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 M. WILLIAMS, JR

Appeal No. 2006-1716
Application No. 10/408,962
Technology Center 3700

Decided: February 28, 2007

Before JENNIFER D. BAHR, ROBERT E. NAPPI, and
ANTON W. FETTING, *Administrative Patent Judges*.

BAHR, *Administrative Patent Judge*.

STATEMENT OF THE CASE

Robert M. Williams, Jr. (Appellant) appeals under 35 U.S.C. § 134 from the Examiner's decision rejecting claims 1-15, the only claims pending in the application. We have jurisdiction over this appeal under 35 U.S.C. § 6.

We REVERSE.

THE INVENTION

Appellant's invention is a system for shredding and grinding material. The system comprises a material feed portion and a mill portion including a motor driven rotor in close running fit with a cage mounted screen through which material is discharged. At least one hydraulic ram biases the cage to a closed position. A feedback system including a speed sensor for sensing the rotor speed regulates flow of hydraulic fluid to and from the at least one ram to control the opening and closing of the cage in response to slowed or stopped rotation of the rotor. The feedback mechanism also regulates operation of the materials feed portion to suspend material feed while the cage is open. The feedback system is designed to protect the components of the shredding and grinding system from damage caused when hard to grind materials become trapped or jammed within the grinding apparatus and to automatically reset the system, by closing the cage and resuming material feed, when the rotor resumes rotation at a normal speed.

THE EVIDENCE

The Examiner relies upon the following as evidence of unpatentability:

Shinn	US 3,625,138	Dec. 07, 1971
Burda	US 4,793,561	Dec. 27, 1988
Bender	US 4,964,578	Oct. 23, 1990
Linnerz	US 5,213,273	May 25, 1993

THE REJECTIONS

Appellant seeks review of the Examiner's rejections under 35 U.S.C. § 103(a) of claims 1-4 and 6-15 as being unpatentable over Linnerz in view of Shinn and Burda and claim 5 as being unpatentable over Linnerz in view of Shinn, Burda and Bender.

The Examiner provides reasons in support of the rejections in the Examiner's Answer (mailed November 16, 2005). Appellant presents opposing arguments in Appellant's Brief (filed September 21, 2005) and Reply Brief (filed December 12, 2005).

ISSUE

The issue presented in this appeal is whether the combined teachings of Linnerz, Shinn and Burda would have suggested modifying the Linnerz hammer mill apparatus and method to displace the cage (screening grid 33 and swing mill 29) and alter a material feed rate *responsive to* the rotational speed of the rotor, as required in Appellant's claims.

FINDINGS OF FACT

Each of Appellant's claims requires a step of or feedback mechanism for displacing the cage and altering a material feed rate responsive to the rotational speed of the rotor.

Linnerz discloses a hammer mill comprising a hammer rotor 5 rotatably mounted within a housing 2. The housing 2 includes an outlet 15

comprising an outlet wall 28 and swing grid 29. A screening grid 33 is provided at the distal end of outlet wall 28. Outlet wall 28 and swing grid 29 are mounted on pivot axles 36, 37 provided on their ends with lever arms 39, 41. Hydraulic cylinders 42 engage lever arms 39, 41 and are articulated at their other ends in bearing blocks 43 forming part of mill housing 2. Each of the pressure lines 47 that open to the loaded piston faces of the cylinders 42 is provided with a pressure relief valve 48 connected by a line 49 to a tank 51. The valves 48 permit the outlet wall 28 and swing grid 29 to resiliently yield and deflect outwardly away from rotor 5 (dotted lines in Fig. 1) if large pieces strike the outlet wall 28 and screening grid 33 with sufficient force. The resilient deflection of the outlet wall 28 and swing grid 29 away from rotor 5 helps prevent wedging of the large pieces between the rotor and the outlet 15 (cols. 5 and 6).

Linnerz does not teach displacement of the outlet wall 28 and swing grid 29 responsive to the rotational speed of rotor 5.

Linnerz also does not teach altering the material feed rate responsive to the rotational speed of the rotor.

Shinn recognizes that shredding and grinding apparatus for processing waste materials are subject to jamming and consequent damage (col. 1, ll. 19-23). To help address this problem, Shinn discloses a grinding and shredding apparatus provided with a current limiter to stop the feed screw motor 32 and screw feed assembly 22 (the material feed) if the load on the shredder motor exceeds a predetermined level and to automatically restore

the screw feed motor 32 and assembly 22 to action when the shredder clears and continues operating under normal load. The current limiter also shuts down the shredder assembly 42 when the shredder load exceeds a predetermined level (col. 6, ll. 25-42).

Burda uses an RPM monitor circuit that reverses the rotation of the shredder in response to detection that the shredder has stopped or slowed to below a predetermined speed, thereby indicating a jam condition.

Bender discloses a pulverizing mill control system programmable through a central computer or microprocessor.

PRINCIPLES OF LAW

> Most if not all inventions arise from a combination of old elements. Thus, every element of a claimed invention may often be found in the prior art. However, identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. Rather, to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant [citations omitted].

In re Kotzab, 217 F.3d 1365, 1369-70, 55 USPQ2d 1313, 1316 (Fed. Cir. 2000).

ANALYSIS

None of the references applied by the Examiner teaches or suggests displacing the mill housing or cage and altering material feed responsive to rotational speed of the rotor. Linnerz seeks to *prevent* jams by permitting the outlet of the mill housing to deflect outwardly when large pieces strike the outlet and need extra room to pass. Shinn and Burda, on the other hand, attack the problem of jams at the point when jamming is detected, either by a current limiter circuit in Shinn or a speed sensor in Burda. While Shinn and Burda may have suggested providing additional safety systems in the Linnerz hammer mill, such as shutting down the material feed and shredder motors to prevent overload and reversing rotation of the shredder to try to clear a jam, once a jam has occurred, the skilled artisan would have found in the applied references no motivation to modify the basic jam prevention mechanism of Linnerz by making the deflection of the housing outlet responsive to rotor speed, as called for in Appellant's claims. Accordingly, the rejection of claims 1-4 and 6-15 as being unpatentable over Linnerz in view of Shinn and Burda cannot be sustained.

The Examiner's application of Bender does not make up for the deficiencies of the combination of Linnerz, Shinn and Burda discussed above. Accordingly, the rejection of dependent claim 5 as being unpatentable over Linnerz in view of Shinn, Burda and Bender also cannot be sustained.

SUMMARY

The decision of the Examiner to reject claims 1-15 is REVERSED.

REVERSED

JENNIFER D. BAHR Administrative Patent Judge	)	
ROBERT E. NAPPI Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
ANTON W. FETTING Administrative Patent Judge	)	

vsh

POLSTER, LIEDER, WOODRUFF & LUCCHESI
12412 POWERSCOURT DRIVE SUITE 200
ST. LOUIS, MO 63131-3615