

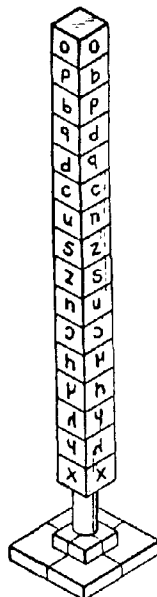
COMMISSIONER'S DECISION

Section 2: Device For Displaying or Performing Operations In a Two Valued System

A device displaying a plurality of symbols placed in predetermined arrangement and in which each symbol represents one of the binary connectives defines a proper combination. Final Action: Amended claim accepted.

Patent application 278541 (Class 35-2), was filed on May 16, 1977 for an invention entitled "Device For Displaying Or Performing Operations In A Two Valued System." The inventor is Shea Zellweger. The Examiner in charge of the application took a Final Action on January 18, 1980 refusing to allow it to proceed to patent. In reviewing the rejection, the Patent Appeal Board held a Hearing on August 19, 1981 at which the Applicant was represented by Mr. J.C. Singlehurst. Also in attendance was Mr. R. Ahluwalia from the same firm, and the inventor, Mr. S. Zellweger.

The application is directed to an apparatus for displaying and performing operations upon a complete set of sixteen binary connectives in a two-valued notational system. It consists of at least one device displaying a plurality of symbols, each symbol representing one of the binary connectives, the symbols being placed on the device in a predetermined arrangement. Figure 9a below represents one of the physical devices:



In the Final Action the Examiner refused the application under Section 2 of the Patent Act because, in his view, it is directed to mere "printed matter" having intellectual connotations only and does not have a new mechanical function or purpose.

In that action the Examiner went on to say (in part):

...

It is held that the logic system and the way it co-operates with the physical structure as disclosed and claimed in this application is non-statutory subject matter and thus non-patentable.

It is clear from the "Background and General Description" section of this application that applicant sees the novelty of his alleged invention as, quote (page 4, lines 16-19), "a new notational system, namely the logic alphabet, for which carefully combined features yield advantages that overcome the above noted disadvantages of the current notational system".

It would appear that applicant is relying solely on the intellectual connotation of the notational system for novelty. Intellectual matter by itself is not patentable and as the disclosed notational system lies within the purview of intellectual matter it is non-patentable under Section 2 of the Patent Act.

Applicant goes on further to describe in his section of the application that among the many advantages of this system an especially important and unique one is that the system, quote (page 9, last paragraph) "facilitates the use of a large family of physical embodiments or models ... (and) can be displayed with great clarity, both visually and tactually".

The combination of intellectual matter or printed matter associated with structure may be patentable only if there is a new mechanical purpose served and where this purpose is useful in a practical way as opposed to an intellectual, artistic, or aesthetic way.

...

In response to the Final Action the Applicant had, inter alia, this to say:

...

Mr. Singlehurst and Mr. Ahluwalia of the Agents met with Examiners Millar and Crack and Section Chief McKenzie on December 19, 1979. The Agents wish to extend their appreciation to these gentlemen for the courtesy extended during the course of the approximately 3 hour conference.

Without detailing the various matters discussed at the conference, the Agents simply wish to indicate (acknowledging however the provisions of Rule 3(2) of the Patent Rules) that their representatives left with the impression that Examiner Millar was not convinced that there was no patentable subject matter in the application but did raise objection to the nature and scope of the claims. Indeed the representatives of the Agents made notes with respect to certain suggestions by Examiner Millar for claim amendments. Examiner Crack was of the opinion that nothing in the application disclosed and/or claimed was patentable subject matter and made reference to the (draft) Final Action report then prepared. Section Chief McKenzie raised certain questions of substance but reserved judgement.

On December 24, 1979, Examiner Crack contacted Mr. Singlehurst to indicate that the applicant and his Agents would be given three weeks to make any submission and if not received by the Office within that time frame, the Office would proceed accordingly to issue some report.

It became obvious to the Agents shortly into January 1980 that it would not be possible to file any submission of substance within the time frame provided (the applicant being in Alliance, Ohio and the U.S. instructing Attorney in Chicago). Accordingly, Mr. Singlehurst contacted Examiner Crack to inform him that it appeared impossible to meet such time frame and that the Patent Office might therefore deem it necessary to proceed with some form of action.

The Agents were therefore somewhat surprised in the light of this impression they took away with them that the Action issued was made Final, the Final Action report appearing in substance to be the same which had been prepared at the time of the conference on December 19, 1979.

The Examiner will recall that the applicant filed 56 claims originally and the response filed November 16, 1979 reduced that number significantly and basically directed them to one inventive aspect. The disclosure and drawings and original claims however clearly indicate that other aspects and embodiments of the invention have been disclosed and the withdrawal of claims in the last response was without prejudice and to present claims to a broad aspect but not the only aspect of the invention to which the applicant believes consideration should be given. Accordingly, the applicant and its Agents have assumed that the Final Action is not prejudicing its rights with respect to divisional subject matter.

...


At the Hearing Mr. Singlehurst argued that an invention is definitely present in the disclosure, albeit not clearly described nor properly defined in the present claims. He then submitted a proposed generic claim 1 for discussion at the Hearing. That claim reads:

An apparatus for displaying and performing operations upon a complete set of the sixteen binary connectives in a two-valued notational system, said apparatus comprising:
at least one device;
said at least one device having means for displaying a plurality of symbols, each symbol representing one of said binary connectives, and said plurality of symbols having been placed on said device in a predetermined arrangement and when more than one device, said devices being in a predetermined configuration;
each of said symbols having a shape selected to indicate a selected number of from zero to four components arranged with respect to the quadrants of a set of Cartesian coordinates, wherein the shape has iconicity, frame consistency, and eusymmetry with respect to said quadrants of Cartesian coordinates, and wherein the alignment of said shape is symmetry positional with respect to the x-y axes of said Cartesian coordinates;
and further wherein said shape is taken from at least six letter-shapes capable of generating 16 symbols that can be readily assigned a phonetic value and that have four levels of symmetry such that two of said symbols are two-way self-flippable and self-rotatable, two of said symbols are self-rotatable but not self-flippable, four of said symbols are one-way self-flippable but not self-rotatable, and eight of said symbols are neither self-flippable nor self-rotatable; and
said symbols and said arrangement of said symbols or configuration of said devices selected so that said devices are adapted by transformations taken from the group consisting of reflections, rotations, translations, and counter-changes and combinations thereof to display and perform said operations.


Also at the Hearing the inventor, Mr. Zellweger, gave the background of the invention and a thorough demonstration of how it works.

We have carefully reviewed the prosecution and considered all of the points raised at the Hearing. We agree with the Examiner that the proposed generic claim 1 overcomes all of the objections raised in the Final Action. In other words the printed matter serves a new mechanical function defined in a proper combination, and on the record before us there is clearly ingenuity in the invention.

With this in mind, we contacted Mr. Singlehurst and advised him of our findings. On March 18, 1982 Mr. Singlehurst cancelled all of the claims and submitted claims 1 to 89. We recommend that these claims be accepted. There are five independent claims now in the application, none of which are broader than allowable claim 1 shown above.


J.F. Hughes
Assistant Chairman
Patent Appeal Board, Canada

I have reviewed the prosecution of this application and concur with the reasoning and findings of the Patent Appeal Board. Accordingly, I direct that prosecution should resume on the basis of the amended claims.



J.H.A. Gariépy
Commissioner of Patents

Dated at Hull, Quebec
this 10th. day of June, 1982

Agent for Applicant

Meredith & Finlayson
77 Metcalfe St.
Ottawa, Ont.