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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte KEVIN DOLE and LARRY BILSKIE

Appeal 2019-000830
Application 14/043,308
Technology Center 3600

Before JENNIFER D. BAHR, EDWARD A. BROWN, and WILLIAM A. CAPP, *Administrative Patent Judges.*

BAHR, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant[1] appeals from the Examiner's decision to reject claims 1, 4, 7–10, 12–15, and 18–30. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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[1] We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as Alpha Technology USA Corporation. Appeal Br. 1.

CLAIMED SUBJECT MATTER

The claims are directed to an apparatus for brushing cattle. Spec. ¶ 2. Claims 1, 15, and 20 are independent. Appeal Br. 23, 26, 28 (Claims App.). Claim 1, reproduced below, is illustrative of the claimed subject matter:

> 1. An apparatus for brushing cattle, comprising:
>
> a motor mounted to a horizontally disposed support beam having a first end mounted to a fixed support structure, and the motor remains stationary during operation of the apparatus;
>
> an output shaft assembly operatively connected to the motor and disposed vertically and downwardly relative the motor, wherein the output shaft assembly comprises a first rotatable shaft having a first end operatively connected to the motor and a second end, a second rotatable shaft having a first end and a second end and a pivoting joint operatively connected to the second end of the first rotatable shaft and the first end of the second rotatable shaft, and the pivoting joint defining a pivot axis between the second end of the first rotatable shaft and the first end of the second rotatable shaft;
>
> a cattle brush attached to the second end of the second rotatable shaft, wherein the cattle brush includes a cylindrical core and bristles extending radially outward therefrom and the second end of the second rotatable shaft is operatively connected to the core, and wherein the motor drives the output shaft assembly causing the brush to rotate;
>
> wherein the second rotatable shaft is pivotal relative to the first rotatable shaft at the pivot axis of the pivoting joint, and the first shaft, the support beam and motor do not pivot and remain stationary when a cow contacts the brush;
>
> wherein the pivot joint pivots about the pivot axis enabling the second rotatable shaft, brush and core to pivot from a vertical orientation of the second rotatable shaft, brush and core to multiple angled orientations relative to the vertical orientation and in multiple radial directions relative to the vertical orientation and pivot back or past the vertical orientation; and
>
> wherein the pivot joint is the sole pivot joint between the brush and the support beam.

REFERENCES

The prior art relied upon by the Examiner is:

Miner	US 3,881,208	May 6, 1975
Machin	US 4,691,401	Sept. 8, 1987
Ennis	US 4,935,982	June 26, 1990
van der Poel	US 7,481,184 B2	Jan. 27, 2009

REJECTIONS

I. Claims 1, 4, 12–14, 20, 21, and 30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over van der Poel and Ennis. Final Act. 2.

II. Claims 7–10, 15, 18, 19, and 22–26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over van der Poel, Ennis, and Machin. Final Act. 5.

III. Claims 27 and 29 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over van der Poel, Ennis, and Miner. Final Act. 7.

IV. Claim 28 stands rejected 35 U.S.C. § 103(a) as being unpatentable over van der Poel, Ennis, Machin, and Miner. Final Act. 8.

OPINION

Rejection I

Claims 1, 4, 12–14, 20, and 21

Independent claims 1 and 20 require, in pertinent part, a brush coupled to a motor by means of an output shaft assembly comprising a first rotatable shaft and a second rotatable shaft operatively connected to one another by a pivoting joint defining a pivot axis, wherein the pivot axis is the only pivot axis between the brush and the support beam. *See* Appeal Br. 23, 28 (Claims App.). The Examiner determines it would have been obvious to modify the Figure 2 embodiment of van der Poel to provide such a

configuration, in view of Ennis's teaching of such a coupling between a brush and a motor, because this is "merely the application of a known technique to a known device ready for improvement to yield predictable results and/or the simple substitution of one known element for another to obtain predictable results." Final Act. 4 (citing Ennis, Fig. 2).

Appellant argues that there is no need for the output shaft in the Figure 1 embodiment of van der Poel "to have a pivot because the motor, the output shaft, and the brush already effectively swing (as a single unit) when the flexible elements flex." Appeal Br. 10. According to Appellant, modifying this embodiment of van der Poel "would render the flexible nature of the flexible elements moot," thereby impermissibly changing the principle of operation of van der Poel. *Id.* This argument is unavailing because the Examiner's rejection does not propose any modification of the Figure 1 embodiment of van der Poel.

Appellant submits that the embodiment of Figure 2 of van der Poel requires both at least one flexible element 10*a*, 10*b* and flexible connection 18, and contends that van der Poel does not disclose having only one flexible member for supporting the brush. *See id.* at 12–20. In fact, Appellant argues that van der Poel's Figure 2 embodiment could not logically be implemented with only one flexible element as in the Figure 1 embodiment because a lone flexible element between the motor and flexible connection 18 would "result in duplicative flexible components 10, 18 between the motor and the brush, and would render the rigid frame 8 useless." *Id.* at 14. Thus, Appellant argues that the Figure 2 embodiment of van der Poel does not constitute a "'known device' ready for improvement" and that "the modification goes beyond mere substitution because [it]

eliminates critical components of the actual teachings of [van der Poel]," namely, the at least one flexible element 10*a*, 10*b*. *Id*. at 20.

Appellant's arguments are not persuasive. Even assuming that Appellant is correct that van der Poel discloses, in the Figure 2 embodiment in which the motor is fixed to the ceiling, at least two flexible elements 10*a*, 10*b*, as well as flexible connection 18, the Examiner relies on Ennis for its teaching of an alternative configuration for coupling a brush to a fixedly mounted motor in a manner that permits the brush to be deflected (i.e., pivoted) from the vertical axis when subjected to an external force. *See* Final Act. 4, 10; Ans. 9–10. The Examiner determines that it would have been obvious to substitute the known configuration taught by Ennis (i.e., connection of the brush to the motor via a first shaft (short drive shaft 38) and a second shaft (brush support shaft 14) attached to the first shaft by a flexible coupling (coupling 16), such as a universal joint) in place of the mounting configuration disclosed by van der Poel in the Figure 2 embodiment (i.e., connection of the brush to the motor via flexible connection 18, which could include a universal coupling, and a frame mounted to the ceiling by one or more flexible elements). Final Act. 4, 10; Ans. 9–10; *see* Ennis, Fig. 2; 3:35–4:3. Appellant does not persuasively identify error in the Examiner's reasoning.

The Examiner finds, and we agree, that if van der Poel's Figure 2 embodiment were modified as proposed in the rejection to have only one universal joint (and no other flexible element), there would be no need for frame 8 or flexible element(s) 10*a*, 10*b*. Ans. 10. The universal joint, even without the additional structure of frame 8 and flexible element(s) 10*a*, 10*b*, would permit the apparatus to achieve the objective set forth by van der

Poel, namely, providing a relatively cheap brushing device of a simple design that "is capable of reaching a large surface," wherein, "in the absence of a force acting externally upon it, the brush has a substantially vertical orientation, and" includes structure that, "through a force acting externally upon it, permits a swivelling of the brush to a substantially horizontal orientation of said brush." *See* van der Poel 1:53–63. The modified device would permit "a large surface of the animal [to] be reached with a single brush," as van der Poel intends. *See id.* 1:63–67.

Appellant argues that Ennis contemplates "limitations on the deviation of the brush from vertical." Reply Br. 5 (citing disclosure in US 4,299,003 (hereinafter "the '003 patent"), which was cited in Ennis, directed to a damping cylinder or shock absorber for regulating and controlling the tilting movement of the brush to prevent the brush from swinging or tilting too freely). Appellant asserts that "although not explicitly taught, it seems reasonable to infer that a car wash brush should not deviate from vertical as much as the [van der Poel] cow brush would." *Id.* Appellant's assertion amounts to unsupported attorney argument and, thus, is entitled to little weight. *See In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997). Ennis gives no indication that the coupling should substantially restrict the range of pivoting or deflection of the brush from vertical to something substantially less than horizontal,[2] nor does Ennis require that the particular coupling disclosed in the '003 patent be used in the disclosed invention. To the contrary, Ennis expressly teaches that "other types of deflectable couplings

[2] A damping cylinder or shock absorber does not necessarily limit the *range* of swing or tilt, but may simply control the speed and/or minimize oscillations of the swinging or tilting.

such as a mechanical universal joint either with or without outboard mounted spring biasing devices for providing a restoring force" may be used. Ennis 3:68–4:4. Further, van der Poel teaches that a universal coupling would be suitable for the one or more flexible elements 10*a*, 10*b*, as well as flexible connection 18, which "can be designed in the same ways as or in a different way from elements 10*a*, 10*b*." *See* van der Poel 3:13–22, 28–31; 3:64–4:1. Thus, a skilled artisan would readily appreciate that universal joints can be designed to provide the requisite range of swiveling to reach a large surface of the animal, as van der Poel desires.

For the above reasons, Appellant fails to apprise us of error in the rejection of independent claims 1 and 20. Accordingly, we sustain the rejection of claims 1 and 20, as well as claims 4, 12, 13, 14, and 21, for which Appellant does not make any separate arguments and which, thus, fall with claims 1 and 20. *See* Appeal Br. 9–21.

Claim 30

Claim 30 recites that "the apparatus is free of structure configured to urge the brush to a vertical position." Appeal Br. 30 (Claims App.). The Examiner finds that van der Poel "as modified teaches that the apparatus can be free of structure configured to urge the brush to the vertical position." Final Act. 5 (citing Ennis 4:1–4). According to the Examiner, "Ennis teaches the options/general knowledge of with or without restoring force structure. Selection of the known option is merely an obvious engineering design choice." *Id.*

Appellant argues that "Ennis always includes a <u>flexible</u> element which, by definition, will inherently provide a force (in addition to gravity) that restores the brush to vertical," and, according to Appellant, "[t]he same

applies to the flexible connection 18 of the embodiment of [Figure 2 of van der Poel]." Appeal Br. 21. Appellant contends that the first paragraph in column 2 of van der Poel "discloses that the flexible element always provides a minimum restoring force, and if particularly desired, (e.g. more than the minimum), dedicated components that provide more force (e.g. springs) can be used." *Id.*

Appellant mischaracterizes or misrepresents the disclosure of van der Poel. Notably, structure that is "flexible" is not necessarily elastic and, thus, does not necessarily provide a restoring force after being deflected. By specifying that the flexible element "*can* . . . be of a spring-loaded design" and, "*[i]f* spring force is particularly desired, the at least one flexible element is preferably a leaf spring or a coil spring in which the spring force is used for driving the brush back to the vertical orientation when the brush is not situated in the vertical orientation," van der Poel signals that a flexible element that is not spring-loaded, and thus not configured to urge the brush to the vertical position, is within the scope of van der Poel's invention. *See* van der Poel 2:5–9 (emphasis added). In other words, van der Poel does not require a flexible element that provides a restoring force.

Appellant's characterization of Ennis is also inaccurate. Although Ennis teaches that a flexible coupling "having the capability of generating a restoring force is highly desirable and yields optimum results," Ennis expressly teaches that "other types of deflectable couplings such as a mechanical universal joint *either with or without outboard mounted spring biasing devices for providing a restoring force* will function acceptably in connection with [Ennis's] invention." Ennis 3:65–4:4 (emphasis added).

Thus, the Examiner does not err in determining that, in view of the combined teachings of van der Poel and Ennis, the selection of either a coupling including restoring force structure or a coupling that is free of restoring force structure would have been obvious, depending on whether a restoring force is desired. For the above reasons, Appellant does not apprise us of error in the rejection of claim 30 as unpatentable over van der Poel and Ennis, which we, thus, sustain.

Rejections II–IV

In contesting the rejection of claims 7–10, 15, 18, 19, and 22–26, Appellant simply relies on the arguments presented for claim 1. Appeal Br. 22. For the reasons discussed above, these arguments do not apprise us of error in the rejection of claim 1 and, likewise, fail to apprise us of error in the rejections of claims 7–10, 15, 18, 19, and 22–26. Thus, we sustain the rejection of claims 7–10, 15, 18, 19, and 22–26 as unpatentable over van der Poel, Ennis, and Machin.

Appellant does not present any arguments against the rejections of claims 27–29. *See* Appeal Br. *passim*; *see also id.* at 22 (stating that "[t]he remaining dependent claims stand or fall with their respective independent claims"). Thus, Appellant fails to apprise us of error in the rejections of claims 27–29. Accordingly, we sustain the rejection of claims 27 and 29 as unpatentable over van der Poel, Ennis, and Miner, and the rejection of claim 28 as unpatentable over van der Poel, Ennis, Machin, and Miner.

DECISION

The Examiner's decision rejecting claim 1, 4, 7–10, 12–15, and 18–30 is AFFIRMED.

CONCLUSION

In summary:

Claims Rejected	Basis	Affirmed	Reversed
1, 4, 12–14, 20, 21, 30	§ 103(a) van der Poel, Ennis	1, 4, 12–14, 20, 21, 30	
7–10, 15, 18, 19, 22–26	§ 103(a) van der Poel, Ennis, Machin	7–10, 15, 18, 19, 22–26	
27, 29	§ 103(a) van der Poel, Ennis, Miner	27, 29	
28	§ 103(a) van der Poel, Ennis, Machin, Miner	28	
Overall Outcome		1, 4, 7–10, 12–15, 18–30	

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

AFFIRMED