

Commissioner's Decision #1233
Décision du Commissaire #1233

TOPIC: OO
SUJET: OO

Application No: 585,161
Demande No: 585,161

COMMISSIONER'S DECISION SUMMARY

C.D. 1233Application No. 585,161 (OO)

Claims rejected as being obvious in view of several cited references.

The application disclosed novel cyclohexenone compounds useful for controlling undesirable plant growth. All of the claims of the application were rejected as being obvious in view of a number of cited references. The Board recommended that the rejection of the claims on the grounds of obviousness be reversed, a recommendation which was accepted by the Commissioner of Patents.

IN THE CANADIAN PATENT OFFICE

DECISION OF THE COMMISSIONER OF PATENTS

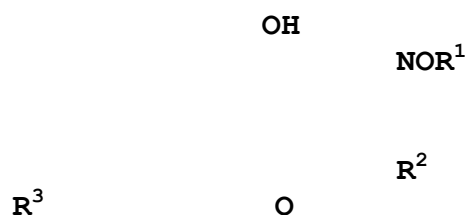
Patent application number 585,161 having been rejected under Subsection 45(2) of the Patent Rules, the Applicant asked that the Final Action of the Examiner be reviewed. The rejection has been considered by the Patent Appeal Board and by the Commissioner of Patents. The findings of the Board and the decision of the Commissioner are as follows:

Agent for the Applicant

Robic
55 St.-Jacques
Montreal, Quebec
H2Y 3X2

This decision deals with a request that the Commissioner of Patents review the Examiner's Final Action on patent application number 585,161 which was filed on December 9, 1988. The Applicant is BASF Aktiengesellschaft, assignee of inventors Michael Keil, Ulrich Schirmer, Dieter Kolassa, Juergen Kast, Bruno Wuerzer and Norbert Meyer and the invention is entitled "CYCLOHEXENONE COMPOUNDS, THEIR PREPARATION AND THEIR USE FOR CONTROLLING UNDESIRABLE PLANT GROWTH". The Examiner in charge issued a Final Action on March 8, 1995 refusing the application and all of the claims in view of a number of cited references. The Applicant replied on September 8, 1995 requesting that the refusal be reviewed by the Commissioner of Patents. A response dated November 21, 1995 enclosing new claims 1 to 6 and accompanying amended disclosure pages 1, 2 and 5 and a response dated December 6, 1995 enclosing a copy of a decision of the United States Board of Patent Appeals and Interferences were also made.

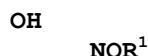
The invention is directed in general to cyclohexenone compounds having the general formula



where R¹ is alkyl of 1 to 4 carbon atoms, alkenyl or alkynyl of 3 or 4 carbon atoms, haloalkenyl of 3 or 4 carbon atoms and 1 to 3 halogen substituents, or is thienyl which is unsubstituted or substituted by halo and/or alkyl, R² is alkyl of 1 to 4 carbon atoms, and R³ is formyl or a radical of the general formula R⁴XCHXR⁵, where X is oxygen or sulfur, and R⁴ and R⁵ are identical or different alkyl, or together denote alkylene of 1 to 4 carbon atoms and which is unsubstituted or substituted by alkyl, alkoxy, alkylthio, hydroxy, halogen, cyano or N,N-dialkylamino. The compounds are disclosed as having good herbicidal action preferably on species from the grass family.

Newly submitted claims 1 to 6 which the Examiner also finds objectionable differ from the rejected claims in that they are restricted to compounds where the group R³ is in the para position only. New claim 1 which is representative of the rejected claims is as follows:

1. A cyclohexenone compound of the formula (1):



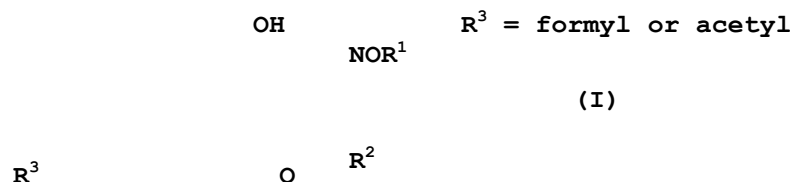
R³O R²

where R¹ is alkyl of 1 to 4 carbon atoms, alkenyl or alkynyl of 3 or 4 carbon atoms, haloalkenyl of 3 or 4 carbon atoms and 1 to 3 halogen substituents, or is thienyl which is unsubstituted or mono-, di- or trisubstituted by halo and/or C₁-C₄-alkyl, R² is alkyl of 1 to 4 carbon atoms, and R³ is formyl or a radical of the general formula R⁴XCHXR⁵, where X is oxygen or sulfur, and R⁴ and R⁵ are identical or different alkyl, or together denote alkylene of 1 to 4 carbon atoms and which is unsubstituted or substituted by C₁-C₄-alkyl, C₁-C₄-alkoxy, C₁-C₄-alkylthio, hydroxy, halogen, cyano or C₁-C₄-dialkylamino and its biologically active salts with alkali metal, alkaline earth metal and ammonium ions, and its ester obtained by reaction of the hydroxyl group of its hydroxycyclohexenone moiety with C₁-C₁₀-carboxylic acids or inorganic acids.

In his Final Action the Examiner refused former claims 1 to 6 in view of six references; notably United States patents, numbers 4,504,305 and 4,652,303, British Specification number 2,137,200 and European Applications, numbers 80,301, 85,529 and 85,530, stating, in part, that:

The claims are rejected as they lack inventive ingenuity in view of the cited art.

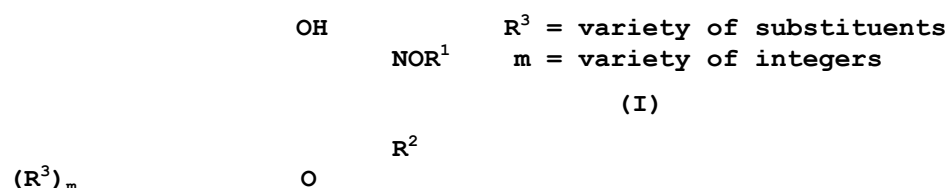
The instant application is directed to cyclohexenone compounds of the formula I:



On page 1 of the disclosure, the applicant states that these compounds have

Aa good herbicidal action, preferably against species from the grass family (Graminae). They are tolerated and therefore selective in broad-leaved crops and in monocotyledon plants which do not belong to the Graminae. Some compounds also show selective behaviour in crops of Graminae, for example wheat, barley or rice, in the sense that they control undesirable grasses without significantly damaging the useful crops.®

The cited references are all directed to cyclohexenone compounds of the general formula I:



These compounds possess herbicidal activity especially toward Graminae but are well tolerated by broad-leaved crops. Furthermore, it is clear that these compounds are selective for monocotyledonous weeds and wild grasses such as wild oats and rye grass over cultivated monocotyledonous crops such as wheat, barley, rice and corn. (See page 30, line 16 - page 31, line 2 of EP 85,529; and, column 13, lines 1-25 of US 4,652,303).

In addition, the cited references show that the preparative processes disclosed in the instant application are known in the art and are applicable to the synthesis of cyclohexenone compounds of the general formula I.

Particular attention is drawn to EP 85,529 and US 4,652,303. The European Application discloses cyclohexenone compounds of the general formula I in which R^3 can be formyl or its derivatives (see pages 2-3, particularly page 3, lines 9-11). In this case, the stated value of Am is greater than one. The United States Patent discloses cyclohexenone compounds of the general formula I in which R^3 can also be acetal (see column 1, line 64). The value of Am in this case is also greater than one. The applicant does not disclose any surprising herbicidal activity as compared to the compounds to the compounds of the two references just discussed.

The Examiner further argued that, even though the compounds disclosed in the application may be structurally novel and may possess activity as herbicides this is not enough to confer patentability on them. What is necessary according to the Examiner is that the compounds must possess an element of inventive ingenuity or non-obviousness either in their structural features or in their utility. In this case the Examiner is of the opinion that these necessary elements of patentability are missing in that closely if not identical compounds are disclosed in the prior art and the Applicant has not shown that its compounds, even if novel, have any unexpected or superior activity over those prior art compounds.

In coming to this opinion the Examiner declined to consider a copy of a declaration originally submitted to the United States examiner included with Applicant's response dated March 9, 1994 showing that the compounds according to the invention have some advantages over structurally similar compounds disclosed in the prior art stating in his Final Action that:

Firstly it is the examiner's position that a submission in an amendment letter is not disclosure and cannot in itself support the patentability of claimed subject matter. There must be some definitive indication in the disclosure that the compounds possess improved properties. The applicant argues in point 2b of the letter dated August 5, 1994 that:

Athere is no requirement whatsoever by law that the disclosure of a patent application must disclose that compounds that are claimed, possess some advantages over the prior art.

This statement would be relevant only if the claimed compounds possessed an element of inventiveness outside of an alleged advantage over the prior art. It has already been demonstrated that the disclosed structure, synthesis and utility of the claimed compounds are fully predictable from the prior art. If there is any inventive step it must reside in the alleged improvement purported by the applicant in the submission of March 9, 1994. Since the inventive

step must be disclosed in order to obtain a patent, the applicant is required to disclose the alleged improvement. Since the inventive step is not disclosed, the claims must fail for lack of inventive ingenuity in view of the prior art. The applicant also suggests in point 2b of the letter dated August 5, 1994 that the phrase A a good herbicidal action@ when mentioned somewhere on the same page as a reference to a prior art document, constitutes sufficient support for the alleged improvement purported by the applicant in the letter of March 9, 1994. The examiner respectfully disagrees. No where on page 1 is there a direct link between the phrase Aa good herbicidal action@ and the teachings of the prior art. Thus, the term Agood@ cannot be construed to mean Abetter@ or Asurprising@. Furthermore, it has already been shown in the present action that the particular herbicidal properties disclosed by the applicant at the bottom of page 1 and the top of page 2 are also disclosed by EP 85,529 (page 30, line 16 - page 31, line 2) and US 4,652,303 (column 13, lines 1-25).

The second point to consider is that the submission in the letter of March 9, 1994 compares the applicant=s compound to compounds from US 4,504,305. However, the applicant=s compounds are substituted by formyl or acetal and the examiner has drawn particular attention to EP 85,529 and US 4,652,303 which disclose formyl and acetal derivatives. Therefore, it is not clear even from the applicant=s submission (which is not disclosure in any event) that the compounds claimed possess an improvement over the art particularly discussed by the examiner.

The question before the Board is therefore whether or not the compounds claimed in the claims are obvious in view of the cited prior art.

As the Applicant has pointed out in its responses to the Final Action the compounds presently claimed, i.e. the compounds claimed in newly submitted claim 1 which are substituted in the para position of the phenyl group by only one substituent selected from a formyl group or a group derived therefrom, are novel in that the cited references do not show their actual preparation. Thus United States patent number 4,504,305 discloses compounds substituted in the para position of the phenyl group by a variety of substituents none of which can be a formyl group or a group derived therefrom, while United States patent number 4,652,303 discloses compounds where the phenyl radical always has at least three substituents.

British patent specification 2,137,200 discloses compounds where the phenyl group can be substituted by two separate groups neither of which can be formyl or a group derived therefrom; European patent application 80,301 discloses compounds where the phenyl group is always substituted by at least two or more methyl groups; European patent application 85,529 discloses compounds where the phenyl group is always substituted by at least three groups and finally European patent application 85,530 discloses compounds where the phenyl group is substituted with at least two groups one of which must be selected from halogen, alkyl or alkoxy.

In summary the cited references disclose compounds the majority of which carry more than one substituent on the phenyl group or, if

monosubstituted in the phenyl group, carry groups other than formyl or a group derived therefrom. Thus the Board agrees with the Applicant that the compounds of the invention are not anticipated by any of the prior art.

With regard to the utility of the compounds of the invention the Board sees no reason why the declaration submitted by the Applicant in response to a previous Examiner's report should not be considered. The declaration compares compound no. 8 of the invention with two similar compounds of the prior art, notably with compound no. 11 of British patent specification 2,137,200 where the formyl group is replaced by hydroxymethyl and with a compound similar to no. 87 of United States patent number 4,504,305 where the formyl group is replaced by a carboxy group and finds that the compound no. 8 of the invention shows an improved activity. In the opinion of the Board this declaration is sufficient to meet the requirements for utility under the Patent Act. The Board finds therefore that the compounds of the invention are novel, useful and have not been rendered obvious by the cited prior art.

The Board therefore considers that the rejection of the claims on the grounds that they are directed to unpatentable subject matter should be withdrawn.

In making this finding the Board has taken into account the judicial test for obviousness set forth in the Federal Court of Appeal decision in Beloit Canada Ltd. et al. v. Valmet Oy 8 C.P.R. (3d) 289, at page 294, namely:

The test for obviousness is not to ask what competent inventors did or would have done to solve the problem. Inventors are by definition inventive. The classical touchstone for obviousness is the technician skilled in the art but having no scintilla of inventiveness or imagination; a paragon of deduction and dexterity, wholly devoid of intuition; a triumph of the left hemisphere over the right. The question to be asked is whether this mythical creature (the man in the Clapham omnibus of patent law) would, in the light of the state of the art and of common general knowledge as at the claimed date of invention, have come directly and without difficulty to the solution taught by the patent. It is a very difficult test to satisfy.

The Board therefore recommends that the rejection of former claims 1 to 6 be withdrawn, that new claims 1 to 6 and amended pages 1, 2 and 5 of the disclosure be entered into the application and that the application be returned to the Examiner for further prosecution consistent with the recommendation.

P.J. Davies
Chairman

M. Howarth
Member

M. Wilson
Member

I concur with the recommendation of the Board that the rejection of former claims 1 to 6 be withdrawn, that new claims 1 to 6 and amended pages 1, 2 and 5 be entered into the application and that the application be returned to the Examiner for further prosecution consistent with the Board's recommendation.

A. McDonough
Acting Commissioner of Patents

Dated at Hull, Quebec,
this 12th day of January, 1999