

COMMISSIONER'S DECISION

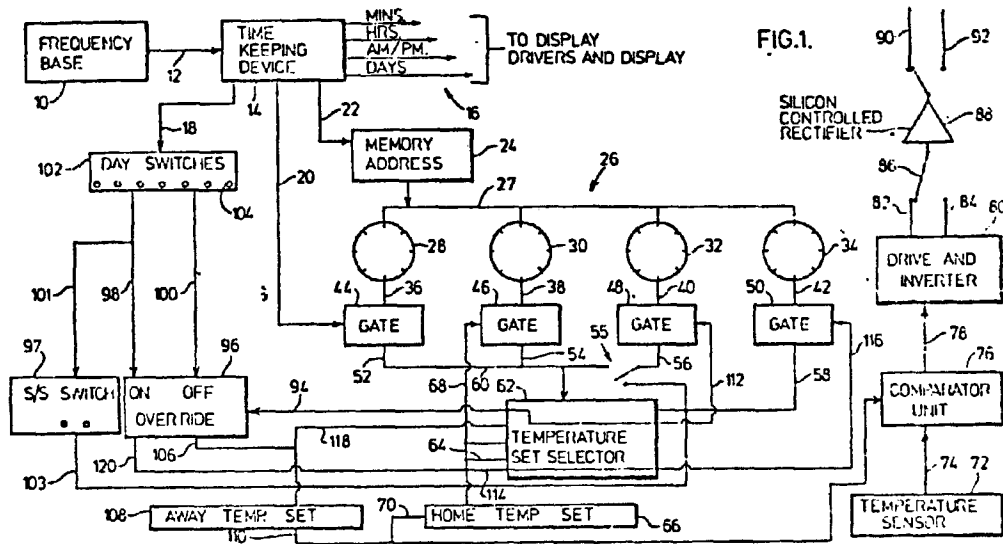
S. 36, Sufficiency of Disclosure: Electronic Temperature Control

The components disclosed were found to be sufficiently described in view of what was known in the art, and a person skilled in the art would be able to obtain the operation and circuitry envisaged, but the drawing did not accurately show what had been described. Modified; rejection withdrawn.

Patent application 292,964 (Class 342-19.6) was filed on December 13, 1977 for an invention entitled ELECTRONIC TEMPERATURE CONTROL. The inventor is David V. Reid. The Examiner in charge of the application issued a Final Action on July 9, 1980 refusing to allow the application to proceed to patent.

The Board acknowledges Applicant's request of June 18, 1981 to cancel the Hearing scheduled for July 22, 1981. The review will be made on the record before us.

The subject matter of this application relates to an electronic device for automatically changing and controlling the ambient temperature in a building throughout each day of the week. Of the components present, the main components include timing devices, a memory component to store predetermined times and functions, temperature set components, a temperature sensor, and a comparator unit. By means of the components present and the interconnecting circuitry, signals are matched from the time keeping devices with those in the memory component, and consequently signals are provided through the appropriate temperature set to the comparator which compares them with signals from the temperature sensor, and subsequently the appropriate signal is obtained to effect the desired heating or cooling. Figure 1 illustrates the system.



In the Final Action the Examiner rejected the application for insufficiency of disclosure.

The Examiner cited one reference of interest:

United States Patent 3,929,284 Dec. 30, 1975 Prewarski et al

This patent discloses that timers for building temperature control are known in the art.

In the Final Action the Examiner stated, in part:

...

Insufficiency of Disclosure

The disclosed single Figure of drawings consists merely of a recapitulation of the above-delineated desirable results or functions, in a "block" form. The Figure fails entirely to supply explicit information regarding the structure or circuitry of the actual apparatus required to carry out the above-delineated desired functions.

The disclosure text, in discussing this Figure, consists entirely of a recitation of results to be achieved, or ideas to be realized, while failing to set forth the apparatus for the realization thereof.

The only structure (as distinct from ideas) mentioned by the disclosure is the suggestion that the above ideas could be carried out by a suitably-programmed microprocessor, which may have an electronic memory having the above-mentioned consumer-operated controls attached to it, which may carry out all the above functions. (See page 16 lines 8-20) No circuit-details whatsoever of such a microprocessor have been disclosed; neither have been disclosed any circuit-details of how to connect the various terminals of such a microprocessor with

the above-mentioned consumer-actuated HIGH temp. control, LOW temp. control (items 108,66), the four UP-DOWN-UP-DOWN controls (items 28, 30, 32, 34), the Monday-Tuesday-Wednesday-Thursday-Friday-Saturday-Sunday switches (item 102), to the vaguely-defined Saturday-Sunday control (item 97), to the clock (item 14) and to the vaguely-defined "Memory Address" (item 24).

The various lines in this Figure merely convey the idea that all these items are somehow suitably connected together, without disclosing how.

It is therefore concluded that the disclosure contains merely an invitation to make an invention, while failing to disclose how to construct or make or build it.

...

Applicant's Arguments

The applicant has argued that "the relationship of the timekeeping device to the memory address, and the hard wired time set dials 28, 30, 32, 34 are clearly exemplified".

However, no circuit details whatsoever of the (a) internal construction, (b) of the terminals, and (c) of the interconnections between the terminals of each one of these items ("timekeeper", "memory address", "hard-wired time set dials") are disclosed.

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Applicant has further argued, as a sample of the sufficiency of the disclosure, that "the signals from hard wired time set dials are fed to the respective gates and, depending on the match of a particular time with a stored time actuates one of the respective gates to select either a (high or low) temperature setting for the building".

This passage (incidentally representative of the whole disclosure), however, fails to show the nature or form of the "signals", the structure of the "time dials", the circuitry for matching "particular time" with "stored time", and the circuitry for selecting a particular temperature.

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Summary

The disclosure fails to describe the actual construction, or structure, or circuits in such explicit detail as to enable one to construct or make a device capable of carrying out the stated objects of the invention.

The present disclosure is found to consist entirely of a recitation of desired results, without disclosing circuit diagrams showing how to wire the various switches, dials, memories, gates, microprocessors etc. together so as to make them work as intended.

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In the response of October 7, 1980 to the Final Action the Applicant did not agree with the Examiner, and argued, in part:

...

In the detailed description of the preferred embodiments of the invention, starting at page 5 line 23 through page 16 line 7, no reference is made to a microprocessor. Rather a detailed discussion of the apparatus illustrated in Figure 1 is to be found. The first reference to a microprocessor is made at the final page of the disclosure, page 16 starting at line 8, where the Applicant states, "The device is particularly suited to integrated circuit application where a microprocessor may be incorporated in the system." Applicant states that the final paragraph is clearly directed towards an alternate embodiment of the invention.

No microprocessor is involved in the Applicant's preferred embodiment. Therefore, the Examiner's rejection based on a lack of connection details of the "microprocessor" to the other components of the preferred embodiment is clearly erroneous. Applicant respectfully submits that the Examiner's misunderstanding of the details of the preferred embodiment is so erroneous and pervades his entire reasoning to such an extent that his rejection ought not be affirmed.

...

Applicant submits that, in the disclosure, which is directed towards one skilled in the art, for an invention dealing with a novel combination of previously known components, schematic diagrams are neither desirable nor necessary in giving details of the internal construction, terminals, or characteristics of the known components. Block diagrams are the proper way to demonstrate the direction between the known components. Indeed, in electronics, where inevitably there are a host of different devices to implement any particular function, such a block diagram approach seems particularly apt. A complete circuit diagram with particular commercially available components would not only be excessively prolix, but also fail to clearly disclose the interaction between the components; such interaction being the essence of combination patents.

...

The Applicant believes the Examiner took exception to the sufficiency of disclosure of the interconnections between the timekeeping device 14, the memory address 24 and the memory means 26, so therefore, Applicant uses this part of the disclosure as a second example, see page 8, lines 1 through 20. Depending upon the encoding scheme to represent the particular hour in the day (22), Applicant submits that it would be obvious to any one skilled in the electronics art to construct a decoder or memory address means (24) which would provide twelve output

signals which could be routed to the four memory switches 28, 30, 32 and 34 via rail 27. It should be appreciated that the details of the memory address 24 are not illustrated because it depends upon the chosen encoding of signal 22. Furthermore, the memory address's twelve output wires would unnecessarily clutter the circuit diagram.

...

The issue before the Board is whether or not the application contains sufficient disclosure to satisfy Section 36(1) of the Patent Act. Claim 1 reads:

An electronic device for automatically changing and controlling the ambient temperature in a building between predetermined first and second temperatures by selected use of heating and cooling means, said device comprising an electronic time keeping means which has output in terms of hours of the day, electronic display means for visually displaying such output, memory means for storing at least two times during a 24-hour period of a day, each of said at least two stored times determining the selection and, when ambient temperature is changed to and maintained at a selected first or second temperature by said device, first temperature set means on which said first temperature is set and which causes an output corresponding to said first temperature is set and which causes an output corresponding to said second temperature, selector means for selecting which of said first and second temperature set means determines the ambient temperature, means for addressing said memory means with said hour of the day output and upon a match of such hour with one of said stored times said selector means is activated to select either the first or second temperature set means, the selection being predetermined by the particular stored time which has been matched, a single temperature sensor for sensing the ambient temperature and generating an output corresponding to the ambient temperature, comparator means for comparing the output from said temperature sensor to the output of the selected first or second temperature set means, switch means which is manually operable for selecting either the heating or cooling means to maintain ambient temperature proximate the selected set temperature, said comparator generating an output upon detecting a difference to appropriately activate or deactivate the selected heating or cooling means.

Under consideration is whether or not the person skilled in the art could design the necessary structure, or, stated another way, could obtain the necessary circuitry and devices to be used for the purposes which Applicant has presented in his application, and shown in Figure 1. The Examiner has cited as of interest, the patent to Pręwarski et al, to show that timers for building temperature control were known in the art. The Applicant has argued that Pręwarski, while relating a timer, does not provide an operation which matches the hour of the day with the stored time. Applicant has also explained that in his application signals are developed for various times of the day, and that these signals are matched with signals from a memory component.

Applicant has also argued that the disclosure is directed to one skilled in the art. With this in mind, we believe that the following United States patent 3,903,515 entitled "Method of and Apparatus for Controlling the Performances of Timed Functions" which issued September 2, 1975 to Haydon et al, is worthy of inspection to obtain a view of the state of the art with respect to electronically controlling timed sequences of operation. Briefly, this patent is directed to method and apparatus for controlling the selective performance of predetermined functions at predetermined times. These functions and times data are stored in a memory, and this stored data is compared to data produced by a timing means. If the actual time compares with the stored time data, then the stored function associated with the stored time is performed. The patent also relates various components which are used to erase and add other functions and times as needed or desired. Figures 1 to 6 of this patent show the combination of components by presenting the components in block form to illustrate the different components used, and illustrate the interconnection of the circuitry hook up by means of conventional circuit lines. The disclosure of this patent refers to the programmer apparatus as having a clock means or other device capable of providing time pulses. With respect to the memory used, the patent in column 11 lines 31 et seq. describes that a conventional static memory such as a core memory, or a shift register matrix memory which exhibits either predetermined or random access features were available for use, and then states that a certain model of a conventional recirculating dynamic shift register is preferred. The comparator circuit in this patent is also described and illustrated in terms of a block diagram. From this patent, we are of the opinion that components to carry out the invention of the instant application would have been known and available more than two years prior to the filing date of December 13, 1977 of this application.

On the issue of sufficiency of disclosure for the components, such as the timing device, the electronic display device, the memory device, and the various temperature sensing means, which are referred to in the disclosure,

we are of the opinion that a person skilled in the art would be able to obtain the components for the operation of the system envisaged by the Applicant in this application. As no art was applied by the Examiner, we are of the view that the disclosure is sufficient under the circumstances.

While no art has been applied against the subject matter of the application, we feel that mention of jurisprudence pertaining to carrying out of an idea or concept, may assist in considering this application.

In Hickton's Patent Syndicate v. Patents and Machine Improvements Company Ltd.

(1909) 26 RPC 339 at 347, Fletcher Moulton L.J. observed:

In my opinion, invention may be in the idea, and it may lie in the way in which it is carried out, and it may lie in the combination of the two.

In Electrolier Manufacturing Co. Ltd. v Dominion Manufacturers Ltd. (1934)

SCR 436 at 442:

The merit of Pahlow's patent is not so much in the means of carrying out the idea as in conceiving the idea itself (Fawcett v Homan), supra...

In Consolboard v. MacMillan Bloedel, March 19, 1981 (unreported) at page 14:

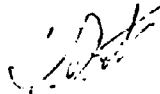
We must look to the whole of the disclosure and the claims to ascertain the nature of the invention and methods of its performance, (Noranda Mines Ltd. v. Mineral Separation North American Corporation (1950) S.C.R. 36, being neither benevolent nor harsh, but rather seeking a construction which is reasonable and fair to both patentee and public. There is no occasion for being too astute or technical in the matter of objections to either title or specification ----- the patent should be approached "with a judicial anxiety to support a really useful invention."

In summary, we are satisfied on the evidence before us that the various components referred to in the application were available prior to the filing of this application. Therefore, we are of the view that the application may not fairly be considered to be open to the rejection on the basis of insufficiency of disclosure. However, we feel that the drawing may not accurately show what has been described with respect to the one circuit line leading from the two temperature sets to the comparator.

We therefore recommend that the decision in the Final Action, to refuse the application on the ground of insufficiency of disclosure, be withdrawn, and that the application be returned for continued prosecution.

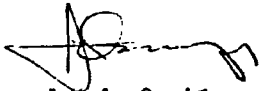


for J.F. Hughes
Assistant Chairman
Patent Appeal Board, Canada



S.D. Kot
Member

I have reviewed the prosecution of this application and concur with the reasoning and findings of the Patent Appeal Board. Accordingly, I withdraw the Final Action.



J.H.A. Gariépy
Commissioner of Patents

Dated at Hull, Quebec
this 21st. day of December, 1983

Agent for Applicant

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