official had discussions with officials of the Austrian Patent Office on its contributions to WIPO's development cooperation activities.

Bulgaria. In April and June 1985, two parties each of three government officials from Bulgaria had discussions in WIPO with the Director General and other WIPO officials on the organization of a World Exhibition of Achievements of Young Inventors and of an International Seminar on Inventiveness for Development Purposes. The three government officials, including the First Vice Chairman of the State Committee for Science and Technological Progress, who visited WIPO in June 1985 also had discussions on cooperation between WIPO and Bulgaria.

The International Bureau made special efforts in ensuring the widest possible participation of inventors from the maximum number of countries in the Exhibition and Seminar. For that purpose, in July 1985, a WIPO official visited Canada and the United States of America.

In September 1985, a WIPO official visited Bulgaria for further discussions with representatives of the Bulgarian Organizing Committee and other government officials concerned on the Exhibition and the Seminar and to attend a meeting of national commissioners for the Exhibition.

In November 1985, the World Exhibition of Achievements of Young Inventors was organized by the Government of Bulgaria with the cooperation of WIPO in Plovdiv, under the patronage of Mr. Todor Zhivkov, President of the State Council of Bulgaria, and the Director General of WIPO. The Exhibition was organized on the occasion of the International Year of Youth to demonstrate the contribution of young people towards technological, social and economic development and progress. More than 4,200 inventions from 73 countries, including about 50 developing countries, were exhibited. Inventors from 39 countries received a total of 239 special awards, prizes and gold medals for creativity and outstanding inventions.

The special prize of the President of the State Council of Bulgaria was awarded to a team of Hungarian researchers and the WIPO Gold Medal to a team of Bulgarian researchers. The Director General of WIPO awarded Mr. Todor Zhivkov with the WIPO Gold Medal "Protector of Inventors" and received from him the "Madara Horseman" Medal, First Class.

Mr. Todor Zhivkov and the Director General attended the opening ceremony of the Exhibition, which was opened by Mr. Choudomir Alexandrov, Deputy Prime Minister of Bulgaria. Also present were many senior officials of Bulgaria, a Deputy Director General of WIPO and two other WIPO officials. The Exhibition attracted over 500,000 visitors.

The Director General also discussed with Bulgarian officials questions relating to future cooperation between WIPO and Bulgaria.

At the end of November, a Deputy Director General visited Bulgaria to attend the closing ceremony of tbe Exhibition and to have further discussions on cooperation between WIPO and Bulgaria.

In November 1985, an International Seminar on Inventiveness for Development Purposes was held in Plovdiv, jointly organized by WIPO and the Government of Bulgaria at the site of the Exhibition. The Seminar was organized to promote an exchange of views and experiences on tbe role of innovation and inventiveness in the economic and technological development of all countries, whether developing or developed. There were more than 300 participants from 31 countries, of which 21 were developing countries. Papers were presented by, *inter alia*, five overseas experts from the German Democratic Republic, the Philippines, the Soviet Union, Sweden and the United States of America as well as by a WIPO official. The attendance of the five experts was financed by Bulgaria. The attendance of four government officials from Algeria, Kenya, Malaysia and Peru was financed by WIPO.

In October 1985, two officials of the Institute of Inventions and Rationalizations visited WIPO to discuss and study practical matters relating to operations under the PCT and the Madrid Agreement Concerning the International Registration of Marks.

Denmark. In November 1985, a Deputy Director General and another WIPO official had discussions in Copenhagen with officials of the Patent and Trademark Office and the Danish International Development Agency (DANIDA) on contributions to WIPO's development cooperation activities.

Finland. In November 1985, a WIPO official had discussions in Helsinki with officials of the National Board of Patents and Registration and the Finnish International Development Agency (FINNIDA) on contributions to WIPO's development cooperation activities.

German Democratic Republic. In August 1985, the Director General, acccompanied by a Deputy Director General, paid an official visit to the German Democratic Republic. He held discussions with high officials of the Government on matters of mutual interest and, in particular, on new possibilities of assistance to developing countries through joint efforts of the Government and the International Bureau of WIPO.

Germany (Federal Republic of). In February and March 1985, a Deputy Director General and another WIPO official had discussions in Bonn and in Munich with officials of the Federal Ministry of Justice, the German Patent Office and the Federal Patent Court on the renewal of the German Funds-in-Trust Arrangement, and various industrial property matters of topical interest.

Hungary. In September 1985, the Director General had discussions in Budapest with the President and Vice President of the National Office of Inventions and with the Director General of the Hungarian Bureau for the Protection of Authors' Rights (ARTISJUS).

Japan. In April 1985, the Director General, accompanied by a WIPO official, participated in the Japanese Industrial Property Centennial Commemorative Ceremony and Celebration held in Tokyo. The Director General delivered a paper at an International Symposium sponsored by the Japanese Patent Office as part of the celebration. The Director General also had discussions with officials of the Ministry of International Trade and Industry and tbe Japanese Patent Office.

In November 1985, a Deputy Director General attended in Tokyo a Seminar on the Industrial Property System, wbich was organized jointly by the Japanese Patent Office and the Japan Institute of Invention and Innovation (JIII), with the assistance of the Japan International Cooperation Agency (JICA) and the cooperation of WIPO. The participants included government officials from Brazil, Egypt, Indonesia, the Philippines, the Republic of Korea, Sri Lanka, Thailand and Venezuela. The participation of the representatives of these developing countries was financed by JICA.

Spain. In January and February 1985, a Deputy Director General had discussions with government officials in Madrid on Spain's cooperation with developing countries, in particular with Latin American countries, and on the organization of a meeting, in June 1985, to consider the establishment of a patent information and documentation collection in Spanish.

In June 1985, in connection with the Ibero-American Meeting on tbe Establishment of an International Patent Documentation Center in the Spanisb Language held in Madrid, a Deputy Director General and two other WIPO officials had further discussions with government officials and officials of the Ibero-American Cooperation Institute on cooperation between WIPO and Spain, particularly in relation to WIPO's development cooperation activities.

Sweden. In June 1985, the extension of the WIPO/Swedish International Development Authority (SIDA) Funds-in-Trust Arrangement for WIPO's development cooperation activities for the period 1985-1988 was finalized and entered into force on July 1, 1985.

Switzerland. In April 1985, the Director General and two Deputy Directors General attended a celebration in honor of the outgoing Director of the Swiss

Federal Intellectual Property Office, Mr. Paul Braendli, who was leaving that post to assume the position of President of the EPO.

Turkey. In September 1985, government officials had discussions with WIPO officials on a UNDP-financed country project to upgrade the industrial property system.

United Kingdom. In January 1985, a WIPO official had discussions in London with officials of the Patent Office of the United Kingdom, and with representatives of interested circles, on the international registration of marks.

United States of America. In May 1985, the Director General testified and responded to questions coocerning the question of possible accession by the United States of America to the Berne Convention before the United States Senate Judiciary Subcommittee on Patents, Copyrights and Trademarks in Washington, D.C. The Director General and another WIPO official had discussions with the Chairman and with the Ranking Minority Member of that Senate Subcommittee, with the Chairman of the United States House of Representatives Subcommittee oo Courts, Civil Liberties and the Administration of Justice, with the United States Trade Representative, with the Librarian of Congress and with other government officials on various matters of common interest to the United States of America and WIPO, including the protection of integrated circuits and the problems caused by counterfeit goods.

In May 1985, an honorary degree of Doctor of Laws was conferred on the Director General by the George Washington University in Washington.

Yugoslavia. In September 1985, a WIPO official had discussions with officials of the Federal Patent Office, in Belgrade, concerning the questions of patent search and examination and documentation.

Intergovernmental Organizations

Commission of the European Communities (CEC). In October 1985, a WIPO official attended a meeting in Brussels devoted to a discussion of the CEC Draft Proposal for a Council Directive on the Legal Protection of Topographies of Semiconductor Products. Also in October 1985, a Deputy Director General and a WIPO official had discussions in Brussels with an official of the CEC on questions of common interest, including the legal protection of integrated circuits and of biotechnological inventions, the harmonization of provisions in laws for the protection of inventions, protection against counterfeiting and the international registration of marks.

Council of the European Communities. In December 1985, a Deputy Director General attended the opening of the Luxembourg Conference on the Community Patent in Luxembourg. The purpose of the conference was primarily to revise the Community Patent Convention, concluded in 1975, in order to facilitate its entry into force.

Customs Co-operation Council (CCC). In April 1985, a WIPO official participated in a meeting in Brussels of the Permanent Technical Committee of the CCC on the Role of Customs in Implementing Copyright and Industrial Property Law.

European Patent Organisation (EPO). In March 1985, the Director General and a Deputy Director General participated in an extraordinary session of the Administrative Council of the EPO at the EPO headquarters in Munich. The Director General delivered an address at that session, which was devoted to honoring the retiring President of the EPO, Mr. Bob van Benthem. The Director General and the WIPO official also held discussions with officials of the EPO.

In June 1985, a Deputy Director General participated, in Munich, in a special ceremony of the Administrative Council of the EPO for the inauguration of the new President of the EPO, Mr. Paul Braendli, and in the ordinary session of the Council which followed.

In April and December 1985, a WIPO Official participated as an observer in the 13th and 14th meetings of the EPO Working Party on Technical Information.

Other Organizations

In January 1985, the Director General and a Deputy Director General participatcd in the Eighth Annual Institute on the Worldwide Protection of Intellectual Property, sponsored by the American Intellectual Property Law Association (AIPLA) in Dorado (Puerto Rico). The Director General delivered a speech at that Institute.

In January 1985, a WIPO official participated in the 30th Conference of the Pharmaceutical Trade Marks Group (PTMG) in Hampton Court Palace, United Kingdom.

In February 1985, a WIPO official participated in a meeting of the Commission on Industrial Property of the International Chamber of Commerce (ICC) in Paris.

In March 1985, the Director General attended a meeting of the *Kuratorium* of the Max Planck Institute for Foreign and International Patent, Copyright and Competition Law, and a Deputy Director General participated in a meeting of the Expert Committee on Unfair Competition and Trademark Law of the German Association for the Protection of Intellectual Property (GRUR); both meetings took place in Munich.

In March 1985, a WIPO official delivered a speech at a meeting in Rome organized by the Collegio Italiano dei Consulenti in Proprietà Industriale on national and international aspects of industrial property and their relation to the Central Patent Office of Italy, industrial property attorneys and users.

In March 1985, a WIPO official delivered a paper at the Conference of the European Society of Association Executives in Geneva.

In March 1985, WIPO was represented at a meeting of the Executive Committee of the International Federation of Inventors' Associations (IFIA), in Copenhagen, which discussed, in particular, the draft of the WIPO-IFIA Guide on Associations of Inventors and the second WIPO-IFIA Conference on Inventions for Development to be held in 1986.

In April and May 1985, the Director General and another WIPO official attended the annual meeting of the United States Trademark Association (USTA) in San Antonio, Texas. The Director General delivered a lecture on the international registration of trademarks.

In May 1985, the Director General and a Deputy Director General participated in a session of the Executive Committee of the International Association for the Protection of Industrial Property (AIPPI) in Rio de Janeiro. The Director General delivered a speech at the opening ceremony.

In June 1985, a Deputy Director General participated in the World Congress of the International Federation of Industrial Property Attorneys (FICPI) in Augsburg (Federal Republic of Germany). He delivered a speech at the opening ceremony of the Congress and a lecture on the PCT.

In June 1985, WIPO was represented at the General Assembly of IFIA in Bled (Yugoslavia).

In July 1985, a WIPO official participated in a Symposium on the Harmonization of Industrial Property and Copyright Laws in the European Community, organized by the Max Planck Institute at Ringberg Castle (Federal Republic of Germany) on the occasion of the Institute's thirtieth anniversary.

In July 1985, a WIPO official had discussions, in Washington, on the subject of intellectual property protection of integrated circuits with attorneys of the Semiconductor Industry Association (SIA) of the United States of America.

In September 1985, the Director General and a Deputy Director General attended a conference in Budapest entitled "New Technical Tendencies and Industrial Property Protection." The conference was organized by the Hungarian Group of AIPPI and the Hungarian Association for the Protection of Industrial Property (MIE).

In October and again in December 1985, the Director General participated in Vienna in sessions of the Supervisory Board *(Aufsichtsrat)* of the International Patent Documentation Center (INPADOC).

In October 1985, the Director General delivered a speech on the role of WIPO and its impact on private business to meetings in New York of the United Nations Business Council (UNBC) and the United States Council for International Business (USCIB).

In October 1985, a WIPO official participated in a meeting of the Trademark Committee of GRUR, which took place in Frankfurt. The purpose of the meeting was to discuss the WIPO plan for a new treaty on the international registration of marks.

In October 1985, a WIPO official attended a meeting of the Industrial Property Commission of the ICC in Paris. Also in October 1985, a WIPO official participated in a symposium in London on the "Practical Significance for Industry of the Madrid Agreement," organized by the ICC with the support of the United Kingdom Trade Marks, Patents and Designs Federation.

In October 1985, A WIPO official attended the ninth Conference of the Law Association of Asia and the Western Pacific (LAWASIA) in New Delhi.

In October and November 1985, a Deputy Director General participated in an Industrial Property Symposium in Beijing sponsored by the Chinese Group of AIPPI.

In November 1985, the Director General delivered a speech entitled "An International Intellectual Property Strategy Against Counterfeiting" to a meeting in New York of the International Anticounterfeiting Coalition, Inc. (IAC).

Plant Varieties

International Convention for the Protection of New Varieties of Plants (UPOV)

Ratification of the 1978 Act

ITALY

The Government of Italy deposited, on April 28, 1986, its instrument of ratification of the Act of October 23, 1978, of the International Convention for the Protection of New Varieties of Plants of December 2, 1961, as revised at Geneva on November 10, 1972.

The said International Convention as revised in 1978 will enter into force, with respect to Italy, on May 28, 1986.

UPOV Notification No. 33, of April 28, 1986.

General Studies

Protection of United States Process Patents

R.W. KASTENMEIER and D. BEIER*

American patent law has long recognized the validity of securing for inventors the right to exclude others from practicing an invention that consists of a method of making a product. Process patent protection has been a part of United States law since at least the 19th century.[1] Process patents extend intellectual property protection for new and useful processes, art or methods of creating an object. Since 1952 there has been an explicit statutory acknowledgment of the availability of process patent protection.[2] Process patents, however, have been granted only partial protection against acts of infringement.[3] This is so because, unlike product patents, the use of a patented process outside the United States and a subsequent importation of the product is not an act of patent infringement. The failure fully to protect American process patents harms American businesses and produces results contrary to the public interest. Many foreign countries adequately protect process patents, thus leaving American patent holders in a position to become the victims of unfair competition.

Process patent protection today is of central importance in the pharmaceutical industry, to the development of solid state electronics, for the manufacture of certain amorphous metals[4] and, perhaps most significantly, for the biotechnology industry. For most biotech companies the best—and sometimes only—available protection for their intellectual property is a process patent.[5] Such patents are effective in securing for the inventor the right to prevent others from practicing that invention in the United States. Because such protections are limited to the territory of the United States, it is possible—if not likely—for a process patent holder to face domestic competition from persons who have used the patented process to create a product overseas and then shipped it into the United States. In these situations the patent owner cannot sue for patent infringement: rather, the owner is relegated to the United States International Trade Commission (ITC) to seek *limited non-monetary relief.*[6]

The failure of American patent law to make unlawful the importation of goods made using an American process patent has deep historical roots. American patent law—like the law of other nations—does not have an extraterritorial effect.[7] To provide that American law should govern conduct that occurs in other countries would conflict with basic notions of national sovereignty. For that reason, American patent law has always required that the infringing act occur within the United States territory.[8] With respect to process patents, courts have reasoned that the only act of infringement is the act of making a product through

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[1] *See generally, In re Tarczy-Hornoch*, 397 F.2d 856 (C.C.P.A. 1968) (J. Rich discusses the case law history of process patents).

[2] 66 Stat. 792, 797; 35 U.S.C. 100(b) (reprinted in *Industrial Property Laws and Treaties,* UNITED STATES OF AMERICA — Text 2-001).

[3] *Enka. B.V. of Arnhem, Holland v. E.I. du Pont, Etc.*, 519 F. Supp. 356, 362 (D. Del. 1981) (19 U.S.C. 1337, 1337a does not give Federal District Courts jurisdiction over acts outside the U.S.). *See generally,* Note, "Importation of Articles Produced by Patented Processes: Unfair Trade Practices or Infringement," 18 *Geo. Wash. J. Int'l L. & Econ.* 129 (1984) (hereinafter cited as *"Note"*); Kaye & Plaia, "Unfair Trade Practices in International Trade Competition: A Review of Developments Under Section 337," 64 *J. Pat. Off. Soc'y* 360 (1982); Ablondi & Vent, "Section 337 Import Investigations—Unfair Import Practices," 4 *Loy. Int'l & Comp. L.J.* 27 (1981); *see also,* Stark, "Efforts by Treaty, Case and Statute to Provide Holders of Process Patents Protection Against Imported Goods Made by the Patented Process," 42 *J. Pat. Off. Soc'y* 21 (1960); Comment, "Patent Protection Under the Tariff Act," 13 *Case W. L. Rev.* 377, 381-82 (1962); *see also,* DeLio & Worth, "A Review of Protection of Patent Interests from Unfair Methods of Competition in Importation," 25 *Geo. Wash. L. Rev.* 341 (1957), *reprinted in* 39 *J. Pat. Off. Soc'y* 282 (1957) (hereinafter cited as *"DeLio & Worth"*); Rich, "Infringement Under Section 271 of the Patent Act of 1952," 35 *J. Pat. Off. Soc'y* 476 (1953).

[4] *Certain Amorphous Metal Alloys and Amorphous Metal Products,* 337-TA-143 (1984); *Innovation and Patent Law Reform: Hearings Before the Subcommittee on Courts, Civil Liberties and the Administration of Justice of the House Committee on the Judiciary,* 98th Cong., 2d Sess. 2581 (1984) (statement of Allied Corporation) (hereinafter *"Innovations and Patent Law Reform"*).

[5] The Office of Technology Assessment describes the nature of the process patent problem for biotechnology companies in its recent report, *Commercial Biotechnology: An International Analysis* 390, 391, 401, 405 (1984):

"Because many countries do not provide patent protection for the chemical products of biological processes, and because ... microorganisms and subcellular entities will not be protectable *per se* under the patent laws of many countries, process protection may be the only protection available in many cases." R. Schwab, D. Jeffery, D. Conlin, *U.S. and Foreign Intellectual Property Law Relating to Biological Inventions* (1983), at 12 (unpublished contract report submitted to the Congress of the United States Office of Technology Assessment).

[6] Brunsvold, "Analysis of the United States International Trade Commission as a Forum for Intellectual Property Disputes," 60 *J. Pat. Off. Soc'y* 505 (1978) (hereinafter cited as "Brunsvold").

[7] *In re Amtorg Trading Corporation*, 75 F.2d 826, 831-832 (1935) (citations omitted), *cert. denied,* 276 U.S. 576 (1935).

[8] DeLio & Worth, *supra* note 3, at 286-344.

the use of a patented process; therefore, there can be no infringement if that act occurs outside the United States.[9] Although the courts are correctly construing current law, this rationale is inadequate public policy because it ignores the reality that the offending act is the importation of a product made through the use of a protected process patent or its subsequent sale within the United States. There is no logical reason to exclude from the ambit of patent infringement acts associated with the abuse of a United States process patent as long as they occur within the reach of United States domestic law.[10] Moreover, as the President's Commission on Industrial Competitiveness has found, the failure to extend such protection diminishes the economic value of United States process patents.[11] Without domestic protection, competitors using the protected process may accept the limited risks of foreign production and importation, in exchange for lower foreign production costs.

The compelling nature of this deficiency in United States patent laws has been evident both in the Congress and to the Executive Branch. Reform in this area is likely to be a centerpiece in the major trade law reform.[12] It is certain that this issue will be revisited by the Congress during this session. The remainder of this paper will outline the nature of the current remedies available to process patent holders, to point out their drawbacks and to discuss the need for a legislative solution.

Current Remedies/Advantages

Owners of intellectual property may currently seek relief before the United States International Trade Commission (ITC) under section 337 of the Tariff Act of 1930, 19 U.S.C. 1337 and 1337a.[13] The ITC may grant relief if it is shown that the responding parties have engaged in an unfair method of competition and unfair acts in the importation of articles into the United States, or their sale by the owner, importer, consignee, or agent of either, the effect or tendency of which is to substantially injure or destroy an industry efficiently and economically operated in the United States.[13a] The most commonly asserted unfair trade practice is alleged patent infringement. Proceedings before the ITC present patent owners with a number of opportunities for enforcement that would not ordinarily come into play in the context of a patent infringement lawsuit.[14] Among the possible advantages of bringing a case before the ITC are the fact that the agency is under a statutory deadline to conclude the case within 12 months after filing.[15] The ITC may extend this period up to 18 months for complex cases.[16] In some cases this truncated time frame may preclude discovery opportunities and can be seen as a disadvantage. Moreover, the ITC, acting with the advice of an expert staff, must determine within 30 days after the complaint is filed whether to commence the investigation.[17]

The second advantage to the ITC proceeding is the relative ease of enforcement. The ITC can issue exclusion orders which direct the Customs Service to prevent goods from coming into the United States.[18] These exclusion orders can extend to non-respondents if a pattern or practice of abuse has been shown.[19] In cases where personal jurisdiction exists, the ITC may also issue cease and desist orders.[20] Thus, with respect to

[9] *Id.*; *Note* at 133; *United States v. Studiengesellschaft Kohle m.b.H.*, 670 F.2d 1122, 1127-28 (D.C. Cir. 1981) ("[a] sale of a product made by a patented process does not itself infringe the patent; it is the unauthorized use of the process that infringes the patent.") (citations omitted).

[10] This view was first enunciated by a governmental entity in 1966 when President Johnson's Commission on the Patent System recommended a change in the patent laws to protect process patents from overseas infringement. *Report of the President's Commission on the Patent System* (1966).

[11] President's Commission on Industrial Competitiveness, *Preserving America's Industrial Competitiveness*, at 328-9, 343 (1985).

[12] *See, e.g.*, "Administration Trade Package: White House Maps Bill to Item Tide of Protectionism," *New York Times*, September 12, 1985, A1, D6. The Administration trade bill included process patent reform. H.R. 4585 (Rep. Erdreich) (99th Cong.). *See* Office of the United States Trade Representative, Executive Office of the President, *Administration Statement on the Protection of U.S. Intellectual Property Rights Abroad*, April 7, 1986 (reprinted in 3 *Int. Trade Rep.* 481 (April 9, 1986).

[13] *See generally*, Staff of the International Trade Commission, Unfair Import Investigation Division, *Litigating Intellectual Property Cases of the International Trade Commission* (unpublished) (undated) (available from the ITC) (hereinafter cited as *"ITC Staff Paper"*).

[13a] It should be noted that amendments to section 337 have also been proposed during the 99th Congress. H.R. 3776, 3777, 4312, 4539 and *see also* S. 1860 and 1869.

These bills, in general, seek to facilitate enforcement of intellectual property rights in the ITC. Most of the bills eliminate the requirements that the complainant in the ITC show that an "injury" occurred if the complainant can show intellectual property ownership and infringement. These bills only eliminate the requirement that the complainant establish that the affected industry is "efficiently and economically operated." While these changes, if adopted, may make the ITC a slightly more attractive forum for the adjudication of process patent disputes, such changes would not eliminate the need for legislation to permit infringement actions in Federal court.

[14] *Id.* As of September 1983, the Commission had instituted 165 Section 337 actions.

[15] 19 U.S.C. 1337(b)(1).

[16] 19 U.S.C. 1337(f)(1).

[17] 19 C.F.R. 210.12 (1984).

[18] 19 U.S.C. 1337(d). Because ITC proceedings are *in rem* in nature, such orders are proper. *Sealed Air Corporation v. ITC*, 645 F.2d 976 (C.C.P.A. 1981).

In at least two cases involving process patents, the Commission has entered general exclusion orders which bar any goods made using the protected process. *Certain Multi-Cellular Plastic Film*, No. 337-TA-54 (Int'l Trade Comm. 1979) at 22-24, *aff'd sub nom. Sealed Air Corp. v. ITC*, 645 F.2d 976 (C.C.P.A. 1981); and *Certain Methods for Extracting Plastic Tubing*, No. 337-TA-110 (1982) at 19-21. This means that with a general exclusion order the burden of proof is on the importer to show that the goods were made by other than the protected process.

It is also possible to obtain a temporary exclusion order which excludes articles from entry into the United States during the course of an ITC investigation, unless the respondent posts an adequate bond. 19 U.S.C. 1337(e).

[19] 19 U.S.C. 1337(d); *see also, Sealed Air Corp., supra* note 19; *Note* at 140, n. 98, 99, 100.

[20] *Certain Airtight Cast-Iron Stoves*, No. 337-TA-69 (1981), 215 U.S.P.Q. 963 (Int'l Trade Comm. 1980); *Note* at 140, n. 103.

some domestic purchasers of foreign-made goods, a type of injunctive relief is possible.

The third arguable advantage is that respondents in an ITC proceeding may not assert a counterclaim.[21] Other factors to consider include possible differences between the ITC and Federal District Courts on questions such as patent misuse or patent validity. This difference should be slight because the reviewing court for both fora is the Court of Appeals for the Federal Circuit.

The assistance of the ITC can be viewed as an advantage or a disadvantage. The early active intervention of the ITC staff can help frame the issues and provide inexpensive expert assistance. On the other hand, such intervention is designed to reveal to each side the strengths or weaknesses of the other side's case.

There are some discovery problems in ITC proceedings in foreign countries. For example, Japan does not honor ITC requests for assistance. While the unavailability of discovery can be remedied by orders precluding the admissibility of evidence when discovery efforts have been thwarted, some foreign countries may be more likely to honor requests from Federal District Courts.

A final—and as yet unresolved problem—is that an ITC decision on patent validity may not result in the application of *res judicata* or collateral estoppel in a subsequent judicial proceeding. This limitation comes into play in the context of non-process patents when a patent holder seeks relief in addition to that provided before the ITC.

Disadvantages of Current Remedy

The advantages of using the ITC to enforce a process patent are, however, outweighed by the disadvantages.[22] First among the problems with the ITC is that no damages may be obtained. For the domestic producer who has already suffered a monetary loss as a result of process patent piracy, future oriented relief is an incomplete remedy. The absence of a sufficient deterrent means that many overseas manufacturers and their domestic merchandisers are willing to absorb the risk of an ITC proceeding as a cost of doing business. Enactment of the proposed process patent legislation is the best way patent holders can expect to see a diminution in the abuse of their patents by overseas manufacturers.[23]

The second major drawback is that any relief granted by the ITC can be nullified by the President for foreign policy or other reasons. Before 1985, this possibility was more likely in cases where the jurisdiction of the ITC was in question or where the remedies were harsh or overly broad.[24] For the first time in memory, President Reagan on January 4, 1985, overturned the ITC decision to exclude "grey market goods" on policy grounds.[25] Despite an impressive and well-reasoned opinion by the ITC,[26] the President refused to uphold the exclusion order. Thus, there is no reason to believe that an ITC decision will be tried and decided in a neutral, judicial type of forum free from political, foreign policy or commercial considerations.

The third difficulty for the owner of a process patent is that the statutory criteria are somewhat vague and susceptible to uncertain interpretations. In addition to showing that the respondents have imported goods using an unfair method of competition or in violation of a process patent, it is necessary to show injury to a domestic industry. The ITC has issued somewhat confusing opinions about the prerequisites to showing that a domestic industry exists.[27] It also appears difficult to show the separate requirement of "injury" if one's business is still showing a profit.[28] Assuming that the domestic industry has been injured, the complainant must also show that the industry is efficiently and economically operated. While this criterion has not yet

[21] *ITC Staff Paper* at 8-9.

[22] In fairness it should be noted that commencement of an action in Federal court presents its own set of problems. Service of process can be a difficult procedural hurdle to overcome. Moreover, even if a patent holder obtains a judgment against a foreign manufacturer, enforcement can be difficult. *ITC Staff Paper* at 4-6.

[23] *See, Resolution 101-3,* 1983 *A.B.A. Sec. on Pat., Trademark & Copyright L. Committee Rep.* 23-25; *Resolution 101-3,* 1984 *Summary of Proceedings, A.B.A. Sec. on Pat., Trademark & Copyright L. Committee Rep.* Damages available in a patent infringement lawsuit must be adequate to compensate but not less than a reasonable royalty. 35 U.S.C. 284. In case of willful and wanton infringement, treble damages are available. *Id.; Baumstimler v. Rankin,* 677 F.2d 1061 (5th Cir. 1982).

[24] *See, e.g., Certain Headboxes and Papermaking Machine Forming Sections for the Continuous Production of Paper and Components Thereof,* No. 337-TA-82 (1980) (remedy too broad), *see* 46 *Fed. Reg.* 32,361 (June 22, 1981) (President's disapproval), *investigation reopened,* No. 337-TA-82A, 217 U.S.P.Q. 179 (Int'l Trade Comm. 1981), *rev'd on other grounds sub nom. Aktiebolaget Karlstads Mekaniska Werkstad v. ITC,* 705 F.2d 1565 (Fed. Cir. 1983); *Certain Welded Stainless Steel Pipe and Tube,* No. 337-TA-29 (1979) (ITC jurisdiction questioned).

[25] Letter from President Ronald Reagan to Hon. Paula Stern, Chairwoman, ITC, dated January 4, 1985.

[26] *Certain Alkaline Batteries,* No. 337-TA-165 (1984).

[27] *Certain Softballs and Polyurethane Cores Therefor,* No. 337-TA-190 (1985) (ITC does not use rigid formula in determining industry requirement); *Certain Miniature Battery Operated Toy Vehicles,* No. 337-TA-122 (1982), *aff'd. sub. nom. Schaper Mfg. Co. v. ITC,* 717 F.2d 1368 (Fed. Cir. 1983) (where complainant's product also made outside the U.S.; no domestic industry); *Certain Products with Gremlins Depictions,* No. 337-TA-201 (1986), *compare, Certain Ultra-Microtome Freezing Attachments,* Investigation No. 337-TA-10 (1976) (finding of domestic industry when only domestic act is the importation of goods from abroad) *with Certain Writing Instruments and Nibs Therefor,* Investigation No. 337-TA-129 (1984) (two patents, two possible industries, only one meets statutory definition); and *Certain Limited-Charge Cell Culture Microcarriers,* No. 337-TA-129 (1984) (no industry finding) and *Certain Modular Structural Systems,* No. 337-TA-164 (1984) (no industry finding); *see Note* at 137, n. 72.

[28] Brunsvold at 513 (citations omitted); *Note* at 137, n. 72.

In the leading case on the question of injury, the Court of Appeals for the Federal Circuit held that even though proof of injury in a patent case can be less than other Section 337 cases, it is still necessary to show that the infringer holds, or threatens to hold, a significant share of the market or has made significant sales. *Textron v. U.S. I.T.C.,* 753 F.2d 1019, 1029 (1985); *see also, Certain Optical Waveguide Fibers,* No. 337-TA-189 (June 19, 1985) (no injury finding); *Certain Combination Locks,* No. 337-TA-45 (1979) (no injury finding); *Certain Attaché Cases,* No. 337-TA-49 (1979) (no injury finding).

produced anomalous results,[29] this is a trade policy issue which should be irrelevant in terms of process patent infringement. Unlike an intellectual property statute, the complainant must show that the imports involved have either the effect to destroy or substantially injure the domestic industry or have a tendency to destroy or substantially injure the domestic industry.[30] Thus, the complainant must introduce proof concerning: (1) loss of customers; (2) decline in production, sales or profits; (3) suppressed prices; (4) decline in employment; and/or (5) significant market penetration by the imports.[31] The burden of showing such injury is on the complainant as is showing the causal link between the imports and the injury. As the ITC staff has noted:

> "In establishing injury, complainants sometimes have difficulty in showing the necessary nexus—or causal link—between respondents' alleged unfair acts and the demise or slowing of a complainant's domestic industry. Thus, respondents may argue that a decline in sales or profits for complainant's product, rather than being the result of sales of respondents' imported goods, is instead the result of a shift in demand to another type of product or of the sales of non-infringing goods by non-respondents."[32]

Finally, even if the party meets these criteria, the ITC must evaluate whether the public interest will be served by the issuance of an order of cease and desist or exclusion.[33] This consideration, which would also be irrelevant to patent litigation, is a potential pitfall in process patent enforcement actions. In many cases, the use of a patented process overseas will result in the production of goods that are substantially less expensive than those made domestically. Consumer advocates could easily argue that such cost considerations alone would preclude the issuance of an ITC order. While the ITC will usually balance cost considerations with the impact of its decision on the vitality of our intellectual property laws, a decision to decline an order solely on the grounds of cost would not be automatically rejected on appeal. In determining whether to issue an exclusion, the Commission must give consideration to the effect of that remedy on the: (1) public health and welfare; (2) competitive conditions in the U.S. economy; (3) the production of like or directly competitive articles in the U.S.; and (4) the U.S. consumer.[34] Moreover, the ITC, by law and regulation, must consult on this question with other federal agencies and outside groups.[35]

The looseness of this "public interest" test can be seen in the two cases the ITC relied on to deny an exclusion order. In one, the ITC denied complainant relief because the imported goods were to be used by Ford Motor Company to improve Congressionally-mandated fuel efficiency, and domestic industry could not meet the demand.[36] The other involved the use of basic research equipment in nuclear structure physics.[37]

It is possible to argue that the current ITC remedy is sufficient; however, such an argument appears to ignore the reality of the United States international trade deficit. Moreover, such a view tends to obscure the importance of comparing the level of protection American laws afford patent holders to that given by its major trading partners. Virtually all of the industrialized market-economy countries, in particular the European Economic Community[38] and Japan,[39] provide greater protection for their process patents than the United States does. Holders of American process patents are disadvantaged in the United States market because of the inadequate remedy. On the other hand, American inventors must comply with foreign patent laws that preclude the importation of a product made through the use of a patented process protected by a foreign patent. Thus, it can be argued persuasively that the current state of United States law encourages the loss of American jobs.

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[29] *See, e.g., Certain Methods for Extracting Plastic Tubing*, No. 337-TA-110 (1982) at 10-11. *See also, ITC Staff Paper* at 9-10; *Note* at 137, n. 74.

[30] 19 U.S.C. 1337(a).

[31] *Certain Roller Units*, No. 337-TA-49 (1979); *Certain Chain Door Locks*, No. 337-TA-5 (1976).

[32] *ITC Staff Paper* at 12.

[33] *Id.* at 22 (Commission considers complainant's anticompetitive behavior and the industry's likely pricing behavior in the absence of imports).

[34] 19 U.S.C. 1337(d); *S. Rep. No. 1298*, 93d Cong., 2d Sess. 193, 197 (1974).

[35] 19 C.F.R. 210.14(a)(4) (1984); *see, e.g.*, 47 Fed. Reg. 39, 746 (1982).

[36] *Certain Automatic Crankpin Grinders*, No. 337-TA-60, 205 U.S.P.Q. 71 (Int'l Trade Comm. 1979).

[37] *Certain Inclined Field Acceleration Tubes and Components Thereof*, No. 337-TA-67 (1980).

[38] The European Patent Convention countries provide process patent protection against infringement by use of a protected process overseas. *See, e.g.*, 1977 Patents Act, Ch. 37 Section 60(1)(c) (United Kingdom) (reprinted in *Industrial Property Laws and Treaties*, UNITED KINGDOM — Text 2-001); *see also, Note* at 141-145; 1980 Patent Law Section 9 (Federal Republic of Germany) (see *Industrial Property Laws and Treaties*, GERMANY (FEDERAL REPUBLIC OF) — Text 2-002); Article 64(2) of the European Patent Convention (reprinted in *Industrial Property Laws and Treaties*, MULTILATERAL TREATIES — Text 2-008). *See also*, Community Patent Convention, Article 29(b) (reprinted in *Industrial Property Laws and Treaties*, MULTILATERAL TREATIES—Text 2-001). *Contra* (insofar as pharmaceuticals are concerned) Law on Inventions and Trademarks (1975) (Mexico) (processes for obtaining, modifying, or applying products and mixtures relating to the chemical-pharmaceutical industry, or medicines are not patentable, but can be granted a certificate of invention for 10 years wherein the owner must grant a compulsory license with a right to receive royalties) (see *Industrial Property Laws and Treaties*, MEXICO — Text 1-001); Patents Law of 1967, Section 102 (Israel) (reprinted in 21 *Laws of the State of Israel*, Jerusalem, 1967) (a compulsory license can be issued if the process is for the manufacturing of a product for sale as a medicine).

Article 5*quater* of the Paris Convention for the Protection of Industrial Property, to which the United States of America is party, provides: "When a product is imported into a country of the Union where there exists a patent protecting a process of manufacture of the said product, the patentee shall have all the rights, with regard to the imported product, that are accorded to him by the legislation of the country of importation, on the basis of the process patent, with respect to products manufactured in that country."

[39] Patent Law of 1959, Section 2(3)(iii) (Japan) (Law No. 121, April 13, 1959, as last amended by Law No. 83, August 24, 1982) (reprinted in *Industrial Property Laws and Treaties*, JAPAN — Text 2-001); *see also*, Patent Act of Canada, VI Can. Rev. Stat., Chap. P-4 (1970) (see *Industrial Property*, 1970, p. 166); *see also, Dole Refrigerating Products Ltd. v. Canadian Ice Machine Co.*, 17 Fox Pat. C. 125 (Exch. Ct. 1957).

Congressional Response

As indicated at the outset, the issue of expanded process patent protection is one that is likely to be revisited during the next two years. Congress must face serious and legitimate questions about the United States balance of trade. Enactment of this legislation would be an impressive first step.

Congress has recently turned its attention to this gap in the patent law. During the last two Congresses legislation has been introduced to redress this deficiency.[40] Each of the bills had as its core the belief that process patents deserved greater protection. One of the bills passed the House of Representatives during the 98th Congress: Title I of H.R. 6286 (by Rep. Kastenmeier, D-Wis.).[41] That bill provided that importation of a product made outside the United States in violation of a process patent constitutes an act of patent infringement. Unfortunately, the bill was killed in the Senate, in large part, due to the opposition of the generic drug industry.[42]

In this session of Congress new bills have been introduced in the House of Representatives by Rep. Kastenmeier (D-Wis.), H.R. 4539, and Rep. Moorhead (R-Calif.), H.R. 1069. Those bills do not distinguish between products made using a patented process within the United States and those made outside the United States. H.R. 1069 also provides that once discovery concerning the patented process has been exhausted, a rebuttable presumption arises that the goods have been made in violation of a process patent. Meanwhile, Senators Mathias and Lautenberg have introduced S. 1543 which, like the Kastenmeier bill, does not contain an evidentiary presumption.[43]

Conclusion

Notions of fairness and logic dictate expanded protection for United States process patents. Without such protection, owners of an important type of intellectual property will be relegated to the use of an inadequate administrative remedy and will suffer competitive disadvantages. It is to be hoped that the legitimate concern over international trade will give this issue the visibility it deserves.

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[40] H.R. 3577 (Moorhead), 98th Cong., 1st Sess.; H.R. 4526 (Kastenmeier), 98th Cong., 1st Sess.; H.R. 6286 (Kastenmeier), 98th Cong., 2d Sess., 101; S. 1841 (Thurmond), 98th Cong., 2d Sess.; S. 1535 (Mathias), 98th Cong., 2d Sess. Hearings in the House of Representatives are found in *Innovation and Patent Law Reform, supra* n. 4. In the Senate, the hearings are contained in *National Productivity and Innovation Act of 1983: Hearings Before the Subcommittee on Patents, Copyrights and Trademarks of the Senate Committee on the Judiciary*, 98th Cong., 1st Sess. (1983).

The first bill to expand the remedies for process patent infringement was introduced as early as 1852. *Cong. Globe* 32d Cong., 1st Sess. 1549-51, 1566-73 (1852), and 32 Cong., 2d Sess. 127, 128, 528, 534-36 (1853). This measure was opposed in part because of concerns about the potential liability of "innocent infringers" purchasing goods on the open market (remarks of Mr. Hall (at 1549)). Similar bills were introduced in the 94th Congress. *See. e.g.*, S. 2255. Those bills failed when patent law recodification stalled. *See also* S. 2504, 93d Cong., 1st Sess., 271(e).

[41] 130 *Cong. Rec.* H. 10527 (daily ed. October 1, 1984).

[42] *Ibid.* An additional concern about H.R. 6286 was raised by the United States Trade Representative concerning a potential conflict between the bill and the General Agreement on Tariffs and Trade (GATT). See *Innovations and Patent Law Reform* (memorandum of Alice Zalik) at 2422. This issue has been further analyzed by the Committee on the Judiciary during the 99th Congress. The expert views received by the Committee have led it to conclude that process patent reform should not be limited to imports. Hearings before the Subcommittee on Courts, Civil Liberties and the Administration of Justice, Committee on the Judiciary, United States House of Representatives, 99th Congress, 1st Sess. and 2d Sess. (1986) (letter from Professor Robert Hudec, University of Minnesota to Robert W. Kastenmeier, letter from Professor John Jackson, University of Michigan to Robert W. Kastenmeier) (unprinted hearings).

[43] This measure is substantially similar to a provision found in S. 1535, which had been ordered reported out by the Senate Judiciary Committee during the 98th Congress. Each house of Congress appears posed to give prompt attention to this issue.

Special Studies

The Stimulation of Inventive and Innovative Activity

Studies by G. Lewett, D. Lewinsky and E. Nyrén

The stimulation of inventive and innovative activity, which is essential for economic and technological development, is the subject of the following three articles. The first, by G. Lewett, discusses the necessity of creating an awareness of the importance of inventiveness and of the crucial role played by inventors in contemporary industrial society. The second, by D. Lewinsky, analyzes the substantial value of trademarks as a tool for promoting technical innovations. And the third article, by E. Nyrén, comments upon the successful encouragement of inventive activity in small, medium and large enterprises.

Fostering General Awareness of the Importance of Inventiveness

G. LEWETT*

Introduction

The U.S. today shares with most countries a national concern with the issues of productivity, job creation, economic development, and international trade, and a commitment to technological innovation—i.e, the invention, development, and commercialization of new and improved products and technology—as a key factor in effectively addressing these issues. There is therefore considerable attention focused on stimulating and encouraging innovation.

It is my contention that invention and the role of the inventor receive insufficient attention compared to the process of commercializing the invention. The reasons for this are complex: people feel more comfortable dealing with concepts and practices involved in commercialization; people do not relate as well to science, technology, and invention. Further, the commercialization produces direct and usable benefits that are clearly attributable to the innovator, the entrepreneur, or the company that brings the invention to market. The invention—the original source of the technology—as the root cause, and the inventor—who provides the first driving force—generally go unrecognized unless someone makes a specific effort to direct attention to them. I have often heard people in the venture field say that the principal ingredient in a successful venture is management. I have no reason to question this truism, but when the statement gets turned around to imply that the venture technology (invention) has no importance, that is not only foolish, but disturbing.

The purpose of this article is to describe what is being done in the U.S. to foster awareness of the importance of the inventor and of the act of invention, and to discuss what else needs to be done. Since "awareness" has little value unless it translates into encouragement and support of invention, I will also address the question of inventor needs.

Inventors and Inventiveness

We want to foster a "general awareness" of the importance of inventiveness (and therefore inventors) because we want to increase the number of active inventors and thereby the benefits to society which derive from invention. The potential for technological creativity is a talent which is distributed widely in a population. We wish to increase the number of individuals who recognize, develop and exercise this talent.

For this purpose, award programs and other schemes that recognize the *past* achievements of inventors don't help much; we have many such programs including our National Inventors Hall of Fame awards and some 20 different state "inventor of the year" or "hall of fame" awards. We must rather consider activities that nurture creative potential and encourage its development.

Generally, the importance of invention to society and the rewards accruing to a successful invention should always be emphasized. However, we must also review what we mean by "importance," if we are to get the idea across to the struggling innovator.

For example, when we discuss the importance of inventiveness or invention, we automatically tend to focus on major inventions such as the transistor and Xerography. We assess their importance qualitatively in terms of impact on human behavior and society; and

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quantitatively in terms of the billion-dollar enterprises and markets that can be traced to such inventions.

Few people, however, can personally relate to such landmark inventive accomplishments. From where they are—in the garage or at the workbench—it is almost impossible to see in their technologies an embryonic Hewlett-Packard or Xerox. To increase interest in and appreciation of invention as a practical occupation, we must provide a more balanced picture of inventors and their accomplishments, emphasizing the contemporary possibilities in terms of breadth, depth and sheer variety of possible technical achievements.

This is not easy to do in the United States. The image of the inventor held by the general public is generally the image promulgated by the media, and it is very poor. The inventor frequently appears as eccentric, single-minded, and so focused on his technology that he seems emotionally and mentally unstable. The media have no incentive to call attention to the average, normal inventor—the technologically—creative person who on a day-to-day basis applies his gifts to solve technical problems or to create the myriad new products coming on the market each year. Unfortunately, the bulk of inventors—the "normal" population—are not known as inventors. Shying away from the popular image as an "eccentric," they usually prefer some more acceptable occupational title: engineer, technician, salesman, dentist, or whatever.

The basic importance of invention is obvious—we have only to cite the landmark inventions to demonstrate this. Emphasizing that importance, however, will not necessarily motivate potential inventors. We must find ways to show that inventiveness embodies positive personal characteristics generally, that in many areas of human endeavor it is a principal factor in achieving success, and that in our current technological world the inventive person has increasing value to his society. Simply convincing the public of the fact that the inventor population does not consist of a handful of isolated eccentrics would constitute a major step in the right direction. The size and variety of that population in the United States is obscured because relatively few people who make inventions refer to themselves as inventors.

In practice, the word "inventor" is used generically as "a person who has invented" rather than as an occupational title. The professional, full-time inventors, who pursue invention as an occupation, are few and really are exceptions. This is consistent with the exercise of creativity in the fine arts; relatively few people with ability or talent work as full-time professional sculptors or painters, for example. Nevertheless creative talent thrives in the practice of many occupations and professions, and often underlies the distinction accorded to master practitioners in many fields.

The value of a talent or an aptitude depends upon its degree of development; development, in turn, depends on education, training and practice. First, of course, is the problem of identification, i.e., recognition that a person has a natural talent or aptitude that can be developed. It seems logical that young people who demonstrate a talent for technological creativity should be encouraged to develop it by pursuit of a technical education. I do not believe, however, that that is the whole answer and, in fact, it may be only a small part of the answer. Creativity is not a universal, or even an essential, characteristic of engineers and scientists. As with almost any occupation or profession, particularly those which have a sizable interface with technology, individual creativity will enhance performance; nevertheless, it is not a requirement for, or even an assurance of, excellence in the practice of engineering or scientific research.

There is no question that the more a creative person knows about science and technology, the better. The best inventors have been highly competent engineers or scientists, usually before becoming inventors. However, a non-technically-educated person often invents, and sometimes educates himself technically beyond the university level, while developing his idea. It is recognized that experience is a major factor in invention. It may be that it is primary, with depth and breadth of knowledge most often serving only to facilitate idea development after the inventor has identified a need.

It seems to me that we need to look more closely at the question of talent recognition and development where the talent is technological creativity. We are concerned about it in a different way than we are concerned about other talents. Proper development, on a wide scale among the national population, can be considered critical to technological progress. It needs separate, specialized attention, and should not continue to be confused with concurrent requirements to maintain a sufficient population of qualified engineers and scientists.

In a country such as the United States, the size and diversity of the population, the complex structure of the educational system and the need for coordination of programs that transcend state boundaries, mean that the Federal Government must play some role in whatever plan may emerge to recognize and nurture inventive talents on a national scale. In the last decade or so, we have come increasingly to the realization that inventors are a precious national resource, and it has been my good fortune to be involved in the one Federal program dedicated to encouraging inventors in general and specific inventions in particular. As Federal programs go, this one remains small in terms of personnel and costs, but its success, which I'll discuss in a moment, validates my contention that inventiveness is a widespread characteristic in American society, and that it can be discovered and encouraged.

The Energy-Related Inventions Program

The role of Government in stimulating innovation is well defined in the United States. The principal governmental functions are clear: first, to provide appropriate

economic, financial and business climates for private-sector-driven innovation; and second, to operate a strong and effective patent system. Also, as a by-product of necessary Government involvement in R & D, there is emphasis on effective technology, and on assuring that Government R & D funds are so allocated as to encourage innovation, not only among large but also small firms. My program, the Energy-Related Inventions Program (ERIP) (which will be discussed further below) came into being in 1975 as a result of legislation designed to support the individual inventor and the small business in that way.

In an additional role, Government in the United States can be viewed as a "facilitator" of innovation. For example, Government-conducted basic research and standardization activities (as conducted by my own agency, the National Bureau of Standards), provide the scientific framework necessary to foster continued innovation. Government information dissemination activities, ranging from extending access to patent literature to collecting and providing access to business statistics for market research, are also essential in supporting innovation.

Possibly of greatest importance, however, is the general leadership role of Government in exercising a national or global perspective to identify issues and initiate action towards resolution. Our interest in fostering awareness falls into this category, as does the current effort in the United States to increase and improve scientific and engineering personnel resources.

My own program, the ERIP, was established in 1975. Independent inventors and small businesses submit energy-related inventions to the National Bureau of Standards' (NBS) Office of Energy-Related Inventions (OERI). OERI evaluates them and recommends those which meet technical, commercial and energy-related criteria to the Department of Energy (DOE) for possible Government investment.

Since inception, we have received some 22,000 evaluation requests, accepted about half of these for evaluation, and recommended 320 for Government support. Approximately $14 million in grants or contracts have been awarded to date on some 200 recommended inventions; the remainder are either in process (91) or have received other than financial assistance.

Operation is continuous; we currently review about 200 inventions a month for evaluation and we recommend, fairly steadily, three to four inventions per month. Operations can be described as shown in Figure 1.*

As can be seen, for every 1,000 invention evaluation requests received, 15 are recommended to DOE after completion of three screening steps—the first, whether or not to accept for evaluation; the second, a brief technical screening to identify promising inventions; the third, an in-depth analysis examining both technical and commercial feasibility. Our objective in supporting recommended inventions is to bring them to the point where they can exist in the marketplace on their own, i.e., to the point where private sector sources of support or the marketplace takes over. We find that about 20 to 30% of those recommended (three in the chart) end up as being, to some extent or the other, "successful."

The support process to do this is not easy. The gap between recommendation and private sector pick-up can be difficult to close. Figure 2 shows how this problem varies with the stage of development of the recommended inventions.

As Figure 1 indicates, responsibilities of DOE & NBS in our joint program are clearly distinguished. DOE is responsible for activities aimed at fostering usage, i.e., commercialization of recommended inventions—the more difficult part of the job, in my opinion; NBS is responsible for evaluation and for supplementary activities aimed at increasing or maintaining input to the evaluation process. In effect, NBS focuses on "invention" and DOE on "innovation," defining innovation as the process of bringing an invention to market.

Supplementary NBS Activities

Informing inventors about the program and encouraging them to make use of it is a basic program requirement. As our experience developed, we found that we had to pay attention to invention quality—we had to target "serious" inventors; that inventors were hard to reach—university, inventor organizations and technical journal routes of communication were not sufficient; that inventors were poorly informed and were not making use of existing educational and informational resources. Most significant, however, the public image of the inventor was found to be so poor that not only was he frequently an object of derision—but it carried over to his being viewed in academic, business and financial circles with an absolute lack of credibility.

In response to this, we initiated and are conducting several subsidiary programs addressing the direct programmatic needs—the need to establish a communication network so as to reach inventors better, and the need to improve inventor education and access to information so as to improve invention quality. Three of these activities are noted and defined briefly in Figure 3. The results of those programs have been such as to draw attention to the needs not only of the independent inventor but generally of inventors, whether they work independently, in a small company or in a corporate laboratory.

Our program, of course, is not unique in addressing the national requirement to stimulate innovation. There are many other agencies in the United States, particularly at the state, local, and federal government levels, and in universities, which have responded to the same requirement. The result, of course, is increasing

* The figures in this study appear on p. 237.

public awareness of the importance of invention and innovation. We can summarize contributing activities as follows:

- formation of local, state and national inventor organizations;
- establishment of small business development centers, innovation centers, enterprise incubation centers, and other private and public sector units organized to advise and assist in innovation;
- conduct of inventor exhibitions, fairs and contests;
- publication of newsletters, magazines, newspaper columns and special sections discussing new inventions or products and happenings of interest in innovation;
- establishment of state and federal government task forces, commissions, university and ad-hoc committees to study and report on requirements and initiate means to stimulate innovation and economic development;
- development of innovation-oriented curricula and lecture series for continuing education by school systems, libraries, technical and professional societies;
- increased research program activity in universities to study the innovation process and its effects on job creation, economic development, and productivity;
- initiation of television and radio programs and series reviewing inventions, interviewing inventors, and generally calling attention, as a matter of general interest, to invention and innovation.

Needs and Requirements

This considerable activity in stimulating innovation in the United States (particularly in the small business sector) demonstrates the impact that a shift in public awareness can have. A major factor igniting this activity was the research finding, published some five years ago, that small businesses were responsible for creating most new jobs. At a time when unemployment was of critical public interest, this catalyzed a major change in public attitude towards the entrepreneur. While his public image previously had been somewhat negative or at best neutral, suddenly the entrepreneur emerged in a very positive light as a "doer," one of the people who had answers to problems that were threatening the fundamental security of the workers. Our trust in the corporate giants had deteriorated with loss of technological superiority and markets, for example, in automobiles, electronics and steel. The job creation ability of entrepreneurial small businesses offered hope and promise.

The link between the entrepreneur and job security was direct and impressive to the average person. A similar link must be made for the inventor, the technologically creative person, if his importance is to be fully realized. I expect to initiate one effort to do this. This will be an awards program in which the criteria for award will emphasize the societal benefits, notably job creation, generated by contemporary inventions.

In addition to these current activities, we need a broader, more long-term approach to the problem of increasing awareness of the importance of innovation and the role of the inventor. For example, we need further to develop evidence that will more clearly document the effects of technological creativity on society. This research should push beyond major inventions and "high technology" advances. Too much emphasis on major inventions and "high technology" tends to obscure the fact that myriad new low technology products and engineering improvements in existing products and processes may contribute as much, particularly in the short run.

This long-term approach should include a program that begins in the public school system. Evidence that encouragement of creativity in school children produces results can be found in the fact that the annual science fair conducted by the Westinghouse Corporation has produced half a dozen winners who later went on to become Nobel laureates. We do see some growing interest in developing inventive talent in the schools, as manifested by programs emerging in the states of New York and New Jersey.

Ultimately, if programs for primary and secondary children take root, they will have to be adapted and extended into the post-secondary educational structure—in universities, colleges and vocational technical schools. That such programs might emerge is not a remote possibility. Ten years ago, most Americans couldn't spell the word "entrepreneur," but now literally dozens of post-secondary programs in entrepreneurship are in operation across the United States—a powerful demonstration of the results that can follow an increased public awareness of a national need.

Fostering a general awareness of the importance of inventiveness thus is a mission whose importance is, in my view, second only to the enormous potential benefits that it offers. History documents the critical role that the individual inventor has played in the development of modern society, but we cannot wait for future historians to show that such people still exist, still contribute, and could, with appropriate encouragement do much, much more. That is the task that concerns and confronts us all.

FIGURE 1

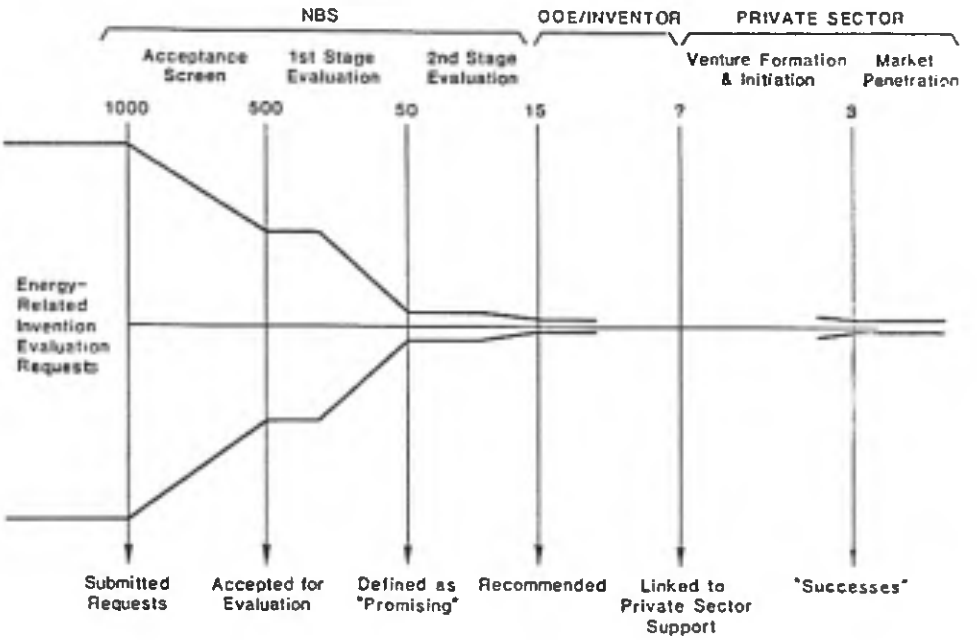

FIGURE 2

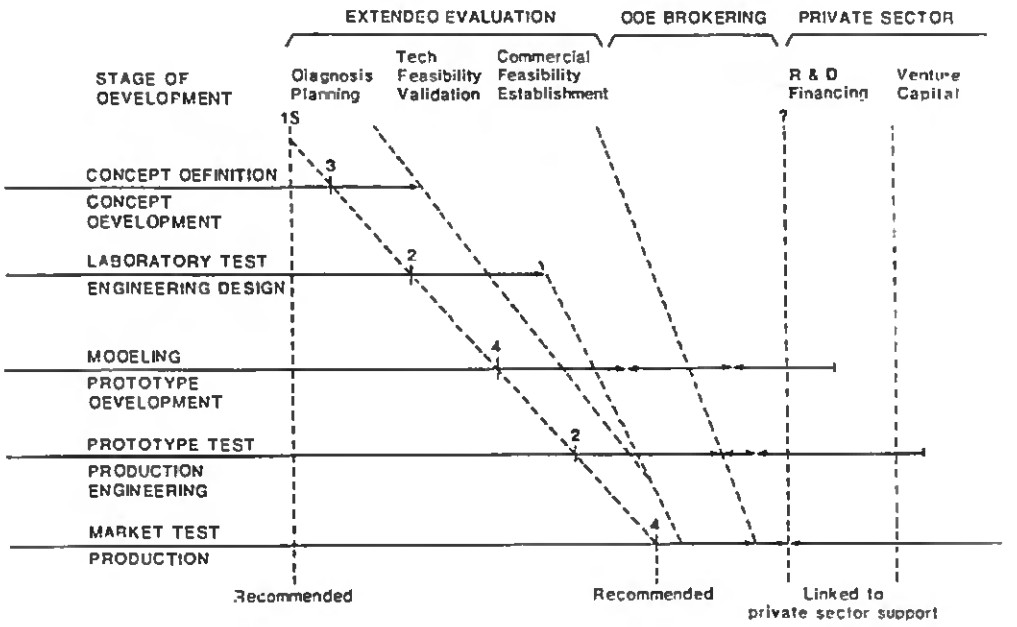

FIGURE 3

(1) National Congress of Inventor Organizations (NCIO)
— support growth and effectiveness of inventor organizations.

(2) National Innovation Workshops
— a series of two-day workshops to inform inventors and provide instruction on elements of the innovation process.

(3) Inventor Information Resource Centers
—enhance capabilities of libraries to service information needs of inventors.

Trademarks for Innovations: Choice, Protection and Use of Trademarks for Technical Innovations

D. LEWINSKY*

An ever larger number of innovative undertakiogs, offering new, high-technology products on the market, are endeavoring to secure and develop their performance and their competitiveness.[1] For the market, a true innovation can only be one that constitutes a new product that not only generates sufficient interest in the consumer, but also comprises the high standard of quality that is essential for a branded article.[2] The practical commercialization of new technologies consisting in the introduction of a new product on the market is assisted by industrial property rights that provide the undertaking with a means of excluding competitors from the market as suppliers of that product. Technical industrial property rights, however, such as patents, do not always suffice to ensure exclusion, particularly since they frequently fail to take into account the increasing rapidity of innovation cycles.[3] Indeed, it has been quite clearly confirmed that undertakings consider brand marks and corporate marks to be almost as important as patents in maintaining and economically exploiting the advance they have obtained over their competitors by developing new products.[4] Io many cases, the oame of a (new) product has a symbolic value in promoting sales and should therefore be protected by means of trademarks.[5] In the particular case of consumer goods, product policy—that is to say, marketing proper—can be frequently cquated with trademark policy uoder which competitive products can be individualized, or made distinguishable from other products of the same kind, by means of a particularly distinctive marking.[6] It is therefore of special economic importance for commercial undertakings, particularly small and medium-sized enterprises, not only to exploit their inventions by means of patents on the basis of the technical progress achieved, but also to identify the products developed from those inventions by means of protectable trademarks in order to use these rights as marketing tools to improve their competitive situation.[7] Just as an innovative product constitutes an essential component of a successful trademark policy, it may be assumed that product innovations without a trademark policy will not enjoy the success hoped for on the market.[8]

Trademarks and trademark policy deal in most cases with the differentiation of products within one field; the corresponding trademark concepts have therefore to be drawn up as a function of existing and identifiable conditions of demand and competition in each case.[9] The aim is not only to use trademarks to identify goods as to their origin, that is to say, to distinguish the goods of the undertaking concerned from those of its competitors (distinguishing function), but also to give the person procuring the goods a guarantee as to their continuing or even improving quality (guarantee function) and to lift the goods out of tbe general offer to assist the purchaser in making his decision to buy (advertising function).[10] The advertising effect produced by a trademark is mostly decisive since it frequeotly figures at the very ceoter of the advertising campaign and is used to judge the producer's initiative and serves to create confidence io him. An offer comprising a trademark therefore ensures the producer a greater stability of demand.

When identifying products in that way—particularly in international trade—the approach should be "as uniform as possible and as differentiated as necessary."[11] In other words, trademarks should be used as sparingly as possible within an undertaking so as not to produce such a strong braod differentiation that the consumer's image becomes unclear, and so as not to confuse purchasers by changing marks all too frequeotly and finally driving tbem to refuse branded articles (for no-name products) and to forsake the brand; instead, brand stability should be used to build up confidence on the part of the customer.[12] It is therefore recom-

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* Patent attorney, Munich. This article is an abridged version of a paper given by the author to the Specialized Seminar on "Patents and Trademarks—Two Pillars of Industrial Property," organized by the *Akademie für den gewerblichen Rechtsschutz* of the *Deutsches Institut für Erfindungswesen e.V.* on June 28, 1985, and first published, in German, in *Mitteilungen der deutschen Patentanwälte (Mitt.)*, 1985, No. 9, pp. 161-163. It is reproduced here, in English translation, with permission.

[1] Oppenländer in *"Patente als Instrumente des Marketings," Mitt.* 1985, 102.

[2] As concluded by Rehorn in *Markenartikel* (MA) 1985, 274 (282).

[3] Likewise Eisenführ and Meyer in *Mitt.* 1985, 105.

[4] According to the result of an investigation into the marketing policy function of patents and trademarks as assessed by mechanical and electrical engineering undertakings in the Federal Republic of Germany carried out recently as part of a study conducted for the Federal Ministry of the Economy by Ifo-Institut für Wirtschaftsforschung in Munich, reported by Oppenländer, *op. cit.*, note 1, pp. 102 and 103.

[5] Cf. Ingo Traub in *Mitt.* 1985, 106 (107).

[6] See in this respect, Berekoven in MA 1985, 288.

[7] The aim of the Seminar of the Akademie für den gewerblichen Rechtsschutz (referred to in the introductory footnote) was to give the participants relevant ideas (see invitation in *Mitt.* 1985, 122-123).

[8] As also Berekoven, *op. cit.*, note 6, p. 294, left-hand column.

[9] In this respect, Berekoven, *op. cit.*, note 6, pp. 292, right-hand column, and 294, left-hand column.

[10] In detail, see Bökel in his lecture *"Bedeutung und Einsatz von Marken für gewerbliche Unternehmen,"* given at the Spring Seminar for Businessmen and Patent Agents held by the *Akademie für den gewerblichen Rechtsschutz* of the *Deutsches Institut für Erfindungswesen e.V.* on May 19, 1984, in Munich (reproduced in *Mitt.* 1984, 166-172).

[11] As already Berckoven, *op. cit.*, note 6, p. 296, right-hand column.

[12] Cf. Bökel, *op. cit.*, note 10, p. 168, right-hand column, with reference to Berekoven in MA 1978, 46 *et seq.*

mendable when identifying a new product first to give consideration to the use (preferred for a number of reasons) of a housemark (perhaps already existing), also known as a corporate mark, the value of which is incomparably greater than for a brand mark which—possibly used together with the corporate mark—serves to identify a single product of the undertaking.[13]

The importance and utilization of trademarks for commercial undertakings of course vary from sector to sector. The greater the offer of products from a large number of enterprises within a given sector, the more a trademark will help to distinguish the origin of the goods in the eyes of the customer. The choice of a trademark is greatly influenced in such cases by the type of customer involved and also the future sales area for the product identified by the mark. The "choice of the right mark" essentially depends on the type of product to be identified. In some cases (e.g., pharmaceutical products), marks containing descriptive components (referring to the indication) giving the user (doctor or patient) an idea of the composition and/or purpose of the product concerned are most suitable. Normally, however, the best marks are those that do not contain any meaning, that is to say fanciful marks, even if they do not lead to an association with a specific product, since marks of that type are the most readily protected and also the easiest to defend.[14]

A compromise between corporate marks (frequently identical with the company slogan) and brand marks is adopted by enterprises with a view to stabilizing trademark policy, by developing families of marks representing what are known as trademark series with a common basic component identifying the enterprise (since these are fanciful components). That basic component is therefore contained in all the marks within the series and is combined with a further component which may relate to the type, composition, purpose or utilization of the product in question. It is usually much easier to make such a trademark series known in trade circles than is the case for purely fanciful marks. All in all, marks should be short and pithy and formed in such a way that they are easy to remember, easy to read and to pronounce and suitable for all those advertising media that are likely to be used.

Apart from the purely advertising aspects of choosing the right mark, it is extremely important to take into account the legal factors. The first question is whether a (new) trademark produced by the advertising department of an undertaking can indeed obtain protection as a trademark (absolute protectability), particularly whether it is sufficiently distinctive and not purely descriptive, that is to say, does not have to be kept available for competitors. Secondly, it must be ascertained, by means of careful anticipation searching, whether the use of the envisaged (new) mark is likely to infringe or otherwise collide with prior rights belonging to competitors in the sector (relative protectability). It is essential that these legal aspects be cleared up before a trademark is put into use to avoid both the risk of injunction proceedings and possibly damages and also unnecessary costs (particularly in advertising) that may arise from the very beginning.

It is just as essential continually to monitor an enterprise's trademarks to avoid collisions with newly applied for marks for similar goods of competing companies (trademark collision monitoring), to maintain one's own trademark in its unique position and to prevent any watering down of its identifying power through other marks that may be confused with it. It is easier to do this, in the Federal Republic of Germany for instance, in an "inexpensive" procedure before the Federal patent authorities (by means of an opposition) than in subsequent cancellation proceedings before the ordinary courts. As soon as a trademark becomes subject to the statutory obligation to use in the Federal Republic of Germany (five years after its registration), it must be made sure that the mark is in fact used in the form in which it is registered, failing which use may not suffice to maintain the rights in the registered trademark. It should also repeatedly be checked whether the registered trademark is used to identify goods contained in the list of goods under the registered trademark or such goods as may be included in them. Where either of these two requirements is not met, a new application for trademark protection should be filed with the Patent Office covering the actual form of use in good time before the expiry of the registered mark.

Under German trademark law, for instance, it is necessary neither to apply for trademark protection (no compulsory registration) nor to utilize the mark (no obligation to identify goods). A mark that is not registered, however, may only obtain protection in very rare cases, such as extremely intensive use that has led to it becoming very well known within the trade (trade acceptance). Nevertheless, such an (unregistered) trademark is much more difficult to defend against third parties and in most cases this involves considerable cost.

When choosing the right mark, the aspects mentioned above should be taken into specific account and more extensive preliminary searches conducted if, from the very onset, it is clear that the trademark concerned will also be used abroad and that protection will also be applied for outside the country, for instance, if it is to be registered internationally with the possible aim of obtaining a "worldwide trademark." Indeed, the worldwide marketing of technical innovations means that it is frequently desirable that the quality, marking and get-up of the product be uniform in all countries. Obviously, such worldwide trademarks must not only be graphically and linguistically capable of avoiding infringement of prior third party rights throughout the world, but must also satisfy in use the needs of advertising, taking into account usage and language. For

[13] Likewise Bökel, *op. cit.*, note 10, pp. 169 and 170.

[14] In agreement with Bökel, *op. cit.*, note 10, p. 170.

instance, they must not be unpronounceable in some countries or indeed substantively confusing, nor may they be shocking or in any other way come up against acceptance harriers. This type of international trademark concept remains a rarity, however, and even in a relatively limited geographical area—such as that of the future European Community trademark—is hardly realizable. As a rule, the national trademark will remain the basis, particularly since economic grounds frequently advocate developing and promoting multi-trademark concepts, adapted to specific national conditions, hut, on the other hand, wherever possihle utilizing trademarks that have been successful in one country in an unmodified form in other countries.[15]

The basic criteria referred to above for choosing trademarks also apply when using service marks for the identification of services which an undertaking provides to others, and which therefore generally have the nature of a corporate trademark used in advertising as the standard service mark for the undertaking.[16] The continually expanding demand for services and the resultant growth in the importance of service undertakings within the modern economy and in international trade have made it necessary to use service marks and to protect them hy registration. The tempestuous development of the service sector is still continuing and the areas in which service marks are of relevance would seem altogether inexhaustihle.

When using trademarks and service marks as marketing tools, it should not be forgotten that such marks constitute a relatively cheap aid to marketing goods or services and—contrary to technical property rights such as patents and utility models—can constitute a means of continuing puhlicity and long-term sales policy, since the term of protection may repeatedly he extended and can be used hy an undertaking with success for several decades or even longer periods of time. This is why trademarks already registered with the Patent Office decades ago or even before the turn of the century are still of great importance to their owners by reason of the fact that continual use in trade has made them extremely well known, and they still therefore constitute a valuahle piece of property that ensures continuing market success for their owners, even in the case of innovations.

An innovation indeed constitutes the nucleus and the justification for a new hranded article,[17] which for its part promotes competition and thus furthers product innovation.[18] The relevance of trademarks to innovation therefore also deserves full consideration when creating new markets.[19]

[15] As Berekoven, *op. cit.*, note 6, p. 294, righi-hand column.

[16] Cf. Bökel, *op. cit.*, note 10, p. 171.

[17] H. Messing, *"Qualitative Innovation—Zukunft des Markenartikels,"* in MA 1981, 326 *et seq.*

[18] Thus Item 5 of the Seven-Point Program on the Innovation Function of Trademarks in MA 1983, 414.

[19] Cf. in detail H. Kronz in his subsequently published *"Anmerkungen zur Innovationsrelevanz der Marke"*, in *Mitt.* 1985, 125 (140-143).

Inventive Activity at the Enterprise Level

E. NYRÉN*

Introduction

The topic of inventive activity at the enterprise level comprises many aspects. This study will touch on some of those aspects in order to provide a general feeling of the field of activity concerned.

This study will discuss the creative individual's part in the enterprise, invention sources and the innovation process, environmental contributions, the business value of patents, inventive results and, finally, a short summary of conditions for innovation, together with a conclusion.

General

At the outset, it may he accepted that "inventiveness" is a form of creativity that is related to industrial products and processes the results of which can be protected hy a patent or inventor's certificate. In this connection, it may also be accepted that "innovation" may be defined as the process of developing an idea into a new product or process adopted by society.

Mankind is basically equipped with creative qualities that can be developed to each individual's optimum capacity if given the chance in a favorahle environment. The most essential factor in generating the individual's creativity is that there be a good reason. It may range from survival in an extreme situation to solving technological problems in an employed capacity or just observing and thinking out new solutions to combinations of present technology.

Enterprises' Need of Creativity

In a small, medium-sized or large enterprise, creativity is needed in all activities and at all levels. If we limit ourselves to the development of existing or new products and processes, the hasic conditions are the same but the resources are larger as the size of the enterprise grows. The most valuahle resource of an enterprise is its employees and the most essential factor for their contribution to creativity is a good company policy with good daily working relations and communications among all levels. A system for stimulating, implementing, promoting and rewarding new ideas is a must. Such systems usually cover suggestions on how to

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improve products, processes and ways to rationalize and make savings in production. The same applies to environmental conditions. If a suggestion is regarded as an invention, the evaluation is usually turned over to another group and the remuneration is calculated according to other criteria.

Contributory factors leading to the creation of employee inventions are the "4 R's": *Reason* for bringing an idea to light; *Recognition* as the source of an idea; *Rights* as an inventor; and *Remuneration* for the effort involved.

Employee Inventors

Inventors who are in the employment of enterprises are very technically concerned and motivated people looking for new solutions to problems connected with products and processes. This is indeed why they are with their enterprise. As long as the concern and motivation is maintained, the inventor will remain in the enterprise's employ. The environmental conditions, such as the enterprise's policy with regard to the 4 R's mentioned above, its field of activity, the learning and training possihilities it provides for the inventor, its connections within the industrial field and its diversification aims are also contributory factors. The outside environment can also contribute to the inventor's interest, for example, if there is an inventors' organization or inventors' workshops in the area, from which the employee can obtain further knowledge and practical experience not available in the enterprise. Likewise, the existence of a governmental organization, such as an inventors' office, may be of value to the inventor in his work for the enterprise.

Rights in an Employee Invention

The rights in an invention made hy an employee are in some countries stipulated hy law and in some cases also regulated by agreements between the employers' professional organizations and the employees' trade unions. It is to be noted that a special committee may exist to handle complaints. In other countries, there may exist only the practice of regulating the rights in an invention in the employment contract, stating that the rights in any invention made hy the employee during the period of employment belong to the enterprise. In some other countries, where all industry is managed and controlled by the State, the situation can be regarded as in the foregoing case, namely, that industry is one great enterprise in which the rules and conditions are stipulated by the employer. In industrialized developing countries, there may be situations where no rules yet apply.

When looking at different aspects of inventive activity at the enterprise level, we may consider them from the enterprise point of view, but also from the employees' and society's point of view.

Invention Sources and the Innovation Process

Enterprises may have many sources for their inventions and innovations, for example:

— normal product development where the design has been found to be patentable;
— research and development projects that have produced patentable solutions;
— outside experts used in the search for solutions to new prohlems, on condition that any resultant inventions be the property of the enterprise;
— inventions resulting from employees' freely stimulated interest;
— inventions stemming from cooperation contracts with other enterprises, on condition that they have free use of each other's inventions;
— licensing agreements for new technology;
— governmental procurement plans and new regulations;
— an emhryo invention visualized by an employee as he huilds up his technical knowledge in the course of his work; if the employee leaves the enterprise to start a new one and succeeds with the innovation, it seems fair to give credit to the first enterprise as the original source of the invention;
- cooperation with universities and trade research facilities;
- approaches from outside freelance inventors.

From the invention idea stage to the completion of the innovation stage, there is a complex series of activities, beginning when an original idea is first conceived, proceeding through a succession of interwoven steps of research, development, management and decision-making, and culminating in a product or process.

In the process of research and development, the need for an effective information and documentation service and system must be emphasized. This facility in the organization should be suitahly adjusted to the enterprise's need for good resources, not only in the traditional fields of documentation (books, periodicals, documents) hut also with specially trained personnel qualified in new technology, including computerized systems, and having the right contacts with users and datahanks. The information can involve the state of the art contained in patent documents, patent literature and in the field, which can give birth to new ideas and solutions.

The technological innovation process comprises many activities as illustrated in Figures 1 and 2.[1]

Environment

A society may enjoy a varying degree of industrial development. The government's awareness of the need

[1] *Evaluation of the Energy-Related Inventions Program*, document ORNL/CON-92/VI, Oak Ridge National Laboratory, Oak Ridge, Tennessee. The figures in this study appear on pp. 244 and 245.

for inventive activity in enterprises for the good of the country should result in measures to ensure a maximum output of new ideas and inventions. Of course, we must interpret "enterprise" to include research institutes, universities and other State facilities that are not directly business-oriented. From the government's point of view, inventive activity at enterprise level is a fundamental necessity for which all measures must be taken in order to achieve and maintain the highest level of efficiency and economic turns in industry. In cooperation with other industrial participants, such as trade unions, branch organizations, communities, etc., a favorable environment to assist enterprises in promoting new ideas and inventions, to achieve market acceptance, must be built up.

The environmental conditions are very important for the enterprise. Some that may prevail in a relatively developed country are listed below.

Infrastructure

The industrial infrastructure may include a Ministry of Industry, Industrial Board, Board for Technical Development, patent office, regional development funds, liaison offices at universities, branch research institutes, patent attorneys, industrial investment banks, technical attachés abroad, export council with trade commission offices abroad, trade unions, inventors' associations.

Facilities

Associated with the infrastructure are facilities such as: economic support, advice, contact service, patentability surveys, business agreement consulting, expert help, financial help and advice for starting new enterprises, advice and contacts regarding export.

Other facilities are inventor workshops, inventor schools, inventor courses, product development centers, industrial development centers and branch research institutes, organized individually or jointly by private, community, state or trade union agencies.

Climate

The innovative atmosphere in society is essential. The government should continuously take measures to ensure the progress of innovation. Such measures cover favorable laws, policies on innovation, schooling and training, establishment of industrial development agencies, programs, studies, and financial and taxation advantages, among others.

Government agencies, institutions, organizations and enterprises should promote the innovative climate by sponsoring information through the media, exhibitions, competitions, seminars, conferences, etc.

The presence of venture capital companies, entrepreneurs and special risk venture schemes in commercial banks for enterprises also contributes to a favorable climate.

Business Value of Patents

A patent is a limited grant to an inventor by which he may exclude others from making, selling or using the invention. Governments issue patents to inventors to encourage open publication of inventions and to expedite their widespread use. Although patents teach a technology and are therefore a type of technical publication, they are also intellectual property having a commercial value.

The majority of engineers probably work for profit-making businesses, and many of those engineers make inventions in the course of developing new products and processes. Business enterprises generally regard all work produced for them by their engineers as the property of the business, and this definitely applies to inventions, whether or not they are patented. In fact, recent court decisions have revealed a strengthening legal attitude toward the rights of a business to own and control information developed by its staff, even if the information is subsequently kept as a trade secret. Engineers typically enter into an assignment agreement with their enterprise, which sets out this relationship contractually. Businesses traditionally reward their fruitful inventors, however, with recognition, promotion, and salary increases; many U.S. enterprises also have a policy of special awards or remuneration for inventions, and in some countries such awards are a requirement. The fact is that most technology-intensive businesses strongly encourage their engineers to invent and to disclose their inventions.

The reasons why they do so are worth examining since they have profound implications for the engineering profession.

Businesses large and small assist their engineers in patenting inventions for the same reasons that independent inventors obtain patents, but they have other important reasons as well. The scale of risk and of returns involved can be and often is very large for an established business enterprise. The possibility of missing out on a technical breakthrough is always present; at the same time, the loss of substantial business-development investment without commensurate sales and profit improvement can be crippling. Today, bringing a high-technology product to profitable marketability involves investment in research, development, product design, value engineering, trial marketing, tooling and inventory build-up. It may require the creation of a market through missionary sales and advertising, and even the setting up of a new process plant or sales structure. Without a patent, this investment is vulnerable to a competitor who merely copies the product without the front-end investment

and who may have special advantages due to an existing plant, tooling or marketing situation. Some companies feel so strongly about patent protection for their new products that tbe potential patent portfolio and its likely strength are determining factors in making the decision whether to begin intensive product development.

Just as an independent inventor or a scientist-inventor ean receive royalty income from a licensed invention, businesses also realize incremental income through licenses. Capital-intensive business areas, such as the heavy chemicals industry, commonly license patented processes because the company holding a key patent can only expand its product sales as rapidly as it can allocate capital investment. In the not uncommon case where export sales of a product are difficult, licensing abroad provides added income.

Patented inventions have other values to companies, which are not usually important to the inventor. Companies sometimes trade patent rights—that is, they may cross-license within the restrictions of the antitrust laws—but this is only possible when each has a portfolio of patent assets valuable to the otber. Companies often must disclose vital details of products and processes to suppliers or eustomers, and to do so without patent proteetion can prove disastrous. When building a market for a unique new product, a company may license external production to accelerate total market growth and thus reach a higher level of profitability more rapidly. Licensing to ereate a reliable second source is quite common, particularly in tbe electronie components industry, since many customer companies simply will not use a component available from only one source. In this area, the case of the small supplier enterprise with a new product approaching an industrial giant with the intention of being its own second source requires the firmest possible patent base. In such circumstances, the small enterprise needs all the bargaining power it can assemble if it is to negotiate a good bargain on its new part or subassembly.[2]

Inventive Results

The amount of inventive activity in an enterprise cannot be represented by the amouot of patents applied for alone. In some cases, the registration system will cover the proteetion needs of drawings and designs or trademarks. In other cases, know-how and the seeret box method may be adequate. Disclosure of the solution to the public may also be the best way to prevent competitors from patenting the solution and thereby make it impossible for the enterprise to undertake manufacture.

One way of measuring inventive activity can be by comparing size of enterprises with the number of innovations in several countries over a certain period. A study of 380 important innovations produced in five countries, introduced on the market between 1953 and 1973, looked at the relative eontributions made by enterprises of different sizes in regard to the total number of innovations. The results are presented in Figure 3.[3] The table shows that:

(a) averaged over all countries, small enterprises contributed about one third of all innovations (31%), the majority share being taken by large enterprises (54%);

(b) medium-sized enterprises played only a minor role, except in France, where they contributed 26% of innovations;

(c) the contribution of small enterprises was highest in tbe US (35%) and France (31%), followed by West Germany (26%) and the UK (23%);

(d) small (and medium) enterprises in Japan played a very minor role as producers of major innovations.

Large Enterprises—Small Enterprises

The role of Swedish enterprises in 100 important innovations between 1945 and 1980 has been investigated. Here we may note the following.

Jewkes (1969) maintains that, on the basis of 60 case studies of important inventions, the importance of an enterprise's R & D laboratories has been exaggerated and that the majority of essential innovations have come from outside large enterprises' R & D departments, while more than 50% were produced by private inventors and small enterprises.

Hamberg (1963) gives about the same result. During the period from 1945 to 1955, two thirds of new inventions came from private inventors or small enterprises.

Freeman (1977) has pointed out that research activity was very low before 1940 but has strongly increased since then. This changes Jewkes' conelusion.

The Swedish investigation does not agree with the foregoing statements. Instead, one third of new inventions came from small enterprises, universities and private inventors and two thirds from large enterprises. One explanation for this is that an idea fostered in a large enterprise by an employee who left and started a new enterprise and developed tbe idea into an invention was credited to the large enterprise.[4]

[2] *The Business Value of Patents*, IEEE Transactions on Professional Communication, vol. PC-22, no. 2, June 1979.

[3] *Small and Medium-Sized Manufacturing Firms: Their Role and Problems in Innovation Government Policy in Europe, the USA, Canada, Japan and Israel.* Report prepared for the Six Countries Programme on Government Policies towards Technological Innovation in Industry, by R. Rothwell, Science Policy Research Unit, University of Sussex, and W. Zegveld, Staffgroup, Strategic Surveys TNO, Delft, Volume 1, June 1978.

[4] *100 Important Inventions in Sweden 1945-1980.* Information No. 350-1983, National Swedish Board For Technical Development.

Conditions for Innovation

Summarizing the contents of what has been said above, we may note the following.

The conditions for innovation are, in short, generation and acquisition of new needs, development of receptivity in the individual, provisions for the innovator, adequate financial backing and machinery for preserving the confidentiality of the idea, and its access to the market place.

Conclusion

Inventive activity at the enterprise level is of the greatest importance for the economic and living standards in a country and for its enterprises and inventors. Creativity in this field should therefore be encouraged, stimulated and promoted by the government and by all concerned with industrial development.

FIGURE 1

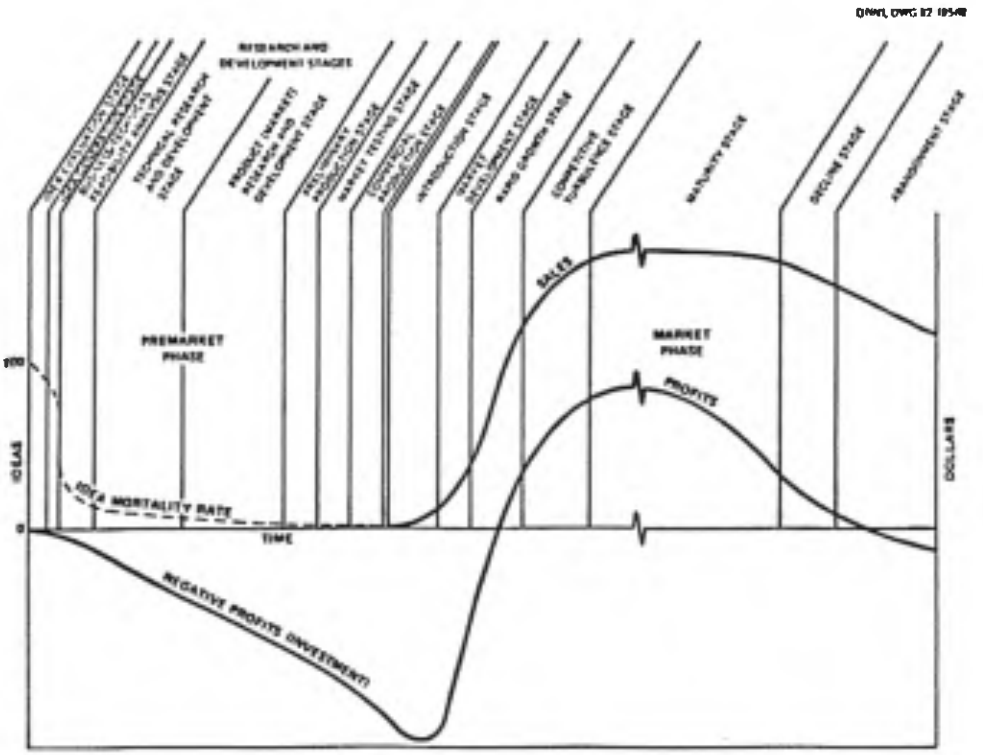

Fig. 1. The technological innovation process: a sequence of events through which new products, processes, and services normally pass (Udell 1982).

FIGURE 2

ORNL-DWG 82 19008

COMPONENTS	INVENTION/INNOVATION (PREMARKET)			COMMERCIALIZATION (MARKET)		
ACTIVITIES	IDEA GENERATION	IDEA EVALUATION AND DEVELOPMENT	PRODUCT/PROCESS EVALUATION AND REFINEMENT	NEW VENTURE INITIATION, NEW PRODUCT/PROCESS INTRODUCTION	VENTURE GROWTH: SPIN-OFF OF PRODUCTS AND PROCESSES	BUSINESS AND TECHNOLOGY MATURATION
PRIMARY PARTICIPANTS	CORPORATE, CASUAL, AND PROFESSIONAL INVENTORS	TECHNOLOGICAL INNOVATORS		TECHNOLOGICAL ENTREPRENEURS; ENTREPRENEURIAL MANAGERS; MANAGEMENT TEAM		MANAGERS
OTHER NECESSARY PARTICIPANTS	SOURCE OF CAPITAL FOR RESEARCH AND DEVELOPMENT		SOURCES OF DEVELOPMENT CAPITAL (GENERALLY SMALL AMOUNTS); BUSINESS AND MARKETING PLANNING	VENTURE/RISK CAPITAL SOURCES; LAWYERS, ACCOUNTANTS, MARKETING AND FINANCIAL		SOURCES OF EXPANSION CAPITAL
SKILLS NEEDED BY PARTICIPANTS	SCIENTIFIC EXPERTISE	TECHNOLOGY/ ENGINEERING EXPERTISE	TECHNICAL, ENGINEERING, AND SOME BUSINESS EXPERTISE	MANAGEMENT EXPERTISE; R&D CAPABILITY, NEW PRODUCT DEVELOPMENT CAPABILITY		BUSINESS SKILLS INCLUDING TECHNICAL MARKETING AND MANAGEMENT

Fig. 2. Technological innovation process: component activities, participants, and needs (Grad 1981).

FIGURE 3

Share of 352 Major Innovations by Firm Size in Five Countries

Country	Small Firms[1]		Medium Firms[2]		Large Firms[3]		Total No. of Innovations
	No. of Innovations (Ns)	Ratio Ns: N1	No. of Innovations (Nm)	Ratio Nm: N1	No. of Innovations (N1)	Ratio N1: (Ns + Nm)	
United States of America	90 (35%)	0.70	37 (15%)	0.29	129 (50%)	1.02	248
United Kingdom	8 (23%)	0.35	3 (8%)	0.13	23 (67%)	2.09	34
Germany (Fed. Rep. of)	5 (26%)	0.42	2 (10%)	0.17	12 (64%)	1.71	19
Japan	1 (4%)	0.05	4 (16%)	0.20	20 (80%)	4.00	25
France	5 (31%)	0.71	4 (26%)	0.57	7 (43%)	0.78	16
TOTAL	109 (31%)	0.57	50 (14%)	0.26	192 (54%)	1.20	352

[1] Sales less than $ 5 million.
[2] Sales $ 5 million to $ 50 million.
[3] Sales greater than $ 50 million.

News from Industrial Property Offices

BOLIVIA

Head, Department of Industrial Property

We have been informed that Mr. Clifton Colque Garcia has been appointed Head of the Department of Industrial Property.

COLOMBIA

Superintendent of Industry and Commerce

We have been informed that Mrs. Gloria Ortiz de Gonzáles has been appointed Superintendent of Industry and Commerce.

NETHERLANDS

President of the Patent Office (Octrooiraad)

We have been informed that Mr. M.A.J. Engels has been appointed President of the Patent Office *(Octrooiraad).*

Calendar of Meetings

WIPO Meetings

(Not all WIPO meetings are listed. Dates are subject to possible change.)

1986

May 22 to June 6 (Geneva) — Permanent Committee on Patent Information (PCPI): Working Group on Search Information

May 26 to 30 (Geneva) — Paris Union: Committee of Experts on the Harmonization of Certain Provisions in Laws for the Protection of Inventions

June 2 to 6 (Paris) — Committee of Governmental Experts on Audiovisual Works and Phonograms (convened jointly with Unesco)

June 4 to 6 (Geneva) — Permanent Committee on Patent Information (PCPI): Working Group on Patent Information for Developing Countries

June 9 to 13 (Geneva) — Permanent Committee on Patent Information (PCPI): Working Groups on Special Questions and on Planning

June 23 to 27 (Geneva) — Committee of Experts on Intellectual Property in Respect of Integrated Circuits

July 2 to 4 (Geneva) — Working Group on Links Between the Madrid Agreement and the Proposed (European) Community Trade Mark

September 1 to 5 (Geneva) — Permanent Committee on Patent Information (PCPI) and PCT Committee for Technical Cooperation (PCT/CTC)

September 8 to 10 (Geneva) — WIPO Patent and Trademark Information Fair

September 8 to 12 (Geneva) — Governing Bodies (WIPO Coordination Committee, Executive Committees of the Paris and Berne Unions, Assembly of the Berne Union)

October 13 to 17 (Geneva) — Permanent Committee on Patent Information (PCPI): Working Group on General Information

November 24 to December 5 (Geneva) — Permanent Committee on Patent Information (PCPI): Working Group on Search Information

December 8 to 12 (Geneva) — Permanent Committee on Patent Information (PCPI): Working Groups on Special Questions and on Planning

UPOV Meetings

1986

June 3 to 6 (Dublin) — Technical Working Party for Agricultural Crops, and Subgroup

July 15 to 18 (Wageningen) — Technical Working Party for Ornamental Plants and Forest Trees, and Subgroup

September 15 to 19 (Wädenswil) — Technical Working Party for Fruit Crops, and Subgroup

November 18 and 19 (Geneva) — Administrative and Legal Committee

November 20 and 21 (Geneva) — Technical Committee

December 1 (Paris) — Consultative Committee

December 2 and 3 (Paris) — Council

Other Meetings Concerned with Industrial Property

1986

June 1 to 4 (San Diego) — The United States Trademark Association: Annual Meeting

June 2 to 6 (Munich) — European Patent Organisation: Administrative Council

June 3 to 6 (Strasbourg) — Center for the International Study of Industrial Property: Seminar on Licensing and the Transfer of Technology (first module: Nature and In-depth Study of License Contracts and the Transfer of Technology)

June 8 to 13 (London) — International Association for the Protection of Industrial Property: XXXIII Congress

September 13 to 17 (Lucerne) — International League for Competition Law: XXIXth Congress

September 23 to 26 (Strasbourg) — Center for the International Study of Industrial Property: Seminar on Licensing and the Transfer of Technology (second module: Strategy and Procedures for the Transfer of Technology)

October 22 to 24 (Mainz) — Pharmaceutical Trade Marks Group: 33rd Conference

December 1 to 5 (Munich) — European Patent Organisation: Administrative Council