

The opinion in support of the decision being entered today was not written for publication in a law journal and is not binding precedent of the Board.

Paper No. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte HELMUT JUDAT, WOLFGANG HEMMERLE  
and REINHOLD ROSE

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Appeal No. 2001-2086  
Application No. 09/012,152

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ON BRIEF

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Before KIMLIN, PAK and WARREN, Administrative Patent Judges.

KIMLIN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1-3, 5-8, 10-13, 15-18 and 20-25. Claim 1 is illustrative:

1. An apparatus for conveying a liquid containing dispersed gas comprising an axial conveyor, wherein said axial conveyor comprises conveying elements in a substantially cylindrical conveying tube, wherein said conveying elements are selected from a group consisting of propellers, vanes or screws disposed on a drivable axle, wherein said conveying elements comprise a wall-sweeping lip and wherein an additional conveying member is provided on the pressure side of said axle of said axial conveyor, the additional conveying member being effective only over a part of the cross-section of the conveying tube.

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In addition to the admitted prior art found in appellants' specification, the examiner relies upon the following references as evidence of obviousness:

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|--|-----------|---------------|
| Allbright  | 1,404,709 | Jan. 24, 1922 |
| Litz et al. (Litz)                                   | 4,919,849 | Apr. 24, 1990 |
| Stark (German '824)<br>(German patent publication)   | 4,322,824 | Jan. 12, 1995 |
| Lehmann (German '727)<br>(German patent publication) | 4,327,727 | Feb. 23, 1995 |

Appellants' claimed invention is directed to an apparatus comprising conveying elements, such as propellers, vanes or screws, in a substantially cylindrical conveying tube. The conveying elements are disposed on a drivable axis and comprise a wall-sweeping lip. The apparatus also comprises an additional conveying member provided on the pressure side of the axial of the conveyor. Claim 1 on appeal recites that "the additional conveying member being effective only over a part of the cross-section of the conveying tube." The apparatus finds utility in conveying a liquid containing dispersed gas.

Appealed claims 1-3, 5-8, 10-13, 15-18 and 20-25 stand rejected under 35 U.S.C. § 112, second paragraph. The appealed claims also stand rejected under 35 U.S.C. § 112, first paragraph, description requirement. In addition, all the appealed claims stand rejected under 35 U.S.C. § 103 as being

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unpatentable over the admitted prior art in view of Allbright or Litz, and over Allbright or Litz in view of German '727 or German '824.

Appellants submit at page 5 of the principal brief that none of the appealed claims will be argued separately and that "[t]he claims in issue therefore stand or fall together."

We have thoroughly reviewed the respective positions advanced by appellants and the examiner. In so doing, we will sustain the examiner's rejection of the appealed claims under 35 U.S.C. § 112, second paragraph, but not the examiner's rejection under 35 U.S.C. § 112, first paragraph. Also, inasmuch as we concur with the examiner that the claimed subject matter would have been obvious to one of ordinary skill in the art within the meaning of 35 U.S.C. § 103 in view of the applied prior art, we will sustain the examiner's § 103 rejections for essentially those reasons expressed in the Answer.

We consider first the examiner's rejection of the appealed claims under 35 U.S.C. § 112, second paragraph. While the examiner discusses that it does not appear that appellants are claiming what seems to be their invention, the substance of the rejection centers upon the claim 1 recitation that "the additional conveying member being effective over only a part of

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the cross-section of the conveying tube." The examiner sets forth the following rationale in the paragraph bridging pages 5 and 6 of the Answer:

The term, the additional conveying member being effective over only part of the cross section of the conveying tube, is unclear. It would be expected that a rotating element, such as element 15 of instant figure 5 would be effective in moving fluids and would sweep the entire cross section of the conveying member in the same manner that the propellers and vanes of the conveying member would sweep the entire cross section. It is also expected that a conveying element would be effective in conveying fluids in a conduit. While it may be that a small conveying element may be less efficient than [sic, than] a large element, this would not prevent the element from being effective. It may have been appellants [sic, appellants'] intent to specify that the conveying element has a diameter of \_\_\_\_\_% of the tube. However as shown by the figures, the first and additional conveying elements appear to have the same diameter. It is also considered that impellers must be smaller, ie., have a diameter of 99.999...% or less than the tube that they are in if they are to turn without binding.

Appellants contend at page 6 of the principal brief that "[o]ne skilled in the art would readily appreciate from this quoted language that the additional conveying member does not come into contact with the wall of the conveying tube." However, although it is clear from specification Figure 5 that the additional conveying member 15 does not come in contact with the wall, this much is also true for the other conveying elements.

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It is not understood how simply not contacting the wall renders the additional conveying member effective only over part of the cross-section of the tube. While appellants also maintain that it is clear from the specification that the additional conveying member "does not have the 'wall-sweeping' feature of the elements of the axial conveyor" (page 6 of principal brief, penultimate paragraph), even if this were so, and the specification makes no such statement, we do not find that the claim language adequately defines the metes and bounds, or scope, of the requirement that the additional conveying member is "effective only over a part of the cross-section of the conveying tube." Appellants have not refuted the examiner's reasoning that a rotating element, such as element 15 of specification Figure 5, would be effective in moving fluids over the entire cross-section of the tube although, perhaps, not as efficiently as a larger rotating element.

We will not sustain the examiner's rejection under 35 U.S.C. § 112, first paragraph, description requirement. It is the examiner's position that there is not descriptive support for the claimed "lip," inasmuch as appellants have conceded that there is a difference in scope between the term "lip" and the term "edge," originally found in the present specification and claims.

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However, in accordance with the definition of the term "lip" supplied by appellants (Webster's), we are satisfied that Figures 2 and 3 of the original specification describe the claimed conveying elements comprising a lip. It is well settled that original drawings are part of the specification and can provide descriptive support for terms not originally present in the text of the specification.

We now turn to the examiner's rejection of the appealed claims under 35 U.S.C. § 103 over the admitted prior art in view of Allbright or Litz. We agree with the examiner's determination that specification Figure 1, the admitted prior art, has conveying elements, 3, which comprise the presently claimed "wall-sweeping lip." Based on the dictionary definition furnished by appellants, we find that the edge of element 3 of specification Figure 1 qualifies as a lip. In our view, element 3 of the admitted prior art has a projecting edge, or lip, and also can be reasonably considered to serve as the edge of a hollow cavity. Furthermore, although the admitted prior art does not comprise the presently claimed additional conveying member, we are in full agreement with the examiner that Allbright or Litz would have provided the requisite motivation to incorporate an additional conveying member on the axle of the

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admitted prior art. In the words of the examiner, "[t]he use of plural impellers would clearly and obviously provide more impelling force and agitation than a single impeller" (page 12 of Answer, last paragraph).

Appellants contend that "the Litz et al device **does not include** the wall-sweeping lip required in Appellants' invention" (page 10 of principal brief, last paragraph). We concur with the examiner, however, that "it is considered that the prior art impeller and the helical impeller 8 of Litz et al have a wall sweeping edge/lip to the same degree as required by the instant claims" (page 14 of Answer, last paragraph). Based on our reasoning set forth above with respect to our finding that element 3 of the admitted prior art comprises a lip, it should be evident that we also find that impeller 8 of Litz comprises a lip and, furthermore, it is reasonable to conclude that the proximity of impeller 8 to the wall of the tube would result in the claimed wall-sweeping.

As for appellants' argument that the gas-liquid dispersion of Litz flows upward, the examiner has clearly pointed out portions of Litz which detail the downward movement of the dispersion in the tube (see page 14 of Answer, last sentence).

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The remaining arguments of appellants have been adequately addressed by the examiner.

Considering the examiner's rejection of the appealed claims under § 103 over Allbright or Litz in combination with German '727 or German '824, we will adopt the examiner's reasoning as set forth in the Answer. Whereas the German references disclose conveying elements having lips with extended vertical edges, as disclosed in the present specification but not claimed, we find no error in the examiner's rationale that it would have been obvious for one of ordinary skill in the art to employ the conveying elements of the German references in the apparatus of Allbright or Litz. Moreover, we find that the subject matter defined by appealed claim 1 would have been obvious over Litz, considered alone. We perceive no meaningful distinction between the claimed conveying elements comprising a wall-sweeping lip and conveying element 8 of Litz, nor between the claimed additional conveying member and impeller 10 of Litz.

As a final point, we note that appellants base no argument upon objective evidence of nonobviousness, such as unexpected results.

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In conclusion, based on the foregoing and the reasons well-stated by the examiner, the examiner's decision rejecting the appealed claims is affirmed.

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

AFFIRMED

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|-----------------------------|---|-----------------|
| EDWARD C. KIMLIN            | ) |                 |
| Administrative Patent Judge | ) |                 |
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|                             | ) |                 |
| CHUNG K. PAK                | ) | BOARD OF PATENT |
| Administrative Patent Judge | ) | APPEALS AND     |
|                             | ) | INTERFERENCES   |
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| CHARLES F. WARREN           | ) |                 |
| Administrative Patent Judge | ) |                 |

ECK:clm

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