

DECISION OF THE COMMISSIONER

IN THE MATTER OF a request for a review by the
Commissioner of Patents of the Examiner's Final
Action under Section 46 of the Patent Rules

AND

IN THE MATTER OF a patent application serial
number 009,100 filed January 4, 1968 for an
invention entitled:

METHOD OF MINING BITUMINOUS TAR SANDS

Patent Agent for Applicant:

Messrs. Gowling, MacTavish,
Osborne & Henderson,
Ottawa, Ontario.

This decision deals with a request for a review by the
Commissioner of Patents of the Examiner's Final Action rejecting
the application.

The Patent Appeal Board has reviewed the prosecution of
this application and the facts are as follows:

Application 009,100 was filed January 4, 1968 in the name
of A.E. Moss and refers to a "Method of Mining Bituminous Tar
Sands".

In the prosecution terminated by the Final Action, the
examiner refused to allow the application on the ground that
it was lacking in inventive ingenuity.

The references cited are as follows:

References Re-Applied:

Publications

The Compacted Snow Road Properties of Snow by R. Eriksson,
1954 National Research Council of Canada Technical
Translation 849 (see page 36)

Influence of Snow Cover on Heat Flow from the Ground by
L.W. Gold August 1958
National Research Council of Canada Division of Building
Research, Research Paper No. 63 (see page 19)

The examiner stated that:

Since method steps (a) and (d) are old and well known, applicant's alleged novelty must lie in steps (b) and (c) which recite the covering of the exposed tar sands with artificial snow. But nature covers these same exposed tar sands with natural snow, so applicant merely augments the insulating blanket of natural snow. Applicant specifies artificial snow "having a deposited density of at least 15 pounds per cubic foot". This is not a unique property of artificial snow. Nature will supply snow of exactly the same density. Applicant recognizes on page 4 of the disclosure, middle paragraph that "It is known that natural snow coverage acts as an insulation against frost penetration into the ground". Applicant uses artificial snow in the same manner for the same purpose as natural snow. This is an obvious alternative.

Claim 2 adds nothing patentable to claim 1. Natural weather conditions will also deposit a layer of relatively wet snow on top of relatively light, dry snow.

Claim 3 is rejected for the same reason as claim 2. Nature will deposit snow to any depth from a fraction of an inch to many feet. To recite, as in claim 3, "a cover of snow of at least 2 feet in depth" adds nothing inventive to claim 1.

The cited references are given to refute applicant's theory that "artificially produced snow cover of a density greater than natural snow cover provides better protection against frost penetration than naturally-occurring snow cover". Even if it were possible to make artificial snow of a density which natural snow could not duplicate (and it is not possible) all the available literature on the thermal conductivity of snow, of which the cited references are typical, shows that the greater the density of the snow, the more rapid is the heat flow through the snow. Applicant has proved nothing to the contrary. The disclosure does not state the depth of natural snow in the test area, and therefore the table on page 8, summarizing the results of applicant's experiments, proves only that a thick layer of artificial snow will insulate better than a thinner layer of artificial snow. The table does not show that artificial snow provides better insulation than a like thickness of natural snow.

In applicant's letter of October 16, 1970 wherein the review by the Commissioner was requested, he argued:

The present invention disclosed and claimed in the above-identified application provides a new and improved procedure for mining bituminous tar sands such as those found in the Athabasca region of the Province of Alberta. This novel method provides a substantial improvement in tar sands mining techniques. Specifically, applicant has discovered that by covering exposed tar sands from which overburden has been removed with artificial snow, the frost penetration of those exposed tar sands in severe cold particularly that normally encountered during an Alberta winter is substantially reduced. As a result of this reduction in frost penetration of tar sands, mining those tar sands during the severe winter is commercially feasible whereas without such protection, efficient operation is more difficult.

In a discussion of the references the applicant stated:

The first reference, a technical publication by R. Eriksson, discloses on page 36 the measurement of temperature at different depth levels below the road surface.

The secondary reference by L.W. Gold provides a chart wherein the rate of heat flow as compared to temperature gradient in the lower ten centimeters of snow cover is provided. Neither of these references in any way relates to nor infers a method of mining bituminous tar sands nor a method of protecting exposed tar sands from which overburden has been removed from frost penetration.

The applicant further argued:

As has been stated this term "inventive ingenuity" seems at best subjective and open to many interpretations. To the Examiner this invention may not appear to be any significant advance to the art of mining tar sands. However, to others particularly operating in this profession, it is considered to be of reasonable significance. It would seem that the Examiner is setting the standard of "flash of genius" in order for an invention to be raised to the level which he has defined as "inventive ingenuity". Applicant cannot agree that this is the standard required by Canadian law or even suggested by British law or United States law. To the contrary, each of the statutes in the above-noted jurisdictions require a "scintilla of invention" to be necessary in order to merit patentability of claims to an invention. Although the Examiner has not deemed the invention in the instant application to be of patentable merit, based on his interpretation of the

meaning of "inventive ingenuity", applicant submits that the significance of the present invention is held differently by others well skilled in this profession. For example, the editors of the Canadian Petroleum Journal felt that the invention at issue was of such significance to warrant a complete four-page article in the January, 1966 edition of that journal (A copy of which is attached hereto as Appendix I). The Canadian Petroleum Journal is a highly respected technical journal which is supported, contributed to and read by professional engineers in the petroleum industry. To the Examiner, this invention at first glance may appear to be of minor significance and not containing "inventive ingenuity". However, to highly skilled professional technical people who are indirectly involved with the problems related to the mining of tar sands in Alberta Province as well as to other technical problems related to the petroleum industry, this invention is deemed to be of considerable importance as witnessed by the attention paid in a respected journal supported by many of these technical people.

In summary the Examiner has rejected applicant's claims on the basis that the subject matter does not measure up to the standards required to warrant protection under the Canadian patent statutes. The Examiner has submitted no prior art of significance to support his allegation that this invention is obvious and does not contain inventive ingenuity.

Upon review of the grounds for rejection set forth by the examiner, as well as all the arguments presented by the applicant, I am not satisfied the rejection is well founded.

There are 3 claims in the application at present; claim 1 reads as follows:

A method of mining bituminous tar sands for charging into a hot water process for separating bitumen from said tar sands which comprises:

- (a) removing overburden to expose said tar sands;
- (b) depositing a cover of artificially produced snow on said exposed tar sands said snow having a deposited density of at least 15 pounds per cubic foot;
- (c) maintaining said cover of snow to substantially reduce frost penetration into said sands; and
- (d) removing said tar sands for charge into a hot water process.

The examiner states that, "this application is lacking in inventive ingenuity" therefore, I find the question to be decided, does the invention as claimed disclose a prima facie showing of ingenuity?

The point has been well settled that it is necessary only that there should be ingenuity exercised in the conception of the idea or in the method of applying it. See Canadian Gypsum v. Gypsum Lime and Alabastine Canada Ltd. (1931) Ex. C.R. 180 at 24.

I find the references are cited only to refute a theory that "artificially produced snow cover provides better protection against frost penetration than naturally-occurring snow cover". However I do not think this is a point at issue and will require no further discussion.

The examiner has dissected claim 1 in order to show lack of ingenuity. The question is not whether the individual steps are new but whether the whole process is novel and the result of inventive ingenuity. The dissection of a process into the individual steps and the examination of each step in order to see whether its use was obvious or not is, in my view a method which ought to be applied with great caution since it tends to obscure the fact that the invention claimed is in the whole process. With respect to this the Court has held, Funk Bros. Seed Co. v. Kalo Inoculant Co. (1947) 333 U.S. 127 at 134 and 135 (*taken from the N.R.D.C. application), "The fallacy lies in dividing up the process that he puts forward as his invention. It is the whole process that must be considered, and he need not show more than one inventive step in the advance which he has made beyond the prior limits of the revelant art."

Here I find applicant has added new steps to the process, (b) depositing a cover of artificially produced snow on said exposed tar sands having a deposited density of at least 15 pounds per cubic foot, (c) maintaining said cover to substantially reduce frost penetration into said sands. Does this process provide a new and improved procedure? I find the new process has overcome a problem and may well be very beneficial and of major significance when it is related to open-pit mining at temperatures to -50°F.

The applicant also states, "the snow can be removed and discarded, or it can be removed with the sands and charged into the separation process". In my view no other insulating substance such as sawdust could be removed with the sands and charged into the separation process without affecting the results of the process.

In the circumstance, therefore, I see no good reason to refuse the grant of a patent. In Vanity Fair v. Commissioner

* (1961) R.P.C. at page 134

of Patents (1939) S.C.R. 245 at 28 the court held; "The Commissioner of Patents ought not to refuse an application for patent unless it is clearly without substantial foundation". I am satisfied that the applicant has made a prima facie showing of ingenuity, taking the process as a whole and keeping in mind that ingenuity can be exercised in the conception of the idea.

In this respect the Court has held, Lane Fox v. Kensington & Knightsbridge Electric Lighting Co. (1892) 3 ch. 424 at 428 and 429 (*taken from the N.R.D.C. application); "The inventiveness which is essential for the grant of a patent may be found in the step which consists of suggesting the use of the thing for the new purpose; notwithstanding that there is no novelty or "appreciable merit" in any suggested mode of using the thing...."

I recommend that the grounds for refusing the application be withdrawn.

R.E. Thomas,
Chairman,
Patent Appeal Board.

I concur with the findings of the Patent Appeal Board and I am therefore setting aside the Final Action and returning the application to the examiner for resumption of prosecution.

Decision accordingly,

A.M. Laidlaw,
Commissioner of Patents.

Dated at Ottawa, Ontario,
this 15th day of December, 1970.

* (1961) R.P.C. at page 134