

The opinion in support of the decision being entered today  
is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* MICHAEL R. HAWKINS

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Appeal 2006-3058  
Application 10/386,070  
Technology Center 1700

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Decided: May 31, 2007

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Before CHARLES F. WARREN, PETER F. KRATZ, and  
LINDA M. GAUDETTE, *Administrative Patent Judges*.

GAUDETTE, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the Examiner's final rejection of claims 1, 2, 6-9, 11-15, and 20-23. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 6(b) (2006).

Appellant's invention relates to a counter-flow asphalt plant having a recycle asphalt (RAP) feed to the combustion zone to produce high percentage RAP asphalt products within a two-stage mixing zone. The

invention is said to provide improved production rates with greater economy and efficiency of plant design and operation. Specification [0003].

Independent claim 20 is reproduced below:

20. A counter-flow drum mixer asphalt plant for producing asphaltic product from aggregate and liquid asphalt, said asphalt plant comprising:

a rotatable cylinder having first and second ends with an internal passageway communicating therebetween and serially providing zones therein from said first end to said second end defined progressively as a drying zone, a combustion zone and first and second stage mixing zones;

a support framework carrying said cylinder in a substantially horizontal orientation; a drive motor mounted on said framework and engaged with said cylinder to rotate said cylinder about the central longitudinal axis thereof;

a primary aggregate feeder with a material discharge extending within said first end of said cylinder to deliver aggregate material to said drying zone of said cylinder whereby rotation of said cylinder transports said aggregate material progressively through said drying, combustion and first and second stage mixing zones to said second end of said cylinder;

a combustion assembly projected into the second end of said cylinder and extending through said first and second stage mixing zones to said combustion zone to generate a hot gas stream in said combustion zone to flow through said combustion and drying zones toward said first end of said cylinder in a countercurrent direction to the flow of aggregate material within said cylinder in order to heat and dry the aggregate material within said combustion and drying zones, said combustion assembly including a burner head positioned at said combustion zone, a fuel supply connected to said burner head, and a primary combustion air supply connected to said burner head to establish a combustion flame within said combustion zone of said cylinder;

a liquid asphalt feeder disposed within said first stage mixing zone for delivering liquid asphalt to the hot aggregate carried from the combustion zone into said first stage mixing zone to form an asphaltic composition;

a dust feeder disposed within said second stage mixing zone for delivering fine additives to said asphaltic composition carried from said first mixing zone to form a finished asphaltic product;

a stationary discharge housing sealingly connected to said second end of said cylinder to permit rotation thereof and having a discharge port for discharging said finished asphaltic product from said cylinder; and

a secondary combustion air supply connected to said discharge housing to direct a flow of secondary combustion air to said first stage mixing zone in order to evacuate and carry blue smoke and steam vapors from said first stage mixing zone into said combustion zone and to substantially isolate said second stage mixing zone from the flow of secondary combustion air in order to minimize entrainment of fine additives from said second stage mixing zone.

The Examiner relies on the following prior art references to show unpatentability:

Green	US 5,664,882	Sep. 9, 1997
Hawkins	US 5,664,881	Sep. 9, 1997

The Examiner made the following rejections:

1. Claims 1, 6-8, 11-13, and 20-23 under 35 U.S.C. § 102(b) as anticipated by Green;
2. Claims 2, 14, and 15 under 35 U.S.C. § 103(a) as unpatentable over Green; and
3. Claim 9 under 35 U.S.C. § 103(a) as unpatentable over Green in view of Hawkins.

#### ISSUE

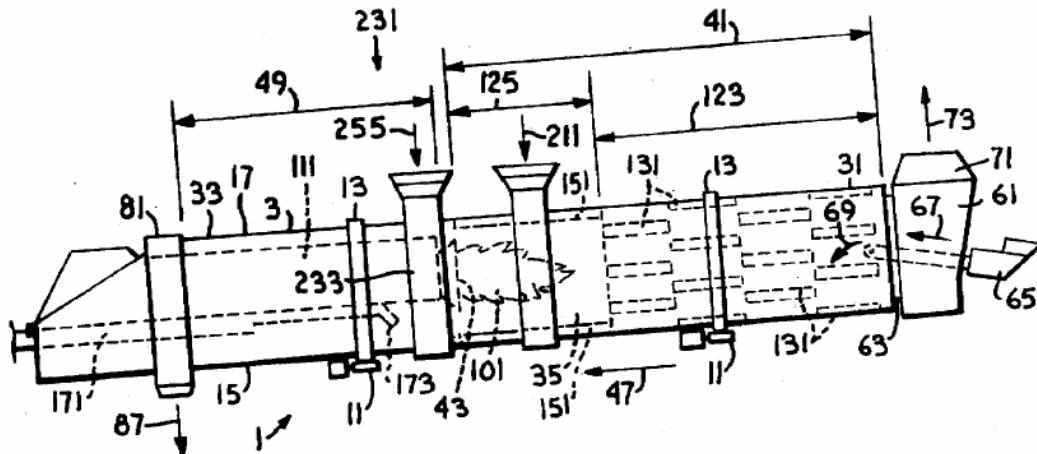
The Examiner contends that Green discloses all of the features recited in independent claims 1 and 20. Appellant contends that Green fails to disclose the claimed features of the secondary combustion air supply. The issue for us to decide is: Has the Examiner shown by a preponderance of the

evidence that Green, either expressly or inherently, discloses the secondary combustion air supply as claimed?

For the reasons discussed below, we answer this question in the negative. Accordingly, we reverse as to all three grounds of rejection.

#### RELEVANT FINDINGS OF FACT (“FF”)

- 1) Figure 13 of Green is shown below:



Green Figure 13 is a schematic representation of a system for concurrently remediating contaminated soil and producing hot mix asphalt. Green, 4:66-5:1.

- 2) The system 1 includes a cylindrically shaped rotary drum 3 supported on frame means 5. Green, 5:32-34. Materials are processed in the direction shown by arrow 47. Green, 5:52-54.
- 3) In operation, virgin aggregate is received via a material conveyor 65 into the cavity 35 at input end 31 of the rotary drum 3. Green, 5:64-6:3.

- 4) Material entering cavity 35 travels through a heating zone 41 spaced upstream from burner head 43 and then through a mixing zone 49 spaced downstream from the burner head 43. Green, 5:50-59.
- 5) The heating zone 41 includes a drying zone 123 and combustion zone 125. Green, 7:7-8.
- 6) The mixing zone 49 extends from the discharge end 33 of the rotary drum 3 to the vicinity of, but short of, the burner head 43. Green, 5:55-57.
- 7) “Radially outward extremities of the mixing zone **49** are bounded by the wall **17** of the drum **3**, and radially inward extremities of the mixing zone **49** are bounded by the secondary air tube **111**.” Green, 8:14-17.
- 8) “[T]he mixing zone **49** and materials being processed in the mixing zone **49** are isolated from the flame **101** and the hot gas stream. . . . [T]he term ‘isolated’ . . . includes the inadmission of undesirable effects to the mixing zone **49** and to materials therein, such as air movement through the mixing zone **49**.” Green, 9:20-30.
- 9) “Due to the elimination of air movement through the mixing zone **49**, any volatile components vaporized from the asphaltic components quickly condense within, and do not leave, the mixing zone **49** thereby avoiding burdening the pollution control equipment **73** or rising production of blue-smoke contamination.” Green, 9:35-40.

## ANALYSIS AND CONCLUSIONS

Appellant describes the claimed invention as relating to:

a unique asphalt plant construction having first and second stage mixing zones wherein the first stage mixing zone is purposefully exposed to secondary combustion air for exhausting blue smoke to the combustion zone while the second stage mixing zone is isolated from the secondary combustion air flow to minimize entrainment of fines in the second stage mixing zone.

Br. 9. Appellant argues that Green cannot anticipate the claims because Green discloses a single mixing zone which is isolated from any air flow. (Br. 9.)

The Examiner contends that Green's mixing zone 49 is properly divided into two stages: a first stage in which liquid asphalt is added and a second stage in which mineral fines from feeder 171 are added. (Answer 7.) The Examiner maintains that:

While its [sic, it] is true that that [sic] the second stage mixing zone of Green ('882) is substantially isolated from the flow of secondary combustion air, secondary combustion air is directed to the first stage mixing zone as best seen in Fig. 3. Specifically, the secondary air tube 111 of Green ('882) terminates substantially to the left of ("downstream of" with respect to the direction of aggregate flow) the primary air tube 91 which terminates at 157, as best seen in Fig. 3. In other words, secondary air tube 111 of Green ('882) terminates within the second stage mixing zone.

Answer 8.

We are in agreement with Appellant that the Examiner's findings with respect to the flow of combustion air lack evidentiary support and contradict Green's detailed description of the invention (*see Reply 2-4*). For example, Green clearly teaches that the mixing zone 49 and materials being processed in the mixing zone 49 are isolated from air movement (*see FF 8*). Likewise,

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Green discloses that components vaporized from the asphaltic components condense within, and do not leave, the mixing zone 49 (*see* FF 9).

Therefore, we find that Green fails to disclose, either expressly or inherently, the claimed features of Appellant's secondary combustion air supply.

Accordingly, the rejection of claims 1, 6-8, 11-13, and 20-23 under 35 U.S.C § 102(b) as anticipated by Green is reversed. Because the rejections of claims 2, 9, 14, and 15 under 35 U.S.C § 103(a) are similarly based on the Examiner's finding that Green discloses the claimed secondary combustion air supply, we also reverse these rejections.

REVERSED

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