

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 ROBERT B. LUBBERTS
and
WATSON L. ROBBINS

Appeal 2006-2908
Application 10/370,840
Technology Center 1700

Decided: October 31, 2006

Before KIMLIN, WARREN, and WALTZ, *Administrative Patent Judges*.
KIMLIN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1-4, 7, and 9-12.

Claim 1 is illustrative:

1. A bow deflector device for controlling a flow velocity gradient of a feed stream of plastic batch material to be provided to an extrusion die, comprising:

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- (a) a base including an aperture sufficiently large for the feed stream of plastic batch material to pass therethrough;
- (b) a plurality of adjustable plates movably mounted to the base, each adjustable plate being capable of independent movement relative to each other in an in-and-out direction relative to the aperture; and
- (c) a cover for shielding the adjustable plates securely mounted to the base, wherein by adjusting the adjustable plates in various positions, the flow velocity gradient of the plastic material provided to the extrusion die is adjusted such that bow in a honeycomb extrudate can be corrected in any direction to true “zero” magnitude.

The Examiner relies upon the following references as evidence of obviousness:

Ziegler	US 5,102,602	Apr. 7, 1992
Brew	US 6,039,908	Mar. 21, 2000
Grover	US 6,663,378 B2	Dec. 16, 2003
Groeblacher	US 6,769,899 B2	Aug. 3, 2004

Appellants’ claimed invention is directed to a bow deflector device for controlling a flow velocity gradient of a feed stream of plastic material that is fed to an extrusion die. The device comprises a base having an aperture that is sufficiently large for the plastic feed to pass through. The device also comprises a plurality of adjustable plates that are capable of independent movement in an in-and-out direction relative to the aperture, as well as a cover for shielding the plates. The adjustment of the plates also adjusts the flow velocity gradient of the plastic material that is provided to the extrusion die such that bow in a honeycomb extrudate is corrected in any direction to a true “zero” magnitude.

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Appealed claims 1-4, 7, and 9-12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Grover in view of Ziegler, Brew, and Groebelacher.

Appellants have not set forth arguments that are reasonably specific to any particular claim on appeal. Accordingly, all the appealed claims stand or fall together with claim 1.

We have thoroughly reviewed each of Appellants' arguments for patentability. However, we are in complete agreement with the Examiner that the claimed subject matter would have been obvious to one of ordinary skill in the art within the meaning of § 103 in view of the applied prior art. Accordingly, we will sustain the Examiner's rejection for the reasons set forth in the Answer, and we add the following for emphasis only.

There is apparently no dispute that Grover, like Appellants, discloses a bow deflector device for controlling a flow velocity gradient of a feed stream of plastic batch material to be provided to an extrusion die which comprises a base including an aperture that is sufficiently large for the feed stream of the plastic batch material to pass therethrough, as well as an adjustable plate which controls the size of the aperture and the correction of bow deflection. In particular, Grover provides the following relevant disclosure:

The degree of bow correction flexibility in the design shown is dictated by aperture **24**. Depending on the diameter of the aperture, the deflector device offers a flow resistance which varies across its length, which is impressed across the face of the feed stream correcting the degree of bow.

Slide plate **14** can be mounted at various set points **22** in accordance with the measured bow in the extrudate. Typically the degree of bow in an extrudate is measured from the center to ends. In FIG. 1, slide plate **14** is aligned with set points **22e**, which provides an intermediate amount of bow correction.

Setpoint **22a** provides the minimum-correction position.

Conversely, setpoint **22h** provides the maximum-correction position.

Col. 3, ll. 7-20. Consequently, it can be seen that the size of the aperture is a result-effective variable that controls the amount of bow correction.

As appreciated by the Examiner, the bow deflector device of Grover does not comprise the claimed plurality of adjustable plates. Rather, Grover's device employs a single adjustable plate. However, as pointed out by the Examiner, it has long been held that it is a matter of obviousness for one of ordinary skill in the art to duplicate known structures or elements of an apparatus or device. Accordingly, we concur with the Examiner that it would have been obvious for one of ordinary skill in the art to either add an additional adjustable plate to the device of Grover to effect greater control of the aperture size and shape, or to break the plate of Grover into two or more parts to provide more control of the dimensions for the aperture. We find that this is particularly so since Grover expressly discloses that it was known in the art to use more than one adjustable plate in a bow deflector device. However, Grover articulates certain disadvantages of using more than one adjustable plate, namely,

[w]hile this approach is sound in theory, problems have been identified in practice and include high maintenance costs from clogged and wore-down apertures causing extrudate flow

impedance, and swollen webs in the extruded honeycomb structures resulting in defects and product failure. Due to the intricacy of the design of the prior art device cost is also an issue.

Col. 1, ll. 57-63. Hence, it cannot be gainsaid that one of ordinary skill in the art was fully cognizant of using a plurality of adjustable plates in a bow deflector device, but the artisan was also aware of the disadvantages associated therewith. In the present case, Appellants have not proffered any objective evidence which establishes that their use of a plurality of adjustable plates produces unexpected results compared to the single adjustable plate of Grover, nor have Appellants demonstrated that the claimed device does not experience the disadvantages of using a plurality of adjustable plates discussed by Grover. Accordingly, the *prima facie* case of obviousness established by the Examiner stands unrebutted.

Also, although we agree with the Examiner that Brew, Ziegler, and Groebelacher provide additional evidence for the obviousness of using a plurality of adjustable plates in bow correctors and extrusion devices, it should be apparent that it is our view that the claimed subject matter would have been obvious to one of ordinary skill in the art over Grover alone.

As for Appellants' argument that the device of Grover does not allow for adjustment in more than one direction, the Examiner correctly points out that the appealed claims do not require such but, only, that the bow in the extrudate be corrected in "any" one direction. Moreover, it would seem that the plurality of plates of the prior art discussed by Grover would be capable of providing adjustment in more than one direction.

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Concerning the claimed cover for shielding the adjustable plates, we agree with the Examiner that it would have been *prima facie* obvious for one of ordinary skill in the art to provide a cover for the Grover device. It is quite fundamental in the mechanical arts to provide a cover for components whose function is being compromised by exposure to the environment. Groeblacher simply provides evidence of the obviousness of utilizing such a cover.

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)(1)(iv) (2004).

AFFIRMED

clj

CORNING INCORPORATED
SP-TI-3-1
CORNING, NY 14831