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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte DANIEL BENTERMAN and DAVID HAYWARD

Appeal 2020-002758
Application 14/406,158
Technology Center 3700

Before JOHN C. KERINS, DANIEL S. SONG, and BRETT C. MARTIN,
Administrative Patent Judges.

SONG, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 1–16, 18, and 25–27. We have jurisdiction under 35 U.S.C. § 6(b). A telephonic hearing was conducted with the Appellant's representative on August 19, 2020, a transcript of which will be entered into the electronic record in due course.

We REVERSE.

¹ We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42(a). The Appellant identifies the real party in interest as Westrock Linkx Systems Limited. Appeal Br. 2.

CLAIMED SUBJECT MATTER

The claims are directed to a container sizing method and system.

Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A carton sizing system for sizing open top cartons having different widths and lengths, the system comprising:

a frame;

a controller;

one or more cutters movably mounted to the frame and operatively connected to the controller, the one or more cutters being movable in a first horizontal direction, a second horizontal direction perpendicular to the first horizontal direction, and a vertical direction perpendicular to the first and second horizontal directions such that the same cutter(s) can be repositioned to accommodate different carton widths and lengths;

one or more markers movably mounted to the frame, each marker being mounted to a robotic arm and comprising a pair of marker elements for compressing and marking a carton wall therebetween to score or crease the carton wall, the robotic arm(s) being operatively connected to the controller and configured to move, in use, the marker element pair mounted thereto in the first horizontal direction, the second horizontal direction, and the vertical direction such that the same marker element pair can be repositioned to accommodate different carton widths and lengths; and

a measurement system operatively connected to the controller and configured to determine, in use, a width and a length of an open top carton and to determine a height of one or more objects contained within the open top carton;

wherein the controller is configured to:

move the one or more cutters and the one or more marker element pairs in the first horizontal direction based on the determined width of the open top carton;

move the one or more cutters and the one or more marker element pairs in the second horizontal direction based on the determined length of the open top carton;

cause the one or more cutters to cut vertical edges of the open top carton based on the [determined height of the one or more objects contained within the open top carton;]^[2]

cause the robotic arm(s) to move the one or more marker element pairs in the vertical direction based on the determined height of the one or more objects contained within the open top carton; and

cause the one or more marker element pairs to score or crease vertical walls of the open top carton between the vertical edges to at least partially define foldable flaps or panels.

Appeal Br. 16–17, Claims App.

REFERENCES

The prior art relied upon by the Examiner is:

Name	Reference	Date
Focke	US 4,562,686	Jan. 07, 1986
Doke	US 7,720,567 B2	May 18, 2010
Boigues	US 7,823,367 B2	Nov. 02, 2010

OPINION

The Examiner rejects claims 1–16, 18, and 25–27 as unpatentable over Boigues in view of Focke and Doke. Non-Final Act. 6. The Examiner finds that Boigues discloses the invention substantially as claimed, but concedes that Boigues’s markers are not mounted as pairs. Non-Final Act. 6. The Examiner finds that Focke discloses a scoring device with a pair of marker elements, and concludes that it would have been obvious to one of ordinary skill in the art to have “replace[d] the markers as taught in the carton sizing system of BOIGUES with the marker element pairs of FOCKE

² The bracketed text of claim 1 is omitted in the Claims Appendix of the Appeal Brief. This omission appears to be an inadvertent typographical error. The text inserted within the brackets is from the Listing of Claims in the Request for Reconsideration of record, which was filed April 26, 2018. *See also* Appeal Br. 11.

since the marker element pairs are a known alternative in the art to implement scores into carton walls.” Non-Final Act. 6–7, citing Focke, Figs. 2–4.

The Examiner also finds that although Boigues takes into account the height of the objects to adjust the height of the cartons, it fails to disclose a controller that moves the cutters and markers in the first and second horizontal directions as claimed to allow them to be repositioned to accommodate cartons of various sizes. Non-Final Act. 7, citing Boigues, col. 2, ll. 48–56. The Examiner finds that Doke discloses a controller that controls a robotic arm in three axes based on the carton size, the robotic arm having a cutting head for cutting cartons based on its dimensions. Non-Final Act. 7–8, citing Doke, col. 3, ll. 58–62; col. 10, ll. 24–37, 58–60).

The Examiner concludes that it would have been obvious to one of ordinary skill in the art to have further modified the system of Boigues by attaching the cutters to a programmable robotic arm as taught by Doke, so that the cutters “are capable of translating in at least three axes,” noting that the use of robotic arms “is known in the art for being an efficient and expedient manner in which to adopt for manufacturing processes.” Non-Final Act. 8, citing Doke, col. 3, ll. 50–52. The Examiner also concludes that it would have been obvious to have mounted the marker element pair on robotic arms as well so that the markers are capable of translating in at least three axes to “define foldable flaps since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art.” Non-Final Act. 8, citing Doke, col. 10, ll. 58–60. According to the Examiner, the resulting carton sizing system of Boigues would be “capable of being used on cartons having different lengths and widths.” Non-Final Act. 8.

The Appellant disagrees and argues that one of ordinary skill in the art “would not [have] combine[d] the disclosures in the way described by the Examiner” (Appeal Br. 11), and that “impermissible hindsight is the driving force behind the numerous proposed modifications” (Reply Br. 13). The Appellant also argues that Boigues is “concerned with modifying only a height of a box,” and that it “relies on boxes of fixed footprints in order to utilize bags of a fixed size, and the rigid plate of a fixed size.” Appeal Br. 12, 13. According to the Appellant, using the system of Boigues for boxes of various footprints “would render the bag and rigid plate, key aspects of the functionality of the system, unsatisfactory for their intended purpose, and impair the overall system” by requiring shutdown of the system for changeover (Reply Br. 12), and would require significant modification which is not “proposed or disclosed by the cited references” (Appeal Br. 13).

We generally agree with the Appellant. Initially, it is not entirely clear on what basis in the applied art that the Examiner determines that a person of ordinary skill in the art would have been motivated to modify Boigues to be “capable of being used on cartons having different lengths and widths.” Non-Final Act. 8. Indeed, the motivation appears to be based on improper hindsight use of the Appellant’s disclosure. According to the Examiner, Boigues refers to FR 2710580, which is allegedly “related prior art that is drawn to the modification of cartons of different dimensions,” such that FR 2710580 “discloses the knowledge of one of ordinary skill in the art to process cartons having a change in dimensions” (Ans. 6), and suggests Boigues can be used to process cartons of different sizes (Ans. 5–6, citing Boigues, col. 1, ll. 19–24; FR 2710580, Figs. 11, 12).

However, as the Appellant correctly argues, “Boigues cites FR 270580 as background for cutting a cardboard box before filling it.” Appeal

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Br. 14, citing *Boigues*, col. 1, ll. 19–24); *see also* Reply Br. 13. As the Appellant points out, the Examiner “provides no further explanation” as to why, or how, Figures 11 and 12 of FR 2710580 suggests using cartons of different sizes in the system of *Boigues*. Reply Br. 13. Indeed, the Examiner does not even apply FR 2710580 in the rejection of these claims, much less provide sufficient factual evidence to allow evaluation as to what FR 2710580 teaches to one of ordinary skill or what the knowledge of such a person is.

The Examiner also explains that *Doke*’s robotic arm is a “known alternative means for automated processing of cartons” that is “an effective and efficient means to control the tool modifying the carton” (Ans. 4), and that different sized cartons can be processed by using different sized void filling bag supply rolls and the largest sized plate. Ans. 5–6. Thus, the Examiner maintains that “sufficient motivation is provided in both the prior art and the general knowledge of one of ordinary skill in the art.” Ans. 6.

However, it is not apparent how the application of a robotic arm would be beneficial in *Boigues*, especially considering that the marker of *Focke* relied upon by the Examiner (much like *Boigues*) does not even require movement in first and second horizontal directions. *See also* Appeal Br. 13. Moreover, although the Examiner relies on effectiveness and efficiency for modifying the system of *Boigues* to incorporate a robotic arm, this reasoning is undermined by the Appellant’s rebuttal that use of a robotic arm would likely take “more time to navigate the perimeter of a box than the time it would take the cutters of *Boigues* to make their single and simultaneous cuts” simply based on vertically moving the cutters and markers. Appeal Br. 14.

Thus, we generally agree with the Appellant the reason articulated by the Examiner for combining the teachings is not “a valid reason” (Appeal Br. 14), and that the rejection appears to be based on impermissible hindsight (Reply Br. 13). Although the Examiner appears to have established that the various recited elements claimed are known in the art, “[a] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. . . . it can be important to identify a reason that would have prompted a person of ordinary skill . . . to combine the elements in the way the claimed new invention does.” *KSR Int’l v. Teleflex, Inc.*, 550 U.S. 398, 418 (2007).

Therefore, for the above discussed reasons, we reverse the Examiner’s rejection of claim 1 and claims 2–16 that ultimately depend from claim 1. The Examiner’s rejection of claims 18 and 25–27 involve substantially the same issues as discussed above relative to claim 1. Accordingly, the rejection as to these claims is reversed as well for substantially the same reasons discussed.

CONCLUSION

The Examiner’s rejection is reversed.

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DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1-16, 18, 25-27	103	Boigues, Focke, Doke		1-16, 18, 25-27

REVERSED