

THE UNIVERSITY OF MICHIGAN
INDUSTRY PROGRAM OF THE COLLEGE OF ENGINEERING

PATENT FACTS AND TRENDS

*Transcript of the Fifth Ann Arbor
Industry-Education Symposium*



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TABLE OF CONTENTS

	Page	
PROGRAM COMMITTEE MEMBERS	v	
INTRODUCTION	vii	
OPENING REMARKS		
J. L. York Chemical and Metallurgical Engineering	1	
S. S. Attwood College of Engineering	3	
WHAT IS A PATENT? BASIC STEPS IN PATENT APPLICATION. WHAT CAN BE DONE WITH A PATENT?		7
George S. Hastings American Machine and Foundry Company		
IMPROVING COMMUNICATIONS BETWEEN ENGINEERING AND RESEARCH PEOPLE AND LEGAL COUNSEL		33
J. King Harness Harness, Dickey and Pierce		
PATENT PROCEDURES IN A PETROLEUM RESEARCH ORGANIZATION.....	51	
Floyd L. Miller Esso Research and Engineering Company		
TRENDS IN THE PATENT FIELD	69	
Maurice A. Crews U. S. Department of Commerce		

PROGRAM COMMITTEE MEMBERS

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Chrysler Corporation

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College of Engineering

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Chemical and Metallurgical Engineering

INTRODUCTION

Although it is entirely possible to be creative without ever inventing anything patentable, most creative engineers, sooner or later, do become involved in questions relating to patents. For this reason, our program committee believed that a review of current activities and trends in the patent field would be of great interest to all companies participating in the Engineering College Industry Program

The ensuing meeting, held in the Amphitheatre of the Rackham Building, on May 24, 1960, measured up to all expectations.

This volume is a record of the entire session, including the question periods following each presentation. There has been a minimum amount of editing to preserve the oral style.

OPENING REMARKS

J. L. YORK

Professor of Chemical and Metallurgical Engineering

Gentlemen, we would like to welcome you to another of the Industry Program's spring symposia for all subscribing companies as well as for some of the guests from the University who will be here. We have an idea that we would like to make this program as informal as is feasible, although we do have to have some kind of a schedule--a few people have to be met, such as the cook over at the lunch room--so we are not setting up particular times for each of the papers and we do want to encourage questions and answers. We have tried to allow enough time so we can have them after each paper. We can go into some of the details on that a little bit later, I think, as we go along. I think you can thank Ray Carroll of the Industry Program for all of the details of this-- he did an excellent job in the selection of the day. Those of you from around here know that this is the first beautiful day we have had in quite sometime, so I think he did a marvelous job of anticipating this six months in advance, practically. We would like to have you meet, if you have not, and hear a few words of greeting from the Dean of the College of Engineering...Stephen S. Attwood.

S. S. ATTWOOD

Dean of the College of Engineering

I want to add my words of welcome to you on behalf of the College of Engineering. As far as Ray Carroll and the weather are concerned, I think maybe he bought one of those farmer's almanacs last year and placed his faith in it in picking this day. You know this Industry Program is directed by Ray Carroll, has been going on for a number of years, and we regard it as a mutual aid both to the members of the Industry Program and to the College of Engineering. Through the year we have a number of conferences with members of the faculty, and individual corporate members of the Industry Program. Some of you people take quite full advantage of that opportunity, and others less so. We have this service, we believe that it is helpful, and we would be happier, indeed, if all of you would utilize this opportunity of getting acquainted with some of our activities to a larger degree. Then in addition, we would like to have a meeting such as this covering a general topic that would be interesting to all members and we hold it at the end of the year and invite all of you to be present, and this is that sort of a meeting. We have tried each year to pick some topic which is of wide general interest, and today the subject of patents is such a one, so I am sure that with the eminent speakers that you have that you will enjoy the day and I hope you heckle them all you can. So again, I am very pleased that you are here, and I hope you will go home with the feeling that you are taking something worthwhile back with you. Thank you very much.

J. L. YORK

We really don't have as much need for a public address system as you might think in this room, since this auditorium was designed for good acoustics, but we are taping this entire program, including the questions and answers. Therefore, as long as we had a tape recorder operating, and all of the mikes and equipment around, we decided we would put a microphone up here for the speaker to be heard a little bit--put a loud speaker on it. The general procedure here is, of course, that most of you who have come from Industry will be here all day. Members of the faculty who have an interest in this general field have also been invited to attend. Most of them still have continuing duties. You know the curses of having a meeting while you are at work--you should leave town if you are going to have to go to any affair like this such as most of you fellows have done--so you will find that many of the faculty members will be drifting in and out all through the day. Please don't think this as an insult to the speakers or anything else. They may have such vital commitments as an examination or some class with somebody thirsting for knowledge. Our final examinations don't begin until Friday. So if you see people drifting in and out, they are probably just some more of our faculty members anyway, and don't worry too much about them.

In order to begin a discussion on patents here, which is one which we hope will be of interest to all of you, we felt it would be an excellent idea to find someone to set the stage, philosophically and otherwise, and then be able to answer questions regarding many of the details, and our first speaker is one of those people who has such an amount of experience that I think will be of great value to us in discussing some of these topics. He was employed at the Bureau of Standards for some time as a physicist, and then went to the Patent Office as a patent examiner for many years. Then he went to American Machine and Foundry Company in New York where he has long worked on the industrial side of patent problems. He has been with them since 1938, and is currently a vice-president of the company, and Director of Patents. So we are very pleased to have with us, Mr. George Hastings.

WHAT IS A PATENT?
BASIC STEPS IN PATENT APPLICATION.
WHAT CAN BE DONE WITH A PATENT?

George S. Hastings

Vice-President and Director of Patents
American Machine and Foundry Company
New York

WHAT IS A PATENT?
BASIC STEPS IN PATENT APPLICATION.
WHAT CAN BE DONE WITH A PATENT?

George S. Hastings

As I understand it, my part in this program is to tell you folks what a patent is and then how you apply for one, and hopefully get one, and then attempt to tell you what good patents are and what you can do with them.

I think I can give you a little better philosophy of patents by telling you a story of ancient Greece. There was a king of the town of Sybarus, King of the Syberites, who was a great lover of fine dishes. He had an excellent chef who developed a very magnificent concoction that was his favorite dish, and the king began to think about this dish. He was quite dependent upon this chef, and what would happen if the chef died, or just refused to produce this dish. So he went to the chef and said, "Look, I need to know how you make this dish, so if anything happens to you I can still have it made," and the chef was a bit reluctant. He figured that this concoction of his was a bit of social security for him. So the king made this proposition to him. He gave him an allowance and also the exclusive right to produce this dish for three years provided he would make the dish available to all comers after that period. This, I think was one of the first patents, and doubtless the dish survived the chef. This illustrates something about how we come to have patents.

More immediately U.S. patents, I think, grew out of the various statutes of monopoly. The British kings who were perennially hard up used to give monopolies on salt, and textile weaving, and so on to their favorites in return for some considerable sum of money, and then the favorites would go out and mulct the British public out of as much as they could for salt, or what not. The British parliament in 1623 passed a statute of monopolies in which they forbade such monopolies, but at the very same time the parliament with quite commendable foresight, avoided throwing out the baby along with the bathwater. They made an exception to the statute of monopolies as follows:

"that any declaration before mentioned shall not extend to any letters, patents, and grants of privilege for the term fourteen years or under hereafter to be made for the sole working or making of any manner of new manufacture within the realms to the first true inventor or inventors of such manufacture which others at the time of making such letters,

patents and grants did not use, so they be not contrary to law or mischievous to the state."

Now the framers of our Constitution were quite familiar with this statute of monopolies and when the Constitution was drawn up, they made a provision in Article 1, section 8, as follows:

Congress shall have the power, "To promote the Progress of Science and the useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries..."

and that is the basis of both our patent and our copyright law.

A patent is then a document -- a government grant -- to the inventor in return for the full disclosure of his invention, giving the negative right to exclude others from making, using, or selling embodiments of the invention.

I think I had better give you a few definitions of the terms used in this. What is "new"? Well, novelty is that which is disclosed by the inventor which is different from, or in addition to, the prior art whether or not the novelty involved invention. Now what is invention? Well, that is a rather difficult thing to define, but we are fortunate in that in 1952 there was a recodification of the patent laws. Up until then we had been operating under the statute of 1837, variously and sporadically amended and interpreted by the courts so that you had to look in a lot of places to find out what the patent law was. But fortunately through rather strenuous efforts of the patent bar and others, a clarification and more than a clarification, somewhat of a revision of the patent law, was put through Congress, known as 35 U.S. Code, and I can do no better than read to you the conditions of patentability. That is, what is invention? This is 35 U.S. Code 103.

Conditions for Patentability - Non-Obvious Subject Matter

"A patent may not be obtained though the invention is not identically disclosed or described as set forth in Section 102 of this title, if the differences between the subject matter sought to be patented and the prior art is such that the subject matter as a whole would have been obvious at the time that the invention was made to a person having ordinary skill in the art to which said subject matter pertains." And then it adds... "patentability shall

not be negated by the manner in which the invention was made." This is the nearest to a statutory definition of invention. Various attempts have been made to bring out what invention is, generally by stating what invention is not. For instance, examples are given that it's not invention to make two parts one, or make one part two, or mere reversal is not invention, or mere substitution of material. All these are subject to the exception that when some unexpected, unobvious, or disproportionate result follows from these negative limitations, then there may be invention.

In short a patent is a legal, enforceable, no-trespassing sign to property -- (mental and intangible property), which, but for more than ordinary skills of the inventor, would never have existed. The public would never have the advantage of it. Now the value of the patent depends on what it's worth to the owner to keep others off this property, or what it is worth to others to be free from this no-trespass prohibition. Thus the reward is neatly adjusted to the value of the contribution. No value, no reward. And all this without the need for elaborate evaluation and awards committees. It's actually probably the world's greatest suggestion and incentive system. It is particularly shrewd in that the inventor tends to over-value his invention, and therefore rates it more highly perhaps than sometimes the public does and gives more for it perhaps than it is worth.

This piece of patent property has a number of carefully worked out limitations. The law has been very jealous not to let the inventor get more in the way of rights to exclude than he gives in the way of something new to the public. In the first place, the patent is limited to seventeen years. After that the public receives the right to make any use of it that he wishes and you cannot extend a patent except in a very few rare instances, such as resulted from the last war where Congress has given a special and very limited extension. The patent does not give the right to use the invention. That seems a little inconsistent, at first, but I think that an illustration will show that it is not. What it does give is the right to prevent others from using the invention. Why doesn't a patent give the right to use? Well, let's take the case of Edison's lamp. Edison devised a lamp in which he had a heated filament in a vacuum and Edison's contribution was to make that filament very thin, that is of high resistance, and using a high voltage current, when before that it had been low voltage, and had a relatively thick filament. He used a carbon filament, and he had a very valuable patent. Along came Langmuir who suggested and patented the use of a tungsten filament which was much more efficient and lasted much longer. Now Langmuir quite clearly infringed Edison because he was using a thin,

high-resistance, high-voltage system in a vacuum, but Edison would just as clearly be infringing on Langmuir if he chose to use a tungsten filament in his lamp. So the fact that he had this patent didn't give him the right to use the tungsten filament. Moreover, there was an earlier patent to Swan and a vacuum lamp having a heated filament in a vacuum; assuming that Swan had a valid claim, Edison with his excellent improvement could not have used his own Edison invention without getting patent rights of Swan. This illustrates one of the limitations that you have to look out for. When you get a patent, don't assume that you are free from infringements of area or broader claims. Since the ultimate objective of a patent is benefit to the public to promote the useful arts, the Patent Office and the courts are jealous about requiring that you give a full disclosure in your specifications sufficient to enable one skilled in the art, and having ordinary skill in the art, to make and use the invention. In short, the inventor is not allowed to cover more than he contributed to the public and more than he gave in the way of a disclosure to the public, so that the public after the expiration of the patent can have free use of this information.

I want to consider now the parts of a patent. Many of you have had dealings with patents, and some of you will have them if you haven't had them already. How do you get a quick understanding of a U.S. patent? Well, the first thing you take a look at is the title of the patent, which tells you the general field to which it relates. For example, a patent might be a dish-dispensing device. I am going to take that by way of example. Then you would take a look at the drawings. If it's a mechanical patent, or an electrical one, it almost invariably has drawings, and if you are familiar with that art, that will tell you a great deal. Take a look at this dish dispenser and see that it involves a counter with an opening in it and a platform which moves up through the counter and a spring device for lifting the platform in accordance with whether you have more or less dishes on the platform so that the dishes are always at the same level as the top of the platform, even though the dishes are stacked all the way down to the floor, and that gives you a quick view.

Then you want to find out what the inventor is driving at. In the first couple of paragraphs of the patent application, you will find a description of the general art to which this pertains. It will describe this dish dispenser in the counter arrangement, and then it will attempt to say what particular feature of that general art this invention is an improvement on. For instance it will say that this is an arrangement by which the spring is calibrated or adjusted to the load on the platform and that this is for a new and useful device for producing that adjustment. Or it will say that it is to provide support at the corners of the platform so that the platform

will not tilt if it is overloaded on one side. Then probably the next thing to take a look at is the part of a patent which is most important to the inventor -- the claims. I am going to read to you just one of these claims. This happens to be the broadest claim of Patent 2251874 to William J. Gibbs' storing and dispensing apparatus. Don't get worried if you get lost a little bit, because we'll come back to this and try to analyze it a little.

"The combination with a counter, of an aperture for passage therethrough of stacked articles, a vertically-moveable carrier adapted to hold a load of stacked articles passing through said counter with the uppermost article of the stack at a predetermined position above the counter, calibrated means supporting said carrier adapted to move the same and its load upwardly upon decrease in weight of the load thereon and for a distance proportionate to the decrease in weight of the load, and to hold said carrier and its decreased load at the new position, said means being also adapted to respond to an increase in the weight of the load on said carrier to permit the carrier and its increased load to move downwardly for a distance proportionate to the increase in the load and to hold said carrier and its load in the new position, said means comprising a calibrated spring tension mechanism and moveable flexible connections associated with said carrier and tension means controlling the movement of the carrier."

Well there you have a plain definition which sets forth just what the inventor is entitled to cover without either going too far and covering what is already known in the prior art, and on the other hand not going far enough and failing to claim some embodiment of his invention. Now analyzing that claim a little bit, you will notice that most of it describes the dish-dispensing device which I referred to and what the inventor thought he invented when he first filed his application was a dish dispenser wherein the platform would support, as you decreased the load would lift the dishes up so they would be level with the counter, and when you increased the load would go down to the point where the dishes were level with the counter as you took dishes off. He thought he had quite a broad invention, as broad as that. Well, he filed his application and references were cited showing a platform with a big coil spring under it, so the claim was too broad and his attorney said, "Well, lets see what you've got that is new over that." And so they added the last clause. And the last clause quite often gives you the distinction over the prior art. And that last clause was "said means comprising a calibrated spring tensioning mechanism and moveable flexible connections associated with said carrier and tensioning mechanism controlling the movements of the carrier." That carried the claim over the prior art and the examiner allowed the claim and the patent issued and I may say that quite a few million dollars of profit have been made on this patent and the

two or three or four that went along with it, and the inventor was made a rich man. (William Gibbs) As a matter of fact, if he is doing what I think he is, he is living in Florida in the house that this patent built. However, that is not to be considered the usual result of filing a patent application.

Well, so much for what a patent is. I'll now take up the subject of how you obtain a patent by following the proper steps and filing an application. The first step in filing a patent application is to determine whether the inventor really has an invention, and if so, what it is. That's determined ordinarily by making a search to determine what the inventor has that is new. And unless you do make such a search, you're going it blind and most inventors who are starting in fool themselves that way. They come up with a bright idea and think that since it was new to them that it was new to everyone and they promptly get busy and file an application, or perhaps put quite a bit of money into developing and perfecting the invention only to discover, when they get in touch with an attorney, that it's old and they have wasted their time. It's almost invariably desirable to have such a search made before putting your money into filing or even into perfecting the invention. Now some of the perfection is part of knowing what you are going to look for, and that should be done, but make a search before spending much.

After you have made the search, then you know what the difference is between what you as an inventor have devised and what was in the prior art. That difference is your invention and that difference is what you are going to emphasize and claim in the patent. Even then, determination of what the invention is isn't always easy. Sometimes the inventor doesn't know, and sometimes it develops during prosecution what the invention really is. And the more you study and the more you know about your invention, the more likely you are to get a good patent. So the first step, I'd say, in filing an application is self-knowledge about your invention. I can give you quite an illustration of how hard it is sometimes to know what the invention is.

One chap had the bright idea in sealing devices for wrapping machines where you use heat sealing of waxed paper. If they speeded up the machines, the sealing belts had to be longer and longer because they cooled by passing the seals along canvas belts. So he had the bright idea that he would refrigerate those belts, and therefore he could shorten up the sealing devices and he thought the way to get powerful refrigeration was to use evaporative refrigeration. So he did. Unfortunately it proved that these refrigerated sealers were old -- they had used brine for refrigeration of sealing surfaces, and other means, even including the idea of evaporative refrigeration

for refrigerating the brine. The examiner would have taken a very dim look at this, using such an obvious thing as evaporative refrigeration to cool the seals, instead of refrigerated brine, but the attorney and the inventor thought they would look at the device in operation and they discovered a very interesting thing, and that was that the refrigerated surface through which the waxed loaves of bread passed had an ice layer on it, and this ice layer was fairly permanent. But when a hot loaf came through, a bit of it would melt and the loaf would go on through and the attorney conceived the theory that the ice layer was an important element of the machine. And so it was. It provided a reservoir of cooling, right at the critical point. It provided a lubricated surface through which the loaf went readily. He claimed that and got excellent patent protection and collected royalties from quite a little of the baking industry. If the attorney and the inventor hadn't had that insight, I am sure they would have got practically nothing. (Question: Is he living in Florida, too?) Well, as a matter of fact he has done pretty well. He isn't living in Florida, as far as I know, because he is still active, but he made a lot of money out of that. However, I don't want to give you high-faluting ideas. There are plenty of inventors who have worked hard and are still working hard.

Then, another question... after you find what the invention is, is the thing worth filing on? Now that depends on whether you can make a profit on it. Inventions generally are put out to make a profit. Question: The attorney who noticed the ice layer, wouldn't he be the inventor? Answer: Well, it was there, it was inherent in the thing as disclosed. You've got a fairly good point there. He conceivably could be the inventor, but they were working together. Actually it wasn't taken out in the name of joint partners...it was taken out in the name of the man who devised the evaporative refrigeration. But I think the ice layer was inherent in what he did. He built the machine. His disclosure called for the refrigeration which would produce an ice layer, so he was the inventor, but the attorney did point out the advantages of that ice layer, which I think is an attorney's function.

Well, lets get to this point of whether an invention is worth filing on...it is worth filing on only if you're going to get something back in the way of advantage, money or whatnot, that justifies the cost of filing. You can make a little table that will be some sort of guide as to whether to file. I have one that I occasionally use, particularly in determining whether to file foreign patents. If the invention is broad and you don't anticipate any profitable sale by your company, or yourself, or your competitor, you may patent anyway, simply because it is so broad that you can't

figure out what its value would be in the future, and patents run 17 years. That 17 years, by the way, starts after the patent is issued, so there may be another two or three or four years while it is in the office. If the invention is of medium breadth and no profitable sales are anticipated, then you probably wouldn't patent. I might say that all of this presupposes that the invention has some novelty. If there is nothing novel over the art, you are wasting your time and you won't file anything and that solves the problem right there. But I am assuming now that what I am looking at is novel. If the invention is narrow and no profitable sales are anticipated, of course you wouldn't patent. If it is of medium breadth and small sales, you might or might not. It would depend on whether the invention was in an area that was rather critical to you, as it would be to a company that sold that same line of goods. If it is narrow in breadth, but sales are medium, you would probably patent. Or if the invention was rather small, but sales were large you would invariably patent. You would have a nice question if inventions were slight and sales were medium, you would or would not patent depending on how critical you felt that line of business was to you. So you shouldn't just file because a thing is ingenious and you can get a patent, but because you'll get some advantage from it.

Now there are some different advantages that cause people to file. For instance, there is such a thing as defensive patents. A company or person may file an application simply to make sure that no one will block them in the future. One of the advantages of filing an application is that as of the moment that you file an application, you have an effective date and will win out against others who invented and filed later. At least you have quite a time advantage and yet at the same time you do have the application kept in confidence until it is issued. So in a sense you have your cake and eat it with an application.

Well, the attorney and inventor have decided to file. What do they do? They decide what the invention is, and the inventor should give the attorney all of the relevant facts. ...the principle, the uses, the alternatives, the examples, what he knows about the prior art, and competitive devices, and how he arrived at the invention. And the good attorney will ask these questions if the inventor doesn't volunteer them. From that the attorney determines what he thinks ought to be claimed, and he prepares the application, particularly the specification, with that in mind. Now the parts of an application are: the petition, asking that a patent be issued to the inventor; and the specification, which gives the full disclosure such that one skilled in the arts can make and use the same. It should

give at least one example of the best embodiment the inventor knows for carrying out the invention. It includes the claims at the end of the specification which set forth and point out what is new with the inventor, and what distinguishes over the prior art. It includes an oath in which the inventor takes oath to the various requirements necessary to get him a valid patent -- those set forth in Section 102 and 103 of the patent statutes. In addition, it includes the power of attorney; and the patent office is somewhat insistent on a filing fee of \$30.00, plus \$1.00 for each claim over twenty, and having filed that you get the effective date which is so valuable, and prosecution begins.

The first thing that happens in the prosecution is that the examiner makes a search and examines the application, and generally sends back a paper, known as an office action, which almost inevitably is a rejection of the claims on the ground that they are too broad, or they are indefinite, or they fail to state the invention, or that they claim more than one invention, -- on any number of grounds of rejection of this type. This looks pretty discouraging to the inventor, but he shouldn't be discouraged. It is conventional. The attorney takes this office action and determines whether he should argue the point with the examiner that there is invention in the claims for various reasons, or whether he amends the claims. As I pointed out in the dish dispenser patent claim there is often added on at the end of the claim as filed, enough to distinguish it from the prior art. And having done that, the patent office examines it again, and either allows or rejects again and then there is another amendment, or argument, and that goes on until the issues are clear in which case the examiner will allow certain claims, perhaps, and give a final rejection on the others. And then the inventor may appeal to the patent office tribunal, or he often has his attorney go down and see the examiner and find out what the difficulty is, and endeavor to place the case on condition for allowance, and often that is a very valuable technique. From my own experience, if a case is of any importance, we never let it go to appeal without an interview with the examiner, and often that solves the problem.

What good are patents, and what can you do with them? You have finally gotten the patent -- what do you want to do with it? Well, inventors, or the corporations which employ them, do the development work underlying the patent and take out patents for the same reason a farmer plants a crop -- in order to get a reward, and make a profit. However, don't expect patents to eliminate competition, or prevent your competitors from putting out a somewhat equivalent product. They almost never do, and some of the disappointment and

disillusionment that people have with patents is due to expecting too much of patents in the crowded arts that people are generally working in. Then you say "why bother -- why have a patent if this is the case"? Well, the answer is that patents have a number of valuable, and sometimes subtle effects tending to increase and maintain profits based on the inventions and improvements from which the patents were issued. In the first place, it gives the inventor or his assignee a piece of property in his invention which he can sell or rent, or which he can use as trading material. It is a piece of property just like any other piece of property, and it can be sub-divided, leased, or as they call it "licensed," and it's something that you can't do very well with an invention which isn't patented, that's secret. The moment you tell people about it and practice it, it quite often becomes wide-open, and anyone can pick it up and use it. Also, it gives to management and entrepreneurs the incentive and courage to put large sums of money into R and D work. You can imagine how hesitant companies and individuals would be to spend a great deal of money developing a new and uniquely attractive product if competitors, without the burden of amortizing this development cost could immediately copy it. Thus it encourages risk-taking in an endeavor to manufacture and popularize a new product. Remember a modest improvement which appeals to the public can make a great difference in sales. It has another benefit to the public that is a little subtle. By forcing late-comers to try something new instead of staying in the same old rut and copying the leaders and initiators, it forces them to try something different and hence it tends to give the public a number of choices by finding ways to avoid patent infringement. This variety speeds industrial evolution and makes our economy a lot more dynamic and indeed it has been so effective that I sometimes think its too bad that somewhat the same incentive system hasn't been applied to getting better social institutions, and solving the problems of peace and disarmament, and race relations, and so on. It might give quite a lift to solutions to these difficult social problems if you could reward people for coming up with creative ideas on the subject that were worked out in enough detail to be useful. At any rate, it's an idea.

Finally, patents furnish an absolutely unrivaled source of technical information. That is one of the main objectives of patents from the point of view of the public -- make them available at an early moment to the public, and then make them free to the public after a limited period of time, and I suspect that engineers have no idea of what's available in the way of technical information in issued patents. I am not going to go into that very much because

I suspect that my friend, Maurice Crews, is going to give that quite a whirl, and I won't steal any of his thunder. Also, patents are quite a stimulus to creativeness of research and engineering people. It is sort of a badge of honor to have a patent, and you can use it to get an increase in salary, so it has another advantage in that respect.

All this is nice, but what specifically can you do with a patent. Well, you can not only sell it, or license it -- try to interest people in buying it by showing them that it will increase their profits -- but if someone does infringe, you can sue the infringer. But before you do, you ought to settle one or two things. In the first place, is the infringer really infringing? When you make a careful study, you often find that you've got an element or so in your claim that he doesn't use, in which case there is no infringement and you don't want to go off half-cocked. It costs money for these infringement suits. Also, are the claims valid? Your defendant is going to make a validity search -- quite often its a good idea for you to make one and not rely just on the Patent Office search before bringing suit. Also, what do you want to get out of your defendant? Are you trying to get him to quit infringing, or would you just like to get an income from the invention? In the last case you might offer him a license before suing. It may be that you want to collect royalties for some past infringement. In these cases of licensing you may want to talk to him first. There is one danger in talking to the defendant, and that is you may give him the right to bring a suit for declaratory judgment. He can take the initiative if you accuse him of infringement, and thus choose the forum, but that's a risk that is often worth taking.

Well, in conclusion I hope I have given you somewhat of a bird's-eye view of what a patent is and how you apply for a patent, and what you can do with it after you have obtained it. I hope as a minimum result of this discussion you have learned to make a few important distinctions with respect to patents. First, that a patent is only the right to exclude others from using your invention, and doesn't give you the right to use your invention with respect to other patentees. And second, that there is quite a distinction between the disclosure of a patent and the claims of a patent, and the disclosure simply gives what the public is interested in after the expiration of a patent. In other words, the disclosure, you might say, is what anticipates future inventions, and the claims of the patent are what dominates, or are infringed by those who use your invention without authority. Another distinction that I would like you to remember is the distinction between novelty and invention. A thing is new because it differs from the prior art. It can be new and not be inventive. It is inventive because it is not only new, but it has

a degree of uniqueness, unobviousness, and unexpectedness, such that it would not occur to the ordinary skilled person in that art. And the last distinction that I would like to have you keep in mind is the distinction between a property right given to an invention which the public otherwise would not have had, and the type of monopoly outlawed by the English statute of monopolies. And you can call that a monopoly if you wish, and the kind of monopoly which takes away nothing from the public, which the public already had and indeed gives it something in the future.

Well, thank you for your attention and I will be glad to answer any questions that you might have. How's our timing, Mr. Chairman?

DISCUSSION

Professor York: We will leave the microphone on, temporarily, because I hope you have some questions for him. You do not have to approach either of these two floor microphones... we hope that it will pick you up from where you are, if you will just address yourself somewhat towards the microphone. Now we are open for questions.

QUESTION: In reference to declaratory judgments. If I have a patent that has been granted to me and it is a valid patent and I ask others to refrain from using this patent, they can sue me?

ANSWER: Well, if you tell them something which indicates that you consider they infringe your patent, they feel that now they have sort of a threat overhanging them and under the declaratory judgement law, they can resolve that threat by bringing suit to have the matter of whether they do infringe determined. So that if you offer a man a license, it's an indication that you think he infringes if he doesn't have a license, and therefore the possible defendant can bring this suit for declaratory judgment. That's about all there is to it. In the suit that follows, the thing will be decided on its merits. It doesn't make too much difference whether you are a plaintiff or a defendant. The one advantage that it gives the claimant of the suit is that he can choose just what he considers a more favorable court.

QUESTION: In the event that the declaratory judgment is decided against the inventor, there is no penalty likely to ensue to him, is there, in terms of monetary judgment?

ANSWER: No, except that if his threat was completely unjustified, I guess the court might give costs to the plaintiff, and he would probably have his patent held invalid, at least as to certain claims.

QUESTION: Would you give us some impression as to the range of present costs of obtaining a patent? I appreciate that they are variable, but what is the range?

ANSWER: Well, it depends on how complicated it is, but I would say that with a minimum of complication, you had better not figure on less than \$1,000 if you are going to get a respectable job done; and if the prosecution gets complicated, it will be quite a little more, and of course if it is a complicated case, it will be quite a little more.

QUESTION: Some years ago I wrote to the patent office, wherever it was, enclosed 25 cents, and the number of a patent, and requested a copy be sent to me, and got an answer back which asked for more information. Did my letter fall in the hands of a clerk who wanted to strike up a correspondence, or what went on?

ANSWER: Well, I think I'll let Maurice Crews answer that -- what in the world went wrong? That ought to be quite adequate. Oh, well, he says he enclosed 25 cents and the number to the Commissioner, and he didn't get his patent back. Maurice Crews: Well he should have. I would raise cane with the Patent Office. You did everything that was necessary. Yes. Do it over again. Hastings: Incidentally, it is awfully easy to deal with the Patent Office, and people don't realize how easy it is. If you have the numbers of the patents, you can get anything you want and by asking you can get all sorts of information. You can get a list of the classes that you are interested in, and so on. I'll leave that to Maurice too, but once you have the number you can go to your local library and look it up, if you are in one of the larger cities. A.D. Moore: I wrote again, and inquired why, and got a reply to the effect that there might be various reasons why more information might be needed. Hastings: That doesn't sound like the Patent Office. Did you send it to the right bureau? Maurice Crews: Are you talking about a case in which you did not identify the patent, except by what? A.D. Moore: I identified the patent by number, and enclosed 25 cents. Hastings: How could they want more information than that? A.D. Moore: I don't know. Hastings: To send any other information would be a waste of time. Who did you address that to? I hope you didn't address it to Maurice Crews.

QUESTION: The information that patent protection commences as soon as application has been made? Is that right?

ANSWER: No, that is not right. You get a date as against all other people who file later, as of the date that you file, but your protection begins when your patent is issued.

QUESTION: Suppose in a subsequent suit of infringement it was brought out that the company, or the person who was being sued had written proof that their invention had pre-dated the other invention by considerable time. Would that have any effect?

ANSWER: Yes it would. According to the oath that you take, you are the first inventor, so far as you know. If someone else is the first inventor, and he can prove certain things like diligence, up to the date when you entered the field,--in what is referred to as an interference procedure, he can win, over the first to file. In our country, and unlike most countries, the first to file is not necessarily the one who is entitled to patent. The first inventor who couples his filing with his invention in a suitable way, is the one who is entitled to a patent. And, in fact, curiously enough something like a third of all interferences are between issued patents and applicants who saw the patent issue and decided they invented earlier than the filing date of the patent, and who provoke an interference. And they can contest the issued patent if they do it within a year.

QUESTION: Would you elaborate on diligence?

ANSWER: Well, that's a big subject, but the United States law does believe in encouraging a person to work out his invention thoroughly before he files, instead of going in half-cocked. So as long as a person is being active in developing the invention which he later claims in his application, he is considered to be diligent. If he drops the matter for an unexplained period of any substance, while he does other work, well he has not been diligent.

But he can couple his date of invention with his filing date if he has been diligent up to his filing date, or if he has been diligent up to what is called "actual reduction to practice." That is making a working model that will do the same job as it is intended to do commercially.

QUESTION: Would you recommend a company have an incentive plan for its inventors?

ANSWER: Well, you mean in addition to the normal honor or other advantages which result from getting a patent. I would imagine half the companies represented here have some sort of bonus which they give to inventors when they make a patentable invention and file an application. That may run anything from \$25, \$50 or \$100. My own company gives a \$100 bonus to every inventor when the application is filed. Now remember, I am talking about technical people who are under agreement to assign their inventions to the company, whether or not they receive any compensation.

QUESTION: Would you entertain a question about evidence of conception?

ANSWER: Yes, I certainly would. That's a good subject which I think probably Mr. Harness will develop, but you need written and corroborated evidence if you are going to prove conception.

QUESTION: The question will be what is the best kind. Say a lone inventor wants to create evidence of conception before he even sees an attorney. Which particular form would you recommend?

ANSWER: I would recommend that he get some fellow companion -- a worker, or what not -- capable of understanding it, show it to him, let him read it, witness and date it. And put on it possibly that he read and understood it. And if you do that, you are pretty well fixed.

QUESTION: On one piece of paper?

ANSWER: Yes, on the same piece of paper as the invention is shown.

QUESTION: Suppose a patent is issued and you feel that there is a claim in there that is in the prior art. But you yourself had nothing to do with the prior art. What can you do about this?

ANSWER: Well, if it is in the prior art, you are out of luck (as inventor or patentee) whether you know anything about it or not, or whether you had anything to do with that prior art.

QUESTION: There was a claim in that patent which was really in the prior art, but you had nothing to do with the prior art, but you had done nothing about it yourself. What can you do about this?

ANSWER: Now let's see if I understand the question. A patent is issued with a claim; you feel that you infringed the claim? No, you felt that the claim was in the prior art? Oh, it is invalid, because it is disclosed in the prior art. But you had nothing to do with the prior art. And your thought is could you for instance bring some legal action to have the claim cancelled or invalidated.

QUESTIONER: Let's put it this way ... that you felt the Patent Office had been negligent in not finding this.

ANSWER: Well, under United States practice, there isn't so much that you can do. In many countries you can bring an opposition proceeding, or you can bring a cancellation proceeding, and in this country you wait until involved in a suit. Anyone who gets involved in a suit can bring all this out and get the claim held invalid and if someone holds that you infringed, you can call attention to this prior art, and he will probably hold his horses.

QUESTION: What was that you said a minute ago about within a year you could do something about a patent?

ANSWER: You can provoke an interference within a year, but that interference has to be based on the fact that you made the invention earlier and that you actually had filed, or do file a patent application. And under your set of facts, I doubt that that was the case.

QUESTIONER: Can a patent be obtained by a mere description or drawing of the invention, or is it necessary that the inventor make a model and prove that it will work?

ANSWER: It is not necessary that he make a model, and it is not necessary that he proves that it will work. He can make it on pure paper work.

QUESTIONER: May I apply for a patent in Canada on the same day that you apply for one in Washington and get priority over yours?

ANSWER: You can apply before or later. As a matter of fact, you get priority based on whichever is earlier, if you file within a year, under the international convention between the United States and Canada and many other countries. So you can file on the same date, but if you file in the United States you have a date in Canada if you choose later to file in Canada. If you file in Canada, you have a date in the United States, if you later choose to file in the United States within a year, and fulfill all the necessary requirements. Incidentally, you haven't asked about foreign patents, but something that always comes up is "does a United States patent give you any rights in other countries"? And the answer is, No! The only right it gives you is a twelve-month right of priority if you file a corresponding application in countries which are members of the International Patent Convention, which includes a very large number of countries.

QUESTION: If a process has been invented and you use this process in such a manner that you are almost infringing, but it is shown that you are not infringing, then would this process be patentable by you? Or does infringement constitute patentability, or does non-infringement constitute patentability?

ANSWER: No, non-infringement doesn't constitute patentability. You may not infringe simply because you use three elements of the patentee's process -- three steps -- while he claims four steps. Well obviously the three steps wouldn't be inventive. On the other hand you might vary your process so much that it would be unobvious to those skilled in the art and you could patent it.

QUESTIONER: I understand that patents are really not always desirable. In certain instances it would be better not to patent a process or a material than it would be to allow the patent to be disclosed.

ANSWER: You are thinking of using it as a secret process? Yes, when you can, it is sometimes better, but generally not, because once anyone learns about it, even within your plant, and it gets out, you have lost the secret. But if it is a thing that...well I can give you an example; where a process is used in a factory, and it is only used in two or three places and not hard to police, it might be worthwhile to keep it secret.

QUESTION: If the Coca Cola Company were so foolish as to divulge their formula, could that formula be patented?

ANSWER: Yes. In the first place, they could patent it any time within the year after it's made public. And you have under the United States statutes a year after publication to file and if it were not published -- if you were the first inventor, and you simply let it out to someone, you could still patent it, I would imagine, for indefinite time -- as long as it didn't come within the statutory bars. Its a poor thing to do. You are better off to file your application before you stimulate people by disclosing your invention to them.

QUESTION: My further question was, in particular, some product the nature of which is, say, in the case of the Coca Cola product, such a delicate balance of values there that it would be rather difficult to say whether another company had used a different formula because of some very minor change. What would you do in a case of this sort?

ANSWER: The Coca Cola Company simply keeps it a trade secret, and they rely largely on their trade mark; perhaps it is a composition which isn't patentable anyway.

QUESTION: With regard to protecting the field in the future against an invention, what are the relative merits of protecting the field by applying for a patent, or by general publication?

ANSWER: Well, you don't, by general publication, get any protection in the sense of being able to keep others from using your invention.

QUESTIONER: I am just talking about protecting the future, so that nobody closes the door on you.

ANSWER: Oh yes, publication is a fairly good method. In other words if you put out a company publication which is widely spread you can protect yourself against people later applying for patent by simply publishing it, and the IBM Company has a publication for no other purpose -- almost no other purpose than that. It has one disadvantage and that is you don't get a date until the publication actually gets out, and is available to the public. Whereas with a patent application you get a date the moment it is in the office -- that is, filed. You don't have to wait until it is issued.

QUESTION: One other question on this line. How would such a publication influence foreign patents? Is there any regularity to this?

ANSWER: Yes, a great many countries have the rule that publication anywhere, prior to the filing in that country, bars a patent. But your proof is a little more difficult since you may have to prove that the publication actually got into the country.

QUESTION: What protection does a United States patent have against a foreign patent after the one year? Let's say a United States patent has been granted, one year has elapsed, the foreigner then takes the exact patent back in his country and comes over here.

ANSWER: Well, since the United States patent covers the United States, he will be infringing when he comes into this country, regardless whether he has a patent abroad or not. But you are, I think, out of luck so far as his own patent in his own country is concerned.

QUESTION: What if he stays in his own country, and exports a product here?

ANSWER: It would be an infringement when it comes into this country.

QUESTION: Sir, I can't think of the specific item at the moment, but I do know that over a period of years I've bought replacements and on it would be stamped or attached the words "patent applied for." Now is that just a scare-off?

ANSWER: Well, yes, I think that is a fair description of it. It has no legal effect, but it is a warning that a patent may issue, and you become an infringer when the patent issues, even though you acquired the thing before the patent was issued. Of course as far as an individual customer is concerned, it is of no consequence, but if you started manufacturing before the patent was issued, you would be unwise not to investigate if you saw a similar tool that was marked "patent applied for."

QUESTION: Then how long does a person have -- what period of time -- to register?

ANSWER: Well, that's a slightly large subject. The fact is that you can take today about as long as you want to issue a patent. The average is something like between two and four years, but there have been some horrible examples of very complex patents that got an interference that issued ten or fifteen years after the application was filed and after the art had grown up, and surprised a lot of people. There is legislation being considered to remedy that.

J. Louis York:

We would like to proceed now to another aspect...a continuing one as the questions were obviously indicating because people were getting interested and working along certain directions of "what can we do? how do we find out what we can do?". So we have as our next speaker a man who is well qualified to discuss this problem of the communication between the technical man who has an idea, and he hopes an invention, and the legal counsel with whom he should discuss this before he carries it out still further. The speaker wanted to be sure that you understand that he is speaking in a dual capacity. As a lawyer, he is not only a "company" lawyer, although he is the Chief Patent Counsel for Chrysler. He also is a member of the firm of Harness, Dickey, and Pierce, and does work for other organizations. He believes that we should be well aware of the fact that you have patent lawyers who are working for companies as an independent, in addition to being directly on the payroll. Now this problem of communication and trying to get the ideas down on paper, and carried through to a successful conclusion, is a very important one, and this is one that we want to discuss at this time. Our speaker was employed for a few years with Ford Motor Company, and then switched over and is, as I said, now patent counsel for Chrysler and a member of his own legal firm. Mr. J. King Harness----

IMPROVING COMMUNICATIONS BETWEEN ENGINEERING AND
RESEARCH PEOPLE AND LEGAL COUNSEL

J. King Harness

Harness, Dickey and Pierce
Attorneys and Counselors
Detroit

IMPROVING COMMUNICATIONS BETWEEN ENGINEERING AND
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J. King Harness

Gentlemen, when I have an occasion to try to convey some of my thoughts to a wonderfully intelligent group, such as you are, I always think it is advisable to set the records straight as to the degree of my own intelligence. Some thirty-five or-six years ago, my wife and I had occasion to build a summer cottage up on Lake Huron, and after making a few lines on some pieces of paper and hiring a couple of carpenters and a stone mason, we went to work to build this cottage. In about three weeks time we had it along far enough that we thought we could spend the weekend up there with our two grand little boys, and so we went up to spend the week end while we were still working on the cottage. Among other things that were not yet complete, there was no water system in the cottage, and if you have any notion as to how much water you use around the house, just start carrying it up from the lake in bucketsfull. I had two buckets and a rope, and I would walk out on the breakwater in front of my piece of property, tie the rope to one bucket, drop it in the water to fill it, bring it up, and untie the rope, then tie it to the other bucket and bring it up full. I don't know how many times I did it that weekend, but I announced in stentorian tones to my wife that if we went up the next weekend and that water system was not in, I was going to get a snap fastener to go on the end of the rope so I would not have to repeatedly tie and untie the rope to the buckets. When we got up the next weekend, sure enough the water system wasn't in, so I took the two buckets down to the waterfront, dropped the one bucket in, got it in, full, untied the rope, and tied it onto the other, and came trudging back up to the cottage. My wife was standing on the front porch with my dear old mother-in-law, and she said "Mother wants to know why didn't you pour the water from the full bucket into the empty one, and drop the same bucket back again!" So that's the level of intelligence of your speaker today. Incidentally, that's a story which I've used on occasion in federal courts to impress judges with what constitutes invention. Sometimes these simple things aren't too simple.

I know of no better way to approach what I'm supposed to talk to you about today than to carry through, briefly, the experience that I've had because there is no definite set of rules that apply to everybody's situation. So much depends upon the particular type and kind of company, how large it is, the amount of research and development work that they do, and all that sort of thing. I began my activities as patent counsel for the Ford Motor Company back when Fred Black and I were together. They had had no patent department. They had taken out two or three patents in Mr. Henry Ford's name--and that's about as far

as they had gone. And they had had very few more inventions, as a matter of fact, insofar as the automobile was concerned, but they had a tremendous number of inventions in the plant--manufacturing inventions. They were bothered constantly with people obtaining patents upon some of these things after they had found out what had gone on in the Ford plant. And then very often the Ford Company was unable to prove the date on which they had made their invention, and some of these patents which other people had taken out were troublesome. So the first thing that I did was to employ a man who knew the plant inside out. He wasn't a lawyer--he was just a good mechanic, was a good bird-dog, and he went through the plant from beginning to end, making records of all the inventions which had been made any time in the recent past. He also made arrangements for the recording of inventions as they came up in the future. There was one interesting thing that came from that bit of effort and it was quite impressive to me. That was how these inventions related to the kind of jobs that the people had who had made the inventions. For instance, the straw boss in the factory had one little invention to his credit, the foreman maybe had two, the assistant superintendent maybe had three, the superintendent had four, and so it went.... which is a pretty good indication to me that the making of these inventions played an important part in the progress that these men made with their jobs.

I have watched it over the years developing in other places, and I think it works out wonderfully well, except on rare occasions when you take a darn good inventor, and try to make a supervisor out of him, and you ruin an inventor and get a bad supervisor. But all in all the thing works out wonderfully well.

Well, long before I had any right to do so, I decided that I wanted to get out into private practice, so I left the Ford Motor Company and went into private practice. And within a relatively short time, I came to realize both the advantages and disadvantages of corporate patent departments. The advantages, of course, are obvious in that the patent department is there--it is a part of the organization. It lives and works with the management of the company. It knows the company's hopes and plans and aspirations, and is able to do a much better job of carrying out inventions and knowing what is the best thing to do with them and about them, and all that sort of stuff, than would an outside patent counsel.

By the same token, however, there are many, many companies whose businesses do not justify a patent department, and so they have to have outside patent counsel, and moreover, there is an element of advantage to the outside patent counsel who has a broader feel of the practice of patent law. He gets into court more often, he gets to know a wider number of things about more things, and all that sort of thing, which is of considerable advantage. In other words, he is not so likely to become ingrown as is the man who works in only one organization.

So, after I had observed the advantages and disadvantages of both outside and inside patent counsel I undertook to handle the patent work of what was then the Maxwell Motor Corporation, and since has turned into the Chrysler Corporation. I told them that I would like to see them work out an arrangement whereby I would retain my outside activities, but at the same time I would become a part of their organization. So we worked out a deal that I was to go out there one day a week and carry on and handle their patent work just exactly in the same way as though I were a regular and permanent employee of the company, except that I was only there part time. And I don't know how well it has worked out for Chrysler, but it's been going on now about thirty-seven or-eight years and it's worked out pretty well for me...and I think it's a good arrangement for everybody. In the meantime, the company has grown and has developed its own patent department where there is a sizable group of excellent patent lawyers. I have to say that because one of them is here in my cheering section today, and I have to give him credit for the kind of job he does. But actually several of my friends who are sitting around here are members of, or heads of, patent departments, and you know all the trials and tribulations that come to a person who's running that kind of a job, and you either do a good job or you don't stay there.

To those of you who have patent departments, there are some prescriptions that I can give you from my experience as to how you maintain the best contacts with your research and development people. For those of you who do not have your own patent counsel, I simply give the recommendation that you employ your outside patent counsel in the same way that you would employ your full-time operator, and you give him all the authority and all of the obligations that you would give to a full-time operator, but let him operate on a part-time basis. It isn't always possible--sometimes people don't like to do things that way--but I can assure you that there are many, many instances of bad mistakes which occur when companies do not have someone who is working closely with them as their patent counsel, but who has to sit in his office and wait until someone in the corporation decides that it's time to take this up with the patent counsel. That may be a little late in arriving, and it may result in some very serious mistakes.

There are two prescriptions which are most important in the maintaining of the kind of relationships which should exist between the patent counsel and the remainder of the organization. The first, I think, is that your patent counsel should not only be a good technician, and a good lawyer--he should be a good businessman, because so many of your patent problems cannot properly be answered without the use of sound business judgment. In many instances the people in the corporation, from the president down, have so little knowledge of patents and the workings of patents and that sort of thing, that really it's unfair to ask them to make the decisions that should be made by the patent counsel.

And so again, if you will pardon the personal reference, the last arrangement I made with Chrysler was about like this: that I was to assume full responsibility for everything having anything to do with the patent work at Chrysler; I was to handle the technical phases of the subject; I was to handle the legal phases of the subject, and I was to handle the business phases of the subject. It was my responsibility, and if anything went wrong there was nobody to be blamed except me. And that is the situation which has obtained for a long, long time, and at least I have been happy with it. I think that it has worked out very well.

The next thing to do is to make sure, or as sure as you can, that your top management realizes and appreciates the importance of patents and the patent system to your corporation. If you have the backing of your president, or your vice-president of engineering, or your financial vice-president, the whole top of your organization can say, and will say to the organization, "A very important factor in the success or failure of this company lies in whether we are alive to the making and developing and promoting of inventions." Then I would say that nine-tenths of your problems in having your engineers work closely with your patent counsel are finished, because your engineers are going to realize that the management thinks this is an important part of the functioning of the corporation and they will see to it that a close contact is maintained both from the standpoint of patenting those inventions which are made and should be patented, and from the standpoint of making the necessary investigation to be sure you don't put something on the market which is going to infringe somebody else's patent and cost you a lot of money. Those two factors, I think, are the two most important factors involved in building up and maintaining this close relationship between the patent counsel and your engineers and inventors.

Engineers do many things which to them are simply a part of their job--they haven't done anything remarkable or outstanding--they have simply done the thing that they were employed to do, and they have done it the best way they know how and they think that is part of their job. Well, to those of us who have the responsibility of simply looking at the results, we sometimes think that those things are a good deal more important than the engineers think they are, and we would like, at least, the opportunity of making the necessary investigations and doing the necessary work to be sure that these things are protected and they don't encounter serious infringement problems. Our problem, then, is to impress on the engineers the importance of telling patent counsel about what is going on. It's not too bad a scheme if you can find a way of lining his pockets with some green stuff. That makes him a little more interested in coming and working with the patent counsel than if you don't do it. We, at Chrysler, have an employment agreement, as I am sure most companies do, that requires engineers and those who come in contact with the company's development problems and who are likely to invent, to assign their inventions to the Corporation. Our agreement also

has with it an agreement on the part of the Corporation which--although it does not obligate the Corporation to grant licenses under any patents it does not choose to license--does provide that if licenses are granted to others, then the employees will share or participate in the resulting royalties. Recently we made a computation there (I don't know exactly how far back it goes)--which showed that we collected something on the order of \$4 million in royalties, and that amount of money had been split up with the inventors who had made the inventions upon which the licensed patents were taken out. And that has pretty well solved our problem at Chrysler in having engineers bring their inventions to the patent department. It makes quite an incentive.

It has one possible obstacle, and that is that as you all know, a patent must be taken out in the name of the inventor and sometimes in these engineering organizations you find out who the inventor is and you take out the patent in his name, but the actual development of that invention has been participated in by another, or a group of other men, who feel that they are equally responsible for the final outcome--and they may well be. We haven't had too much trouble with that at Chrysler, but it is a possible drawback.

Another possible drawback is, of course, that if the Corporation decides that it does not wish to grant licenses to another, the employee may be a little disgruntled because he thinks he could get some royalties if they would grant a license. But there again, so far as the operations at Chrysler are concerned, that has proved to be no material stumbling block.

Then, of course, you have the job, or your patent counsel should have the job, of periodically (once a year if that is feasible--less time or more time if it is not feasible) but periodically he should make up a list of the patent applications that have been filed and divide them up in the groups to which they apply. As for instance, in an organization like Chrysler, you might have the body group, or the engine group, or the transmission group, or other various groups, and you make these lists up for those particular groups and you give them to the heads of those groups. And you say, "The next time you're considering giving some raises or putting out some bonuses, here are some of the patent applications which have been filed by your people. You should give that consideration when giving out your raises, bonuses or other incentives, and let that be known to the man or men who participate in the thing. The fact that they have made these inventions and patent applications have been filed in their names, has brought it to the attention of the heads of the departments." In that way, then, the men themselves come to have an appreciation of the fact that the making of inventions is an important consideration insofar as what they are going to make from their jobs is concerned, and they will be more anxious and more cooperative in working with the patent department and getting their inventions made known to the patent department at the earliest possible date.

There are other forms of monetary consideration, of course,.... Mr. Hastings has already mentioned that his company gives each inventor \$100 upon the filing of a patent application. And others give their men \$25, and what not. I've always cast sort of a weather-eye at that because I felt that in the first place \$100 is very poor consideration for the making of a very worthwhile invention. But on the other hand it is \$100 too much for a worthless invention even though a patent application has been filed. But it's a means of creating enthusiasm on the part of the engineers in making their inventions known to the patent department.

And then another scheme that can be followed is for the patent counsel to have periodic meetings with groups of engineers. There again it depends upon the size of the organization. But you have these meetings periodically and you give them the opportunity to tell the patent counsel what they are doing. Meetings of that sort, of course, can be participated in by your outside patent counsel--and are even more important to the outside patent counsel than they are to the inside patent counsel, because it makes it possible for him to meet regularly with the engineers and inventors in the plant's organization.

Another thing that can be, and often is, done is that articles will be written and printed in the house organ of the company, assuming that the company has a house organ. And there you can explain some of the fundamentals of the patent system, and the importance of the patent system to employees, and you can impress them with the value and importance of the patent system to the corporation.

And then there is a thing which can be done--which Chrysler has done--and that is to write up an explanatory booklet, which describes the operations of the patent department and its association with all departments of the company, explains the association between the patent department and the engineering department, the manufacturing department and the financial department--because you are engaged in the buying and selling of inventions. The patent department is an important department money-wise in the corporation and requires cooperation on the part of your financial people, and with the purchasing organization because you have to have close contact with your purchasing organization to ensure that your company does not assume patent liabilities where it ought not to, to make sure that your company is properly protected against patent infringements, and all of that sort of thing. There is hardly a department in the corporation which the patent department does not, in some way or another, have contact with and have cause to work with, and so if you have this booklet which describes the function of your patent department and you pass it around throughout the organization, it is amazing how many times you find some of these departments thought before, "well, the patent department means nothing to us--we have nothing to do with them"; but then they can see from the booklet that they do have something to do with it, and they see the importance of maintaining close contact with the patent department.

And then probably the last, and most obvious, means of maintaining contact is to have an assistant to your patent counsel, (or have your patent counsel do it himself if he has time) simply scout around and stick his nose into the drawing board and into the development departments and say, "what's going on here?" and he simply noses it out as a bird dog would follow the scent and find the things which nobody brings to him-- he simply has to go out and find them himself. And there again you find the importance of doing what so many companies do, of having maybe an outside patent counsel and an inside man who is the liaison man between the corporation and the outside patent counsel. He is the man who does all of these things of knowing about the company's hopes and dreams and aspirations and keeps advised of them by working with the people in the organization, and then at the same time working with the outside patent counsel to see that he is kept fully abreast of what is going on and given the opportunity to add his judgment as patent counsel as to what the company ought to do and ought not to do.

I think, in brief, that is about the long and short of the suggestions I have to make as to the best way of maintaining a close relationship between your patent counsel and your company, and again I re-emphasize the fact that it cannot be too close because if wide gaps occur, you are likely to awaken some day and find you have lost some valuable rights, or you have incurred some important liabilities, and neither of those situations do you want to occur. Now if any of you have any specific problems in your organization, or if I can enlarge on any of the things which I have told you, I am at your service....

DISCUSSION

QUESTION: Would you compare the difference between your arrangement with inventors of paying royalties with what their common-law shop rights would be without such an arrangement?

ANSWER: Well, in the first place, no, I cannot compare them because I am assuming that the corporation has the kind of contract which most corporations have with their inventors which requires the inventors to assign to the company the inventions they make relating to the company's business. If they do so assign, then they have no common-law rights. And if they do not so assign, then it simply becomes a question of whether the inventor owns the patent rights and the corporation has any shop rights or not, and that gets into an entirely different subject.

QUESTION: Should the individual technical worker have personal access to the patent department without going through his supervisor, and if he does are you likely to have difficulties of them taking up too much of his time?

ANSWER: Well, it has been my experience at Chrysler and a sizable number of corporations that our law firm represents, that the closer the patent counsel can work with the inventor, the better off they are, because in the first place that prevents the thing of the supervisor trying to be the inventor of something that he is not the inventor of, and also that it makes it possible for the patent officer to work with first-hand knowledge instead of second-hand knowledge of what the thing is all about. Now I don't mean to insinuate for a second that the supervisor should be barred from the contact, either, because many times the supervisor can contribute. He may not be the inventor, but he can contribute quite materially to the patent counsel's understanding of the fundamental problems involved and why we are doing this, and why we wouldn't do it this way, instead of doing it that way, and so they are both important. But by no manner of means do I recommend shielding the patent counsel from the inventor--the closer you can get them together, the better.

QUESTION: I would like to ask a question from the technical man's point of view--I am sure that very few technical men would object if the patent lawyer came in and started asking questions about things that he thinks they have invented, but suppose he thinks he has an invention and he takes it

to the company patent man and he decides there isn't any invention, and they are now at a conflict of terms. How is this resolved?

ANSWER: The patent counsel wins out. I really do feel sorry for the inventor who thinks he has the most wonderful development in the world--he just cannot see the applicability of some piece of prior art, and sees no reason why he cannot have a first-class patent on this thing.

QUESTION: May we make that question even stickier after the patent counsel and the company won out and denied the gentlemen, he leaves the company and there we do get into this very sticky problem and he takes out his patent in his own name. Then the company likes that patent and follows him up. Where does the company stand in that case when its own counsel has said this thing is worthless?

ANSWER: Well, legally they stand in the position of still owning the invention.

QUESTION: It is embarrassing, though.

ANSWER: That's right. The patent counsel is not immune to being embarrassed.

QUESTION: I would also like to ask you, in your peculiar position, about another matter, and that is I know from personal experience that some companies that I have worked with that generally the patent people take a very dim view of the value of ideas that are suggested from within. That everything that the competition owns is obviously iron-clad. How do we resolve these kinds of feelings?

ANSWER: Get a better patent counsel. I don't know, but I've always thought that my competitors in this business always think that their patents are the best and ours are the worst, and I don't think I've been accused too many times of thinking that the other fellow's patents are the best and ours were the worst. I'm more of an optimist than that.

QUESTION: A different form of communication that may pre-empt others on this is this: rather than saying that it is an acriloni-tril-butadiene-styrene type of thing, couldn't we just say that it's just a rubber buggy-bumper, or something like that?

ANSWER: You bet you could.

QUESTION: It would appear to me that there is a good bit of legal terminology that isn't applicable to research and engineering personnel.

ANSWER: You mean appears in patent nomenclature?

QUESTION: Yes, it would appear to me that if you were to search back in literature, there would be a little sentence after each claim "to wit". Is it possible to eliminate things like this, or does it take away the importance of the claim?

ANSWER: Well, it's perfectly possible, but the reason fundamentally in back of the use of the correct technical term is the patent office requires it. For instance, if you wanted to write into your specification that you were going to use Prestone instead of whatever it is.... I think its mone-ethylether of ethylene glycol or something like that--the patent office says, no, you can't use Prestone, because that's a trade name--it is not a proper description of what actually goes into the making of this invention. So you must use the correct technical description--that's fundamentally the reason. Now I don't doubt that there are patent counsel who throw some of those technical terms around to show they know about them, but by and large I think you will find that there is a sound fundamental reason why they do use them.

QUESTION: I think that there is a good deal of lost time when you submit papers for an invention to a patent attorney and he goes ahead and makes no effort whatever to get in touch personally with the inventor. He writes it up and then comes back a few months later with his write-up only to find that he didn't have the right idea in the beginning. You know it is almost impossible to write many of these things down. How can you get across from the technical man to the attorney that this personal communication should come early, and not after they have spent a lot of time on it?

ANSWER: Well, the patent counsel should know that. When the patent counsel gets the disclosure he should make sure that he really has the disclosure--that he doesn't jot down a partial disclosure, but is sure he has a disclosure which contains all of the information necessary. If he doesn't do it, it is because he either doesn't do a good job, or he doesn't understand that he didn't have all of the information.

QUESTION: Well, it's almost impossible to write down all of these things....

ANSWER: It isn't impossible to do it, because the patent counsel has to do it eventually, and you fellows can do it if you will...you're lazy and we're lazy and the ball bounces between the two sometimes....

QUESTION: At Chrysler does the inventor go directly to the patent office?

ANSWER: Yes sir.

QUESTION: There is no organizational set-up wherein there are some patent committees within each division?

ANSWER: No.

QUESTION: Where in the corporation is the best location for the patent office? Legal department? Vice-president of Research? Engineering?

ANSWER: It doesn't make the slightest difference--it can be anywhere. In my own case, at Chrysler for instance, I've been invited to occupy various and sundry offices all the way from the top executive row in engineering and that sort of thing, but I have preferred to keep our patent group in the engineering department. It is a little more convenient, but still in all we have so much contact with the other departments that it makes no difference actually.

QUESTION: But you feel in this matter of communication that it would be much better if the patent people had some scientific or engineering knowledge instead of so much legal?

ANSWER: There are two schools of thought on that. Generally speaking most people are of the opinion, which I think you must have, that the patent counsel should have technical background. I having none myself, of course, lean in the opposite direction. On the other hand, I had this experience with one of my own sons, all three of whom, incidentally, made the serious mistake of becoming patent lawyers. My number three son approached me when he was about to take off for college and said he wanted to become a lawyer. And I said "what kind of a lawyer?" He said, "I don't know." And I said, "Well, that's at least sound. You had better look around and find out what kind of a lawyer you want to be." I said, "Tell you what I'll do, I'll let you work

one summer in my law firm handling patent work, and I'll let you work another summer in a general law firm, doing general law work, and maybe you will decide what kind of a lawyer you want to be." And so he did, and then he came to the decision that he wanted to be a patent lawyer. But then after he graduated from law school, and he had no technical education, I might say, I advise him--I said, "I think you would do a better job and a broader overall job if you had a broader education rather than a specialized engineering education." So after he finished he spent six months in the office before going into the service, and after a time in the service, he came back. He said, "I just wonder if I've made a mistake in deciding to be a patent lawyer instead of a general lawyer." And I said, "Why?" And he said, "Well Dad, technology today is so different and so much more involved than it was when you were a young man, that I just wonder if I will do as well because I do not have a technical education." I said, "I'll answer your question by asking you-- If you are going to study technology in order to fit yourself for patent work, what would you study?" You can't be an expert in all fields, and so your patent counsel has got to be the kind of fellow who can sit at the knee of the technician and absorb what they have to tell him, and translate that at the patent office, court, or wherever it has to be translated.

QUESTION: By your own admission, the man who did you the most good when you started with Ford was the shop man who knew the shop, and didn't know a thing about patents but did the most there--I'm talking about communications now--in getting these patents, or patentable things out of the scientific field. I think in the majority of cases, after the ordinary technician or technical person has read the patent that the patent lawyer makes up, the big question is "how many weeks am I going to have to work on this to have it say the thing that I said rather than what he conceives it to be without any technical background or knowing what we are really talking about."

ANSWER: There is no question but what the liaison man is much better as a technician and will do a much better job because he does have a better understanding. And of course in most instances in corporations a good deal of the activity is relatively narrow. Its different than it is when a man is doing general patent work--his field of activity could be in electrical today, chemical tomorrow, and aeronautical

the next day, and so on, and on, and on. But so far as your contact men in the corporation are concerned, the more technical knowledge and ability they have, the better.

QUESTION: What can you do to balance the situation between the technical man who thinks he has enough information to get a patent, or for a patent to be applied for, and the patent man who says he has about two years more work.

ANSWER: That gets to be a matter of personality. You've got two people, and when you get two people, you can have two different opinions and it's a question of trying to get them together and have each understand the other. If it can't be done, you've got a bad situation. But it should be done.

(AFTERNOON SESSION)

J. L. YORK

This afternoon I would like to interrupt the theme of the program for just a minute or two. There are a few announcements here from Ray Carroll, the Director of Industry Program, whom I think you all have an opportunity to thank here too for this program and the things which have been done in making these arrangements--including the weather! Ray...

R. E. CARROLL

Thanks, Louie. We look back over the past Industry Program symposia, and certain things stand out in our memories. Last year we had a meeting on the subject "Design of a Decisive Experiment". I remember two or three things specifically without trying to think about it, and I'm sure each of you who were here last year has several of these memories which will pop back in very easily. One of these I just have to share because I know you weren't all there, and this was..... Dick Morrison was up here talking about some methods of optimizing an experimental design, and as all these people wanted us to know more about the laws of probability, he told this little story. It must have been a student in the Lit School--it couldn't have been a student in the Engineering College--but this student was taking a true-false exam, and when he started out, he got a coin out of his pocket and started flipping it. He would flip it, check off true or false, flip it again, and so forth. The instructor noticed this, but took no special heed. Well, the student got all the way through the exam, opened it up to the first page again, and started flipping again, occasionally erasing and making a change and by this time the instructor's curiosity was really aroused. He came around and said to the boy, "What in the world are you doing there?" And he said, "Why, I'm checking my answers". I'll never forget that one. Well, we keep a record of these symposia, and some of you may not have received a copy of last year's meeting. If that's so, we have a few dozen copies which will be in the Assembly Hall back here this afternoon when you go back for your coffee hour and discussion--pick up a copy and take it home with you. I'm sure you will find some interesting reading there. The important thing though is, we would like to make sure each of you gets a record of today's meeting. We do have your name and your company affiliation in every case, but in some instances it really isn't quite sufficient, and six or seven months from now it may be less sufficient. In any case, if you would like to have this book sent to your home, I suggest that you take the insert out of your name badge, put your home address

down there, and leave it with one of us. Or if you change companies, drop us a postcard and give us your new address. It takes six or seven months to get one of these things finished. One other thing here, and that is that we have prepared some Certificates of Membership to the Industry Program, and these also are in the Assembly Hall where we will have the coffee hour this afternoon, and if you are the official representative of your Company for the Industry Program, and are driving back home, we would appreciate it if you would take your framed certificate with you. It will be wrapped. This will save us the trouble of mailing it and also give us a little better chance of getting it there without having the glass broken. I believe that is about all the announcements that I have, except that I would suggest you might like to look up Professors Oppenheim and Choate of our Law School, who will be with us at the coffee hour this afternoon, and get acquainted with them. I appreciate your being here today and we are looking forward now to a very interesting afternoon. Louie, will you come back and start introducing now?

J. L. YORK

Thanks Ray. Well, the subject that we were working on just before lunch is still not quite completed in that we believe there are still a lot of questions in many of your minds regarding the best procedures and techniques for this matter of communication between the inventor and patent counsel. Another point of view might be represented at this time. Mr. Harness has obviously, with legal but no special technical training, been an excellent patent lawyer throughout his active career. We now have a little bit of the other side represented, in that our next speaker is a man who started out and completed the program and got a doctor's degree in Physical Chemistry here at the University, we are proud to say--. He joined Esso in 1930, and has been in various capacities there in the company since that time, except for a year's leave-of-absence when he was in Washington as part of the Board of Research and Development. And he came back to Esso as manager of their legal patent group and is now the coordinator of the contract and legal patent group. So, we would like to hear now from Dr. Floyd Miller on this subject of Communications.

PATENT PROCEDURES IN A PETROLEUM RESEARCH ORGANIZATION

Floyd L. Miller

Legal Department
Esso Research and Engineering Company
Linden, New Jersey

PATENT PROCEDURES IN A PETROLEUM RESEARCH ORGANIZATION

Floyd Miller

Thank you, Professor York and gentlemen. As you might suspect, being here today is in a sense a homecoming for me. Little did I dream, however, when I left here as a young physical chemist, thirty years ago, or more, that I would be back in Ann Arbor today, talking on the subject of patents and patent organizations.

In my talk this afternoon, I plan to focus attention on some of the coordination and communication problems associated with our patent activities. To a certain extent I shall be exploring some of the same areas Mr. Harness covered this morning during his talk.

This morning Mr. Hastings told us very clearly what a patent is. I am going to try to tell you this afternoon how at least one company is organized to obtain these patents, and generally what we do with them when we get them.

I should like to acknowledge in the beginning that the problems we face in our company may differ considerably from those of the organizations with which many of you are affiliated. There are several reasons why this may be so. For one thing, at Esso Research and Engineering, we obtain a relatively small proportion of mechanical patents -- less than 10% on the average. Most of our patent coverage is concerned with petroleum and chemical processes and with corresponding product composition and application inventions. Secondly, our company differs considerably from most research and development groups in its organization and structure, and therefore its responsibilities and relationships towards affiliated companies are presumably somewhat different. For instance, our company is a corporate entity in its own right, with its own officers and board of directors. It is a non-profit organization which is supported wholly by underwriting agreements it has with its principal affiliates. This is rather unusual among technical organizations. Except for the research involved in finding and producing crude oil and natural gas, our company is responsible for all of the research and engineering carried out around the world for affiliates of the Standard Oil Company of New Jersey. A large part of this work is carried out in certain of our own facilities. The remainder is farmed out to laboratories of our affiliates on a contract basis. The whole program, however, is a completely integrated one, and is closely coordinated by our company.

In fact, you will recall that I was introduced as a coordinator. I think I might interrupt at this point to tell you the definition of a coordinator that I heard recently. As this definition goes, a coordinator is "an individual who gets some information here, he gets some information from over there, and some from other quarters, and then it's his job to get it all meshed up."

Underwriting affiliates assign their patents to us as part of the research agreements under which we operate, except for a limited number of cases particularly where a local affiliate may file initially in his own country, and also in the field of oil production we are responsible for the prosecution for essentially all patents, both U.S. and foreign, which are generated by the Jersey family of companies. We also have the responsibility of administering all the patents, including the licensing, selling and trading of them. Finally, we handle the purchase of licenses or patents covering processes or products developed by others which may be needed for the major operations of general interest to our underwriting affiliates. At times we may also carry on negotiations to purchase other licenses of more restricted interest for the specific benefit of these same affiliates, or of other affiliates who do not necessarily participate in our research arrangements. Such a centralization of responsibility in the broad patent field makes it possible to organize differently and, we hope, more effectively than if the responsibilities are divided and scattered. However, as might be expected, centralization also can and does breed numerous problems.

Our total patent and legal effort is split into four phases. We have a Patent Division, a Process Licensing Group, a Contract Licensing Group, and a Counsel. These areas represent a total of some 125 employees, including non-professional personnel. In the time available, I should like to concentrate attention primarily on our Patent Division, although I should also refer to the other three activities, particularly as they involve or affect the Patent Division. The Patent Division itself has about ninety people, around forty of whom are professionals -- that is, attorneys, agents, trainees and others. The responsibilities of the division are presumably very similar to most of those exercised by patent groups in other companies. The principal ones I might enumerate are: to collect inventions from the individual inventors; to file and prosecute applications (this includes foreign filing which is handled directly by our Patent Division, working through selected agents in the principal foreign countries); to develop policy on patent handling and procedures; to carry out infringement and validity studies; to work with outside counsel on infringement questions and suits; to work with our licensing groups, keeping them informed of patent assets and serving in general in an advisory capacity

on patent matters; to coordinate the other patent activities in the Jersey organization; to work with the research, development, and engineering people within our company as well as with the technical personnel of affiliates to make sure the inventions are promptly submitted.

There is nothing very complex or unusual about our system of gathering patentable ideas. The inventors are furnished with forms which we call "patent memorandum forms." Whenever one of them has an idea, which he thinks may be novel enough to be patented, he describes his prospective invention in the patent memorandum, has the form witnessed by a colleague, and then submits it to a patent contact man in his own technical division. It is the function of this patent contact man to review the memorandum and make a preliminary search to determine whether there is any obvious prior art which would automatically bar or restrict the patentability of the idea. It is also the function of this patent contact man to stimulate the flow of patent memoranda and to assist the technical men in recognizing the opportunities for patents. He may also help the inventor prepare his patent memorandum, and at times he may suggest that additional experiments be carried out to help strengthen, or better define the idea. In general his role is to be as helpful as possible to both the inventor and the patent attorney.

The patent memorandum is then forwarded to the patent division where it is further studied with respect to the prior art. The next step takes the memorandum to an appropriate patent committee for a final evaluation and decision on filing, including the assignment of priorities with respect to other inventions, or cases that are being processed, or about to be. We try to insure that the patent committees have representative memberships. In addition to one or more representatives of the Patent Division, including one person who serves as the committee secretary, the committees are each made up of several highly qualified technical people, who are authorities in their particular fields, and who also have a wide knowledge of the company's overall operations and its anticipated future needs. Actually, we originated our patent committee for an entirely different purpose. A number of years ago we set it up primarily for the purpose of determining priorities. We had found that a few enterprising inventors, moved by their enthusiasm for their own ideas, were often pressuring our attorneys for early action on their particular ideas. This was fine for these few inventors, but in many cases the speedup was achieved at the expense of much more important inventions of others. In addition, the inventors who were less aggressive weren't very happy with the system which provided grease for the hubs which made the most noise. This problem was quickly eliminated with the establishment of the committee system. Since then all cases have been considered largely on their own merits. Over the years, the committee's responsibilities have been broadened to include the other functions, such as evaluation of the cases, decisions on filing, including foreign filing and so forth.

After the appropriate patent committee has acted on a patent memorandum, an attorney places the case on his docket and prepares it for action and prosecution. Such problems as arise at this point are probably very much like those encountered in the patent activities of any industrial organization. We have found, for example, that research and development people frequently feel they are too busy to spend the necessary amount of time with the attorney to help him prepare the case. Sometimes, too, they are inclined to lose interest once they have completed what they feel to be their part of the work. At one time this problem was often serious. It's less so now, thanks to a modest incentive plan we developed some years back to help maintain an inventor's enthusiasm for his invention. We award \$50 to an inventor when his case is filed, and another \$100 when the case is finally issued. Today we find that our technical men and women are far more inclined to take the time to cooperate with the attorneys and to provide necessary help as the prosecution on the application proceeds.

Of course no procedure is perfect, no matter how well it is organized. We find, as we understand most other organizations do, that a certain percentage of technical employees just don't turn in their ideas without some sort of prodding. Sometimes they have taken on a new project and have lost interest in their former work. Sometimes they may be overly cautious and feel their ideas are nowhere near ready to be submitted. And then, of course, there is also the element of sheer inertia on the part of some.

In cases such as those I just mentioned, who should be responsible for seeing that the work and the developments are properly protected from the patent standpoint? Many feel that the individual technical divisions should perhaps shoulder this responsibility. However, they have so many other jobs to do, it isn't often we can count on them to do it. Moreover, it is the Patent Division which is specifically charged with making certain that inventions of company people are properly covered. Our experience has shown that it is best to place this responsibility squarely in the hands of the Patent Division. It in turn has approached the problem by assigning individual attorneys to maintain close contact with the reluctant inventors until the cases in question are finally prepared for filing. This procedure has its problems too,-- at least we find it does. Most attorneys are not normally inclined to go hunting for inventions. Their professional outlook, perhaps arising out of their training, generally prompts them to await the product of the inventor. Also, it involves the relationship between the patent group and technical divisions. If reasonable care is not taken in encouraging this close liaison between the inventor and the attorney, ruffled feelings at all levels can result, with the entire operation thus being jeopardized. It requires a high degree of communication, coordination, and understanding between the patent people and

the technical people to prevent such a breakdown, and to make certain that the ground is properly covered.

The attitude of the heads of the technical divisions, of course, is very important. Our experience has been that the research men pay much more attention to the patent phase of their work if they know their management considers inventing to be an important and integral part of their job and gives it high priority. Equally, they are more likely to be neglectful of this phase if they know their management is only luke-warm toward it. We have found that the division managements are, in fact, appreciative of the Patent Division taking the leadership in extracting inventions from those who are slow to submit them on their own initiative.

Another important problem which I might mention is to establish workable procedures whereby the attorney or his supervisors are in a position to spot important new developments in the various areas of research and to be able to follow up on them. This requires a close knowledge on the part of the Patent Division, and of the individual attorneys of the research program, and most important of the results of that program. A great deal can be accomplished, too, through close communication between the Patent Division people and the technical personnel on phases of patent activities other than those I have already mentioned. They can define more clearly what the patent program is trying to accomplish. For example, with their better knowledge of the prior art which exists in different fields, they can also contribute vastly to the inventor's understanding of what the research means from a patent standpoint. This close relationship requires a certain amount of time on the part of both groups, but we have found it time well spent. Clearly then, it is the responsibility of the patent division to make certain that ideas are sought out and properly protected, or at least that is our feeling. It is the responsibility of the technical divisions to do the research and development work necessary in the products, processes, and chemical fields. While the technical people in these divisions must be aware of patent values and of the need for protecting their technical output, it should not be left up to them alone to see that the coverage is obtained. We have found on the whole that both the top people and the technical personnel in our research divisions are quite willing to cooperate in this respect.

Next, let us turn to the other associated efforts which I mentioned earlier, the activities of which also affect the patent division. First, I might mention rather briefly our Process Licensing Group. This group is responsible for licensing our fully developed, and relatively standardized processes to the petroleum and chemical industries. As you may know, the petroleum industry has a long history of making its processes freely available to other members of the industry, both large

and small, for reasonable royalties. If the royalties aren't reasonable, we have found that competitive processes soon whittle them down to such levels. I think it might interest you to know that our company alone has developed some fifteen or so processes in the last twenty years which have become more or less standardized, and which have been or are being offered widely to the industry. I might add that most of them are fairly widely accepted.

The Process Licensing Group is principally a technical sales group. They negotiate some of the licenses, and handle contracts with numerous engineering and construction contractors. Their dealings with the latter, particularly, require negotiations of numerous confidentiality and secrecy agreements. The needs of this group for legal help are largely taken care of by an attorney attached directly to the group. Obviously such a group is confronted with many questions involving patent considerations, including approval of final design drawings, infringements of isolated patents, holding harmless, and so forth. This is complicated enough when one is operating in only one or two countries. It becomes much more so when licensing on a world-wide basis, except in the iron curtain countries, as we do. The patent division provides the help, studies, and advice required in these cases. Close liaison and excellent rapport between the two groups are obviously necessary to ensure a smooth functioning of the operation.

Next, I should like to discuss the Contract and Licensing Group which is an extremely important one for us. This group has responsibilities covering a wide field. It is responsible for licensing individual patents, incompletely developed processes, special patent and know-how situations, certain information exchange arrangements, and all contracts involving consideration of patent rights. Perhaps even more important (as has already been touched upon earlier in a more general sense) it has the responsibility in most cases of acquiring from others the licenses generally needed by our affiliates for their operations. In certain other cases, this group may either negotiate special licenses for an affiliate or help the affiliate in its own negotiations. Because our parent company operates on an international basis, we attempt to acquire rights on a world-wide basis whenever possible. If this is not possible, then agreements are made as broad as they can be under the circumstances. The activities of the contract and licensing group have become more and more important with our company's rapid expansion into the chemical business. It may surprise you that Jersey Standard ranks seventh among all U. S. chemical companies on the basis of sales volume. Traditionally, chemical companies have not been as free to license their new developments as have the oil companies. The acquisition of desired chemical licenses is therefore a more complicated matter, and requires a group of well-informed, capable attorneys and skilled negotiators. Our Contract and Licensing Group is composed largely of attorneys with years of patent experience

and training. Most of these men are qualified chemists or engineers as well. As would be anticipated, the Contract and Licensing Group is confronted constantly with significant patent problems, including assessment of the values of patent assets, infringement and validity questions, the probable effect of conflicts, especially outside the United States, both in selling and acquiring licenses. Again the Patent Division makes the studies that are required and offers its advice and recommendations so as to provide the licensing and contract people with a maximum of background and information needed for the successful conduct of negotiations.

Finally, let me briefly mention the position of counsel. In general, the counsel probably has about the same functions as the counsel of most industrial firms. He is responsible particularly for advice on general legal matters, on anti-trust and consent decree problems affecting our patent, research and licensing activities, and for working with affiliates on arrangements they may be negotiating which would touch upon our rights in one way or another. I might add that he is also responsible for the underwriting agreements, that I mentioned earlier.

You may be wondering why we have separated the two licensing functions from the more strictly patenting functions. There are several reasons why we have done this. One, which has already been touched upon, is that it promotes the development of the special corp of negotiators skilled in the art of negotiating. Second, our licensing activities are rather extensive, and it is easier to develop in a special group a cohesiveness and feeling for the needs and general policies of the company than it is to administer such a program scattered through a larger number of patent attorneys who also have many other responsibilities. Finally, it enables us to establish more clearly our actual cost for the different activities.

I believe that it is obvious by now that the patent division in a company like ours has a big responsibility and that its success depends to a great degree upon its ability to maintain proper lines of communication in many directions. It must foster interest among the technical personnel in describing and submitting ideas and inventions. It must see that the inventions are efficiently processed prior to filing and prosecution so as to best protect the company's and the employee's interest. It must keep fully abreast of the company's research programs and on top of the most important ones, and it must maintain close contact with the licensing groups and counsel, making certain it is in a position to carry out the studies and provide the help and advice needed by them in their operations. I could undoubtedly continue citing many other things it must do if a continued effective job is to be done. But those that have been mentioned should serve to highlight the degree of

organization that is required and the fact that the individual attorneys must be fully alert to many facets of their assignment other than just the routine or specialized steps of receiving, drafting, filing, and prosecuting.

DISCUSSION

- QUESTION: Approximately how many employees are served by this staff of the patent department?
- ANSWER: In our own company itself there would be approximately 3200. If we include the employees of the various affiliates who are doing work for us, and who are assigning patents to us, I think you could probably add another 1000.
- QUESTION: That is 4200 technical people, approximately?
- ANSWER: No, I'm sorry ... 4200 total employees of whom almost 2000 are professionals.
- QUESTION: Tell me, how often do these committees, that pass on patents, meet? I would think a committee would delay getting results a little bit.
- ANSWER: Actually they have no fixed schedule. If there were no cases, for example, in a particular field the committee would not meet. We have probably a dozen committees altogether, with different memberships. For example, we have a committee covering certain phases of chemical activity -- in fact I think we have three committees in the chemical field. If they had no cases submitted, they might not meet for several months. If, however, they do have cases which seem important they are subject to call at any time. They decide "which has the top priority" -- which should be handled and then secondly, in which foreign countries should it be filed. From that time on the thing is entirely in the hands of the attorney. It could be a serious draw-back, if the committees didn't meet frequently, or if they always waited until they had large agendas which would take perhaps a day or two to clear up.
- QUESTION: My question was in that same area, but you didn't quite answer it for me. Is this patent committee the first group of patent people that sees this idea, or does the technical man come and talk it over first with an individual before it goes on the committee agenda?

ANSWER: The idea first goes directly to the patent contact man, who is not a patent attorney. He is another technical man in the division who is set aside to handle patent matters. His function is simply to take a look at the idea and to take a quick look at the prior art to see if there is something which would obviously and automatically rule it out. If he doesn't find anything, that doesn't mean that it may not be thoroughly anticipated by the prior art. It merely means that he hasn't found it quickly. It goes then to the Patent Division and the attorney who is secretary of the appropriate patent committee is responsible from that point on. That is, he gets together the agenda, and calls the meeting, and the committee makes the decision.

QUESTION: Do we have some figures such as number of disclosures received, applications filed, and patents issued, to get some idea of the volume?

ANSWER: I can tell you that for our own company. The ratio of memoranda that I mentioned to filed patent applications is somewhere, depending upon the year and conditions, and the field, around six to eight per filing. We have had years where actually there were ten filing, but I think the average is probably somewhere around eight.

QUESTION: What percentage will be from more than one inventor?

ANSWER: You've got me there -- but I would say about 50 per cent roughly.

QUESTION: Next question -- do you occasionally have real trouble deciding who are the inventors?

ANSWER: Not often.

QUESTION: I would like to ask if you have any figures on how many inventions per professional per year, or what fraction of an invention per professional - per year? Give us an idea of the workload that you can expect from a certain number of professionals.

ANSWER: I was trying to do some quick calculations while you were asking that. I would say roughly it's about $1\frac{1}{2}$ to 2 -- on the average.

QUESTION: What kind of training and experience do you people require of the patent contact man?

ANSWER: Well largely that he be very alert, and a capable technical individual -- that he has some flare for the so-called patent aspects. He doesn't have to be an attorney, and in fact the chances are that he never will become one. But you need somebody who is quick to grasp the literature, and you need somebody who can look at the idea and see if, for some reason, the man has more to the idea than he has really put down in writing and then he can help him as I indicated, by laying out additional work that might be done in order to firm up the idea.

QUESTION: Should he be an experienced man?

ANSWER: Well, normally in most of our divisions the patent contact man has probably been with the company at least ten years before he has been given such an assignment.

QUESTION: What percentage of cases filed turn into patents, and very roughly how many patents do you get a year?

ANSWER: Well, roughly 75%. In 1959 we received 502 issued patents. That's a little higher than normal, normally we range from around 350 to this 500 figure.

QUESTION: I have a question of a delicate kind, but it might as well be brought up in this session as any of the others. I certainly wouldn't ask the speaker to give his opinion -- it would be unfair to him, so I'll put it this way: would you gather there might be a feeling among knowledgeable people that certain trends in the recent decisions of the Supreme Court have been adverse to the United States patent system and its welfare?

ANSWER: I think the way you asked the question, I can say "Yes". My own personal feeling, however, is that that isn't necessarily the case. I think there have been some decisions that certainly haven't helped us any, but on the other hand, I think on

the whole when you look at the patent problem, in many cases the decisions haven't been too far from what you would predict.

QUESTION:

I'll give you a real tough one this time ... and that is, do you have any notion as to how many professional patent people you need per dollar of research. In other words, do you need one professional per hundred thousand dollars of research, or what?

ANSWER:

Well, I can be perfectly frank on that one. I have no data. On the other hand, I think a number of us feel that we are obtaining more patents than we need. Now how you evaluate this is another problem. We presently have a full scale study going on that is attempting to answer this very question. We approached it first from the positive side -- and that was, how many patents do we use of the patents we have, and on a 10% sample that we selected, we came out with the surprising conclusion that we were actually using at least 20% to 25% -- further, that either in licensing or in possible use there was another 25% which were of value. Now we're going at it from the other end and trying to determine what would have happened to our protection had we just not filed on any of the remaining 50%, or perhaps to be cautious, if we hadn't filed on just the bottom 25%. I don't know if we will come out with anything revealing or not. One reason for this doubt, for example, is that about a year or two ago, we were on the point of developing what we thought a revolutionary new process. We are going to end up receiving some 30 or 40 patents covering this field, but in the meantime we found other simpler methods of doing the job. It's quite likely therefore we're going to have these thirty to forty patents that will probably not be worth much, -- but we couldn't make that decision at the time of filing. Now of course we can drop the cases if we feel we want to, but the biggest cost, according to our records, is in getting the idea written up and filed. The actions after that cost a certain amount, but the real cost is the initial one. So we think long and hard before we drop something that might possibly be of use.

QUESTION:

You mentioned this \$100 fee and said, I think, that the employee gets it. I think I have rather mixed feelings about a thing like that. For instance, if I got my pay check from Esso, I don't think they would have to -- should I use the word "bribe" "incent" or whatever the thing is -- to get me to come down and cooperate to ensure that the company prospers and grows, and I continue to get my pay check -- and the whole thing keeps going you know. Well, this whets my interest as to why it is that a company that is obviously successful as the one you're with obviously finds it a worthwhile policy, and what considerations lie further back in leading up to a kind of policy of this type. I wonder if you would comment on that?

ANSWER:

I agree with your first statement -- I can't understand it either. But I think we have to face the fact that the creative people, and generally speaking your inventions come from your more creative personnel, often have an entirely different sense of values. They're perfectly willing to take their monthly or bi-monthly pay check -- they feel they are doing a good job of research and this is what they are paid to do. Whether the added incentive is right or not it is the only thing we've found that really works, and after all, while we are research people, we think we are practical people. It does cost a certain amount of money -- but compared with other things that we might do, we think it's fairly cheap. Therefore, we are continuing it. We occasionally may find somebody who just isn't interested enough to cooperate even with this incentive. In that case we just have to work on him.

QUESTION:

Your patent contact man -- does he attempt to get the idea reduced to practice -- is this what you're saying when you said he tries to strengthen it?

ANSWER:

Partly. As the idea is written out, it can be nothing but a piece of paper -- or it can be an idea that is thoroughly backed up with technical data. This fellow, after a little experience, has a pretty good feeling for what the patent attorneys need and if he feels that this is going to have pretty rough sledding, and furthermore if it looks

like a real good idea and all it needs are a few more data to clinch it, then it's his job to try and get that part of the job done.

QUESTIONER: And try to make it more presentable to the committee.

QUESTION: In the case of these patent contact men, is this their full-time activity, or do they have other responsibilities?

ANSWER: Yes, it is.

QUESTION: Do you have any regulations about this patent contact man being labeled a co-inventor?

ANSWER: No.

QUESTION: He can make a significant contribution and get his name on the patent?

ANSWER: He doesn't normally, but I suppose he could.

QUESTION: Have you found any adverse effects on the morale of the technical people if one of their pet ideas is turned down by the patent committee?

ANSWER: No. Actually we used to -- that is, a number of years ago. We would have problems, as I mentioned, partly because the attorneys might not be too familiar with the field, and the attorneys in many cases, were inclined to give attention to certain inventors and not to others. This caused some unhappiness. Once we established the patent committee all that irritation disappeared. I think the secret of the patent committee actually is in the quality of the people you have on it. If you put on second-rate professional people, they are going to make second-rate decisions. If you put on your top professional people, and perhaps even some of your assistant directors in research and development, who have a knowledge of the program, who have a pretty good idea of what the company is looking for, I think the inventor is going to feel inclined to accept their decision.

QUESTION: On your incentive plan where you have perhaps three or four co-inventors on a particular patent, would they each get this full amount?

ANSWER: Yes.

J. L. YORK

Now we have one last speaker who is going to give us a little bit of the other side of this. I think we have a tendency to shoot at that vague nebulus--government, so we have a man here who can at least tell us a little bit about what they are thinking. However, I would point out that he is not necessarily one of these career bureaucrats. In fact although he spent several years as a patent examiner, he has spent 27 years in the Philadelphia area as patent counsel for several companies, and in private practice. Then in 1957 he went back to the patent office as an Assistant Commissioner. So he has a few things that he would like to talk about, perhaps even a rebuttal or two. Mr. Maurice Crews, speaking on, "Trends in the Patent Field."

TRENDS IN THE PATENT FIELD

Maurice A. Crews

Assistant Commissioner of Patents
U. S. Department of Commerce
Washington, D. C.

TRENDS IN THE PATENT FIELD

Maurice A. Crews

Thank you, Mr. Chairman. I haven't heard anything that I especially care to rebut, but I would like, before starting my remarks, to make a disclaimer against any particular thing that I say being held as the official view of the Patent Office.

I hope I don't make that statement in the spirit of a story that Attorney General Rogers tells of his early career in the law. He tells about an early case in which he was representing a litigant and he thought the trial was going alright. The other side was represented by two counsel. Finally his client came to him and said, "I want you to get you an associate lawyer, like the other side has, so I'll be represented by two counsel". Mr. Rogers said, "Why, I thought we were doing quite well." "Yes," he said, "I guess we're doing alright, but when that fellow over there is talking, that one's thinking, and when that one's talking, that one's thinking. When you're talking, nobody's thinking."

Now my request for immunity against being held officially accountable does not come from the state of mind where I am not thinking. It springs from a desire to get to the root of some important problems, and I hope that we will have some give and take, especially on the last item that I expect to discuss, and it will help us a great deal if we don't feel that in responding to comments we are necessarily taking the care to be sure that we are expressing in fine detail the official view of the office.

As Judge Rich says, "How do I know what I think until I hear myself saying it?" I expect that I will modify and change some of my views even during the course of this discussion and it would be unfortunate if that discussion were to be limited to matters on which opinions are held in such a firm and stiff-necked manner that they cannot be changed.

One thing that your chairman did not tell you in his introduction of me is that I am an ardent equestrian and that I always bend the subject under discussion into a form which allows me to ride one or more of my currently favorite horses. In order to accomplish this bending process, instead of discussing all sorts of trends in the patent field, I would like first to discuss the basic purposes of the patent system about which Mr. Hastings has told you, then some trends or lack of trends that may indicate whether we are gaining or losing ground, and finally some of the things the patent office is doing and that the patent office, patent bar, and engineering professions may do to maintain and establish good trends and overcome bad ones.

Our first question then, is this: how is the patent system supposed to function in the interest of the national economy and the national defense? Mr. Hastings has told you that it is supposed to function in three ways.

First, to create the incentive and enthusiasm which will cause inventive people to make inventions.

Second, to provide financial support for perfecting and developing inventions.

Third, to induce people to disclose their inventions so they will become public knowledge and form a base on which still further inventions will be made.

To follow this order, our first question then is: Does the patent system in its current functioning serve to stimulate invention to the extent which is desirable in the national interest? A bare comparison of statistics indicates that the system may be falling behind in fulfillment of this function. The filing of patent applications has by no means kept pace with the increased rate of research activity during the past two decades. We are told that research activities increased twelve-fold between 1939 and 1958. Even discounting, say, half of this because of national defense activities you would still have a six-fold increase. The number of patent applications, on the other hand, has increased only one-sixth (from 66,000 to 77,000) during these twenty years. It's impossible to cite any one clear cause for this apparent anomaly, but it is one sign among several that it should be worthwhile for us to give some thoughtful attention to the possibility that our public information facilities or other aspects of our operation may merit remedial attention.

These questions are frequently asked: Is the day past when independent inventors can make important contributions? If not, what may be done to foster the useful activity of these individuals? Patent office statistics indicate that the day of the individual inventor is by no means past. Patents which are unassigned to any corporation at the date of issuance maintain an almost steady ratio of about 40 percent of all patents issued over the past couple of decades. Our own impression that the independent inventor will play an important role in the future as in the past is corroborated by studies made by others. Jewkes, Sawers and Stillerman have made an intensive study of this subject and reported in 1958 in a book called The Sources of Invention that a very high proportion of the most important inventions made even in the recent past have been the results either of efforts of inventors working outside of any large organization, or of technically educated people within such an organization who have conceived ideas outside of the scope of their own highly specialized field. These studies by Jewkes and his associates, and by the George Washington University Patent Foundation, indicate that about 60 percent of the most important innovations in recent decades have been invented by independent inventors or by persons working in small corporations. It seems self-evident that an important part of our effort to compete with other nations in the making of useful innovations should be directed to the problem of how to create a climate of information and understanding which will provide the strongest opportunity for us to take national advantage of the talents and inventive inclinations of these individuals.

It is true that the opportunity to invent is limited for many because of the fact that technology has advanced so far in many fields; that persons outside of those fields are too limited in scientific or detailed technological knowledge to provide useful contributions. Later on in these remarks, I will comment on some of the things we are doing and hope to do to overcome this difficulty.

Another question which is frequently asked is: In this age of great corporative activity, does the incentive to invent created by the patent law have the same force and useful effect as has been the case in the past? We cannot answer this categorically. It is a matter of common opinion that the entrepreneur is likely to maintain more initiative than an employee of a large corporation. However, this fact does not justify a conclusion that the patent law provides no incentive for the making of inventions by employees of corporations. The patent incentive operates directly on the corporation by inducing it to make expenditures for research and perfection of inventions which it might otherwise not be able to afford, and it also operates in a very effective sense on individuals within the corporation to induce them to invent, since they thereby improve their positions and prestige. If anyone doubts this, his doubts will be removed very quickly by looking at the payroll of any corporation which conducts a successful research and patent program.

The second major function of the patent system is that of providing protection to justify expenditures in developing inventions until they reach the market. It is evident both on the basis of theory and observation that this function is accomplished in large measure under present-day conditions as in the past. The fact that the patent or patent application provides an asset which is saleable or licenseable is especially important to the independent inventor or a small corporation, since these people and organizations would find it somewhere in the realm between difficult and impossible to fulfill their desire to put their inventions to use if it were not for the support which can be obtained through the difficult early development stages when account books would otherwise inevitably show red ink.

Some adverse factors must, however, be noted in consideration of this question of the financial support provided by the patent system for inventions in their embryonic and early development stages. The mortality of issued patents, when subject to the test of court litigation in recent decades, has run exceedingly high, in some periods at 70 percent or higher. It should be interpolated here that this does not indicate that the proportion of issued patents which are invalid is anywhere near such a figure; it is only a small number of patents on which counsel are divided in opinion that get into litigation and come to this crucial test. The possibility of a holding of invalidity under the circumstances that now prevail is, however, a matter of very serious concern for any individual or corporation who is offered the opportunity to make an investment in financial support of an invention. Every reasonable effort should be made to reduce this uncertainty. Whether this may best be accomplished by more efficient Patent Office administration, by legislative changes such as provision for opposition and cancellation proceedings, or changes in court procedures, or by some combination of all of these, is a matter which has been much debated and is beyond the scope of this discussion.

Our third point involves the effectiveness of the patent system to improve the state of public knowledge of the useful arts so as to maintain in each of these arts the most effective base and springboard for further innovations. Before dealing with the subject directly, I should like to comment on one way in which this is accomplished indirectly to an extent that I think we sometimes do not fully realize. According to the patent law, the filing of a patent application has a legal effect which we call "constructive reduction to practice." This means that the priority right of the inventor is nailed down, so to speak, by the filing of the application. Mr. Hastings dealt with this subject this morning, and you will remember that he pointed out that once the application is filed, the inventor can rely on the filing date. The patent does not run from the filing date, it runs only from the subsequent date of issuance, but the claim to invention of features properly disclosed in the application cannot be defeated except through rigorous proof by a rival inventor of his right to an earlier date. As a consequence of this constructive reduction to practice status, the patent applicant, be he individual or corporation, usually feels free to disclose the invention after the application is filed, to discuss it in technical papers at conventions and in periodicals, to try to find a purchaser or promoter, or to release it to the sales department for explanation and promotion in the case of a corporation. Instead of keeping it secret as would otherwise be done, the applicant brings the invention out into the open, often even before the patent is granted. This, together with the competition to invent and patent, has an incalculable effect on the pace and quality of technological progress.

Now let us consider the direct effect of patenting on the state of technical knowledge. The very meaning of the word "patent" is open, and the most important requirement placed on the patentee is that he describe his invention in the patent in a way that enables others to read, understand and utilize it. The consequence from the moment the patent is granted is that it becomes a disclosure on which others may build and from which they may depart or invent around as we were discussing this morning; of course with due regard in their commercial activity to the protection provided by the patent. The Patent Office has recently taken important steps and hopes progressively to take others to facilitate and augment the public utilization of this feature of the patent system. This hoped-for improvement in the scope and effectiveness of utilization by the public of technical information obtainable from patents is one of several features by which we are trying to create a trend of improvement of our public usefulness through information services. I should like to describe some of the facets of this effort.

In 1954 the Patent Office started a program of holding exhibits in which companies which have made important industrial developments illustrate these developments by machines, processes and products, and by descriptive literature which associates the physical exhibits with the patents covering the inventions. These exhibits illustrate by the case-history method the operation of the patent system in modern technology more effectively than it can possibly be described in words. Eighteen

of these exhibits have been held in the last several years and they have been visited by tens of thousands of people. After being shown in Washington for a number of weeks, they have moved to Philadelphia, Detroit, New York, Los Angeles, and many other cities. As the Commissioner of Patents has explained the matter, it is the purpose of the exhibit program to bring the message of the incentives provided by the patent system to every American with the capacity to invent.

The second phase of the information program is an effort to provide for the benefit of independent inventors, small companies, and others who have little or no experience in patent matters, clear information to assist them when confronted with a patent problem or opportunity. We do not intend to practice law. We think it would be improper, as well as impossible, for a government agency to perform the functions ordinarily provided by a legal counsellor for his client, and especially inconsistent for a bureau which has the job of adjudication to do, also to serve as counsellor for the applicant or litigant before it. But we do feel that there is certain basic knowledge which should be supplied in a form which can be understood by all who wish to take the trouble to read it.

There are two phases to this program. The first of these involves the problems confronted by an inventor who conceives an idea for an innovation which, in his judgment, may be patentable. The average person when he first encounters this situation is at a complete loss to know what to do. In some parts of the country there are no patent lawyers or agents registered to prepare and prosecute patent applications. There is not only a serious lack of information, there is a great deal of misinformation--there is a great deal of Horatio Alger tradition that has been wrongly created and needs to be tempered or dispelled.

The case of the first-time inventor can be illustrated by the story of the drunk who was wise enough to decide that he couldn't drive his car. He called the police and asked them to come and get him, and they said "Yes, we'll be glad to come and get you. We wish that everyone who was so indiscreet as to get himself in this condition would be simultaneously so sensible as to make a telephone call such as you have made. Where are you?" He said, "I do not know." They said, "Go out and look at a street sign, and tell me." He went out and looked at the street sign and came back and said, "I am at the corner of Walk and Don't Walk."

That is the typical situation of some of these first-time inventors, and of many others when first confronted with a patent problem, including their general practice attorneys also, and I don't mean any discourtesy to general practice attorneys. We are confronted with the problems of vast numbers of overeager people who have absorbed too well this Horatio Alger tradition of patents, and also with others who, because of excessive conservatism, or lack of knowledge, fail to follow up worthwhile inventions and ideas.

Just last summer we produced this little pamphlet called Patents and Inventions--An Information Aid for Inventors. It is very much along the lines of Mr. Hastings' talk this morning. In fact it describes the steps, in a narrative fashion, of what an inventor may do from the time that he conceives what he thinks to be an invention through the evaluation and searching of it, following and assisting in Patent Office prosecution with his attorney or agent, and down through the ultimate commercial promotion.

On that promotion problem I must say we don't have any very good advice that can fit every situation. However we try in the pamphlet to steer him toward government and good local sources. While there is no pat answer to this problem, it is my personal opinion that great universities, such as this one, may ultimately do a great deal toward helping the dependent inventor to evaluate and to find a commercial market for inventions. We find too often that the patent comes first and the invention second in the inventor's mind--the invention has always got to be the important thing, rather than the patent, to begin with. Unless you have an invention of value there is no point in trying to obtain a patent. Perhaps our universities can help inventors in reaching common sense judgments on this point.

A second problem confronted by the first-time inventor is that of trying to find a competent attorney or agent to represent him in making a search, or in filing a patent application. For many years we have provided a roster containing the names of persons registered to prosecute patent applications. But this roster has contained many names of attorneys and agents employed on a full-time basis by corporations or by governmental authorities, and who are therefore not available to represent individual inventors. In Oklahoma, for example, most of the fifty-one attorneys registered to practice work on a full-time basis for petroleum companies, and of these fifty-one, only fifteen are available to represent private clients. Within the past few months we have produced this new roster which provides, on a geographical basis, the names of those available to represent individuals and small companies, while excluding those who are full-time employees and therefore not available. The Patents and Inventions pamphlet sells for 15 cents--the new roster for 35 cents.

In my opinion, the most important aspect of our information program, and the most important trend we are trying to create in the patent field, relates to improvement in magnitude and depth in the use of patents as sources of technical information. In order to understand clearly the nature and importance of this effort, it is necessary first to understand the patent classification and present facilities. As you undoubtedly know, a patent application, if it is to form the basis of a valid patent, must describe an invention which contains patentable novelty over and above anything previously described in a patent or any other publication in any country or language. This is a large order, and you may properly infer that the patent examiner's job, in determining this question of novelty, is a difficult one. His task would be utterly impossible except for the fact that we have in the patent office a magnificent system of classification of patents and other technical literature--perhaps the most refined system of technical classification in the world. The chemical, mechanical, and electrical arts have been divided into over three hundred main classes, and these in turn into 56,000 sub-classes, each of which relate to a narrow strand of technological subject matter. This system is laid out in printed form in the patent office classification manual, and defined in other manuals which describe and illustrate the type of technical subject matter in each of the individual sub-classes. By referring to the classification manual and definition pamphlets, an examiner, patent attorney, engineer, chemist,

or other searcher may determine the location within the classification system of subject matter in which he is interested, as for example an idea for a technical innovation which he believes may be new and patentable.

The patents in Washington are arranged in sub-class bundles, or file cabinets, according to the subject matter classification, so that an examiner or other searcher in Washington may review the patents in the fields which interest him from first to last in direct order by paging one after the other in these bundles. The experience of searching is one which has provided great stimulation to engineers, chemists, and inventors, even when it is found that the idea forming the subject matter of the search is fully anticipated. The imaginative searcher often derives, from the experience of searching, knowledge and inspirations of great value. Mr. A. A. Kucher, Vice-President in charge of engineering and research at Ford, made the following comment in a speech in Detroit the year before last:

"There is no better way to catch up with the procession than to know the patent art. At the same time the study of the art through patents provides the best incubator for the conception of new and improved ways and means. To my knowledge, no single educational institution places emphasis on the technical reference value of patents, and I know of no single book or publication that conveys to the aspiring engineer the values contained within patents. Very few of our student engineers have an appreciation of the content of the patent literature and its potential usefulness in engineering education, to say nothing of the joy accompanying the issuance of valuable patents. They go through school almost without learning how to understand and use patents."

To give you a further idea of the importance of the value of patent searching, we have a reprint from the March 1960 issue of the Journal of the Patent Office Society of an article by Heinrich von Wimmersperg entitled "Subclasses of Patents: The Most Important Tool of The Production Engineer". It will be available to be picked up as you go out, and I hope that each of you will read it. There are exactly two places in the United States where a person may search or browse patents directly and in a straight-forward manner by subject matter, and both of these places are in a single building in Washington, D.C., the Patent Office in the Department of Commerce Building. There are 21 sets of U.S. Patents in other cities in the country, including one in Detroit, but each of these is in numerical arrangement. There are over 300 libraries which subscribe to the Official Gazette of The Patent Office, but these also contain the patent disclosures in numerical arrangement. Our facilities are excellent for obtaining information currently from patents as they are issued, but the job of going back and picking up knowledge, sequential knowledge, as to what has happened in an individual art, may be done conveniently only in Washington. An inventor or engineer who wished to make a subject matter search in your Detroit Public Library up to February 9, 1960, had first to determine the sub-classes in which the subject matter was classified. He had then to write to Washington, which might entail some little delay, to obtain lists of the patent numbers in those sub-classes. Then he had to go to the library and pull the books, one by one,

containing those individual patent numbers. On February 9, 1960, we made the first break-through on this situation. I do not regard it as really good -- only about three times as good as it was before. We provided, on microfilm reels, the same thing that could be ordered especially from Washington -- in short, we provided a list of the patent office class and sub-class numbers, and under each of these numbers, the patent numbers in those classes and sub-classes, so a person may now go to the Detroit Public Library and get those sub-class lists and make his search without the complication and delay of a special letter to Washington. This at least makes the subject matter in the library self-contained. But the numerically arranged patent books must still be pulled from the shelves one by one after the lists are obtained.

The situation in this country, as I have just now described it, may be contrasted with the situation in the much smaller country of West Germany. In West Germany there are 40 centers where patents may be searched by subject matter, and you will find in Mr. von Wimmersperg's article a discussion of his first-hand impression of the situation there for the average engineer or chemist, who is rather keenly aware of patents as a source of technical information, as compared to the situation here where the searcher must either come to Washington to make his search, hire a specialist to do it for him, or do it the hard way in the Detroit or other patent copy center.

It is our belief that a great deal may be done to stimulate invention and dissemination of technical knowledge, if we can provide at various places in the United States more convenient facilities for patent searching. Because of the fact that the patents contain such detailed descriptions of the individual technical arts, they provide a unique source of information, and it is our desire to provide this information in a form, and at places, where it can be conveniently assimilated with a minimum of trouble and expense to persons living anywhere in the country. If an effort were to be made to accomplish this by actual duplication of the Patent Office search room in printed patent copies, this would be enormously expensive, both because of the cost of the patent copies, and because of the large amount of space required to house the patent collection. It is our thought, therefore, to provide these copies on microfilm, but in the same order in which the Patent Office copies exist in the Patent Office search room; that is, in arrangement by subject matter, according to the Patent Office class and sub-class schedules.

There are very considerable technical difficulties to be overcome in placing any such scheme into operation. For example, it has been estimated that it would require a team of 115 men working with 35 cameras for an entire year merely to produce on microfilm a master copy of the search room. We have discussed with a great many people the problems and possibilities for establishment of search centers. I visited Cincinnati yesterday to talk these matters over with library and patent law association people, and expect to hold similar discussions in Detroit and Cleveland tomorrow, and in Philadelphia on Thursday. We do not have, as yet, detailed congressional authorization for such projects, except insofar as this may be given to the Department of Commerce through general legislation. However, there are two bills in Congress: one HR9190, introduced by Congressman Bob Wilson of California, and one S2986, introduced by Senator Omahoney,

which would provide for this activity. Even if complete authorization for search centers were to be given tomorrow, however, it would be some time before the search center project could be widely established. Time would be required not only to microfilm the Patent Office search room, but also to gain pilot plant experience, and debug the operation. It will be necessary for the libraries at which microfilm sets of patents are provided to learn to handle special problems which these projects will create, and also for the Patent Office to develop liaison with the libraries which will provide a sound and helpful operation.

There is a further information service of the Patent Office which could, in my judgment, be used much more widely and effectively than is the case at the present time. I refer to the information as to current advances in technology which may be obtained by any person who takes the trouble to read selected pages of the Official Gazette each week, and to obtain copies of newly issued patents as a basis for information of new developments. Professor Baxter of Purdue University speaking on Continental Classroom on March 21, had the following to say about the Gazette:

"If I had to name one publication which stands out above all others to me, it would be this--page, after page, after page of patents every Tuesday morning from the Patent Office. In this really amazing publication, many of these patents of course are the chemical ones we have referred to up there."

The Patent Office Official Gazette, Manual of Classification, and Annual Indices, are arranged in such a manner that anyone who wishes to know about inventions and patents of his competitors, customers, suppliers or others, may obtain this information quickly by use of the index system provided. He does not need to read every page of the Gazette; once he knows the system of arrangement two or three pages will do to learn of inventions in his particular technical field of interest.

The Official Gazette and newly issued patents are used in this way by a great many interested persons at the present time, especially by attorneys, and by patent departments of large corporations. We believe, however, that a great many others may make use of this information to good advantage, and that the availability of the information and the methods by which it may be used should be clearly set forth and widely publicized as a means of promoting the national interest in inventiveness. To this end, we have recently prepared a memorandum entitled "How to Obtain Information from United States Patents", which lays this thing out more or less in a narrative form as this other publication lays out the problem of the independent inventor. That we hope after revision to produce into a booklet. In the meantime, however, we have this leaflet: Obtaining Information from Patents, which we are trying to distribute where it may do the most good.

We were told recently that Dr. Lawrence, of the University of California Cyclotron fame, has made an invention entirely outside his specialized field--a color TV tube of unusual merit. We were told, also, that Vannevar Bush had made an invention in surgery that has proved highly useful in heart operations. We have not checked these reports but we believe that if we can make sources of technical information through newly issued patents and through classified arrangement of older patents available to the Dr. Lawrences, and the Vannevar Bushes, and to the many lesser Lawrences and Bushes throughout the country, we can accomplish a great deal in the direction of making the patent system more widely effective in the useful functions it performs in our economy.

DISCUSSION

J. Louis York: Mr. Crews tells me that he hopes he has stimulated a few questions in areas of discussion, so if you have some questions....

QUESTION: Louie, I have a remark or two I would like to make from my feet, if I might. I was tremendously interested, Mr. Crews, in your very valuable figures about the individual and the independent inventors, and having heard them before and hearing them again, it so happens that I am greatly interested in that subject, and I do feel that the country's welfare has much to do with the continuation of the efforts of the individual and now we come to it: how can we enable the individual inventor, reaching his peak, on the average, at age 31, often making the invention much earlier, and not having the \$1000 to \$5000, to patent his invention? That is a problem that is receiving strictly no attention whatever, except from a very few private foundations for a very few individuals. I believe that the problem is extremely important. I have had a little experience for many years in lecturing on patenting and invention, mainly to the young people here -- they number in the thousands now, -- and the most discouraging thing about telling potential young inventors about these things comes when, after you have them all steamed up, someone asks that embarrassing question "what will it cost me to apply for a patent?" -- well, that's when you wish you hadn't come. \$1000 minimum. Let me say next that I am as far to the right from being a socialist as anyone can possibly be -- as some people around here who have voted for me for 17 years know --. On the other hand, I am about to suggest what might be called one more bureau. The National Science Foundation is now successfully shoveling it out by the pitchfork load to encourage results with the hope of getting that money back multifold, and I think it will. And I think it's high time that we began to think in terms of the National Patent Foundation, which, by the way, would get its out-goes back by means of a contract from the successful inventions that it helps to carry through.

ANSWER: We get that comment quite frequently. I agree with a great deal of what you say. I don't know exactly what you are going to do in a democracy once you make that kind of thing free, or relatively free, with regard to the inventor. It bothers me a great deal--I wish I knew the answer to what you are saying. I think maybe the answer is closer to home than the Federal Government. The answer might be in the State Government with the help of great

Engineering Colleges such as this one, who could gently lead the person by the hand who has no invention, and could encourage the other person and help him get financial support. There are many patent promotion organizations in the country that are, well, not very useful (let's put it) to the people that they presume to help. We deal with this subject in this booklet Patents and Inventions by trying to steer the inventor to the Department of Commerce Field Offices, the Small Business Administration, or his state and local sources for help and advice. I agree with you to this extent, that governmental sources should do everything that they can to try to clear up this problem. But I must say that I am at a loss as to just how it can be done. The histories of many successful inventions show that success has been due to the tenacity and initiative of the inventor himself. I question that any governmental authority can provide a substitute for this private initiative either in evaluation, patenting or promotion.

Mr. Hastings

I think that something should be left to the initiative of the individual inventor. There are ways of getting things done, even though you haven't got any money, if you have a good idea. In the first place you can go to corporations without an application. Corporations are a little hesitant to receive in that state because they take some risks, but nevertheless, with suitable precautions they will often receive, and as a matter of fact we have received ideas, that is my Company, without any application being filed, and we look into them and evaluate them, and if the thing is worthwhile--it happens in rather a low proportion of cases--we may do something about it. In other words, we may take it on a when-as- and -if basis. He doesn't get any royalties unless we succeed in getting a patent, and then there are inventors who have persuaded their attorneys to take a part. I referred this morning to an inventor to whom we paid around \$400,000 over the life of his patent. That inventor didn't have the money to take out his patent, but he persuaded an attorney by the name of Hall to file the application and do a lot of work on the basis of a proportion of whatever he makes. Well, we bought Hall out for \$20,000 after paying him a proportion of the royalties for awhile. That worked out--there are many attorneys who won't do it, but you may find attorneys who might like to get a start and take a chance, and I've heard of quite a few instances of patents of that sort. And then there are also a certain number of reputable foundations or groups of the risk-enterprise type, like American Research and Development group in Boston, and a number of others. If you have a good enough invention, they will consider it and take it on and take care of the patent expenses. But I think there is a valuable screen there in that if the inventor knows he has something good, and puts some steam behind it, he will probably find someone who will help him with the application.

ANSWER:

There is, however, a vast area between the party who has something that is so obviously outstandingly good that research foundations such as Battelle, Armour or one of those outfits, will take it on as a promising thing, and the fellow who has nothing at all. I think by-and-large a person with enough determination can find the backing. I do believe that our project of search centers, if it can be fulfilled, will tend to reduce the ranks of the most badly burned, and will tend to assist others who have talents in coming up with really useful innovations. The searcher may start out with nothing more than an idea he finds to be anticipated, and be stimulated by the search to go on from there and invent a valuable innovation. I think that the search center project will go a good way toward solving the problem of waste of money on worthless inventions. I think better Federal Government information sources in general may help some more. I think your engineering colleges in the states may possibly hold a part of the key to the situation. However, I doubt that there will ever be the perfect answer,--there never is to these social problems, but those are the lines of my thinking. I've stewed over it quite a lot--we get letters on this subject almost everyday.

QUESTION:

What has created this situation, and what can correct it? Now if an individual wants to file a patent--I've had this from personal experience--I went to a patent attorney, and he said, "Make your claims as broad as you can. File as many claims as you want, because they will automatically reject it the first time." This proved to be the case. In other words, this went back and forth between the patent attorney and the examiner for a period of three years before the original claims which I thought could be granted, were actually granted. And my expense was between this interplay,--between the attorney and the patent office. What can correct this? For the individual to be able to make his patents, the main cost as I see it in this particular instance was not in the search, not in any of the other aspects, but in this little exchange between them.

ANSWER:

You've got a basically very difficult problem in defining any invention in a way that distinctly clears the prior art and also claims the invention broadly enough to provide fair scope of protection against subterfuges, or other kinds of avoidances. You've got a difficult question of definition in every case. I will go out on a limb and state that it is my view that both the Patent Office and the Patent Bar are to some extent at fault in the extent to which that correspondence is carried on. But for your benefit as an outsider, I take it, to the profession, I think I should explain some of the human factors. The examiner is not always confident of

the adequacy of his search. He plays it on the lee side by rejecting in the first action to draw out the attorney's argument, in the meantime keeping a weather eye out for possible closer references. He may be a little disinclined to grant an early allowance for fear he has not found the best. The attorney may play cat-and-mouse with him a little bit in his response, jockeying for the strongest protection that he can get in the inventor's interest. He is afraid that if he compromises to his ultimate most reasonable position immediately that the examiner may try to beat him down from that. The examiner is again a little bit wary in his second action because of the attorney's failure to bring the case to a sharp legal issue, and so on. You have hit upon one of my pet peeves there--this matter of efficiency. I think we can do a lot to correct that situation. I believe we are doing a good deal to correct it in the Patent Office. Right now we are trying to emphasize that the reasonable view of these things should be taken early in the prosecution. I can't exactly say that I blame the examiner for playing it a little bit on the lee side on the first office action. He should try and call it right down the middle. But after all, what he does is take a position until he has a reasonable argument to convince him to the contrary. If a prior patent is cited by the office and overcome by proper argument this may result in grant of a patent which is much stronger when subjected to litigation in which the same prior patent is cited as an argument for a holding of invalidity. We are trying in every way to make the Patent Office examination and prosecution sensible and brief, but the difficulty of the problem should be recognized.

QUESTION: Mr. Crews, when do the contents of a patent application become public property?

ANSWER: Seventeen years after the patent is granted.

QUESTION: I mean the contents....

ANSWER: You mean when does the information become public?--when the patent is issued.

QUESTION: ...not prior?

ANSWER: No.

QUESTION: Do you mean the patent itself, or the file of correspondence and background material?

ANSWER: Both. The patent is printed when it is granted, and the contents of the patent file also become available in Washington so anyone can see the entire record of it or obtain a copy of this record. Patent applications are maintained in confidence by the Patent Office only until the patent is granted.

QUESTION: In connection with this fact, as I understood it, that 70 percent of the patents that are litigated are finally declared invalid, you indicated that there was a problem there of uncertainty. It would seem that there is quite a problem there, and have you made any kind of study, or is anyone looking into why this is so?

ANSWER: Let me first correct what you said that I said. I said in some periods it has run as high as 70 percent, and I deliberately said it in a rather cautious way because I don't have at my fingertips the exact statistics. Actually some district court cases are not even reported, so it would be hard for anyone to have exact statistics. I think that it is a fair statement that in some periods the number has run as high as 70 percent. Now to come to the substance of your question, yes indeed, a great deal of thought has been given to the subject. The matter of possible opposition and cancellation proceedings, as they exist in most of the principal foreign countries, has come up for consideration. As you heard this morning, if there is a patent issued in this country which is plainly grossly invalid, this patent cannot be attacked and swept off the books except if the patentee threatens someone. It can be done by declaratory judgment action once the patentee starts to move against someone, but it can't be done as a matter of course merely because you may desire to go into that line of business. I broadly hinted at my ideas of the best approaches to solution of the problem. They are three:

- 1) the best job of administration of examining we can possibly do in the Patent Office,
- 2) better public relations to get a more hospitable attitude toward patents in courts where we think the courts have sometimes seemed to show a hostile attitude, and
- 3) possible adoption of opposition and cancellation proceedings.

Now that proposition of opposition and cancellation proceedings involves many problems and complications, including especially how to protect the little inventor who can't stand an expensive proceeding. I wouldn't want to express a view one way or the other on this subject except in relation to an explicit proposal.

QUESTION: Regarding the known art of a particular subject in the patent field, did I understand you to say that foreign patents are search as well by our patent department?

ANSWER: By the Patent Office? Yes, indeed. Foreign patents. technical literature,--the examiner reads technical articles in his field, he consults indexes of books. When he runs across a patent which is not even cross-referenced in his art, he gets what we call a "soft copy", he cross-records that, he builds up search files with all of this material so that he has an adequate basis for future searches.

QUESTION: Is he the only man that has access to this, or does the person making the search have access?

ANSWER: People who come into the Patent Office and make searches gain informal admission to these files. It is not a right-- it is a privilege that is granted, though, if it is courteously asked for and not abused.

QUESTION: It is not cataloged, though?

ANSWER: It is just now being cataloged. Let me say that the German Patent Office in 1944--The German Patent Office builds its files in exactly the same way that we do--in 1944 they decided that they very possibly were going to be bombed out, so they set their examiners to listing all of this information--they didn't even have it listed before that time. They hid the lists in a mine at Heringen. The Patent Office did not survive, but the lists did survive and they have been used very much by technical people, as well as attorneys since. And they were used in rebuilding their Patent Office. We are currently engaged in that kind of a listing activity. All of this, to some extent, enters into the microfilm project I have discussed. I can't describe all of the facets of the microfilm problem we are talking about broadly, but these are also involved. We may microfilm the examiners' subject matter files of technical literature and foreign patents as well as the U.S. patents. The possibility is just a gleam in my eye and the eyes of a few others at the moment, but we may ultimately go blue sky on the matter of search centers subject matter and include in a few centers the sum total of the technical art the examiner has accumulated in the 56,000 strands of subject matter which, as Mr. von Wimmersperg says, represent almost the totality of the technological thinking of the nation.

QUESTION: If a patent has been granted in a foreign country, would it be given a faster consideration for granting in this country than a patent just pending from a local source?

ANSWER: I am having trouble understanding the question. If the patent has been issued in a foreign country, you couldn't even apply for a patent here any longer and get a patent.

QUESTION: Don't they have some--what do they call it?

ANSWER: Well they have a grace period if it is applied for within twelve months of the filing in the foreign country. If you file in any convention country, which are all the principal countries of the world, except Russia, if you apply in any convention country within twelve months of the first such filing, your application relates back, as though it were filed on the date it was filed in that first country. If you file in a foreign country and get a patent in that country, you cannot later file in the United States and get a patent unless it happens to be one of the few countries which grants them so quickly that you get that within the twelve months...and that's almost unheard of.

QUESTION: Then a person would have to file almost at the same time in this country too, if he wanted to get it?

ANSWER: He has to file while its still pending in every practical circumstances--do you check me, George?

HASTINGS: Yes, except in a fast-moving...

CREWS: It could happen in Belgium...

QUESTION: The point is that if it is patented or allowed in another country, is that persuasive on the U.S. Patent Office that it is patentable?

ANSWER: It is used for an argument, but the U.S. Patent Office uses its own judgment. Yet if it were a top-examination country, it might have some effect. And of course it could happen if it were a convention application. In other words, you could have filed in Germany and eleven months later in the U. S. and German patent might have issued while this argument still went forward on the patentability of the U.S. application, and issuance of the German patent might very well be used as an argument in that case. You would certainly get the answer that we do our own examination--we don't allow anyone else to pass judgment for us--but the German allowance might have some psychological effect.

QUESTION: A different twist on that--within our own country--isn't it true that there are patent rights in one Federal district which are not patent rights in another?

ANSWER: Well, there are different attitudes by different circuit courts of appeal, as to patentability, there is no doubt.

QUESTION: I have noted some instances where application is made in this country for a certain invention, and presumably within 12 months also made in say, England, and the patent that is issued here is much narrower in scope with many fewer claims than the patent which issues in England. Is there any particular reason for this?

ANSWER: Narrower in scope here and fewer claims? Narrower in scope I can understand, but fewer claims, not. Narrower in scope because it has received real examination for inventiveness. In England, if it is novel they have no option. The thing can be invalidated in court. They examine for novelty and grant the patent and put the fight into another forum. But usually you find that U.S. patents have more claims than their foreign counterparts.

QUESTION: How is the final decision made as to whether the patent shall be granted, and what shall be covered, and what shall be patented? Is this finally a one-man decision after the search has been made, or how is it made?

ANSWER: It is the responsibility of the primary examiner of the examining division, who may have as many as fourteen or fifteen examining assistants. These examiner assistants do operate on their own initiative to a great extent once they become quite experienced, and if their judgment shows itself to be trustworthy. But the decision is the responsibility of the primary examiner. If he finally rejects an application, or in any case where it is rejected twice, the applicant may appeal to the Board of Appeals of the Patent Office, in which case the argument is heard by a three-man panel, and if they turn him down, he may in turn bring a Bill in Equity in the District Court of The District of Columbia against the Commissioner of Patents to compel him to grant the patent, or an appeal to the Court of Customs and Patent Appeals. The applicant has a two-way appeal when refused by the Board of Appeals, so his rights are pretty well buttressed.

QUESTION: Are patents issued to the government of the country?

ANSWER: Yes they are. Many people think that's an anomaly.

QUESTION: To what extent is the Patent Office using electronic data processing equipment to assist them in this information retrieval on patent searches?

ANSWER: Operationally, I can't tell you on what percentage of the patent applications. It is used on steroid compounds, and I believe on certain polyphosphates and resins. At the present time, it's just a nibble on the whole job of examination we have. That is an enormous project mainly in the research stage, and nobody can promise that it will be completed five or even ten years from now.

QUESTION: One more question: Did you say all you would have liked to about government ownership of patents?

ANSWER: I don't have any strong opinion on the subject. I did state that many people thought it was an anomaly. It does seem anomalous that the governing authority should grant to itself something which is, in effect, a right to exclude others from practice of the invention. On the other hand, the taking out of patents on research done for the government where it can protect the government against others obtaining a patent which would cost the government money for infringement, the taking of some protective measure seems to be certainly in order. Now there have been things proposed to accomplish this other than the obtaining of patents. Of course by prompt publication the government could get much the same results--that has some disadvantages, too complicated to go into here. The British government has made a lot of money out of patents. As long as they do it, some argue, how can we refuse!

QUESTIONER: Thank you very much.

ANSWER: George, do you want to comment on that one?

G.S.HASTINGS: Well, I'll say that our government never seems to do anything with its patents when it owns them. For practical purposes, they are de-patented when the government gets hold of them, so that anyone can use them and it's simply a form of publication. Now they could do what the British do, but the British set up a separate corporation and turn the patents over to that corporation and tell them to go ahead--you can live on what you can make out of them, and the Royal Patent Company goes right ahead. We have no such thing in this country, and as far as I'm concerned it's a waste of time for the government to take out patents, as compared to merely publishing for defensive purposes.

MAC: There's been legislation in Congress for the past several sessions which would make it possible for any applicant to abandon his application and at his option have the application published, and to relate that publication back effectively to the date of the filing of the application, so that that printed abandoned application has the same status defensive-wise as would an issued patent. That would satisfy the government's needs in this situation. Many people regard it as an anti-patent patent law, and don't like it at all. I won't express any opinion on that.

