COMMISSIONER'S DECISION

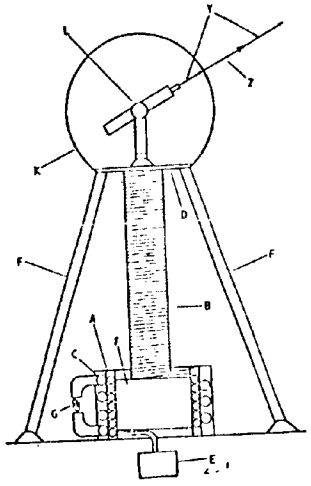
Sections 2, 28 and 36: Death Ray

The description of a laser combined with a Tesla discharge lacks sufficient operational detail to enable others to practise the invention, and appears to be theoretical. Applicant did not supply a working model when required to do so. The application was filed by X (the legal name of the inventor).

Final Action: Affirmed.

****

This decision deals with a request for review by the Commissioner of Patents of the Examiner's Final Action of April 28, 1977 on application 213,113, Class 317-3. The application was filed on November 6, 1974, by a certain "X", the legal name of a citizen of the Dominion of Canada residing at Kingston, Ontario. The invention is a Death Ray, and involves a high potential magnifying transmitter equipped with a laser. The transmitter consists of an inductive coil arrangement to which a spherical dome is attached. The laser is located in the centre of the dome. Figure 1 of the application is shown below:



In the Final Action the examiner rejected the application for inoperability under Section 36(1) and Section 2 of the Patent Act. He gives his reasons for doing so as follows:

The rejection under Section 36(1) has not been overcome. The compensation for the laser limitations, would appear to constitute an essential element in the alleged invention, but is not fully described. Page 18 line 30 to page 19 line 3 states that: "The effective range and capacity of a laser may limit its ionizing effects to a distance of a few kilometers; but in this invention such a laser may be readily incorporated". There is no distinction here between thermal and photoionizing radiations. The referenced portion of the disclosure states categorically that the effective range and capacity of a laser may limit its ionizing effects to a distance of a few kilometers. If applicant wishes to maintain that the disclosure is adequate he is required to point out where in the disclosure the compensation referred to on page 19 line 4 is described. On page 3 of his letter of January 20, 1976 the applicant pointed to page 4 line 24 to page 5 line 26. This portion of the disclosure refers to the limitations of lasers but does not indicate how such limitations may be compensated for. Page 4 line 24 to page 5 line 26 makes no distinction between thermal and photoionizing radiations and hence does not support applicants argument in the letter of May 19, 1976 (page 3).

The application remains rejected under Section 2(Definition of Invention) in that the alleged invention lacks operability. Applicant states on page 3: "It would not matter if my invention operated at a range of 5 meters or 50,000 meters, the range of my invention which appears to be the only disputed factor thus far of consequence does not determine the operability of the invention or its patentability." This isn't agreed to. It is held to be self evident that the range of a "Death Ray" is a primary factor in determining if it is operable relative to a given target. In order to establish that the applicant has invented a "Death Ray" operable within a useful range applicant must disclose the best laser known to him which will produce photoionization of sufficient magnitude to aim the discharge of the Tesla instrument.

The application remains rejected as being obvious. Applicant has not disclosed a specific laser which can be combined with the Tesla system. Applicant's alleged invention is therefore not an advance in the art. Applicant is attempting to patent the obvious idea of making possible an electric discharge through a gaseous medium by causing ionization of the gas in the path of the desired discharge by means of photo-ionization. The obviousness of this idea would not detract from the inventiveness of the means for carrying out the idea if such means were disclosed. However applicant has failed to specify a known laser which could produce a "Death Ray" with a useful range. The application is therefore directed to nothing more than an obvious idea.

In response to the Final Action the applicant states (in part):

> My invention restricts itself in claiming the combined use of a Tesla transformer, or high-potential magnifying transmitter, with a laser so as to enable them to overcome their separate limitations in transmitting energy over a distance and make it possible to provide bursts of tremendous energy requisite for a death ray.
>
> If my invention is inoperable, then how can it be obvious as an invention? The objections appear contradictory, either my invention is operable or it is not. The examiner recognizes that the principles upon which my invention operates are correct, and the main objection seems to lie in my claim as to the range of the death ray. The examiner says it is "held to be self evident that the range of a 'death ray' is a primary factor in determining if it is operable to a given target"; but, is this to mean if it has a range of 500 meters and the target is 600 meters away that the invention is not a death ray, even to targets 400 meters away? Nowhere in my claims do I mention the range expected of my invention, nor could I expect to do so and be so presumptuous, for I can readily conceive of how a death ray with a range of but 5 meters could be a most devastating weapon. The question of range has been examined by the Department of National Defence; and their conclusion was that: "the probable range of your device is too short to be of military interest". I have received no response to my inquiry as to what range would be considered adequate for use by the military. I would think they are seeking a 'death ray' with a range sufficient to destroy enemy missiles in flight and which may be above the earth's atmosphere, which would be beyond the range of my invention. No objection to my invention was voiced as being obvious: "your invention has been studied by our technical staff with considerable interest", nor was there objection to the lack of operability of my invention: "if you have a working model of your invention, our technical staff would appreciate an opportunity to examine it, to determine the possibility of subsequent DND interest in extending the range of its application"; both statements taken from a letter by John A. Allen for the Deputy Minister of National Defence on May 13, 1975. The range of any death ray will depend on the design of each instrument and the power provided to both the transmitting circuit and the laser(s). Undoubtedly, an under-powered laser could not be utilized in a death ray expected to reach targets beyond the laser's range; but a high-powered laser may also fail to function as a death ray tho it can reach the target. However, in my invention, a laser's function would be to produce a channel of ionized air between the discharging terminal to the target, and the energy requisite for a 'death ray' would be transmitted across the channel of ionized air as a discharge of the transmitting circuit. And, if the laser is also unable to fully ionize the channel of air between the target and the discharging terminal, the passage of the maximum point of pressure (or voltage) along its path will in itself ionize the air surrounding the channel thus extending its diameter. maintaining the channel of ionized air produced by the laser

> beam, and assisting in the electron-collision ionization of the channel at a point lagging behind the laser beam, (see page 22, lines 17 to 30).

One of the issues raised under Section 36(1) of the Patent Act in the Final Action requires the applicant to point out where the compensation referred to on page 19 line 4 is described. The applicant answered that the disclosure on page 22 lines 17 to 30 explains this feature. After reviewing this portion of the disclosure we find it indicates that the passage of voltage along the ionized air path will ionize the air surrounding the path thus extending its diameter. On page 19, however, the limitation of the laser is the length of ionized path. We understand that the function of the laser is to provide ionization to make possible the propogation of voltage along the ionized path which means that ionization must precede the voltage. The disclosure implies that the voltage can overcome deficiencies of the laser and extend the length of discharge path beyond the ionization produced by the laser. However, there is no clear description on how this is accomplished. What we are concerned with in this application is directing a ray of energy to a specific target entitled "Death Ray." The applicant has promised as a result of his alleged invention, an instrument capable of directing electrical energy to a distant target. This promised result must be capable of attainment by a person skilled in the art. If this is not the case then the device lacks utility in the patent sense because it is inoperable. See for example Northern Electric v Browns Theatre (1940) Ex. C.R. 36 at 56, wherein it is stated:

> An invention to be patentable must confer on the public a benefit. Utility as predicated of inventions means industrial value. No patent can be granted to a worthless art or arrangement. Here there is described and claimed something that lacks utility because it is inoperable for the purpose for which it was designed.

Also of interest is Raleigh Cycle v Miller, (1946) 63 R.P.C. 113 at 140 which reads:

> In other words, protection is purchased by the promise of results. It does not, and ought not to survive the proved failure of the promise to produce the results.

In Union Carbide v Trans-Canadian Feeds (1967) 49 CPR 29 the court held:

> I conclude that the patent is bad because the specification claims what is not useful in a patentable sense.

In Re Le Rosair Appollo (1932) 49 RPC, the court concluded that when the theory upon which a patent was founded was erroneous, there was no subject matter of utility in the invention. (emphasis added)

And lastly, as put in Wandscheer v Secard (1946) Ex. C.R. at p.112, and (1948) S.C.R. 1:

> The test of utility of an invention is that it should do what it is intended to do and that it be practically useful at the time when the patent is issued for the purpose indicated by the patentee.

Another requirement of the Final Action was that "in order to establish that the applicant has invented a "Death Ray" operable within a useful range, applicant must disclose the best laser known to him which will produce photo-ionization...."

Responding to this requirement the applicant states that he has "resisted attempts by the examiner to cite a specific laser or a specific power for a laser to produce a death ray and thus limit my claims to a certain class of lasers or a certain power-range...." Section 36 of the Patent Act requires the specification to "correctly and fully describe the invention or use as contemplated by the inventor and set forth clearly the various steps in a process, or the method of contracting, making, compounding or using a machine."

In our opinion the applicant has not framed the specification in sufficiently clear language to enable a person skilled in the art to "make, construct, compound or use" the invention.

The question of operability of an invention has been the subject of review in the Courts. The Exchequer Court in Minerals Separation v. Noranda Mines Ltd., (1947) Ex. C.R. 306, stated at page 316:

> Two things must be described in the disclosures of a specification, one being the invention, and the other the operation or use of the invention as contemplated by the inventor, and with respect to each the description must be correct and full. The purpose underlying this requirement is that when the period of monopoly has expired the public will be able, having only the specification, to make the same successful use of the invention as the inventor could at the time of his application.

And at page 317 it was stated:

> When it is said that a specification should be so written that after the period of monopoly has expired the public will be able, with only the specification, to put the invention to the same successful use as the inventor himself could do, it must be remembered that the public means persons skilled in the art to which the invention relates, for a patent specification is addressed to such persons. [emphasis added]

The test of utility of an alleged invention depends on whether by following the directions of the specification, the effects which the patentee professed to produce can be, in fact produced. In this application we are satisfied that which is described lacks utility because it is inoperable for the purpose for which it was designed. Sections 2 and 36 of the Patent Act have not been satisfied.

We note that the applicant failed to provide a working model required by the examiner under the authority of Section 40 of the Patent Act. It has been explained by the applicant that he can see no means by which his "invention can be made of convenient size at this time." Further, we observe, as indicated in the applicants response, that the Department of National Defense also requested a working model of the applicants device so that the technical staff could "examine it." This suggests that what the applicant has developed may well be only an abstract theorem, for which no patent may issue by virtue of Section 28(3) of the Patent Act.

The Board therefore recommends that the decision in the Final Action to reject the application be affirmed.

G.A. Asher
Chairman
Patent Appeal Board, Canada

S.D. Kot
Member

I have carefully reviewed the prosecution of this application and I agree with the recommendation of the Patent Appeal Board. Accordingly I refuse to grant a patent on this application. The applicant has six months within which to appeal my decision under Section 44 of the Patent Act.

J.H.A. Gariepy
Commissioner of Patents

Dated at Hull, Quebec

this 25th. day of September, 1978

Agent

X
Box 1598
Kingston, Ontario
K7L 5C8