

COMMISSIONER'S DECISION

OBVIOUSNESS: Dispensing Fibrous Material in an Aqueous Slurry

Use of asbestos fibres as the sole dispersing agent for a glass fibre slurry is not suggested in the prior art.

Final Action: Reversed

This decision deals with a request for review by the Commissioner of Patents of the Examiner's Final Action dated March 5, 1976, on application 184,363 (Class 6-212). The application was filed on October 26, 1973, in the name of William J. Plichta et al, and is entitled "A Method Of Dispersing Fibrous Material In An Aqueous Slurry."

This application relates to the method of dispersing fibrous material in an aqueous slurry by utilizing asbestos fibers as a dispersing agent.

In the Final Action the examiner rejected all the claims for failing to define patentable subject matter over the following reference:

U.S. 3,007,841 Nov. 7, 1961 Briener et al

The Briener patent relates to humidifier plates for air conditioning units. These plates are made by a millboard process with a conventional wet machine and they consist of raw asbestos fibers, absorptive particulate filler material, inorganic mineral fibers, a resin binder wherein these constituents are mixed with water. Claim 1 of the patent reads:

An evaporator plate for use in humidifier units for air conditioning apparatus comprising an absorptive plate having a stem portion and a head portion, said absorptive plate being supported with said stem portion in a supply of water to wick water from said supply through said stem portion to said head portion at a rate faster than the evaporation of water from said head portion when subjected to warm air passing thereover, said absorptive plate having a saturated tensile wet strength when measured in the machine direction of at least 39 lbs./in.², said absorptive plate comprising felted fibers disposed in a sheet-like body, said sheet-like body being formed from a mixture comprising 15-35% by weight of asbestos fibers,

20-40% by weight of absorptive particulate filler material from a group consisting of diatomaceous earth, perlite, and hydrated calcium silicates, and mixtures thereof, 30-60% by weight of inorganic mineral fibers from a group consisting of slag wool, rock wool, and glass fiber and mixtures thereof, and 0.5-2.5% by weight of resin binder.

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

Refusal of claims 1-5 are reiterated in view of United States Patent No. 3,007,841 on the ground that the alleged invention disclosed and claimed in the present application has been disclosed in the aforementioned reference. For instance, the United States Patent No. 3,007,841, column 2, lines 23-26 and 68, supported further by Example 5, shows a process of forming an aqueous slurry including a plurality of glass fibers and a plurality of asbestos fibers, and agitating said slurry. The only other explicit restriction in claim 1 is the functional restriction on the size of the glass fibers.

It is obvious from the fact that the glass fibers used by Breiner et al are milled that they will be of such a length as to require a dispersing agent and that a substantial proportion of them will be within the size limits of 0.25 in. to 2.0 in. The use of a binder and the restriction on the grade of the asbestos are also shown.

The applicant of the application under review is claiming a two stage process involving, broadly speaking:-

- (a) forming an aqueous slurry comprising glass fibers of predetermined length and amount, with asbestos fibers.
- (b) agitating said slurry until dispersion of glass fibers has been uniformly achieved.

Subsequent restrictions include a specified range of glass fiber lengths, a range of percentage by dry weight of asbestos fibers as also the grade thereof, and the use of a binder.

The main reference cited, namely United States Patent No. 3,007,841, discloses the same process steps of forming an aqueous slurry and agitating to effect uniform dispersion. The materials used are the same except for the filler of diatomaceous earth in the said patent. Lengths of the glass fibers, amounts of the asbestos fibers and type of binder used are overlapping in both the cited patent and the present application.

In his response the agent states in part:

Turning to Breiner et al, it can be seen that this patent is directed to an asbestos sheet product and particularly to a humidifier plate made by conventional millboard process: In addition to the asbestos, the product also includes inorganic mineral fibers from a group consisting of slag wool, rock wool, glass fiber and the like and mixtures thereof. More specifically, as a general range of ingredients Breiner et al discloses a mixture of 15-35% by weight of asbestos fibers, 20-40% by weight

of particulate filler material, 30-60% by weight of inorganic mineral fibers other than asbestos, and 0.52-2.5% by weight of a resin binder.

It should be noted that Breiner et al does not teach or suggest utilizing a dispersant, much less, utilizing asbestos as a dispersant. In fact, in most cases, a dispersant is not used or required in the conventional millboard process. With respect to the specific conventional millboard process discussed in Breiner et al, it would more than likely be that this process does not use a dispersant since the maximum amount of fibrous material other than asbestos used is 60% by weight. In any event, there certainly is no teaching or suggestion in Breiner et al to use asbestos fiber as a dispersant and as essentially the only dispersant. Certainly this patent does not teach or suggest that dispersion is necessary and that the dispersant must be asbestos fibers, as set forth in Claim 1.

The issue to be considered is whether or not the claims are directed to a patentable advance in the art.

Claim 1 reads:

A method of dispersing glass fibers in an aqueous slurry, said method comprising

- (a) forming an aqueous slurry including
 - (i) a plurality of glass fibers of the length and amount which requires a dispersing agent in said slurry for dispersion of the fiber, and
 - (ii) a dispersing agent consisting essentially of a plurality of asbestos fibers; and
- (b) agitating said slurry so as to disperse said glass fibers.

Reviewing the Final Action we find that the claims have been rejected in view of Briener on the grounds that: (a) the Briener process "although lacking of statement therefor does not nullify the use of asbestos fiber in a dispersing process involving glass fibers in an aqueous slurry."

The applicant responds that the assumptions made by the examiner are mere conjecture which cannot be based on the teachings in Briener and (b) the glass fibers are of equivalent length or within the range specified in the current application.

Briener relates to asbestos products such as humidifier plates for air-conditioning units. These plates are made by the conventional millboard process. Column 2, line 23 f.f., states: "Raw asbestos fibers, absorptive particulate filler material, inorganic mineral fibre and a resin binder are mixed with water in a conventional beater to form a slurry from which millboard is formed." Example 5, found in column 4 at line 21 f.f., reads:

A millboard, having the physical characteristics listed under column 5 of the above chart was prepared on a conventional wet machine using a conventional millboard process from a slurry prepared from a mixture containing 20% by weight of group 5 asbestos fibers, 28% by weight of diatomaceous earth, 50% by weight of milled glass fibers, and 2% by weight of an acrylic resin binder.

We will now consider the main point of contention namely the applicant's use of asbestos fibres as the dispersant agent. The applicant maintains he has discovered that the asbestos fibers can be used as a sole agent for dispersing glass fibers in a slurry where the glass fibers are of the length which require a dispersing agent. On the other hand the examiner maintains that there is no reason to assume that Briener was "unaware of the special attributes of asbestos fibers as an essential ingredient in obtaining their product satisfactorily." According to the examiner, although not stated in Briener, the use of asbestos fibers with glass fibers in an aqueous slurry is sufficient to assume that the patentee is fully aware of its dispersing properties. Briener teaches the use of diatomaceous earth as a component additive to the slurry to obtain his product. The applicant on the other hand specifies a slurry containing glass fibres of a length and amount which requires a dispersing agent and it also specified that the dispersing agent be asbestos fibres. We find no indication in Briener to use asbestos fibres as the sole dispersing agent for a glass fiber slurry. Moreover, the asbestos fiber could well have been used as a binder for the diatomaceous clay.

The other point of contention is that the glass fibers of the patent are of equivalent length or within the range specified in the current application. We do not think that is material because there is no teaching nor even a suggestion that the asbestos fibres, of any size, may be used as the sole dispersing agent for a glass fibre slurry.

Of pertinence to this decision is the consideration of the Supreme Court in The King v. Uhlemann Optical Co. (1951) 15 CPR 99, where it was stated: "...nothing essential to the invention and necessary or material for its practical working and real utility could be found substantially in the prior publications." (emphasis added)

Claim 1 specifies a method of dispersing glass fibers in an aqueous slurry where asbestos fibers are used as the sole dispersing agent. There is no teaching of this in the reference. In our view this represents a patentable improvement in the art. We recommend that claim 1 should be allowed. It follows that claims 2 to 5, which depend directly or indirectly on claim 1, are also allowable.

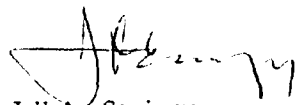
In summary, we are satisfied that nothing essential to the invention and necessary or material for its practical working and real utility can be found substantially in the prior publication (vide: The King v Uhlemann, supra).

We recommend that the Final Action be withdrawn,



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

Having studied the prosecution of this application and reviewed the recommendation of the Patent Appeal Board, I have decided to withdraw the Final Action and return the application to the examiner for resumption of prosecution.



J.H.A. Gariépy
Commissioner of Patents

Dated at Hull, Quebec
this 5th. day of May, 1977