UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte FRANKLIN LEROY STEBBING

Appeal 2008-1932
Application 09/974,199
Technology Center 1700

Decided: April 29, 2008

Before CHARLES F. WARREN, THOMAS A. WALTZ, and
ROMULO H. DELMENDO, *Administrative Patent Judges*.

DELMENDO, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant appeals under 35 U.S.C. § 134 (2002) from a final rejection of claims 2-4, 9-34, 48, and 49. We have jurisdiction under 35 U.S.C. § 6(b) (2002).

We AFFIRM for the reasons given by the Examiner (Examiner's Answer mailed Sep. 11, 2007). Nevertheless, we add the following primarily for emphasis.

Appellant allegedly invented a process for manufacturing steel from scrap metal in an electric arc furnace using scrap automotive tires as an auxiliary heat supplying source (Specification, hereinafter "Spec.," 1, ll. 16-19). In particular, the Specification states that "[w]ith the scrap metal and scrap rubber being combined to form a scrap metal and rubber bundle, i.e., the scrap rubber intermixed with the scrap metal, the metal acts as a flame-spread reducer and also as a heat sink, thereby preventing rapid and uncontrolled burning of the scrap rubber" (Spec. 14, ll. 2-7).

Representative claims 9, 13, and 23 on appeal read as follows:

> 9. A process for melting metal in a furnace for producing steel comprising:
>
> providing a plurality of pieces of whole tires;
>
> providing a quantity of scrap metal;
>
> bundling the plurality of pieces of whole tires and the quantity of scrap metal;
>
> providing the bundle of pieces of whole tires and the quantity of scrap metal into the furnace; and
>
> combusting the plurality of pieces of whole tires in the furnace to add additional heat for melting the scrap metal and to provide a carbon source for the production of steel.
>
> 13. A process for melting metal for producing steel in a furnace comprising:
>
> providing a quantity of metal;
>
> providing a quantity of shredded scrap rubber;
>
> providing a bundle of the quantity of metal and the quantity of shredded scrap rubber;

placing the bundle into the furnace; and

applying energy to the quantity of shredded scrap rubber to start the combustion of the shredded scrap rubber to add additional heat for melting the metal.

23. A process for reducing emission during melting of metal comprising:

providing a quantity of metal into a furnace;

applying energy to the quantity of metal to begin melting the metal, whereby the melting metal releases carbon monoxide which is emitted from the furnace;

bundling a quantity of shredded scrap rubber with the quantity of metal; and

placing the bundle into the furnace,

whereby the quantity of shredded scrap rubber combusts to add additional heat from melting the metal and to catalyze the carbon monoxide to carbon dioxide to reduce the carbon monoxide emitted from the furnace.

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Guiden	US 1,761,124	Jun. 3, 1930
Lindemann	US 2,605,657	Aug. 5, 1952
Williamson	US 3,367,019	Feb. 6, 1968
Stebbing	US 5,322,544	Jun. 21, 1994
Burgherr	EP 0 747 492 A1	Dec. 11, 1996

The Examiner rejected the appealed claims under 35 U.S.C. § 103(a) as follows: (i) claims 2-4, 11-14, 18, 19, 21-26, 28, 30-34, 48, and 49 as unpatentable over Burgherr in view of Williamson, Lindemann, or Guiden; and (ii) claims 2-4, 9-34, 48, and 49 as unpatentable over Stebbing in view of Burgherr and Williamson, Lindemann, or Guiden.

ISSUE

Has Appellant demonstrated reversible error in the Examiner's determination that the subject matter of the appealed claims would have been obvious to a person having ordinary skill in the art over the applied prior art?

FINDINGS OF FACT

1. Appellant's Specification states that the scrap rubber includes "chopped, shredded and even whole tires baled and unbaled...." (Spec. 4, ll. 8-12) and that "the size and amount of the scrap tire pieces can be modified and changed, with the quickest heat addition coming when shredded tires are used and the longest lasting heat addition coming when whole tires are used" (Spec., 10, ll. 23-27).
2. Burgherr describes a method for melting ferrous metal, particularly scrap, using a complementary energy-releasing material in the form of rubber granules from the disposal of used tires (Abstract; p. 4, l. 20 to p. 5, l. 45).
3. Burgherr teaches that the method "can in fact be applied in general both in the preheating duct, i.e., in the duct in which the ferrous material fed continuously to the furnace is preheated by the exhaust gases of the furnace, and in the shaft of the conventional furnace, which is charged discontinuously with successive charges" (p. 4, ll. 32-34).

4. Burgherr does not describe "bundling the plurality of pieces of whole tires and the quantity of scrap metal" as recited in appealed claim 9 or "providing a bundle of the quantity of metal and the quantity of shredded scrap rubber" as recited in appealed claim 13.
5. Williamson teaches that "large hollow objects [bodies of junked automobiles] can be crushed to a workable size whereby the resulting scrap pieces can be easily placed in a furnace for removal of all non-steel materials" (col. 1, ll. 19-23 and 32-36).
6. Guiden teaches that scrap metal may be bundled "so that it may be readily handled" (p. 1, ll. 1-9).
7. Lindemann teaches briqetting and bundling scrap metals (col. 1, ll. 1-7).
8. Stebbing teaches a method for melting steel using scrap metal and at least about 0.25 percent by weight of scrap rubber, such as scrap automotive tires, wherein scrap metal and whole scrap rubber tires are deposited in a steel melting furnace, such as an electric arc furnace, and the whole scrap rubber tires are combusted with air or oxygen to provide an auxiliary source of heat to melt the scrap metal (col. 1, ll. 42-49).
9. Stebbing teaches (col. 4, ll. 11-18):

> Whole scrap rubber tires are preferred so as to control the combustion thereof. If shredded scrap rubber tires were to be used, the combustion would occur too rapidly and generate an undesirable amount of heat. Also, it is possible that the combustion of the shredded scrap rubber tires would be so

> quick that fumes could escape from the electric arc furnace 2 before the roof 6 could be replaced.

10. The 37 C.F.R. § 1.132 Declaration of Franklin Leroy Stebbing, executed May 18, 2005, does not include any comparative testing to establish the nonobviousness of the claimed invention relative to the prior art.
11. The Examiner refused entry of the Exhibits attached to the Appeal Brief (Ans. 8).

PRINCIPLES OF LAW

"Section 103 forbids issuance of a patent when the 'differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains.'" *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1734 (2007).

KSR reaffirms the analytical framework set out in *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1 (1966), which mandates that an objective obviousness analysis includes: (1) determining the scope and content of the prior art; (2) ascertaining the differences between the prior art and the claims at issue; and (3) resolving the level of ordinary skill in the pertinent art. *KSR*, 127 S. Ct. at 1734. Secondary considerations such as commercial success, long felt but unsolved needs, or failure of others "'might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.'" *Id.* (quoting Graham, 383 U.S. at 17-18).

ANALYSIS

With respect to the first ground of rejection, Appellant argues the claims together except for claim 23. We therefore confine our discussion of the first ground of rejection to claims 13 and 23. As to the second ground of rejection, Appellant argues the claims together. Accordingly, we select claim 9 and confine our discussion to this selected claim.

I. Burgherr with Williamson, Lindemann, or Guiden

While Burgherr does not describe "bundling" as recited in appealed claim 13, we share the Examiner's view that a person having ordinary skill in the art would have found it prima facie obvious to modify Burgherr's process by forming bundles of scrap metal and used tire scraps in order to facilitate the transfer of materials into the furnace, as suggested by the other references such as Williamson (Facts 2-7). A person of ordinary skill in the art would have had no difficulty understanding from mere common sense that by introducing the scrap metals and tire scraps in the form of smaller bundles, heat generation and melting can be better controlled.

Appellant's argument that Burgherr teaches away from combusting the scrap metal and tire scraps in the furnace is utterly without merit (Appeal Brief, hereinafter "App. Br.," 6-7). In the Abstract, which is a portion of the reference on which Appellant bases this argument, Burgherr explicitly teaches that the prior art method can be applied in conventional shaft furnaces. A similar disclosure is also found in Burgherr's Specification (Fact 3).

As to claim 23, Appellant argues that Burgherr does not teach or suggest reducing emissions from the steel making process as recited in the

claim (App. Br. 8). In support, Appellant relies on the Stebbing Declaration. We are unpersuaded. Appellant has not relied on any experimental evidence to demonstrate that the claimed invention provides results that would have been considered unexpected or otherwise nonobvious over the closest prior art. *See*, *e.g.*, *In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997).

II. Stebbing with Burgherr and Williamson, Lindemann, or Guiden

Contrary to Appellant's belief (App. Br. 9), Stebbing does not teach away from using shredded scrap tires. Stebbing teaches that the use of whole scrap rubber is merely a preferred embodiment, which suggests that other embodiments would include scrap rubber that are not "whole" (Fact 9). Furthermore, Stebbing's disclosure of rapid combustion and the generation of "undesirable" heat would not have been interpreted by one skilled in the relevant art as that of impossibility or inoperability, because a person having ordinary skill in the art would have known from common sense that combustion can be controlled by the rate of addition of the material to be combusted. Moreover, appealed claim 9 reads on the use of whole scrap tire because whole tires are "pieces of whole tires" (Fact 1).

The Stebbing Declaration is unpersuasive because it does not include any factual evidence, such as comparative testing against the prior art, that would demonstrate nonobviousness. *In re Geisler*, 116 F.3d at 1470 ("[I]t is well settled that unexpected results must be established by factual evidence."). While the Declaration contains a legal conclusion of "teaching away" (¶5) and touts the benefits of the claimed invention (¶¶6-12), such conclusory remarks – unaccompanied by factual evidence such as testing and/or fact-based analysis - is not the type of evidence necessary to

successfully rebut the Examiner's prima facie case of obviousness. *See*, *e.g.*, *In re Hoch*, 428 F.2d 1341, 1343-44 (CCPA 1970) (evidence must provide an actual comparison of the properties of the claimed invention with the disclosure of the reference).

As to the Exhibits attached to the Appeal Brief, the Examiner refused entry and consideration (Fact 11). Accordingly, absent any indication that Appellant was successful in a petition to invoke supervisory authority to overturn the Examiner's decision, we need not consider them.

CONCLUSION

On this record, we determine that Appellant has failed to demonstrate any error in the Examiner's conclusion that the subject matter of the appealed claims would have been obvious to a person having ordinary skill in the art over the applied prior art.

DECISION

The Examiner's decision to reject appealed claims 2-4, 9-34, 48, and 49 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

PL Initial:
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