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EXAMINER

NGUYEN, BAO D

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte PETER DAVID GAMMACK, STEPHEN BENJAMIN
COURTNEY, LEIGH MICHAEL RYAN, and STUART JAMES STEELE

Appeal 2018-000577
Application 13/850,889
Technology Center 3700

Before JAMESON LEE, JOHNNY A. KUMAR, and
JOHN P. PINKERTON, *Administrative Patent Judges*.

LEE, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's final decision to reject claims 1, 2, 4–6, 10, 12, and 13. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Dyson Technology Limited. Appeal Br. 3.

CLAIMED SUBJECT MATTER

Claims 1–8 and 10–14 are pending in this application. Claims 3, 7, 8, 11, and 14 were withdrawn from consideration in response to an election of species requirement. Claim 9 was cancelled by Appellant. Claims 1, 2, 4–6, 10, 12, and 13 are under appeal.

The invention is directed to a wall-mountable hand dryer of the type which uses an air-knife to wipe the water from a user's hand. Spec. 3:5–6. The Specification explains that the claimed wall-mountable air-knife dryer has a low profile design having a maximum depth of 150 mm when it is surface mounted on a wall, significantly less than the depth of certain pre-existing air-knife hand dryers, e.g., 250 mm and 220 mm. *Id.* at 3:16–19.

The sole independent claim is claim 1. Claims 2, 4–6, 10, 12, and 13 each depend, directly or indirectly, from claim 1. Claim 1 recites as follows:

1. A wall-mountable hand dryer of the type which uses an air-knife to wipe the water from a user's hand, the hand dryer being configured to have a maximum depth, front-to-back, of 150 mm or less when it is surface-mounted on – rather than recessed within – the wall, the dryer having a projecting part which projects outwardly either from the wall or from a rear part of the dryer, the air-knife being directed downwardly onto the user's hand as it is passed lengthwise underneath the projecting part of the dryer, the air knife being discharged through one or more discharge apertures, the discharge apertures being positioned towards the front of the projecting part so that they are spaced at least 75 mm from the wall or the rear part of the dryer.

The Specification, within the Background of the Invention section, states the following regarding pre-existing types of hand dryer: “There are three main types of hand dryer in the market: ‘warm-air’ hand dryers, ‘high speed’ hand dryers and ‘air-knife’ hand dryers.” Spec. 1:17–18. The

Specification distinguishes the three types of pre-existing types of hand dryers as follows:

Warm air hand dryers are very well known. They are invariably low flow, low speed machines which rely on heating the air to promote an evaporative drying effect at the surface of the hand. Examples include the Model A Series of hand dryers manufactured and marketed by World Dryer Corporation. The heated airflow is typically discharged through a single nozzle and the drying action is a 'hand-over-hand' action, requiring the user to rub the hands together under the nozzle with the aim of encouraging the evaporative drying effect.

High speed hand dryers, as the name suggests, use high speed airflow (>80 m/s) to provide a momentum-drying effect at the surface of the hands. Examples include the Xlerator® hsnf dryer manufactured and marketed by the Excel Dryer Inc. Again the airflow is typically discharged through a single relatively large nozzle and the mode of use is somewhat similar to the 'hand-over-habd' action of the warm air dryer, with the hands being held or cupped together underneath the nozzle to dry them. However, instead of being evaporated, the vast majority of the water on the surface of the hands is instead driven or blasted from the hands by the high momentum airflow, with evaporation accounting for only a small proportion of the water removal. The airflow tends not to be heated, though waste heat from the motor may in some cases be used to heat the airflow to a degree.

The third general type of hand dryer is the air-knife hand dryer, examples of which include the Dyson Airblade range of Hand Dryers manufactured by Dyson (UK) Limited and the Jet Towel hand dryer manufactured by Mitsubishi Electric Corporation.

These hand dryers use an air-knife – effectively a sheet or curtain of moving air – to remove the water from the user's hands. The mode of operation is analogous to the established use of air knives in industry to remove debris or liquid from the surface of a product (see e.g. EP2394123A1, which describes removal of debris from a glass sheet using air knives): the air-knife moves across the surface of the hand and, as it does so, wipes or scrapes the water from the surface of the hand.

Id. at 1:20 to 2:18 (emphases added).

Claim 1 requires, *inter alia*, a wall-mountable air knife hand dryer. The Specification describes air-knife type hand dryer as a hand dryer which use an air-knife to remove water from a user's hand. Spec. 2:13–14. The Specification further defines “air-knife” as “effectively a sheet or curtain of moving air.” *Id.* at 2:13. Claim 1 requires (1) the air-knife dryer to have a maximum depth of 150 mm or less when it is surface mounted, (2) the air-knife to be directed downwardly onto the user's hand as it is passed lengthwise underneath a projecting part of the dryer, (3) the air-knife to be discharged through one or more discharge apertures at a speed of at least 80 m/s, and (4) the discharge apertures to be spaced at least 75 mm from the wall or rear part of the dryer.

Figure 3 of the Application is reproduced below:

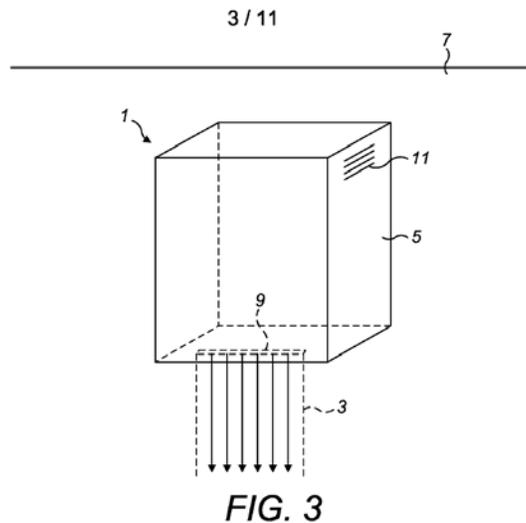


Figure 3 illustrates an embodiment of the claimed wall mountable air-knife hand dryer. *Id.* at 6:10–11, 7:18–19. Reference numeral 3 refers to the air-knife that is discharged by the dryer through discharge aperture 9 on the underside of casing 5. *Id.* at 8:1–2.

Figures 1 and 2 of the Application are reproduced below:

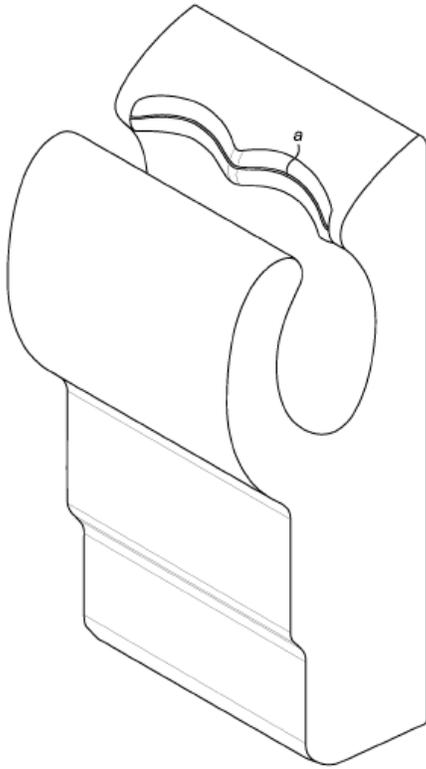


FIG. 1
Prior Art

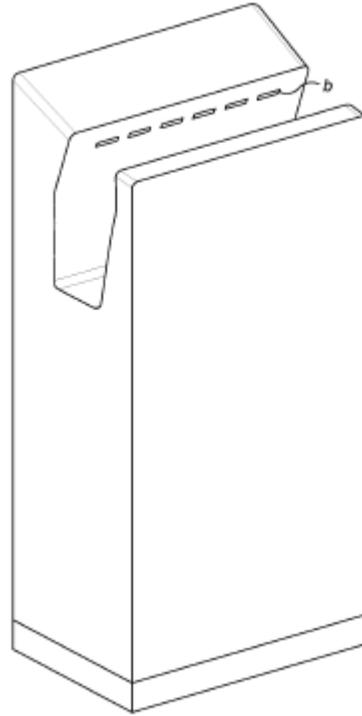


FIG. 2
Prior Art

Figures 1 and 2 illustrate conventional air-knife hand dryers. *Id.* at 6:8.

REFERENCES

Dyson	US Pat. Pub. 2008/0313918 A1	Dec. 25, 2008
Hsu	US Pat. Pub. 2009/004420 A1	Feb. 19, 2009
Bobrick	“TrimLine Surface-Mounted ADA Dryer”	Apr. 27, 2011

REJECTION

Claims 1, 2, 4–6, 10, 12, and 13 stand finally rejected under 35 U.S.C. § 103 as obvious over Hsu, Bobrick, and Dyson. Final Act. 6.

OPINION

Hsu states the following: “The primary object of the present invention is to provide a light directing hand dryer to *dry user’s hands as the conventional hand dryer does* and also generate different colors of light so that the casing of the hand dryer can display selected luminous graphics and texts to facilitate commercial promotion.” Hsu ¶ 4 (emphases added).

Figure 5B of Hsu is reproduced below:

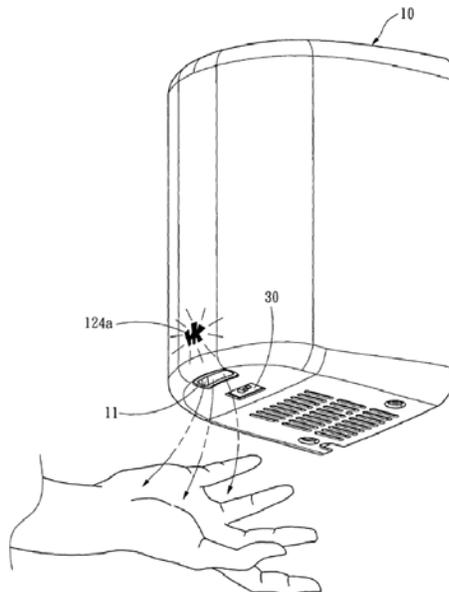


Fig. 5B

Figure 5B is a schematic view of an embodiment of Hsu’s hand dryer. Hsu ¶ 14. Hsu ¶ 4. Figure 1A of Hsu is reproduced below:

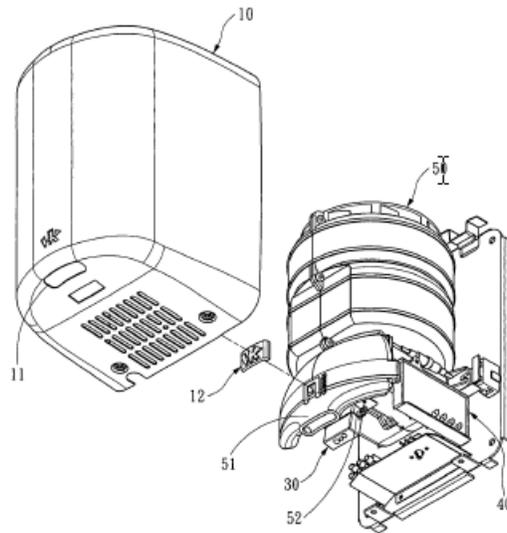


Fig. 1A

Figure 1A shows an exploded fragmentary view of Hsu's light directing hand dryer. *Id.* ¶ 9. The light directing hand dryer of Hsu includes casing 10 which houses electric power unit 20 (not shown in drawings), sensor 30, control switch 40, and blower 50. *Id.* ¶ 15. Blower 50 includes vane motor set 55 and electric heater 56. *Id.* ¶ 16. Vane motor set 55 is activated to drive airflow through electric heater 56 to generate heated airflow. *Id.* ¶ 17. Casing 10 further includes air outlet 11 and light directing board 12, which is exposed to the outside of casing 10. *Id.* ¶ 15.

With regard to the lighting effects achieved by Hsu's light directing hand dryer, Hsu describes the following:

The light directing board 12 (made from acrylic or the like) has a first light directing section 121 and a second light directing section 122 that are interposed by a light directing slope surface 123. The first light directing section 121 has a bulged display section 124a exposed outside the casing 10. The second light directing section 122 corresponds to the standby light 53 and operation light 54 so that light of the standby light 53 and operation light 54 can enter the second light directing section 122. The light is reflected a number of times and directed by the

light directing slope surface 123 to enter the first light directing section 121 to evenly distribute in the light directing board 12 (as shown in FIG. 2), and project onto the display section 124a.

Id. Hsu describes display section 124a as follows: “The display section 124a may contain a text. When the light projects onto the display section 124a, the text becomes visible and can attract users’ attention. Therefore a commercial promotion effect can be achieved. FIG. 3 illustrates another embodiment in which the display section 124b contains a graphic.” *Id.*

The dispositive issue in this case is whether the Examiner correctly finds that Hsu discloses an air-knife type hand dryer.² The Examiner finds that Hsu discloses an air-knife type dryer. Final Act. 10 (“Hsu discloses a wall-mountable air knife hand dryer.”). The Examiner also finds that the airflow exiting the outlet in Hsu’s disclosed dryer is an air-knife. *Id.* at 11. We disagree. These findings are not supported by the evidence of record, for reasons discussed below.

The Examiner reasons as follows: “Hsu dries a user’s hands *as a conventional hand dryer does* and therefore must at least function as a conventional hand drier.” Ans. 3 (emphasis added). It is true that Hsu describes that its main objective is to provide a light directing hand dryer to dry a user’s hands “as the conventional hand dryer does.” Hsu ¶ 14. We agree that Hsu teaches use of a conventional hand dryer with conventional hand dryer functions. The Examiner further finds that Hsu is silent about the internal structure or configuration of airflow directing member 51 and the velocity of the airflow. Final Act. 4–5. We agree with that finding as well.

² On the premise that Hsu discloses an air-knife hand dryer, the Examiner proposes to apply teachings from Dyson regarding the speed of airflow being discharged at Hsu’s air outlet 11. Final Act. 12.

On the basis that Appellant admitted there are only three types of conventional hand dryers, i.e., “warm-air,” “high speed,” and “air-knife,” the Examiner finds that Hsu’s disclosure of a “conventional hand dryer” is the same as Hsu specifically disclosing each one of the three types of conventional hand dryers, and any combination thereof. Ans. 3. We disagree. The Examiner cites no authority for that proposition, and we are aware of none. Identifying an element broadly, even where the element can be implemented only in a small number of ways, does not equate to specific disclosure of each implementation and combinations thereof. Furthermore, we have reviewed the Specification and can find no representation that there are only three types of pre-existing conventional hand dryers. That the Specification describes three types of pre-existing hand dryers does not constitute a representation that there are only three types of pre-existing hand dryers.

Hsu’s disclosure does not sufficiently support the Examiner’s finding that Hsu discloses an air-knife type hand dryer. For example, Hsu discloses use of a heater to generate heated airflow. Spec. ¶¶ 16–17. Heated airflow is necessary for a “warm air” type hand dryer, but not an air-knife hand dryer. Also, Figure 5B of Hsu appears to show a stationary hand beneath the air outlet, not a hand moving across the air outlet. The latter is necessary for an air-knife type hand dryer, but not for a “warm air” type hand dryer, based on the described characteristics of “warm air” and “air-knife” type hand dryers. Further, Figure 5B of Hsu depicts airflow emitted from a small outlet that is not sufficiently wide to span across the entirety of a user’s hand as depicted in the figure. We understand that figures are not drawn to scale, but regardless of scaling, air outlet 11 in Hsu is shorter than the width of the

user's hand as depicted in the figure. That is consistent with the operation of a "warm air" type hand dryer, but not an air-knife hand dryer. Finally, regardless of scaling, Appellant correctly notes that the airflow from outlet 11, as shown in Figure 5B, is depicted as diffusing "over the whole surface of a user's hand simultaneously," and not in the form of a sheet or curtain of air that would be characteristic of an air-knife. App. Br. 12. For all these reasons, Hsu's specific disclosure is much more consistent with the characteristics of "warm air" type hand dryers.

For the foregoing reasons, the rejection of claim 1 as obvious over Hsu, Bobrick, and Dyson cannot be sustained.

Each of claims 2, 4-6, 10, 12, and 13 depends from claim 1 and thus incorporates all of the limitations of claim 1. The same deficiencies of the Examiner's reasoning with regard to claim 1 carry through to the Examiner's analysis with respect to each of claims 2, 4-6, 10, 12, and 13.

For the foregoing reasons, we do not sustain the rejection of claims 1, 2, 4-6, 10, 12, and 13 as obvious over Hsu, Bobrick, and Dyson.

CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	Basis	Affirmed	Reversed
1, 2, 4-6, 10, 12, 13	103	Hsu, Bobrick, Dyson		1, 2, 4-6, 10, 12, 13

REVERSED