Paper No. 18

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ABOUTORAB S. FAHIMI,
DURKEE B. RICHARDS, and LEIF O. ERICKSON

Appeal No. 1998-3355
Application No. 08/665,167

ON BRIEF

Before FLEMING, DIXON, and GROSS, **Administrative Patent Judges**.

DIXON, **Administrative Patent Judge**.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1-18, which are all of the claims pending in this application. Claims 19-27 are canceled.

We REVERSE.

BACKGROUND

The appellants' invention relates to a tape bearing surface with reduced tape contact and method of making same. An understanding of the invention can be derived from a reading of exemplary claim 1, which is reproduced below.

> 1. A tape bearing surface for a tape, the tape having a boundary layer of air entrapped between the tape and the bearing surface upon movement of the tape, a flying height above the surface and a cross-web tension, the tape bearing surface comprising a stationary tape surface piece having a top surface with a longitudinal axis defining a tape path and a lateral axis perpendicular to the longitudinal axis, the top surface defining a convex shape extending along the lateral axis having at least two distinct radii, the respective radii being such as to minimize cross-web tension while minimizing friction and maintaining a predetermined flying height.

The prior art reference of record relied upon by the examiner in rejecting the appealed claims is:

Eaton et al. (Eaton)	5,282,105	Jan. 25, 1994

Claims 1-3, 6, 7, 9, 11, and 12 stand rejected under 35 U.S.C. § 102 as being anticipated by Eaton. Claims 4, 5, 8, 10, and 13-18 stand rejected under 35 U.S.C. § 103 as being unpatentable over Eaton.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellants regarding the above-noted rejections, we make reference to the

examiner's answer (Paper No. 13, mailed May 7, 1998) for the examiner's reasoning in support of the rejections, and to the appellants' brief (Paper No. 12, filed Apr. 10, 1998) for the appellants' arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, to the applied prior art reference, and to the respective positions articulated by the appellants and the examiner. As a consequence of our review, we make the determinations which follow.

35 U.S.C. § 102

Appellants argue that Eaton is not concerned with cross web tension, and contrary to the examiner's position, Eaton does not inherently minimize the tension on the tape, as recited in claim 1. (See brief at pages 5-6.) We agree with appellants. As pointed out by our reviewing court, we must first determine the scope of the claim. "[T]he name of the game is the claim." ***In re Hiniker Co.***, 150 F.3d 1362, 1369, 47 USPQ2d 1523, 1529 (Fed. Cir. 1998). Similarly, the examiner must address the explicit limitations set forth in the claim to set forth the ***prima facie*** case of lack of novelty or obviousness. Here, the language of claim 1 clearly recites that the "the top

surface defining a convex shape extending along the lateral axis having at least two distinct radii." From our review of Eaton, both Figures 2(a) and 2(b) teach the composite of the lateral profile of the top surface of the structure. In our view, the top surface of the tape bearing surface comprises the entire surface comprising both Figures 2(a) and 2(b). Therefore, Eaton does not teach the entire surface having "at least two distinct radii" as recited in claim 1. Therefore, we will not sustain the rejection of claim 1 and its dependent claims 2, 3, 6, 7, 9, 11, and 12. The examiner relies upon the teaching of Eaton at column 4, lines 26-29 and 48-50 to teach the use of two radii. We disagree with the examiner. The cited portion of Eaton refers to the longitudinal axis which clearly uses two radii of curvatures, but figure 2(a) discloses only a single radius of curvature in the lateral direction and Figure 2(b) arguably discloses two radii of curvature in the lateral direction with the rounded corners. But the entire surface does not contain two radii of curvature as required by the language of claim 1.

35 U.S.C. § 103

Appellants argue that Eaton does not teach or suggest a "top surface defining a convex shape extending along the lateral axis having a height between 12.7 and 25.4 microns" as recited in claim 13. (See brief at page 10.) We agree with appellants that Eaton is silent as to the dimensions of the height of the tape bearing surface.

Eaton states that:

> [f]riction is also reduced by proper lateral contouring of guide 10. It has been shown that enough air leaks from beneath the sides of a tape flying over a simple cylindrical post to produce a lateral tape contour such that the edges of the tape sag or curl. See, for example, Deckert et al, Dynamic Response of Self-acting Foil Bearings, IBM Journal of Research and Development, November, 1974, pp. 513-520, hereby incorporated by reference. Such sagging of the tape edges tends to increase the area of contact between the tape and the guide, thereby increasing friction. By designing the lateral contour of the tape engaging surface to match the lateral profile of the tape, such friction is minimized.
>
> Referring to FIGS. 2a and 2b, a front or rear view of guide 10 (from the left side or right side respectively of FIG. 1) reveals the lateral profile of tape engaging surface 11. Tape 1 is shown only as it flies above guide 10, the portion of tape 1 which contacts the tape engaging surface or wraps about the portion of tape engaging surface having radius of curvature 12 is eliminated for convenience. Tape engaging surface 11 has a convex lateral contour which matches the lateral profile of tape 1. In FIG. 2a, the convex lateral contour is crowned, in FIG. 2b the width of guide 10 is reduced and the convex lateral contour is created by edge rounding. Suitable crowned guides have been manufactured with lateral radii of curvature of 300 mm to infinity for a tape approximately 8.0 mm wide and 12 microns thick. The optimum lateral contour for an application will vary depending upon the stiffness of the tape, longitudinal contour of the guide, and operating parameters of the application.

(See Eaton at column 4, line 51- column 5, line 14.) While Eaton does disclose that friction may be reduced by the lateral contour and that the optimum lateral contour will vary between applications and operating conditions, Eaton provides no motivation or line of reasoning for selecting the specific range of dimensions as recited in claim 13.

The examiner maintains that the burden is on appellants to show that the dimensions are "critical." (See answer at page 7.) We disagree with the examiner. Here, the examiner has provided no evidence that the dimensions of Eaton are even remotely close to those recited in claim 13.

The examiner relies on **In re Woodruff,** 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990), where there was a disclosed range in the prior art which differed from that in the claims on appeal. There the Federal Circuit stated that the cases have "consistently held that in such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range." **Woodruff** at 1578, 1936. But, in the instant factual situation, the prior art is silent as to any range. No specific range of values for the height of the convex shape is disclosed. Therefore, we distinguish the factual situation in **Woodruff** and the line of cases therein where the prior art has set forth some objective basis for being near the range as claimed. Here, the examiner has not met his initial burden in establishing a **prima facie** case of obviousness which would shift the burden to appellants to present evidence of the critical nature of the range. Therefore, we will not sustain the rejection of claim 13 and its dependent claims

14-18. The examiner has not addressed the obviousness of claim 1 as to Eaton alone therefore, we will include dependent claims 4, 5, and 10 with the grouping of claim 1, and we will not sustain the rejection of claims 4, 5, and 10 under 35 U.S.C. § 103.

CONCLUSION

To summarize, the decision of the examiner to reject claims 1-18 under 35 U.S.C. §§ 102 and 103 is reversed.

REVERSED

MICHAEL R. FLEMING Administrative Patent Judge	)
JOSEPH L. DIXON Administrative Patent Judge	) BOARD OF PATENT) APPEALS) AND) INTERFERENCES
ANITA PELLMAN GROSS Administrative Patent Judge	)

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