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SHOULD MEDICAL INVENTIONS BE PATENTED?

By ARTHUR G. CONNOLLY

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FOR some years the medical profession has been confronted with the question of whether or not it is ethical to obtain patent protection on medical inventions. The pros and cons of this question have been argued ad infinitum, and so far as the writer can determine in his contacts with members of this profession no general agreement has as yet been reached. It appears that on this subject the medical profession is still split roughly into two groups, one of which asserts that it is quite proper to obtain patent protection on medical inventions, and the other of which asserts that such procedure is unethical and a violation of the doctor's duties to the public.

The writer has on frequent occasions been retained by doctors to obtain patent protection on their inventions, and during the course of this work he has invariably been requested to give his views on the desirability of patenting medical inventions from the standpoint of the doctor's duty to the public. Because of the apparent interest of the medical profession in this question it is believed that a brief résumé of the fundamentals of patent law and their application to medicine, biochemistry and related fields might be of assistance to those physicians who at some time during their careers may become inventors and be confronted with the difficult question of what they should do with their inventions.

Although the writer's profession is patent law every effort has been made to approach this question from as fair and impartial a position as possible. The reasoning upon which the conclusions are based has been reduced to practically axiomatic principles, and it has been attempted to explain these principles in such plain language that the non-legal reader should have no difficulty in forming his own opinions. In this manner it is believed that any unintentional bias will be most successfully avoided.

Before going into this article further it might be

well to state that its author is convinced that the true position in this controversy, both from the standpoint of the medical profession and the general public, is one which so far as he knows has never been advanced before, namely, *that it is unethical not to patent medical inventions*. The purpose of the following discussion is to give the reasons for this conclusion, which to many may appear rather startling. For that reason, this discussion will attempt to briefly cover the background and fundamentals of patents and lead up to the crux of the general argument previously referred to. It is hoped that those readers who do not believe in patents will bear with the writer, at least to the point where they are assured that they have not previously overlooked certain phases of patent law which are discussed in this article and have a vitally important bearing on this general question.

When the founders of our country drafted the Constitution they realized that in order to promote the progress of science and the useful arts it would be necessary to secure for limited times to authors and inventors the exclusive right to their writings and their discoveries. This provision is found in Article I, Section 8, of our Constitution. The necessity for a provision of this type goes back hundreds of years before the settlement of America by our forefathers, when it was customary for inventors to surround their inventions with the utmost secrecy and to pass them down from father to son. The guilds of England and Continental Europe were an outgrowth of this antiquated system, and they surrounded their inventions with a cloak of secrecy which was seldom penetrated. This ritualistic secrecy successfully prevented a large mass of the public from obtaining any benefits whatsoever from the invention and exacted a heavy toll from those who did partake of its benefits. As a result, the progress of civilization was appreciably retarded because generations would pass before an invention which might be of profound interest to the public was added to the general store of human knowledge.

The provision in our Constitution which has been referred to and the patent laws of our country which are based thereon were merely attempts on the part of our far-seeing law-makers to overcome this archaic state of affairs and advance civilization as rapidly as possible by widely disseminating complete and accurate information on all valuable inventions and contributions to the arts and sciences. Naturally, the majority of inventors would not care to disclose their inventions to the public unless they received something in return, and therefore patent protection was advanced as a reward. Crudely speaking, a patent may be looked upon as a bait to induce one who possesses a valuable secret to disgorge it. The great majority of doctors are not interested in any financial reward from their inventions, and are sufficiently public-spirited to render these inventions available to the general public as soon as humanly possible. Consequently, if this were the only benefit to be obtained from a patent they would be only too glad to forego it. However, there are other benefits from a patent which are of much greater value than mere financial reward, since they redound to the advantage of practically every man, woman and child, and these benefits will be referred to in a subsequent portion of this article.

In order to obtain a patent it is necessary for the inventor to file in the Patent Office an application disclosing his invention in detail and claiming it in a clear and concise manner. The purpose of the detailed disclosure is to enable the public to practice the invention after the patent expires. The purpose of the claims is to point out to the public what it may not practice before the patent expires.

When this application is received in the Patent Office it is assigned to a patent examiner whose duty it is to determine whether it discloses and claims a patentable invention. This examiner studies the application and advises the applicant whether it is in patentable form or is defective because the invention was first discovered by another or for some other reason. In the event that the examiner is of the belief that the application is defective because the invention was first discovered by another he notifies the applicant of his decision and refers to the publication which to his mind shows that the invention was first discovered by another. An interesting situation now arises, because even though this publication describes the identical invention of the patent application if it was not published more than two years before the patent application was filed the applicant may present the patent examiner with an affidavit, signed only by himself, stating that he made the invention in this country prior to the date of the publication. The patent examiner is then compelled to ignore this publication, and unless there is some other defect in the application it will issue as a patent covering the same invention as is described in the publication. During all this period the application has been kept secret by the Patent Office and no member of the general public has been permitted to examine it.

It will now be seen that even though one is sufficiently public-spirited to desire every one to have the unhindered use of his invention and to that end publishes a complete description of it in a recognized professional journal, there is still a distinct possibility that another may subsequently obtain a patent on that very invention and control its use in whatsoever manner he pleases. All this other party need do is to

apply for a patent on the invention at any time within two years after it is described in the professional journal and when he is confronted with this journal have it removed from consideration by filing an affidavit stating that he made the invention in this country before the date of publication of the journal. The Patent Office is here at a distinct disadvantage because it can not call for assistance upon the party who wrote the article for publication. It has nothing to rely upon but the date of publication of the journal, and the affidavit of the patent applicant is sufficient to overcome that. As a result it must necessarily disregard the article in the journal and issue the requested patent.

It should here be borne in mind that the party applying for the patent may not be dishonest and his affidavit may be entirely truthful because he may actually have made the invention in this country before the date of publication of the journal. Even though the doctor who published his article in the professional journal was in fact the first inventor, since he did not see fit to apply for a patent he is not in a position where he can assist the Patent Office by proving his earlier date of invention, and the Patent Office is perforce compelled to rely upon the only date which it has at its disposal, namely, the date of publication of the journal.

Thus, it can be seen that even though the first inventor refuses to patent his invention and earnestly endeavors to render it available to every one by publishing it in a professional journal this does not necessarily prevent another from patenting it and withholding its benefits from the general public. In fact, even the first inventor himself may be forbidden to use his own invention unless he wishes to engage in a costly patent contest wherein his opponent, the patentee, is given the benefit of every doubt. These patent contests, whether in the Patent Office or the courts, almost invariably involve the expenditure of thousands of dollars, and it is not at all uncommon for them to cost each of the contestants as much as one hundred thousand dollars. Needless to say, a doctor of moderate means would hesitate to engage in such a contest, even though he were reasonably certain of ultimately emerging victorious.

When one finally receives a patent from the United States Government he has been awarded, for a period of seventeen years, the privilege of preventing others from trespassing within the limited portion of the field of science which has been set out in the claims of the patent as his invention. This patent may then be used as a club during the ensuing seventeen-year period in order to drive out of this restricted field any and all trespassers, or it may be used merely to drive out certain trespassers whom the patentee considers to be undesirable, or it may be dedicated to the public and every one permitted to freely enter its field. How it will be used depends solely upon the will of the patent owner.

At this point it may be well to state that certain patent owners have exercised their patent, or club, in such manner that a very desirable invention has been withheld from the public for an extended period of time. The method which these patent owners generally adopted was to require all who wished to enter their patented field to pay an exorbitant price. Those few who were willing to meet this demand were naturally compelled to pass on this exorbitant price by charging more for their products than would have been the case if their admission fees to the patented territory had been reasonable. The public was bound to be injured by this practice, since many of its members could not afford to purchase the patented products and were unjustly deprived of their beneficial effects. This is the condition which is generally taken as an example by those members of the medical profession who oppose patents, and to such opponents of patents the writer would like to state that if all patents were treated in this manner their position would be untenable and any doctor who obtained a patent on a medical invention would be violating the oath of his profession and his duties to the public.

However, the use which is made of a patent after it has issued depends solely upon the desires of the patentee, and this patentee may develop his patent in such manner that the public receives far greater benefits from his invention than would have been possible otherwise. A patent is merely an instrument in the hands of an individual, just as a scalpel is an instrument in the hands of a surgeon. It can be used for good or evil, and how it is used is governed by the dictates of the individual in whose hands it has been placed. Merely because a scalpel or some other well-known instrument has been used in a harmful manner on occasion does not mean that it is a destructive instrument which should be looked upon with distrust. On the contrary, it is the individual who has perverted a useful instrument who should be shunned, not the instrument. In the same manner, merely because a patent has been exploited by an avaricious individual does not indicate that it is a harmful and untrustworthy instrument. The patent is an instrument of value to the medical profession just as is the scalpel and innumerable other useful instruments.

The doctor who obtains a patent on his medical invention has in his hands an instrument which is extremely useful. He may, by means of his patent, regulate the care which is taken in producing his patented product so that there will be no danger of an inferior product being sold to the public. He may

require this product to be sold at a price which is within the reach of practically every one, thereby preventing any unscrupulous concerns from charging an exorbitant price for the patented product. He may admit to his patented territory any and all individuals or companies which have a high reputation for integrity, and at the same time he may exclude from this territory all individuals and companies whose reputations are not of the best. In brief, he may by a proper development of his patent permit the public to obtain a product of the highest quality at a price which is much more reasonable than if it were left to the dictates of the individual manufacturers.

If a medical invention is not patented practically any individual or concern is at liberty to manufacture the product and offer it to the public. It goes without saying that not all individuals and concerns are of the highest type and assume a real responsibility towards the purchasers of their products. Without a patent the only determining factors with respect to the price at which the product will be sold are the general factors of competition and the manufacturer's desire to make a profit. This state of affairs leads to the undesirable result that in order to make a large profit and yet meet competition certain manufacturers may take "short cuts" in the manufacture of the product. In other words, expensive steps and ingredients in the process whereby the product is made may be omitted entirely or replaced by less expensive steps and ingredients. Needless to say, such expedients will customarily produce a product of inferior quality. However, because of the economies made in the manufacture of this product the manufacturer is in a position to reap a large profit and yet undersell those of his competitors who have observed their responsibilities to the public. The purchasing public can seldom distinguish between a good medical product and an inferior one by mere inspection, and it has an understandable tendency to buy the more economical product. As a result, the manufacturer who undersells his competitors possesses a recognized trade advantage. If he gains this advantage by sponsoring an inferior product, while this may injure him over a period of time, its immediate effect is to harm the purchaser, the prescribing physician and his reputable competitors.

At this point it may be asked whether or not the present laws do not prevent the marketing of inferior medical products. The answer to this question is generally conceded by all familiar with the subject to be in the negative. The present laws are woefully inadequate and may be readily evaded by those manufacturers who indulge in the practice of underselling their competitors through the medium of an inferior product. If the doctor who makes a medical invention has not obtained patent protection for it he has deliberately placed the public in a position where it may become the prey of unprincipled individuals and concerns. He has, likewise, added another burden to those reputable concerns which maintain a high standard, by compelling them to compete in the open market with their less desirable competitors.

These disadvantages may be eliminated by means of a patent which protects the invention in question. This patent in the hands of a high-minded and conscientious doctor is at the present time the most effective instrument that could possibly be obtained to protect the public, the reputable pharmaceutical companies and the medical profession as a whole. Without it the invention becomes the toy of the unprincipled and avaricious manufacturer at the expense of the remainder of the public.

In the above discussion it has been shown that:

(a) Even though the inventor refrains from patenting his invention he does not necessarily prevent others from patenting it.

(b) If a patent is obtained by others it may be developed in a manner which is detrimental to the public, and in any event such development depends upon the discretion of another.

(c) If the invention is not patented there can be very little control over the quality of the product, and over the price at which it is offered to the public.

By a proper recourse to our patent laws the doctor may obtain a patent on his invention and control its use in such a beneficial manner that all companies of doubtful integrity are excluded from its field, and those companies which are admitted to the patented field are compelled to abide by very rigid restrictions as to the quality of the product which they manufacture and the price at which they sell it. In this manner, the price may be fixed at a level which while permitting the manufacturer a reasonable profit prevents any overcharging of the public. Furthermore, if one does not wish to take the trouble of developing a patent in order to assure the public of a product of high quality and reasonable price, the patent may be dedicated to the public merely by filing a statement to that effect in the Patent Office at any time before or after its issuance. The public is then just as free to use the invention as though it had never been patented, but there is no longer the danger of an unprincipled third party becoming aware of it and obtaining a patent thereon without the true inventor being consulted in the matter.

In conclusion, therefore, it is submitted that a doctor who discovers a valuable medical product and fails to protect it by a patent is deliberately refusing an opportunity of controlling the production and sale of

his product in such manner that it would be of maximum benefit to the public. Furthermore, he has left his invention in the position where another might patent it and use the patent to the detriment of the public. Every valuable medical invention should be protected by a patent, and this patent should be licensed only to reputable manufacturers who agree to abide by rigid restrictions as to the quality and maximum sales price of the patented product which they produce. In fact, it would probably be helpful if the medical profession would have a central committee which would protect by patents inventions of the profession, and which would develop these patents in such manner that the public received the greatest benefits therefrom. If the doctor feels that the development of his patent involves too much trouble he should at least obtain the patent and dedicate it to the public, thereby preventing any one else from patenting his invention and using the patent to the detriment of the public.

SCIENCE AND SOCIETY

By Dr. F. R. MOULTON

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INTRODUCTION

AT the meeting in Indianapolis next December the first of a series of "conferences" (symposia) on "Science and Society" will be held under the auspices of the association. Since these five conferences form an integrated whole and in certain other respects differ somewhat from those heretofore organized by sections of the association and by its affiliated societies, their scope and purpose will be briefly described.

These conferences will systematically cover the broad subject of the effects of the impact of science upon human beings, both as members of society and as individuals. In these discussions the whole range of science will be involved. At one extreme, there will be the physical sciences and technology; at the other, the social sciences and the organization of society. These conferences together will constitute a synthesis of the interrelations of science and life. In this rapidly changing and disturbed world no greater theme can engage the serious attention of high-minded men.

The outlines of the conferences which follow this introduction will make clearer than any general description their scope and character. Outlines of four of the five conferences are here presented together because their full significance would not readily be perceived from reading first one and then another at intervals of six months as they will appear in the programs of the association. Although the fifth conference is described only by the title "Science and Human Beings," it is clear that in certain respects it will be the climax of the series, for man himself is the object of our highest and ultimate interest.

It is hoped that this project will receive the approval and hearty cooperation of the members of the association. It is hoped, too, that it will be followed by many other conferences and series of conferences that will somewhat similarly range across the boundaries that divide up the domain of knowledge into separate subjects. At the same time, comprehensive symposia on limited subjects of the types that have become distinguishing characteristics of the meetings of the association should by all means be continued. For example, the symposium on cancer at the Atlantic City meeting by the Section on Medical Sciences was of the highest order of excellence and usefulness, as have been many other symposia organized by various sections. If, without ceasing to make such penetrating examinations into special subjects, the association from time to time can undertake surveys and syntheses of broad fields, it will better serve science and society.

FOREWORD TO CONFERENCES

The purposes of this projected series of five conferences, to be held at successive meetings of the association, are: first, to investigate and present in a systematic and comprehensive way the effects of science and its applications upon society and upon human beings as individuals; and, second, to indicate the ways in which economic, social and political institutions affect scientific developments.

It is recognized in a general way that science is by far the most important influence to which the human race has ever been subject. Even within the short interval of a hundred years science has transformed the whole environment and outlook of man. By placing great forces and new techniques at his command it has enormously increased his ability to satisfy his physical wants. In his economic and social relations, it has changed him from a largely self-sufficient individual into one essentially dependent on the remainder of the world. On the intellectual side, it has provided him abundant leisure and unparalleled facilities for cultivating his mind, given him new conceptions and powers, and opened up new vistas for further exploration.

At the same time, however, the rapidity with which