

COMMISSIONER'S DECISION

S2 patentable subject matter; S36(1); Cited art, same subject matter: Disclosure found sufficient. The combination of elements disclosed found to be an elevator system producing a service not possible by the cited art. Rejection reversed.

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This decision deals with Applicant's request for review by the Commissioner of Patents of the Final Action on application number 281,570 (Class 364-3). The application was filed on June 28, 1977 by Westinghouse Electric Corporation, assignee of the inventors Alan F. Mandel, Andrew F. Kirsch, and Kenneth M. Eichler and is entitled ELEVATOR SYSTEM. The Examiner took a Final Action refusing to allow it. In reviewing the rejection, the Patent Appeal Board held a Hearing at which Applicant was represented by Robert H. Fox with the assistance of Joseph L. Bruszek who is Applicant's United States patent attorney.

The application relates to an elevator system having a plurality of elevator cars directed by a supervisory control to service floors according to the demand made by car calls and floor calls. The supervisory control acts to distribute the movement of the cars according to their location and their direction of movement relative to the calls, and to assign the car calls and/or hall calls closest to each car to provide service with a minimum waiting time.

In figure 5 reproduced below, a traffic situation is shown for a 3 car elevator system. The position and service direction of each car is illustrated by an arrow head. The up and down assignments to the cars are illustrated by the shaded blocks and are known as scan slot assignments. Hall calls to the cars are made using the numbered circles at the left side of the figure, while car calls are made using the numbered circles between the scan slots. Shaded circles show existing hall calls and car calls. A first assignment pass is given to each car by the supervisory control, during which the number of stops made by car 1 in this mode of operation will be limited to the three closest stops.

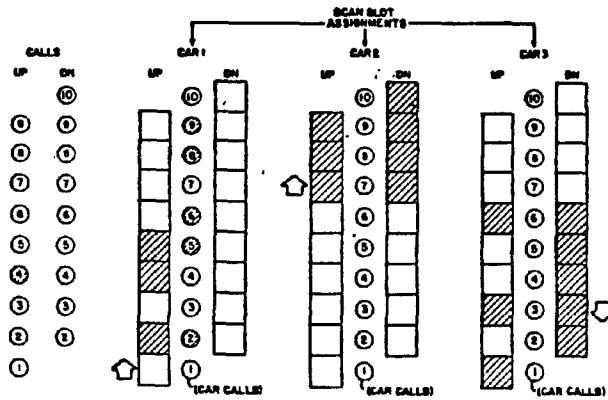


FIG. 5

As shown, car 1 has a hall call at the fourth floor, and the closest three stops for it will be the second floor for the car call, the fourth floor for the hall call, and the fifth floor for the car call. In this example, only the scan slots associated with the car calls for the second and fifth floors will be assigned to car 1 during the first pass.

Car 2 will be assigned up slots 7 to 9 and down slots 10 to 7. Car 3 will be assigned down slots 3 and 2, up slots 1, 3 and 6, and down slots 6 to 4. Thus car 3 will be available to answer a hall call from floor six, even though car 1 has a car call for floor six. Car 2 will respond to hall calls from floors eight and nine, even though car 1 has car calls for these floors. In this way any hall calls made beyond the three closest calls for car 1 will be serviced with a minimum of delay.

Other arrangements are presented in the application. They may for example be based, not on the stops, but on the closest car calls. In all arrangements the supervisory control of the system controls the operating strategy of the system.

In the Final Action the Examiner rejected the application for failure to disclose patentable subject matter under Section 2 of the Patent Act, for failing to disclose any specific apparatus and circuits under Section 36

of the Act, and for claiming solely the elevator strategies carried out by the supervisory control system in United States patent 4,029,175.

In the Final Action the Examiner stated (in part):

...

Except the elevator supervisory control system shown in Figure 1 which has been disclosed and claimed in the United States patent 4,029,175 corresponding to the Canadian application 251,155, the rest of the figures 2 to 7 inclusive and the disclosure of the present application, show and describe solely the strategies, scan slot assignments and subprograms in forms of tables and flow charts; the applicant has not disclosed any specific novel apparatus or new electronic circuits so as to enable any person skilled in the art to make and construct them, and also the disclosure of the present application causes the claims not to be tied to specific novel apparatus or new electronic circuits. Therefore the disclosure is rejected as inexplicit in view of Section 36(1) of the Patent Act. It is further noted that in the recent Canadian Appeal Board decisions relating to computer programs (see Canadian Patent Office Record dated August 1, 1978, pages xviii to xxvi) it was held that claims to broad means and methods which are not tied to specific novel apparatus or new electronic circuits devised to implement the newly discovered ideas or new methods do not meet the requirements of patentable subject matter under Section 2 of the Patent Act.

Since claims 1 to 13, claim solely the elevator strategies carried out by the known elevator supervisory control system disclosed and claimed in the United States patent number 4,029,175 which corresponds to the Canadian application 251,155 of same assignee and under the same representative, these strategies are nonpatentable under Section 2 of the Patent Act and claims 1 to 13 are rejected.

Since the disclosure fails to disclose explicitly any specific novel apparatus or new electronic circuits to be tied to the claims, the disclosure is rejected as inexplicit under Section 36(1) of the Patent Act.

In view of the above rejections, there is no patentable subject matter in this application and therefore this application is refused.

...

In presenting his reasons to justify the patentability of the application, Applicant argued (in part):

...

...the Examiner has stated that the claims are directed to a novel elevator strategy when in fact it is quite clear that the claims are directed to elevator system operating in accordance with the strategy. In other words, the claims are directed

to a concrete embodiment. Secondly, there seems to be a confusion both in the mind of the Examiner and also perhaps in the mind of the Appeal Board between a program and a system operating in accordance with a defined strategy. For example, in the Appeal Board decision cited, the statement is made, "a computer is inherently capable of performing a number of operations in a particular sequence. No program can make a computer do something which it is not entirely capable of doing because it is evident that the general purpose digital computers are designed so that they are capable of responding to any program."

...

...the question whether the programming of the microprocessor used in the present application was obvious to a skilled programmer, is not the question to be decided, rather one must decide, was the elevator system operating in accordance with the novel strategy obvious to one skilled in the art. The claims are not directed to a computer program nor to a computer programmed in a novel manner but rather to an elevator system operating in a novel manner which coincidentally happens to be controlled by a microprocessor. While the applicant does not understand the import of "in any and all modes" from the Commissioner's decision of August 1, 1978 quoted by the Examiner, the applicant, nevertheless believes that the present application does not fall within the terms of the Commissioner's decision. The claims are not directed to a computer program nor does the novelty lie in the program. The novelty lies in a mode of operation of an elevator system. The fact that the mode of operation of the elevator is determined by a microprocessor, the programming of the microprocessor does not appear to detract from the novelty of the elevator system strategy, which had it been accomplished by a hard wired relay controlled electronic system, would never have been questioned by the Examiner as to its patentability.

The issue before the Board is whether or not the application is directed to patentable subject matter in view of Sections 2 and 36(1) of the Patent Act, and whether it is claiming solely the strategies performed by the system of United States patent 4,029,175. Claim 12 reads:

An elevator system for a building having a plurality of floors, comprising:  
a plurality of elevator cars, means mounting said plurality of elevator cars for movement relative to the floors,  
up and down hall call registering means for registering calls for elevator service for up and down service directions, respectively, from at least certain of the floors,  
car call means associated with each of said cars for registering car calls,  
assignment means assigning service directions from floors to said elevator cars according to a predetermined strategy,  
and clearing means periodically clearing the assignments of those service directions from the floors which do not have a registered hall call associated therewith,  
said assignment means reassigning said cleared assignments to said elevator cars according to the predetermined strategy,  
said assignment means including first means which starts at the floor associated with the location of each car and proceeds

in a predetermined direction therefrom, assigning only those unassigned service directions to each car which are related to the floors at which the car will stop due to registered car calls, and second means responsive to the sum of such car call related assignments and any pre-existing assignments to each car which are encountered as the car call related assignments are being made, to count the number of stops to be made by each car, with said second means limiting such car call related assignments to the N closest stops to be made by each elevator car.

During the Hearing the Agent explained that his application was directed to an elevator system which could respond dynamically to changing service demands on the cars of the system. He said that the art cited by the Examiner and that disclosed in the application had been developed by the Applicant and therefore were all known to him at the time of filing. He described how those elevator systems, while providing a very good service, did not possess the capability of the system described in this application to adjust to certain dynamic changes. In those systems the cars followed one another in sequence, each car completing all calls before the other cars could answer call demands but in his system there is an automatic adjustment made to the sequence of movement of cars so that all cars in service can be made to answer service calls in a more effective way. He explained that when more demands than a predetermined limit were made on a first car other cars would be assigned automatically to respond to the greater number of service demands. He emphasized that in this manner, not only could service be attained more quickly than with the other systems, but also that those systems did not possess the capability provided by his system of responding dynamically to changing call demands on the cars within limits and without overracting.

In Schlumberger Canada Ltd. v The Commissioner of Patents (1981)56 CPR(2d) 204

Pratte J. said:

In order to determine whether the application discloses a patentable invention, it is first necessary to determine what, according to the application, has been discovered.

and also:

I am of opinion that the fact that a computer is or should be used to implement discovery does not change the nature of that discovery.

In our opinion the subject matter described in this application is directed towards improvements that can be made to an elevator service by providing a new strategy, and the claims are directed towards an elevator system operating in accordance with that strategy. We view the inventive idea, or "discovery" not solely as a computer program but rather as being in an elevator system or, to put it another way, the elevator system is an improved machine because of the better service it can be made to perform when this strategy is incorporated into the system.

Applicant says that his programmed instructions described in this application cause a change in the operation of the cars of an elevator system. This leads to an improvement in the service provided by the system as reflected in reduced waiting times and increased responsiveness to particular demands on the system. We consider therefore that the application is directed towards an improved elevator system, which is the kind of subject matter that can be patented under Section 2 of the Patent Act, rather than to an algorithm or a means of operating a computer. We are satisfied that when we determine "what according to the application" has been discovered we find that the inventive idea or discovery lies not solely in a program but in changes brought to the operation of elevator systems.

The comment was made at the hearing that if the changes described in the application had been implemented by a means other than a microprocessor, the examiner would probably not have objected under Section 2. Of course the Board cannot speculate on this point. We would like however to point to the second quoted passage from Schlumberger (above), which of course was not available to the examiner when he took this Final Action, and say that since we consider the subject matter i.e. improved elevator systems,

to be a patentable area, the mere presence of a microprocessor to implement improvements to such systems should not remove them from patentability. We conclude therefore that the application is not excluded from patentability by Section 2 of the Patent Act and that this objection should not be sustained.

As for the objection that the disclosure is defective because it does not describe any novel apparatus or new electronic circuits, we agree with certain comments made at the hearing by Mr. Fox. He said that the inventive subject matter to which the application is directed has been fully described, and he argued that the examiner's interpretation of what would be required for the presence of inventive subject matter, namely novel apparatus and electronic circuits, should not be the standard for judgement of the actual subject matter of the application. The Board considers that the disclosure is sufficiently descriptive and should not be objectionable under Section 36(1).

The examiner's third ground for rejection concerns the claims. He said they claim solely the elevator strategies carried out by the known elevator supervisory control system disclosed and claimed in applicant's United States Patent 4,029,175, which corresponds to a copending Canadian application, Serial Number 251,155 (now Canadian Patent 1,079,425). The Board is doubtful about citing a copending application and describing its content as "known" for the purposes of argument. However, in this instance we think the examiner was arguing that this application does not contain anything inventively different from the copending application. When we turn to Figure 7 of this application reproduced here,

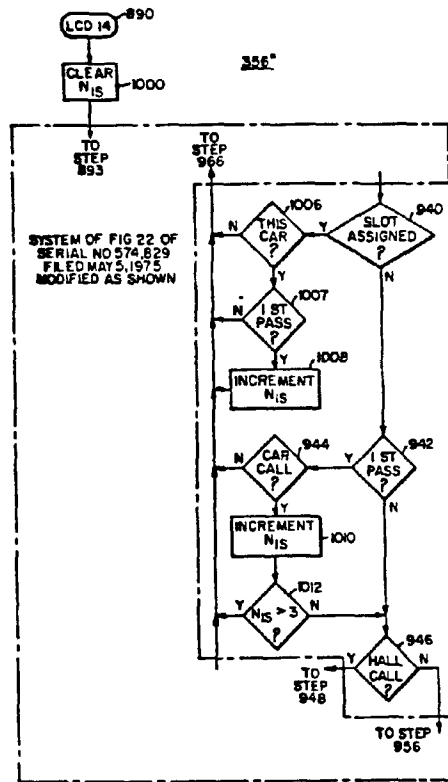


FIG.7

we find steps such as those designated as 1006, 1007, 1008, 1010 and 1012 which are not present in the above copending application and must be considered, at the very least, new in this application. The Board considers therefore that the strategies employed here are indeed different from those presented in applicant's other application. We are satisfied that elevating devices and associated circuitry are being used differently to overcome disadvantages previously inherent in those systems. We consider therefore that this application does not describe and claim the same subject matter as applicant's copending application.

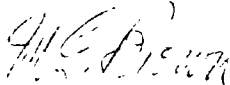
Since the present claims were rejected we will consider them now in the light of our opinion that the subject matter disclosed is patentable. Claim 1, and others, relate to an elevator system having a supervisory control which limits car call assignments to a predetermined number per car, which are the closest car calls. Other claims, for example claim 12, relate to



an elevator system having a supervisory control which counts the number of stops to be made by each car and limits car call assignments to be made by each car to a certain number of closest stops.


We do not find in all the claims all the features said to be parts of the combination that achieves the promised result. There is no distinct claiming of the means whereby unassigned cars may be assigned unanswered service calls on a dynamic basis nor of the control means that assures there will be no overreaction of cars. The claims in their present form do not clearly differentiate the present subject matter from that in Applicant's United States Patent 4,029,175, corresponding to Canadian application 251,155, now Canadian Patent 1,079,425.

We recommend that the rejection of the entire application for non-patentable subject matter be withdrawn but that a patent should not be issued with the present claims. The application should be returned to the examiner for prosecution leading to acceptable claims that clearly define the invention.

  
M.G. Brown  
Acting Chairman  
Patent Appeal Board

  
S.D. Kot  
Member

I concur in the findings and the recommendation of the Patent Appeal Board. Accordingly, I withdraw the Final Action and I am remanding the application to the Examiner for prosecution consistent with the recommendation.

  
J.H.A. Gariépy  
Commissioner of Patents

Agent for Applicant

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Dated at Hull, Quebec

this 25th. day of November, 1983