

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventors: Magri et al.
Appl. No.: 14/358,361
Conf. No.: 6505
Filed: May 15, 2014
Title: OPTICAL READABLE CODE SUPPORT AND CAPSULE FOR PREPARING
A BEVERAGE HAVING SUCH CODE SUPPORT PROVIDING AN
ENHANCED READABLE OPTICAL SIGNAL
Art Unit: 1792
Examiner: Ericson M. Lachica
Docket No.: 3712036-02135

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R. § 1.132

Sir or Madam:

The undersigned, Arnaud Gerbaulet, hereby states as follows:

1. My experience, qualifications and current employment are as follows:

Packaging R&D specialist

2. I am one of the named inventors of the above-identified patent application and am therefore familiar with the inventions disclosed therein.

3. I reviewed the Final Office Action dated September 11, 2015 pending against the above-identified patent application. In addition to considering the outstanding Office Action, I reviewed the references cited therein, as well as the pending claims. I believe the rejection of Claims 14 and 16-19 as obvious over U.S. Publication No. 2010/0078480 to Aker ("*Aker*") in view of U.S. Patent No. 2,612,994 to Woodland et al. ("*Woodland*") in further view of U.S. Publication

No. 2005/0034604 to Halliday et al. ("*Halliday*") in further view of U.S. Publication No. 2011/0259204 to Kaeser et al. ("*Kaeser*") in further view of U.S. Publication No. 2007/0278422 to Einhorn et al. ("*Einhorn*") is based on a misunderstanding of these references and the pending claims. Specifically, as a skilled artisan in this area of endeavor, I respectfully submit that the skilled artisan would not have combined the cited references, as explained below.

4. As detailed in the specification of the present application, a problem of an optical code on a capsule is that light-reflecting and light-absorbing signals can be difficult to discriminate. Another problem is that the support is relatively complex to integrate to the packaging structure forming the capsule itself, and constraints exist in manufacturing this packaging, such as the respect of proper material thickness for a proper forming of the capsule. See specification, page 3, lines 14-18.

5. The claimed invention alleviates these problems at least partially. Surprisingly, the proposed solution provided by the claimed invention improves the readability of the generated signal. In the claimed invention, the light-reflective particles act in synergy with the reflective base to provide an optimally reflective surface. This is particularly important as the base (the aluminum material of the capsule) is drawn into shape, and the particles thus help to mask any imperfections in the aluminum which might otherwise cause the data of the code to be incorrectly read. Furthermore, it can form a structure which can be easily integrated to a capsule, e.g., be formed into a three-dimensional containment member (e.g., body and rim). See specification, page 3, line 19; and page 4, lines 24-26.

6. The cited references do not even recognize the problems the claimed invention addresses, let alone providing solutions as the present claims. The skilled artisan would not have combined the cited references to arrive at the present claims.

7. *Aker* relates to a method of associating a barcode with a product that has a product body with a round ending section. The method includes positioning the barcode repetitively along a circle sharing a common center with an outer-ring of the round ending section. A method of reading such a barcode on such a product includes positioning at least a portion of the round ending

section of the product within a field of view of a barcode reader such that a complete barcode can be construed from a portion of a first instance of the barcode and a portion of the second distance of the barcode. See *Aker*, for example, Abstract.

8. *Aker* is concerned with providing a product that is somewhat cylindrically symmetric and has some of its information coded with barcodes, so that when such product is to be handled by certain handling-machine, a barcode reader in the handling-machine can find the barcode on such a product repeatedly and reliably. *Aker* merely relates to the shape of the product and the repetition of the barcode on the product. See *Aker*, for example, paragraphs [0003] and [0006]. *Aker* does not even mention the issue of putting the code onto the product and the readability of the barcode.

9. *Woodland* relates to classification through the medium of identifying patterns. *Woodland* is merely concerned with providing patterns for coding classification information. See *Woodland*, for example, col. 1, lines 2-4 and FIG. 1. I am of the opinion that *Woodland* mentions nothing about the issue of putting the code onto the product and the readability of the barcode.

10. The Patent Office admits that *Aker* and *Woodland* are silent regarding the base structure comprising a support layer selected from the group consisting of a monolithic metal support layer and a polymeric support layer, and the support layer is coated by a lacquer comprising light-reflective particles as required in independent Claim 14. In an attempt to remedy the deficiencies of *Aker* and *Woodland*, the Patent Office cites *Halliday*, *Kaeser*, and *Einhorn*. See Office Action, for example, pages 5-10. I respectfully submit that *Halliday*, *Kaeser*, and *Einhorn* do not remedy the deficiencies of *Aker* and *Woodland*. The skilled artisan would not have combined the references to arrive at the present claims.

11. *Halliday* relates to a cartridge containing one or more beverage ingredients and being formed from substantially air- and water-impermeable materials, the cartridge defining a storage chamber containing the one or more beverage ingredients and a manifold chamber, the cartridge comprising an opening through which the one or more beverage ingredients can be filled into the storage chamber, the opening being closed by a lid having a first portion overlying the

manifold chamber and a second portion overlying the storage chamber, wherein the first portion of the lid is pierceable in use to accommodate an inflow of an aqueous medium into the manifold chamber and the lid is pierceable in use to accommodate an outflow of beverage formed from interaction of the aqueous medium and the one or more beverage ingredients in the storage chamber. See *Halliday*, for example, Abstract. *Halliday* is completely concerned with the cartridge itself. *Halliday* merely mentions a printed barcode 320 provided on the laminate 5 of the beverage cartridge 1, (See *Halliday*, for example, paragraph [0170],) but does not recognize the issue of putting the code onto the product or concern about the readability of the barcode.

12. *Halliday* is cited for the alleged disclosure of the base structure comprising a support layer selected from the group consisting of a monolithic metal support layer and a polymeric support layer in paragraph [0088]. See Office Action, page 5. *Halliday* discloses in paragraph [0088] a laminate 5 that is formed from two layers, a first layer of aluminium and a second layer of cast polypropylene. See *Halliday*, for example, paragraph [0088]. However, a barcode formed from bars of contrasting color is printed on the laminate, so the skilled artisan employing the laminate of *Halliday* would merely print a barcode thereon, not use a lacquer comprising light-reflective particles.

13. Further, the skilled artisan would not have been motivated to incorporate reflective particles into any coating on laminate of *Halliday*. The Patent Office alleges that it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify *Aker* in view of *Woodland* and provide a support layer selected from the group consisting of a monolithic metal support layer and a polymeric support layer as taught by *Halliday*. See Office Action, page 5. As one of skill in the art, I submit that modifying *Aker* in view of *Woodland* would not have been obvious because of the differences (see later comments).

14. *Kaeser* relates to a method for providing a rubber-elastic sealing member onto a capsule intended for producing a beverage in a beverage production device, wherein the capsule has a body portion having a side wall and a flange-like rim portion, wherein the rim portion extends from the side wall of the body portion, the method comprising the steps of:--applying an uncured sealing composition in a liquid or viscous state onto the rim portion of the capsule,--heating said

applied sealing composition such that the sealing composition at least partially migrates towards the side wall until it reaches the side wall, and--curing the sealing composition after the migration towards the side wall. See *Kaeser*, for example, Abstract. *Kaeser* does not even mention a barcode, let alone the issue of putting the code onto the product or concern about the readability of the barcode.

15. *Kaeser* is cited for the alleged disclosure of the support layer being coated by a lacquer comprising light-reflective particles. See Office Action, page 5. *Kaeser* discloses that the body of the capsule may be covered with a lacquer. See *Kaeser*, for example, paragraph [0037]. The Patent Office alleges that since the body portion of the capsule would be capable of supporting an optically readable code support, the body portion is the claimed support layer. See Office Action, page 5.

16. However, the lacquer in *Kaeser* is completely different from the claimed lacquer. The present application is concerned with the formation of a code directly onto a capsule body. The claimed lacquer forms a light-reflective layer that improves the reflectivity of the metal layer positioned underneath. See specification, for example, page 6, second paragraph. In contrast, *Kaeser* discloses that the capsule is made of metal such as aluminium and formed by a deep drawing operation, and therefore, the body of the capsule may be covered with a lacquer and a residue of lubricant necessary during deep drawing of the body which may promote the attraction of the sealing composition to the body of the capsule. See *Kaeser*, for example, paragraph [0037]. Therefore, the lacquer in *Kaeser* at most is related to promoting the attraction of the sealing composition to the body of the capsule. Nothing in *Kaeser* concerns the issue of putting the code onto the product or the readability of the barcode.

17. The Patent Office then alleges that *Kaeser* recognized the purpose of influencing the attraction of a viscous sealing composition to effectively provide a rubber-elastic sealing member onto a capsule, and therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify *Aker* in view of *Woodland* and coat the support layer with a lacquer as taught by *Kaeser*. See Office Action, page 6. However, even if these references are combinable, this alleged modification would not enable the code to be recognized

because the lacquer in *Kaeser* is not sufficiently reflective. *Kaeser* does not even mention a barcode, let alone the issue of putting the code onto the product or concern about the readability of the barcode. In view of the different purpose of the lacquer of *Kaeser*, the skilled artisan would not have modified *Aker* in view of *Woodland* with *Kaeser* to arrive at the present claims that address the issue of putting the barcode onto the product or concern about the readability of the barcode.

18. *Einhorn* relates to reflective features formed from multiple inks. In one embodiment, the reflective feature comprises a substrate having a first region and a second region, the first and second regions having different surface characteristics; a first reflective element disposed on the first region; and a second reflective element disposed on the second region, wherein the first reflective element is more adherent than the second reflective element to the first region. In another embodiment, the reflective feature comprises multiple layers formed from different inks exhibiting enhanced reflectivity and/or durability. The invention is also to processes for forming these features, preferably through a direct write printing process. See *Einhorn*, for example, Abstract. *Einhorn* is merely about the reflective features themselves, but has nothing to do with the location these reflective features--a beverage capsule, let alone how to put these reflective features on to a beverage capsule.

19. *Einhorn* is cited for the alleged disclosure of the lacquer comprising light-reflective particles. See Office Action, page 6. The Patent Office alleges that it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify *Aker* in view of *Woodland* in further view of *Halliday* in further view of *Kaeser* and provide a lacquer comprising light-reflective particles as taught by *Einhorn*. See Office Action, page 6. In general, I consider there to be no link between *Einhorn* and the claimed invention because I believe *Einhorn* is more concerned with adherence of layers.

20. As noted above, *Einhorn* is merely about the reflective features themselves, but has nothing to do with the location these reflective features--a beverage capsule, let alone how to put these reflective features on to a beverage capsule. The skilled artisan would not have modified

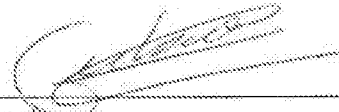
Aker in view of *Woodland* in further view of *Kaeser* and provide a lacquer comprising light-reflective particles as taught by *Einhorn* to arrive at the present claims.

21. In particular, even if these references are combinable, I believe this alleged combination teaches a light-absorbent base with prints of a light-reflecting ink. Such an arrangement does not lead to the claimed invention because the ink is not reflective enough. The other named inventors and I initially considered this arrangement and spent a lot of time developing it. However, we found out that this arrangement would not work since the ink is not reflective enough. Therefore, we changed to the reverse arrangement--the subset matter of this application--which we surprisingly found much more effective.

22. For at least the reasons discussed above, the skilled artisan would not have combined the cited references to arrive at the present claims.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true.

Date: 08/02/2016



Signature

Arnaud Gerbaulet

Printed Name