

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte KARL BLANKENBURG

Appeal No. 2006-0951
Application No. 10/329,617

ON BRIEF

Before FRANKFORT, BAHR and NAPPI, Administrative Patent Judges.

BAHR, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's rejection of claims 1-3 and 5-8.

Claims 4 and 9-12 stand withdrawn from consideration.

We AFFIRM-IN-PART.

BACKGROUND

The appellant's invention relates to a vacuum assisted toilet wherein a vacuum is created downstream of the toilet and upstream of the discharge pipe leading to a sewer pipe or a waste holding tank (present specification, page 1). A copy of the claims under appeal is set forth in the appendix to the appellant's brief.

Applied Prior Art

Varis et al. (Varis)	4,184,506	Jan. 22, 1980
Olin et al. (Olin)	4,297,751	Nov. 3, 1981
Friedman et al. (Friedman)	5,621,924	Apr. 22, 1997

The Rejections

The following rejections are before us for review. The rejection under 35 U.S.C. § 112, second paragraph set forth in the final rejection (mailed January 13, 2004) has been withdrawn by the examiner on page 3 of the answer (mailed March 17, 2005). The objection to the specification as failing to provide proper antecedent basis for the claimed subject matter relates to a petitionable matter and not to an appealable matter. See Manual of Patent Examining Procedure (MPEP) ' ' 1002 and 1201. Accordingly, we will not review the issue raised by the appellant on page 5 of the brief.

Claims 5 and 8 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Olin.

Claims 1, 5 and 8 stand rejected under 35 U.S.C. § 103 as being unpatentable

over Olin in view of Varis.

Claims 2, 3, 6 and 7 stand rejected under 35 U.S.C. § 103 as being unpatentable over Olin in view of Varis and Friedman.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellant regarding this appeal, we make reference to the examiner's answer for the examiner's complete reasoning in support of the rejections and to the appellant's brief (filed April 2, 2004) and reply brief (filed May 18, 2005) for the appellant's arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellant's specification and claims, to the applied prior art, and to the respective positions articulated by the appellant and the examiner. As a consequence of our review, we make the following determinations.

We turn our attention first to the rejection of claims 5 and 8 as being anticipated by Olin. Claim 5 reads on Olin as follows. Olin discloses a partial vacuum sewage system comprising a water-closet 1 having a toilet bowl for containing waste liquid, a flush knob 11 for effecting a flush impulse, a discharge passage (sewer pipe 2 and emptying device 3) having one end in fluidic communication with the discharge port of the water-closet and another end (the end of emptying device 3 in which flap 17 is

disposed) connected to a waste outlet, a flap 17 fluidically coupled in the emptying device portion 3 of the discharge passage for controlling the flow of waste liquid through the discharge passage, the flap being normally closed at the time of flushing and until after the vacuum in sewer pipe 2 has dissipated, at which time it is opened by a power cylinder to empty the sewage present in collecting chamber 13 (column 4, lines 41-47), a valve 24 fluidly connected to the discharge passage between the flap 17 and the discharge port of the water-closet, and a vacuum source (compressed air pipe 6, compressed air valve 12 and vacuum generating ejector 5) connectable to the discharge passage by the valve 24.

When the flush knob 11 is actuated, control device 25 of the system opens valve 12 of compressed air pipe 6 connected to ejector 5, thereby generating a vacuum. When a sufficient vacuum has been generated, valve 12 is closed, the suction effect of ejector 5 ceases and discharge valve 9 of water-closet 1 is opened. The valve 24 is operable in response to the activation of flush knob 11, inasmuch as such activation causes automatic control device 25 to open valve 12 so that vacuum is generated, thereby opening the valve 24, which closes when the suction effect of ejector 5 ceases.

Appellant argues, on page 7 of the brief, that "since discharge valve 9 is in a closed position unless there is a vacuum, Olin lacks a discharge passage in continuous direct fluidic communication with the discharge port of the toilet and the waste outlet as set forth in Appellant's claim 5." This argument is not commensurate in scope with

claim 5, which recites “a discharge passage having one end in continuous direct fluidic communication with the discharge port of the toilet and another end fluidically connectable to a waste outlet.” Claim 5 does not require continuous direct fluidic communication of the “another end” to the waste outlet or to the discharge port of the toilet.

As for the discharge passage having one end in continuous direct fluidic communication with the discharge port of the toilet, Olin characterizes the discharge valve 9 as part of the water-closet (column 4, lines 10-11 and 15-16). As such, the examiner’s reading of the toilet discharge port on the connection between Olin’s valve 9 and sewer pipe 2 (answer, page 5) is well founded. With that reading of the discharge port, the upstream end of sewer pipe 2 is in continuous direct fluidic communication with the discharge port of the toilet, as required by claim 5.

In light of the above, we are not persuaded by appellant’s argument of any error on the part of the examiner in determining that claim 5 is anticipated by Olin. The rejection of claim 5 as being anticipated by Olin is sustained.

As noted above, Olin does teach all the limitations of claim 5. A disclosure that anticipates under 35 U.S.C. ‘ 102 also renders the claim unpatentable under 35 U.S.C. ‘ 103, for “anticipation is the epitome of obviousness.” Jones v. Hardy, 727 F.2d 1524, 1529, 220 USPQ 1021, 1025 (Fed. Cir. 1984). See also In re Fracalossi, 681 F.2d 792, 794, 215 USPQ 569, 571 (CCPA 1982); In re Pearson, 494 F.2d 1399, 1402, 181

USPQ 641, 644 (CCPA 1974). Thus, we sustain the examiner's rejection of appealed claim 5 under 35 U.S.C. § 103 as being unpatentable over Olin in view of Varis.

We shall not, however, sustain the rejection of claim 8 as being anticipated by Olin. Claim 8 recites "a volume of air removed by application of the vacuum source to the discharge passage is defined by the leading edge of the contents of the toilet bowl after activation of the flushing actuator, the interior of the discharge passage and the flow^[1] valve." Olin's valve 9, which is closed at the time when the flush knob is actuated and flush water flows into the lower part of the water-closet bowl, separates the contents of the water-closet bowl from the interior of the discharge passage (sewer pipe 2), such that the volume of air removed by application of the vacuum source in Olin's sewer system is defined by the valve 9 (not the leading edge of the contents of the bowl), the interior of the sewer pipe 2 and the flap 17.

The examiner's application of Varis in combination with Olin provides no cure for the deficiency of Olin noted above. It follows that the rejection of claim 8 as being unpatentable over Olin in view of Varis also cannot be sustained.

We turn now to the rejection of claim 1 as being unpatentable over Olin in view of Varis. Claim 1 recites, in relevant part, a valve fluidically coupled to the vacuum source and the discharge passage between the flap valve and the first opening, the valve being

¹ The term "flow valve" lacks clear antecedent basis in the claim. In light of appellant's underlying disclosure (specification, page 7), we presume "flow" should be "flap" and interpret it as such for purposes of this appeal. This informality is nonetheless deserving of correction.

operative to apply vacuum from the vacuum source to the discharge passage, and control means, responsive to the flushing actuator, for controlling the valve to maintain the valve in a vacuum-applying position for a pre-determined time period after actuation of the flushing actuator and close the valve prior to the waste liquid from the toilet bowl reaching the valve in the discharge passage.

Olin's non-return valve 24 stays open during the time that the valve 12 stays open and ejector 5 generates a vacuum. According to Olin, "[w]hen a sufficient vacuum has been generated, compressed air valve 12 is closed" (column 4, lines 8-9) and the suction effect of ejector 5 is ceased. Olin lacks a control system for controlling valve 24 to maintain the valve in a position applying vacuum to the discharge passage (sewer pipe 2) for a pre-determined period of time after actuation of the flushing actuator, as called for in claim 1. To make up for this deficiency, the examiner turns to Varis.

Varis discloses a vacuum sewer system comprising a collecting chamber 5 having a bottom flap 8, the collecting chamber being connected through a collecting suction pipe 6 to a vacuum pump 7. The system also includes an automatic control device 10 that starts and stops the motor 11 of the vacuum pump 7 and opens and closes, by means of three-way valve 12, the connection between the collecting chamber 5 and the vacuum pump or atmosphere. When the vacuum pump starts, the valve is in the position shown in Figure 1 and vacuum is applied in the collecting chamber 5. At the same time, sewage may flow from the sewer pipe 2 into the collecting chamber.

When a sufficiently low pressure has been obtained in sewer pipe 2, the pressure transducer 13 stops the vacuum pump motor by means of control device 10. When the vacuum pump stops, valve 12 is moved by control device 10 to a position such that collecting chamber 5 is connected to atmosphere. With the collecting chamber connected to atmospheric pressure, the collecting chamber is self-discharging because the weight of the sewage therein is sufficient to open the bottom flap 8. In order to ensure the emptying of collecting chamber 5, valve 12 can be connected to a pressure source instead of to atmosphere.

As explained in the above discussion of the Varis sewer system, while the valve 12 of Varis is directly controlled by the control device 10, it is not controlled “to maintain the valve in a position applying vacuum to the discharge passage for pre-determined period of time after actuation of the flushing actuator, and closing the valve prior to waste liquid from the toilet bowl reaching the valve in the discharge passage” as called for in appellant’s claim 1. Accordingly, even the combined teachings of Olin and Varis fail to provide any teaching or suggestion to provide such control of the valve for applying vacuum from the vacuum source to the discharge passage to meet the terms of claim 1. It follows that the rejection of claim 1 as being unpatentable over Olin in view of Varis cannot be sustained.

The examiner’s application of the teachings of Friedman in rejecting claims 2 and 3, which depend from claim 1, provides no cure for the deficiency in the combination of

Olin in view of Varis discussed above. The rejection of claims 2 and 3 as being unpatentable over Olin in view of Varis and Friedman thus cannot be sustained.

Finally, we turn our attention to the rejection of claims 6 and 7 as being unpatentable over Olin in view of Varis and Friedman. Claim 6 depends from claim 5 and further recites a means for creating the source of vacuum and a vacuum level switch for controlling a level of vacuum for the vacuum source, both the vacuum creating means and the vacuum level switch being controlled by the control means. Claim 7 depends from claim 5 and further recites a vacuum reservoir coupled to the vacuum source and a vacuum level switch connected to the vacuum reservoir for modifying a level of vacuum within the vacuum reservoir.

Olin discloses a means (compressed air pipe 6, compressed air valve 12 and ejector 5) for creating a vacuum source and an automatic control device 25 for shutting the valve 12 to cease the suction effect of ejector 5 “[w]hen a sufficient vacuum has been generated” (column 4, lines 8-9), but does not describe the details of how such vacuum level control is achieved. Olin further discloses that an auxiliary tank 15 can be connected to the suction duct 14 leading to the ejector upstream of the non-return valve.

As evidenced by Friedman (column 6, lines 42-53), the use in vacuum assisted sewer systems of a vacuum switch 66 for shutting off vacuum generating means, such as a pump, when the vacuum within a tank reaches a predetermined level was conventional at the time of appellant’s invention. Accordingly, it would have been

obvious to one of ordinary skill in the vacuum assisted sewer system art to utilize a conventional vacuum switch in Olin's sewer system to shut the valve 12 to implement the function, broadly described by Olin, of ceasing the suction effect of ejector 5 when a sufficient vacuum is sensed, in auxiliary tank 15, for example.

In light of the above, we conclude that the combined teachings of Olin in view of Varis and Friedman are sufficient to establish that the subject matter of claims 6 and 7 would have been obvious to one of ordinary skill in the art at the time of appellant's invention. The rejection is sustained.

CONCLUSION

To summarize, the rejection of claims 5 and 8 as being anticipated by Olin is sustained as to claim 5 and reversed as to claim 8, the rejection of claims 1, 5 and 8 as being unpatentable over Olin in view of Varis is sustained as to claim 5 and reversed as to claims 1 and 8, and the rejection of claims 2, 3, 6 and 7 as being unpatentable over Olin in view of Varis and Friedman is sustained as to claims 6 and 7 and reversed as to claims 2 and 3. The decision of the examiner is AFFIRMED-IN-PART.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

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APPEAL NO. 2006-0951
APPLICATION NO. 10/329,617

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DECISION: AFFIRMED-IN-PART

PREPARED: Sep 7, 2006

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