Paper No. 16

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte JAY J. MIELE, MARCO MAROIS, R. FRED CHASSE, J. WAYNE CHAMBLEE, JOHN D. WESTON, and J. ROBERT PROUGH

Appeal No. 98-2076
Application 08/520,941

ON BRIEF

Before John D. Smith, Lieberman and Jeffrey T. Smith, Administrative Patent Judges.

Lieberman, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the decision of the examiner refusing to allow claims 1 through 11 and 21 through 29 which are all the claims pending in this application.

THE INVENTION

The invention is directed to a method of producing pulp from sawdust. In part the method comprises forming a heated slurry from steam, cooking liquor and sawdust, and passing the heated slurry at super atmospheric pressure downwardly in a static down-flow retention vessel. Thereafter, while maintaining the pres is cooled by diffusing cooling liquid therethrough. Additional features of the invention are set forth below in an illustrative claim.

THE CLAIMS

Claims 1 is illustrative of appellants' invention and is reproduced below.

1. A method of producing chemical cellulose pulp from sawdust utilizing a static down-flow retention vessel, comprising the steps of continuously:

(a) adding steam and cooking liquor to a flow of sawdust to produce a heated slurry of sawdust and cooking liquor at a consistency of between about 15-35%, and a cooking temperature of between about 250-350 degrees F;

(b) passing the heated slurry from step (a) at superatmospheric pressure downwardly in the static down-flow retention vessel, and retaining the slurry in the retention vessel at cooking temperature between about 0.5-6 hours, and then discharging it at a consistency of between about 5-20% from the ret vessel; and

(c) at superatmospheric pressure, without significant reduction in pressure from the retention vessel, cooling the slurry discharged from the retention vessel by diffusing cooling liquid therethrough so that the temperature of the slurry drops below cooking temperature, and cooking thereof is terminated.

THE REFERENCES OF RECORD

As evidence of obviousness, the examiner relies upon the following references.

Greenwood et al. (Greenwood)	5,266,159		Nov. 30, 1993	
Marois		5,444,884		Aug. 29, 1995
Canadian Patent (Canada '055)	1,242,055		Sep. 20, 1988	

Bail, "Sawdust pulping continues to grow; technology improves yield, strength, "Pulping Processes, pp. 39-43, (1981).

Grace, et al. (Grace), "Pulp and Paper Manufacture," 3rd ed., Tappi, Vol. 5, pp. 166-173, (1989).

Smook, "Handbook For Pulp & Paper Technologists", pp.85-86 (1982).

THE REJECTIONS

Claims 1 through 11 and 24 through 29 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Canada '055 in view of Smook, and Pulp and Paper Manufacture or Marois.

Claims 5 through 6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Canada '055 in view of Smook, and Pulp and Paper Manufacture or Marois and further in view of Bail.

Claims 21 through 23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Canada '055 in view of Smook, and Pulp and Paper Manufacture or Marois and further in view of Greenwood.

OPINION

We have carefully considered all of the arguments advanced by the appellants and the examiner and agree with the appellants that the aforementioned rejections are not well founded. Accordingly, we reverse the rejections.

The Rejections under 35 U.S.C. § 103

"[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a ***prima facie*** case of unpatentability," whether on the grounds of anticipation or obviousness. ***In re Oetiker***, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). On the record before us, the examiner combination of up to five references to reject the claimed subject matter and establish a ***prima facie*** case of obviousness. The basic premise of the rejection is that it would have been obvious to one of ordinary skill in the art, to "use a diffusion washer for the washer of Canadian Patent 1,242,055" as such is taught by Marc and Paper Manufacture. See Answer, page 4. We disagree.

We find that Canada '055 discloses the treatment of sawdust in a hydraulically filled downflow digester having a superatmospheric vapor phase. See page 1. Sawdust slurries of desirably about 15 - 22% are obtained. See page 2. The slurry is heated by direct mixing of high pressure steam. See paragraph bridgin find that the slurry is introduced into a vertical vessel which may be a downflow vessel having a superatmospheric vapor phase. See page 3. We find an optimum cooking temperature of 140 - 175° C (284 - 347° F) for 30 to 130 minutes is disclosed. See page 6. We find that a superatmospheric pressure is used of 600 - atmospheres). Id. Figure 2 discloses a downflow digester 40. Step (c) however, is not disclosed by Canada '055. The pulp produced by Canada '055 is sent to a blow tank, presumably where heat is recovered from the steam. There is no suggestion of cooling the slurry by diffusing cooling liquid therethrough as required appellants' claimed process.

Accordingly, the examiner relies upon the disclosures of Smook, Marois and Pulp and Paper Manufacture to provide step (c) of the claimed subject matter. It is the examiner's position that Smook discloses that the displacement liquor is cool liquor which would obviously end the digestion as the reaction temperature lowered. See Answer, page 3. However, the reference in Smook to cold bottom dilution does not refer to a sawdust digester. The teaching on page 85, right-hand column refers to an IMPCO digester which is directed to a wood feed in contrast to a sawdust feed. In addition, the cooling zone is at the bottom of a digester separate vessel as required by the claimed subject matter.

The examiner additionally relies on Marois or Pulp and Paper Manufacture to disclose a diffusion washer for use in the Canada '055 disclosure. See Answer, page 4. The Marois assembly includes a pressure diffuser for treating cellulosic pulp. See column 2, lines 49-51. The assembly includes a super atmospheric with a plurality of inlets for treatment liquid. See column 2, lines 52-56. There is some suggestion that the pressure diffuser of the invention works better than a conventional pressure diffuser. See column 5, lines 3-24. However, the examiner has failed to meet his burden of explaining why one of ordinary skill in the art wo been motivated to modify the Canada '055 reference in the manner purportedly suggested by Marois.

Similarly, Pulp and Paper Manufacture discloses a sawdust digester with a two-stage diffuser. See Fig. 133. However, the mere fact that a diffuser washer is taught is not sufficient in and of itself to provide motivation to substitute it for the system disclosed in Canada '055. Moreover, as pointed out in the Stromberg Declaration, in Figure 133, the cooking process is ended in the digester itself by the introduction of liquid at several different levels. See paragraph 7 of the Declaration. The reference states that, "[w]ashing in the lower half of the digester is accomplished by introducing wash liquid at several levels through the wall and radially extracting the displaced black liquor through a rotating cylindrical screen at the center." See page 167, left-hand column. The presence of washing inlets in the lower half of the digester necessarily results in a conclusion that the digester is not a static downflow retention vessel as required by the claimed subject matter.

Moreover, as with the Marois reference, the examiner has failed to meet his burden of explaining why one of ordinary skill in the art would have been motivated to modify the Canada '055 reference in the manner suggested by Pulp and Paper Manufacture.

The examiner must show reasons that the skilled artisan confronted with the same problems as the inventor and with no knowledge of the claimed invention would select the elements from the cited prior art references for combination in the manner claimed. We determine that there is no reason, suggestion, or motiv the references in the manner proposed by the examiner. Accordingly, the examiner has not established a ***prima facie*** case of obviousness and the examiner's rejection of claims 1 through 12 under 35 U.S.C. § 103 is not sustained. ***In re Rouffet***, 149 F.3d 1350, 1355, 47 USPQ2d 1453, 1455 (Fed. Cir. 1998).

DECISION

The rejection of claims 1 through 11 and 24 through 29 under 35 U.S.C.

§ 103(a) as being unpatentable over Canada '055 in view of Smook, and Pulp and Paper Manufacture or Marois is reversed.

The rejection of claims 5 through 6 under 35 U.S.C. § 103(a) as being unpatentable over Canada '055 in view of Smook, and Pulp and Paper Manufacture or Marois and further in view of Bail is reversed.

The rejection of claims 21 through 23 under 35 U.S.C. § 103(a) as being unpatentable over Canada '055 in view of Smook, and Pulp and Paper Manufacture or Marois and further in view of Greenwood is reversed.

The decision of the examiner is reversed.

REVERSED

JOHN D. SMITH)
Administrative Patent Judge)
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) BOARD OF PATENT
PAUL LIEBERMAN) APPEALS
Administrative Patent Judge) AND
) INTERFERENCES
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