

COMMISSIONER'S DECISION

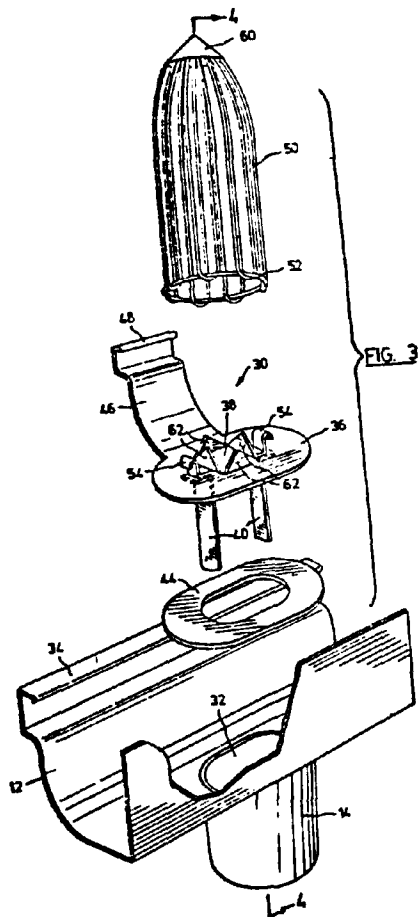
Lack of Subject Matter, Operability: Eavestrough Restrictor Blocking Storm Drainage

Affidavit evidence overcame objection to lack of subject matter. Application remanded for consideration of subsequently discovered art. Rejection modified.

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This decision deals with Applicant's request for review by the Commissioner of Patents of the Examiner's Final Action on application 316,795 (Class 20-106.1). The application was filed on Nov. 23, 1978, and is entitled Storm Drainage Systems. The inventor is Richard J. Stoltz. The Examiner in charge issued a Final Action on Dec. 5, 1980, refusing the application.

The application describes a device for restricting the opening of an eavestrough downspout. Reducing water flow through the downspout prevents overburdening the disposal system whenever there is an unusual heavy fall of rain. Excess water simply overflows the eavestrough and falls upon the lawns and other areas surrounding the building. The Applicant also contemplates a storm drainage system which includes a flow restrictor in each eavestrough of a plurality of roofed structures, and connects each downspout from the structures into a municipal sewer service. There is thus a collective delay in the admission of storm water into the sewer system, thus preventing overloading of the sewer, Figure 3 shows the restricting device.



In the Final Action the Examiner refused the claims for failing to define patentable subject matter beyond what is already common general knowledge. No art was applied.

In making the rejection, the Examiner said (in part):

...

There is no doubt that such a restriction will in fact limit the flow of water down the downspout. But this is as far as it goes. The eavestrough will very quickly over flow and the resulting overflow water will run on to the driveways, lawns etc and will in short order end up in the sewer system. In short, the delay will be at very best momentary: Thus applicant (sic) has not solved the problem at all, he has merely delayed it momentarily. Short of providing massive storage systems to hold the run off water for a long (say 1 hour) period, this idea is virtually ineffective and will not solve the problem applicant seeks to solve. Incidentally, it would be cheaper to not provide any restriction valve (sic) at all, but simply block the downspout. This would achieve the same thing as now achieved by the applicant. In actual experience any moderate downfall of rain will overflow the average eavestrough on modern city houses, so no restriction is required to serve the same purpose applicant achieves with

Notwithstanding the above, it is not seen that there is any invention set forth in the claims. Applicant has merely solved an excessive flow problem by the use of a device that is as old as pipes themselves, namely a valve. No specific valve structure is claimed, only the broad concept of using a valve in a downpipe. It is submitted that there is no invention in this. In short applicant's concept is simple and old. If you have too much water flowing into a system you put in a restriction, a valve. This solution is time honored. Applicant may be permitted to claim and patent a new and inventive valve structure, but not the broad concept of using a valve.

...

In his counter-arguments the Applicant said (in part):

...

With respect to the question of the operability of the claimed invention as a whole, it is submitted that the issue appears to be a difference of opinion as between the Examiner and the applicant as to what constitutes a "significant delay". In this respect, it is to be noted that the applicant is an individual skilled in the art of storm water management. As further evidence of the operability of the claimed invention, an affidavit by Paul E. Theil is enclosed. Mr. Theil is also an Authority in matters relating to storm water management as is clearly evident from the affidavit. It is submitted that Mr. Theil's affidavit clearly establishes that an individual skilled in the art would recognize that the use of a flow restrictor of the type described in the applicant's specification and as claimed therein would result in the improvements in a storm drainage system as set forth in the applicant's specification.

With respect to the issue of operability, the Examiner has suggested that unless a massive storage system to hold the run-off of water for a one hour period is provided, the problems which the applicant seeks to overcome would not be effectively solved.

In this respect, it is to be noted that, in Mr. Theil's opinion, a delay of three to five minutes would be a significant delay and that such a delay would inevitably result from the use of the flow restrictor of the present invention in a conventional storm drainage system in which a plurality of pitch-roofed structures are connected to a service sewer.

...

With respect to the issue of obviousness in the light of common general knowledge, it is to be noted that the problem which the present invention set out to overcome has existed for a great many years despite the fact that the solution offered by the applicant is, apparently, a very simple solution. It is, however, submitted that the apparent simplicity of the present invention is as a matter of hindsight following a reading of the applicant's specification and does not result from an examination of the state of the art at the date of the applicant's invention. The procedure for increasing the capacity of a storm drainage system was well established as indicated in the applicant's specification and as confirmed by Paul E. Theil the procedure was one in which the existing drainage conduits were replaced by drainage conduits having a larger capacity. Thus, the individual skilled in the art of storm water management at the dates of the applicant's invention would attempt to provide an increased capacity by increasing the size or number of the storm drainage conduits. It is,

therefore, submitted that the applicant made a radical departure from the procedure which had been developed over many years by suggesting that the capacity of an existing storm drainage system could be increased by delaying the time which it takes for the water which is collected in the eavestrough of pitch-roofed structures to reach the storm drainage system merely by placing a restrictor in the input to the downspout. While it is true that, once recognized, the structure which is required in order to achieve the broad objectives of the invention may be relatively simple, it is submitted that it is well established that there may be invention in the idea and that the simplicity of the structure does not detract from the patentability of the invention.

To substantiate his reasons further, Applicant submitted affidavits from Paul E. Theil; Anastasios M. Candaras; and C. Douglas Leavens.

Each affiant states that he is a graduate in civil engineering and that he has had experience in municipal projects dealing with storm drainage.

The Affidavits make the following statements, (inter alia):

Affidavit of Paul E. Theil: part 14 (in part):

...

That I have read the specification of Canadian Patent Application Serial No. 316,795 and I am of the opinion that the device described in Claim 1 of the patent specification will serve to restrict the flow of water from an eavestrough and, in so doing, will serve to decrease the amount of flow into the storm drainage system. I further believe that the flow of storm water into a conventional storm drainage system in which a plurality of pitched roof structures are connected to a Municipal storm drainage system by means of an eavestrough and downspout can be decreased substantially by the introduction of a flow restrictor for restricting the flow of water from the eavestrough to the downspout such that overflow of the eavestrough will occur in the event of a storm of a predetermined magnitude.

I also believe that if an eavestrough is caused to overflow as taught by the patent specification, the result will be a significant delay in the amount of time the overflow water will take to reach the storm drainage system.

...

I consider a delay of three to five minutes to be a significant delay in the time which the overflow water takes to enter a conventional storm drainage system having regard to the fact that in many rain storms, the peak rainfall period is of a short duration frequently no more than two minutes.

Affidavit of Anastasios M. Candaras; part 4:

That I have studied the specification of Canadian Patent Application Serial No. 316,795 and I am of the opinion that this specification discloses a device which will be effective in restricting the flow of water from an eavestrough and that such a device would be effective in serving to decrease the amount of flow of water from an eavestrough into a storm drainage system. I believe that the restrictor which is disclosed in this patent specification and the system which is disclosed whereby this device is used for the purposes of delaying and decreasing the flow of water from a plurality of pitched roofs to a storm drainage system would be effective in increasing the level of service of the storm drainage system as a whole.

Affidavit of C. Douglas Leavans; parts 11 and 12:

That I have read the specification of Canadian patent application Serial No. 316,795 and I am of the opinion that a device which comprises a cover proportioned to fit within the eavestroughs to extend in an overlying relationship to substantially cover the input end of the downspout and which includes a mounting structure for retaining cover in an overlying relationship with respect to the input end of the downspout and wherein a drainage passage opens through the cover, the drainage passage being proportioned to permit restricted flow of water from the eavestrough to the downspout in use will serve to decrease the amount and the rate at which water flows from a pitched roof structure to a storm sewer drainage system.

That I am also of the opinion that the flow of storm water from a plurality of pitched roof structures into an existing storm drainage system can be substantially decreased by mounting a flow restrictor in a downspout of an eavestrough as described in Patent Specification No. 316,795. I further believe that by causing an eavestrough to overflow as taught by Application Serial No. 316,795, a significant delay in the amount of time the overflow water will take to reach the storm drainage system would result. A delay of the order of three to five minutes in the time it takes water to reach a storm drainage system is, in my opinion, a significant delay having regard to the fact that in many severe rainstorms the peak rainfall period is of short duration. I am of the opinion that the solution to the problem of increasing the level of service of a storm drainage system by restricting the flow of water by means of a restriction located at the input end of the downspout represents a substantially different approach to the solution to this problem than that conventionally employed prior to November of 1978.

The issues before the Board are whether or not the claims define subject matter that is operative to provide the result set forth in the specification, and whether or not they contain patentable subject matter. Claim 1 reads:

...

A device for restricting the rate at which water drains from an eavestrough into a downspout. The downspout having an input end opening into the base of its associated eavestrough, said device comprising;

(a) a cover proportioned to fit within said eavestrough and to extend in an overlying relationship with respect to and substantially cover the input end of said downspout to prevent full flow discharge of water from said eavestrough to said downspout,

(b) mounting means associated with said cover for retaining said cover in an overlying relationship with respect to the input end of said downspout in use,

(c) a drainage passage opening through said cover to permit water to pass therethrough, said drainage passage being proportioned to permit restricted flow of water from said eavestrough to said downspout in use, said drainage passage having a cross-sectional area which is substantially less than that of the input end of said downspout in association with which it is to be used such that said restricted flow is substantially less than said full flow thereby to effect a substantial reduction in the rate of runoff from the eavestrough to its associated downspout.

The Examiner contended that Applicant had only delayed the overflow problem caused by excessive rain, and that massive storage systems would be needed to solve the runoff problem effectively. On these points, the Affidavits of Thiel and Leavans indicate that a delay of three to five minutes in the time it takes for overflow water to reach a conventional storm drainage system is sufficient in many instances to achieve the results sought by Applicant. Having read the affidavits, we have reached the conclusion that the inventions will work after a fashion, and could not be held to be "inoperative". It is clear that blocking the system will reduce the water flow through it. We are consequently of the opinion that the objection of inoperability should not be maintained.


As for the claims to the restricting device, which the Examiner has equated to a valve in a pipe, we find that it has been set forth in terms which sufficiently identify it as a restricting device and not as a valve structure. We base our finding on the information provided in the affidavits of Thiel, Candaras, and Leavans, plus the fact that no art has been applied. However, with respect to the allowability of these and indeed all claims, we have serious reservations that what has been done is inventive. Damming up of pipes and streams to reduce water flow has been practiced for centuries, often to prevent flooding downstream. We also refer to United States patent 2,547,940 to Swenson, issued Jan. 4, 1949, which is directed to placing in the

downspout of an eavestrough, a weir like construction which obtains a slow discharge of water during light run-off conditions, and during large run-offs obtains both the slow discharge and a hold back of water. Consequently we recommend that the application be remanded back to the examiner to consider this and any other relevant art.

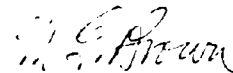
We recommend that the rejection for inoperability be withdrawn, and that the application be returned for examination to determine whether inventive subject matter has been disclosed.



G.A. Asher  
Chairman  
Patent Appeal Board, Canada

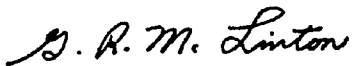


S. Kot  
Member



M. Brown  
Member

I concur with the reasoning and the findings of the Patent Appeal Board. I withdraw the rejection on the grounds relied on, and return the application to the examiner for further prosecution in accordance with my decision.



G.R. McLinton  
Acting Commissioner of Patents

Dated at Hull, Québec  
this 12th. day of February, 1982

Agent for Applicant

Fetherstonhaugh & Co.  
439 University Ave.  
Toronto, Ont.