

COMMISSIONER'S DECISION

Breadth of Claims; Support in Disclosure; Rule 44(3) - Microfilters comprising polymeric binders and fillers

Filters for bacteria were made up of polymeric resinous binders containing inorganic fillers. The examiner felt the binders should be restricted to polyvinyl chloride. It was concluded that it was not unreasonable to conclude that other known thermoplastic resins would obviously be useful, and the claims need not be restricted to the specific polymer described in detail. The principles expressed in Burton Parsons v Hewlett Packard were considered to be applicable. Rule 44(3) (now R.45(3)) was not raised when claims previously rejected were reinstated.

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Patent application 188024 (Class 400-50), was filed on December 12, 1973 for an invention entitled "Microporous Sub-Micron Filter Media." The inventor is Bruce S. Goldberg. The Examiner in charge of the application took a Final Action on January 19, 1978 refusing to allow it to proceed to patent.

The claims are directed to a filtering medium useful in separating small particles, such as bacteria, from fluid media in which they are suspended. The filters comprise inorganic fillers dispersed through a polymeric resinous binder, containing a network of open pores, and have certain advantages over prior filters.

The Examiner rejected the claims for being broader than the invention disclosed. In particular he considered that they should be restricted to polyvinyl chloride resins, and copolymers thereof, rather than covering thermoplastic polymers generally, as they now do. We must assess whether that objection is proper.

The Examiner had rejected all the claims for that reason, but narrowly viewed the objection is applicable only to claims 1 and 11 (as now proposed). The other claims are dependent upon claims 1 and 11, and as now drafted would fall if the principal claims fell. However, the subject matter in them is, per se, unobjectionable, and if dependent upon an allowable claim, would be acceptable. For example, if claims 2 and 12 were drafted in independent form and the other claims made dependent upon

them, the claims other than 1 and 11 would be allowable. We will consequently limit our attention to claims 1 and 11. If they fall, the remaining claims must be revised as just indicated. If they stand, the remaining claims will also stand as they are now drafted.

The Examiner had certain other objections to the form of claim 12, but they have been met by the proposed amendment of June 19, 1978, which amendment makes other improvements to the claims. We consequently believe that amendment should be entered, and will proceed to consider the claims of June 19, 1978.

We quote the following portion of the Examiner's action to show the nature of his objection.

...

The expression "polymeric resinous matrix" (claim 1) "polymeric resinous binder" (claims 11, 21, 22 and 23) is far too broad. These expressions appear in the disclosure, however, the only "polymeric resinous binder" (and the "matrix" formed therefrom) disclosed is in fact polyvinyl chloride or vinyl chloride copolymers of the type generally considered to fall within the term "polyvinyl chloride". An inspection of the disclosure reveals that the "polymeric resinous binder" or "matrix" is in fact "polyvinyl chloride" or "vinyl chloride copolymers". The term "polyvinyl chloride resinous binder or matrix" is the only exemplified polymer (see page 4, lines 14 to 18, page 4a, lines 3 to 5, page 5, lines 2 to 3, page 5, line 13 to page 6, line 1, page 7, lines 5 to 6, and Examples 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15). The exemplified polymers are "GEON 103 E" (example 1, also utilised in examples 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13) "ESCAMBIA 6240" (example 14) and "AIRCO 401"; all these are vinyl chloride resins. Applicant disclosed that a thermoplastic resin binder is an essential ingredient (page 4c, line 8 to page 5, line 12) in the words "the following essential ingredients: (1) a thermoplastic resin binder, for example, resinous polyvinyl chloride"; (page 5, lines 1 to 3). Thus it is clear that applicant only teaches vinyl chloride resin binders as a useful material. This is not sufficient to support either the term "thermoplastic resin binder" which includes materials not contemplated by applicant, and is totally insufficient to support the term "polymeric resinous binder" which definitely can include wide classes of materials not contemplated by applicant.

...

He has further pointed out that after the first report Applicant complied with the Examiner's objections and limited the claims to polyvinyl chloride resins (letter of Nov. 5, 1976), but reintroduced the broader aspects in

the claims of December 1, 1977. Whether such action advanced the prosecution to allowance within the meaning of Rule 44(3) was not questioned at the time, and prosecution continued as if the application were not abandoned under Section 32.

The Applicant's position is as follows:

...

...In the present instance, the examples deal with PVC type resins, but there is no reason to doubt the utility of the invention for other resins.

By way of example, Applicant would point out that the invention is useful with the following polymers among others:

polyethylene	polypropylene
chlorinated polyethylene	polyurethane
polystyrene	polyvinylidene

Such compounds can be used with relatively minor testing or development work. Such further work would certainly not amount to making a new invention, but is considered within the scope of the invention already made. In other words, such modifications and adaptations as would be necessary for the use of polymers other than PVC would be known and/or would be obvious to persons of ordinary skill in the art. (Underlining added)

...

and

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The Applicant in the disclosure has given working examples of a group of vinyl chloride materials which are clearly and definitely useful and stated in the disclosure that other thermo plastic resins would work. Applicant then recited a set of criteria for judging such other materials, namely on page 6 of the disclosure. It is clear that Applicant has always contemplated the use of materials other than PVC type materials.

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The paragraph on page 6 of the disclosure referred to, begins on page 5, and reads as follows:

...

In practicing the invention, it is preferable to employ a vinyl chloride resin binder of the "EP" or "easy processing" type. An EP resin is characterized by resin particles which are porous and highly absorbent, as compared to commercial resin particles having a hard glossy beaded appearance. A good example of a suitable thermoplastic resin binder is a nonplasticized, gamma vinyl chloride homopolymer resin such as that commercially available from B.F. Goodrich Company under the trademark Geon 103 EP. The vinyl chloride resin binder may also be a copolymer of vinyl chloride and a small amount (for example up to about 15%) of a monoethylenic monomer, i.e. vinyl acetate, vinylidene chloride, propylene, or ethylene. Exemplary copolymers of the latter type suitable for use with the present invention may be a propylene modified vinyl chloride resin such as that commercially available from the Air Products Company under the trademark Airco 401, or a vinyl acetate modified vinyl chloride resin also commercially available from Air Products Company under the trademark Escambia 6240. Obviously, other thermoplastic resinous binders could also be used as will occur to those skilled in the art as long as the thermoplastic resin is a material which (1) can be converted to a doughy, semi-plasticized state with the aid of a solvent so as to be readily capable of shaping by extrusion or calendering while in this semi-plasticized state, and which then, upon removal of solvent and consequently deplasticization, retains the resulting shape at whatever temperature it is ultimately intended to function; and (2) which is chemically and physically stable under the conditions of intended use, that is, if it is intended to function as filter media the resin should resist attack by the fluids or gases within which it will be used, it should be tough and have adequate tensile strength, and it should be able to withstand the ambient temperatures under which the filter media are expected to be used and function.

...

The term "thermoplastic polymeric resins" covers many different resins, such as A.B.C. (acrylonitrile- butadiene-styrene), acetals, acrylics such as methyl methacrylates, cellulose, chlorinated polyethanes, fluoroplastics (e.g. polytetrafluoroethylenes), nylons, ionomers, nylons (polyamides), certain polyesters, polycarbonates, polyethylene, polyphenylene sulphides, polypropylenes, polyimides, polystyrene, polysulphones, phenoxides, polyvinyl chlorides, certain polyurethanes, and others, none of which were mentioned in the original disclosure. It is this thus-demonstrated broad scope of the term "thermoplastic polymer" that gave rise to the Examiner's objection.

In Hoechst v Gilbert 1966, S.C.R. 189 at 194 the Supreme Court of Canada has adopted the view that no one may obtain a valid patent for an unproved and untested hypothesis in an uncharted field. In B.V.D. v. Canadian Celanese 1936 Ex. C.R. 139 at 148 and 1937 S.C.R. 221 at 236 the courts spoke out about claims to mere adumbrations and "going beyond the invention." In Boehringer Sohn v Bell Craig 1962 Ex.C.R. 201 at 339 & 241 it was indicated that an inventor cannot patent more than he has invented. In Société Rhône-Poulenc v Ciba (1967) 35 F.P.C. 174 at 201-205 and (1968) S.C.R. 950 the claims were invalid because the majority of the substances of the class had never been made or tested by anyone. See also in Re May & Baker (1948) 65 R.P.C. 255 (1949), 66 R.P.C. 8, and (1950) 67 R.P.C. 23 and Esair's application (1932) 49 R.P.C. 85. It is thus clear that there are limits to the breadth of claims that may be made in any particular case, and it is doubtless with that thought in mind that the Examiner rejected the present claims.

An Applicant should be able, however, to put forward a claim in generic terms to a group of like substances, all of which need not have been prepared or tested, where one skilled in the art would consider it reasonable and possible to make a sound prediction that the group as a whole would be effective. In some instances that area may be quite broad, in others extremely narrow, depending in large part upon the state of the prior art, in part upon the extent to which the Applicant himself has explored that area. Further, where such exploration is needed, he should have explored the area before he filed his application for patent. Otherwise the invention was speculative when filed, and only completed subsequently.

This is the principle which we followed in the recent case of Monsanto v Commissioner of Patents, one reviewed both by the Federal Court of Canada. 34 C.P.R. (2d) 1, and by the Supreme Court on June 28, 1979. Both those courts expressed approval of the principle, though the majority of the Supreme Court differed in finding that the principle was satisfied in the factual situation then before it.

In the present case the Applicant is not claiming new chemical compounds whose properties are unknown. Rather he is claiming a mixture of known resins with other known materials, and the invention is related to the physical properties of the resultant composition. Thermoplastic polymeric resins as a group are well known, and we think it would be reasonable for one skilled in the art to predict that many of them would have the desired binding properties to hold together the other ingredients of the mix.

In many respects we are facing a situation similar to that which came up in Burton Parsons v Hewlett-Packard F.C.C., 7 C.P.R. (2d) 198 (1973); F.C.C. Appeal Div. 10 C.P.R. (2d) 126 (1973); S.C.C. 17 C.P.R. (2d) 97 (1975).

That case dealt with a conductive cream to be used in making electrocardiograms, and comprising an aqueous emulsion of "highly ionizable salts."

In that case the Supreme Court said (p. 105):

In the present case, the invention relates to a mixture and a process for making it. This mixture is of no fixed composition. A great many different substances can be used, hundreds if not thousands, said Shansky. The essential is to combine a highly ionizable salt with an aqueous emulsion. As a result of this combination, the wetting action of the emulsion on the skin makes it possible to use the salt in a low concentration (from 1 to 10%). If the patent is to have a practical value, it must cover all the emulsions and salts which can yield the desirable result, namely, all "emulsions with the outer phase or the continuous phase being water" and all salts that are highly ionizable enough to carry an electric current with low resistivity on the skin excluding only such substances as are not compatible with normal human skin. The evidence makes it clear that this was obvious to any person skilled in the art because the characteristics of suitable emulsions and of suitable salts were well known. Only the combination was new.

This is the distinguishing feature from the other cases in which the properties of xanthates in froth flotation and those of some substituted diamines as antihistamines were the object of the invention. The inutility of cellulose xanthate in Minerals Separation, as well as that of some isomers of triphenylamine in Rhône-Poulenc was not known to the prior art. This is totally unlike the undesirable properties of some highly ionizable salts which Hewlett-Packard listed as objectionable. Their noxious character was well known and no man skilled in the art would have thought of using them in making a cream for use with skin contact electrodes any more than any such worker would have needed to be told that in making such a cream, he had to use such proportions of liquid and of emulsified material as to obtain a suitable consistency.

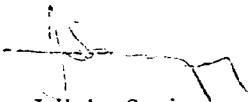
and It is stressed in many cases that an inventor is free to make his claims as narrow as he sees fit in order to protect himself from the invalidity which will ensue if he makes them too broad. From a practical point of view, this freedom is really quite limited because if, in order to guard against possible invalidity, some area is left open between what is the invention as disclosed and what is covered by the claims, the patent may be just as worthless as if it was invalid. Everybody will be free to use the invention in the unfenced area. It does not seem to me that inventors are to be looked upon as Shylock claiming his pound of flesh. In the present case, there was admittedly a meritorious invention and Hewlett-Packard, after futile attempts to belittle its usefulness, brazenly appropriated it. It was in no way misled as to the true nature of the disclosure nor as to the proper methods of making a competing cream. The objections raised against the claims really are that, except those pertaining to some specific embodiments of the invention, the others are so framed as to cover every practical embodiment, leaving to the man skilled in the art, the task of avoiding unsuitable materials in the making of the mixture, a task which any man skilled in the art ought to be able to perform without having to be told because any unsuitability depends on well-known properties. No unexpected or generally unknown unsuitability was proved or even suggested, which makes this case quite unlike Minerals Separation or Rhône-Poulenc.

In the present case we are also dealing with a mixture of known substances with known properties. The invention involves the use of their known physical property, rather than newly discovered chemical properties. We think it would be evident to those skilled in the art that once it was found that polyvinyl chloride resins could be used as binders that most if not all thermoplastic resins would be equally suitable. For that reason we recommend that the rejection of claims 1 and 11 be withdrawn.



G.A. Asher  
Chairman  
Patent Appeal Board, Canada

Having considered the prosecution of this application and the recommendation of the Patent Appeal Board, with which I concur, I direct that the rejection made be withdrawn. The application is to be returned to the Examiner to resume prosecution of claims 1 - 20 as submitted on June 19, 1978.



J.H.A. Gariepy  
Commissioner of Patents

Dated at Hull, Quebec  
this 19th. day of November, 1979

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