



PATENTS ACT 1977

APPLICANT	Mondi AG
ISSUE	Whether patent application GB1821241.5 complies with section 1(1)(b)
HEARING OFFICER	Phil Thorpe

DECISION

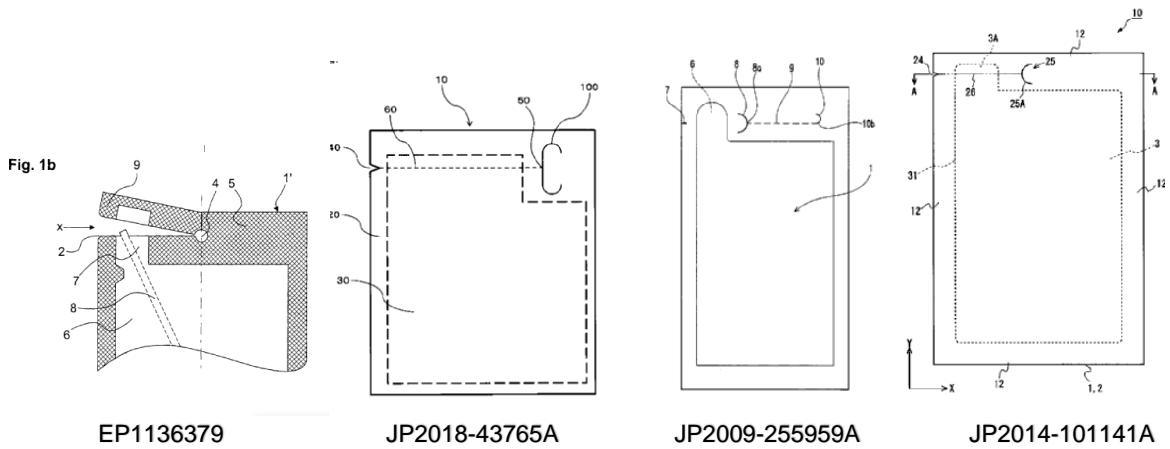
Introduction

- 1 Patent Application No GB 18121241.5 entitled “Mono material bag with tear-off prevention” was filed on 27th December 2018. It was subsequently published as GB 2580318 A on 22nd July 2020.
- 2 Despite thorough and detailed correspondence between the examiner and the applicant’s attorney, together with amendments to the claims, the applicant has been unable to satisfy the examiner that the application satisfies the requirements of the Patent Act 1977 (the Act). In particular, the examiner considers that the application does not involve an inventive step.
- 3 As such, the matter came before me for a decision on the papers.

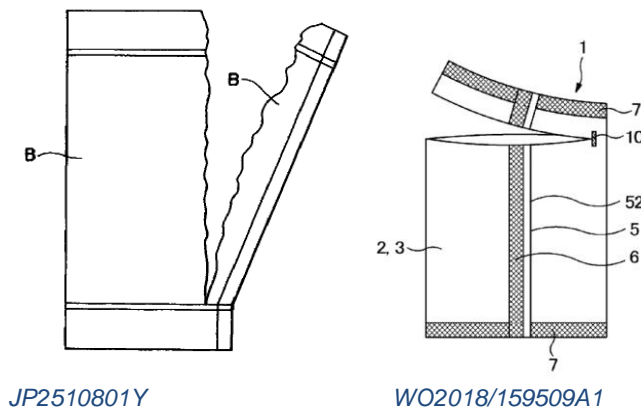
The invention

- 4 The invention relates to a film packaging bag comprising a front panel and a back panel consisting of a heat-sealable bag film which are connected to each other at a first longitudinal edge and a second longitudinal edge. The generic film packaging bag is usually tightly sealed after filling during the production process. The film packaging bag comprises a top sealing seam extending perpendicular to the longitudinal edges along a cross direction of the film packaging bag. To open the film packaging bag, a user can tear apart the upper most portion of the film packaging bag comprising the top sealing seam. This portion is also referred to as tear-off portion.
- 5 According to the description, in some known film packaging bags the tear-off portion is completely removed by a user and must be handled as a separate piece. Accordingly, the tear-off portion can get lost before disposal or during a recycling process of the film packaging bag.

6 The application discusses various prior art designs that prevent the complete removal of the tear off portion. Examples of the prior art designs referred to in the description are shown below.



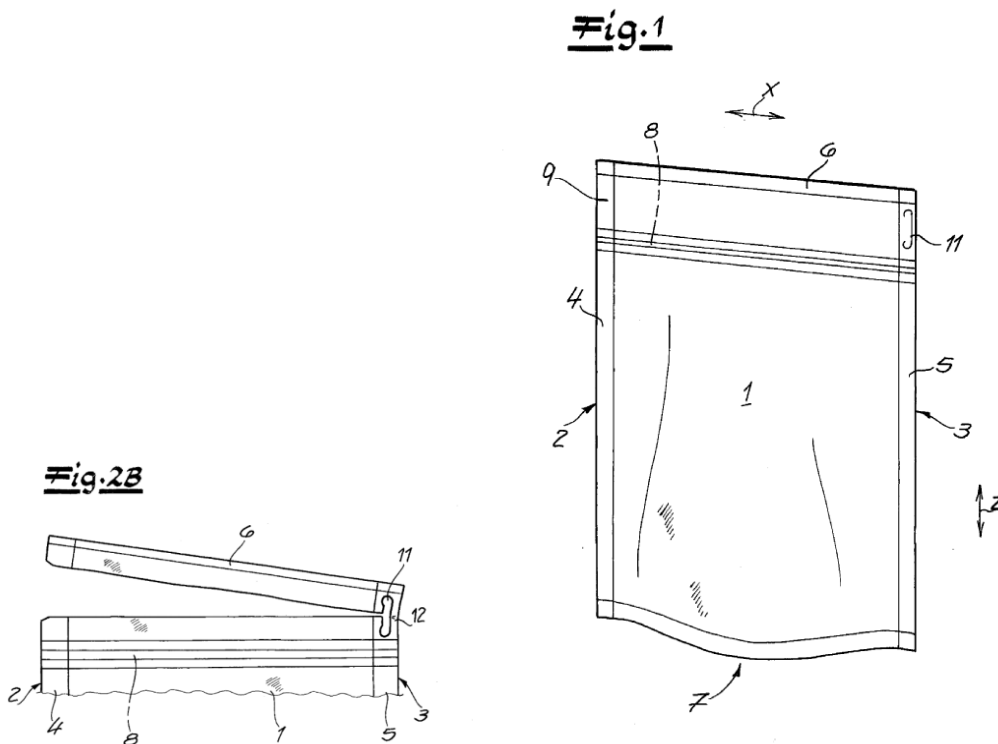
7 The description also highlights prior bags where the containers are provided with added stiffening elements to act as tear stops.



8 The description notes that the tear strips in the prior art provide rather complicated sealing structures where the size of the opening is limited and usually significantly smaller than the width of the film packaging bag along its cross direction. Furthermore, a back taper may constrict a complete draining of the film packaging bag.

9 The invention, as shown in the following figures, seeks to address these disadvantages by providing a film packaging bag that is characterized in that the sealing seam at the second longitudinal edge (5) comprises a constant width along its full length and that the tear stop (11) is completely provided within the width of the sealing seam. Accordingly, the tear stop is implemented in a very easy manner in a common sealing seam comprising a constant width.

- 10 As the tear stop is situated within the sealing seam at the second longitudinal edge, the complete area up to the second sealing seam is suitable as opening with a maximum size. Further as the sealing seam at the second longitudinal edge comprises a constant width, the filling volume of the film packaging bag does not comprise any protrusions or back taper.
- 11 The description also notes that when the tear reaches the tear stop, the tear is interrupted at the cut and the tear forces are deflected by the curved end sections of the tear stop. According to a preferred embodiment, the at least one curved end section comprises a curvature angle of at least 135° . The curvature angle may be especially in the range between 165° and 225° .



- 12 The latest claims were filed on 15th August 2023. There is one independent claim, claim 1, which reads:

Film packing bag comprising a front panel (1) and a back panel which are consisting of a heat-sealable bag film and connected to each other at a first longitudinal edge (2) and a second longitudinal edge (3), wherein at least the second longitudinal edge (3) comprises a sealing seam (5) connecting the front panel (1) and the back panel, wherein a separation or weakening of the heat-sealable bag film is provided as tear stop in a sealed area connecting the front panel (1) and the back panel, wherein the sealing seam (5) at the second longitudinal edge (3) comprises a constant width 10 along its full length and that the tear stop is provided within the width of the sealing seam (5) at the second longitudinal edge (3) and wherein a tear initiating means is

provided only at the first longitudinal edge, characterised in that: the tear stop (11) is provided as a hole elongated along the longitudinal direction (Z) comprising curved end sections or in that the tear stop (11) is provided as a cut comprising a first section (13) extending in the longitudinal direction (z) and at least one curved end section (14): and in that the sealing seam (5) at the second longitudinal edge (3) comprises a width between 5 mm and 15 mm.

The Law

13 Section 1(1) reads:

A patent may be granted only for an invention in respect of which the following conditions are satisfied, that is to say –

- (a) the invention is new;
- (b) it involves an inventive step;
- (c) it is capable of industrial application;
- (d) the grant of a patent for it is not excluded by subsections (2) and (3) or section 4A below;

14 Section 3 then sets out how the presence of an inventive step is determined. It says:

An invention shall be taken to involve an inventive step if it is not obvious to a person skilled in the art, having regard to any matter which forms part of the state of the art by virtue only of section 2(2) above (and disregarding section 2(3) above).

15 It is well-established that the approach to adopt when assessing whether an invention involves an inventive step is to work through the steps set out by the Court of Appeal in *Windsurfing*¹ and restated by that Court in *Pozzoli*². These steps are:

- (1)(a) Identify the notional “person skilled in the art” (1)(b) Identify the common general knowledge of that person;
- (2) Identify the inventive concept of the claim in question or if that cannot readily be done, construe it;
- (3) Identify what, if any, differences exist between the matter cited as forming part of the “state of the art” and the inventive concept of the claim or the claim as construed;
- (4) Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?

Applying the Windsurfing/Pozzoli test

(1) Identify the notional “person skilled in the art” and the relevant common general knowledge of that person;

¹ Windsurfing case [1985] FSR 59

² Pozzoli SPA v BDMO SA [2007] EWCA Civ 588

- 16 The applicant, in their attorney's letter of 15th August 2023, identifies the skilled person as a designer and manufacturer of film packaging bags. I am happy to accept that.
- 17 The examiner and the applicant differ on what the common general knowledge of that skilled person would be. The examiner considers that it would be well known to that person that tear stops could have at least one curved end section. The examiner refers to the numerous examples in both the acknowledged prior art (see examples shown above) and the additional prior art (which is discussed further below) that they found.
- 18 The applicant in contrast argues that that the examples disclosed in the prior art are specific embodiments in this respect, which differ considerably in detail from one another. I am not persuaded. Whilst individual patent specifications do not generally demonstrate common general knowledge, the sheer number of prior art documents, including most of those referred to by the applicant, have tear stops with some form of curved end sections. That the designs of those tear stops may vary is I believe immaterial. What matters is that they disclose some form of curved end section. I am therefore satisfied that having tear stops with at least one curved end section would be part of the skilled person common general knowledge.

(2) Identify the inventive concept of the claim in question or if that cannot readily be done, construe it;

- 19 The applicant submits that the invention relates to a film packaging bag in which the formation of a tear stop is intended to prevent the removal of an upper section during opening. Furthermore, advantageously, the film packaging bag is not impaired in its actual function (for example, accommodation capacity), and it can be manufactured and handled easily. They note that the amended claim 1 defines that the sealing seam at the second longitudinal edge comprises a constant width along its full length of between 5mm and 15mm, and that the tear stop is provided within the width of the sealing seam at the second longitudinal edge. Advantageously, this comparatively narrow sealing seam, which is continuous with a uniform width, does not result in any disadvantages compared to a simple film bag without a tear stop. Inside the bag, steps, sealed areas and the like are avoided, which can, for example, reduce the filling volume, hinder complete emptying and impair the appearance and/or stability of the bag, in particular due to wrinkling. The continuous sealing seam can be formed in a known manner in mass production.
- 20 I do not detect any clear difference between the applicant and the examiner on the identification of the inventive concept though the examiner in their last exam report has focussed more on the actual wording of the claim. I think they were right to do so. Consequently, I find the inventive concept to be a film packing bag comprising a tear initiating means provided at a first longitudinal edge of the bag, and a tear stop provided at a second longitudinal edge of the bag within a sealing seam of constant width between 5mm and 15mm, where the tear stop is a hole or slit with at least one curved end section.

(3) Identify what, if any, differences exist between the matter cited as forming part of the “state of the art” and the inventive concept of the claim or the claim as construed;

21 The examiner has relied on the following prior art:

DE 202018106857 U (TAKIGAWA CORP)

JP H0769370 A (DAINIPPON PRINTING)

JP 2018043765 A (KYODO PRINTING)

JP 2009132444 A (LION CORP)

22 I will consider DE 202018106857 U first which is I believe the closest prior art.

DE 202018106857 U

23 DE202018106857 discloses with reference to the figures below a packaging bag made of flexible plastic material. The bag has at least two bag walls (2) and with at least two side edges (3), the bag walls (2) being connected to one another at least in sections along their edge (4) via at least one connecting seam (5). A line (6) for the controlled tearing of the packaging bag runs from a tear starting point (7) at a first side edge (3a) towards a tear stop (17) approximate the opposite side edge (3b). In all the embodiments depicted in the figures in document, the tear stop (17) is shown as being in a part of the bag extending inwardly from the side edge (3a). The extent of this part from the outer edge of the bag is represented by dimension A in the figure with the width of seam at the edge (3b) being B_s .

24 Whilst in all the shown embodiments the dimension A is larger than B_s , the description at paragraph 38 notes that the ratio of A to B_s is “at least 1” and “preferably at least 2.”

25 The examiner has argued that at the lower limit this represents a disclosure of an arrangement wherein the ratio of A to B_s is indeed 1 which will mean that the tear stop (17) is fully within the width of the seam as required by the claim.

30 I accept that the prior document does not point to any advantages of such an arrangement however I do not believe that to be particularly relevant. The identification of unknown benefits of apparatus previously disclosed does not provide for a new novel and non-obvious invention for that same apparatus based only on the identification of those new benefits (I should stress that we are not interested in use type claims here). More relevant is whether the skilled person would appreciate that there are barriers to having such an arrangement which would lead them to conclude that notwithstanding the wording of paragraph 38, such an arrangement it is not really what is intended to be disclosed. I am not persuaded that the skilled person would be so swayed. Indeed, I am satisfied that a person skilled in the art reading DE 202018106857 U, and especially paragraph 38, would visualise an embodiment where the tear stop is in a part of the seam which is aligned with the remainder of the seam.

31 Hence the only difference between the disclosure in this document and the inventive concept is that the seam is not clearly specified as being between 5mm and 15mm in width.

(4) Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?

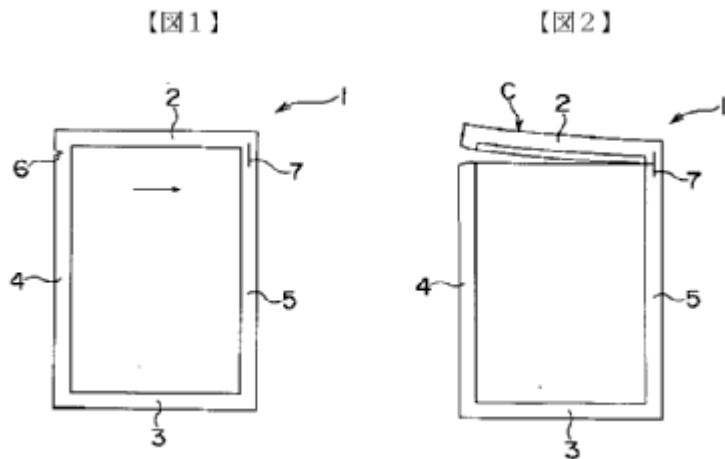
32 The applicant argues that the constant width 5mm to 15mm of the longitudinal sealing seam that is to be used for the arrangement of the tear stop provides "greater freedom in the arrangement of the tear stop". I am not sure how it does. Rather the choice of those dimensions would seem a routine design choice, in part based on the overall design and size of the bag, that would not require any degree of invention. Hence the invention as claimed in claim 1 is obvious in light of the disclosure in DE 202018106857 U.

JP H0769370 A

(3) Identify what, if any, differences exist between the matter cited as forming part of the "state of the art" and the inventive concept of the claim or the claim as construed;

33 As shown in the figures below, JP H0769370 A discloses a packaging bag 1 made by combining two flexible film packaging materials whose inner surfaces are heat-sealable and filling them with liquid. It is a four-sided sealed bag having a top seal part 2, a bottom seal part 3, and left and right seal parts 4 and 5. The bag 1 is formed using a packaging material that can be torn in the lateral direction (in the direction of the arrow in the figure). A notch 6 is formed near the upper end of the left side seal part 4, and correspondingly, a straight slit 7 is formed in the vertical direction in the right-side seal part 5. The notch 6 facilitates the start of the tearing with the slit 7 providing a stop to the tear.

34 The tear stop 7 is provided within the longitudinal seam and allows the torn part of the bag to be retained whilst at the same time not obstructing the opening.



35 The differences between the disclosure in this document and the inventive concept is that the tear slit does not clearly have at least one curved end section nor is it stated that the constant width seam 5 is between 5mm and 15mm.

(4) Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?

36 I have already addressed the question of whether having the width of the seam between 5mm and 15mm would be obvious when discussing DE 202018106857 U. I can see no reason to come to different conclusion when I consider JP H0769370 A. This leaves the question of whether it would be obvious to have a tear stop with at least one curved end section rather than a simple slit.

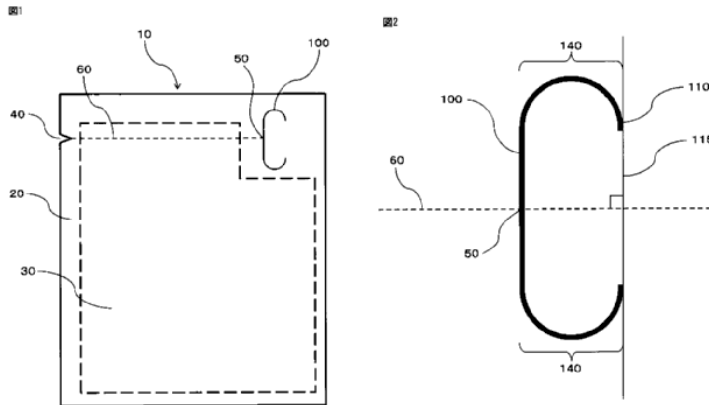
37 The applicant notes that when faced with the teachings of JP H0769370 A, it would not have been obvious for a designer and manufacturer of film packaging bags to modify the arrangement of this document to instead have a tear stop provided as a hole elongated along the longitudinal direction comprising curved end sections or as a cut comprising a first section extending in the longitudinal direction and at least one curved end section, because this document explicitly teaches a simple slit instead, and there is absolutely nothing in this document which discloses or suggests such modifications or the technical advantages thereof. Furthermore, making such a modification would require a complete structural and functional overhaul and redesign of the arrangement, and would thus not have been an obvious thing to do.

38 I am not persuaded that such a modification would require such a change to the design. As I have noted above, tear stops with curved ends were part of the common general knowledge of the skilled person. Such a person would I believe have no difficulty incorporating such a tear stop into the design of JP H0769370 A whilst also ensuring that the tear stop lies completely within the width of the seam.

39 As such I believe that the differences between the disclosure in JP H0769370 A and the inventive concept of claim 1 would have been obvious to the person skilled in the art.

(3) Identify what, if any, differences exist between the matter cited as forming part of the “state of the art” and the inventive concept of the claim or the claim as construed;

- 40 As shown in the figure below, JP 2018043765 A discloses a film packing bag 10 comprising of front and back panels of laminated film connected to each other at their edges 20 via sealing seams. A tear initiating means 40 is provided at a first longitudinal edge and a tear stop 100 comprising curved end sections 140 is provided within the sealing seam of the second longitudinal edge.



- 41 The difference between JP 2018043765 A and the inventive concept of claim 1 is that the sealing seam does not comprises a constant width of between 5mm-15mm along its full length.

(4) Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?

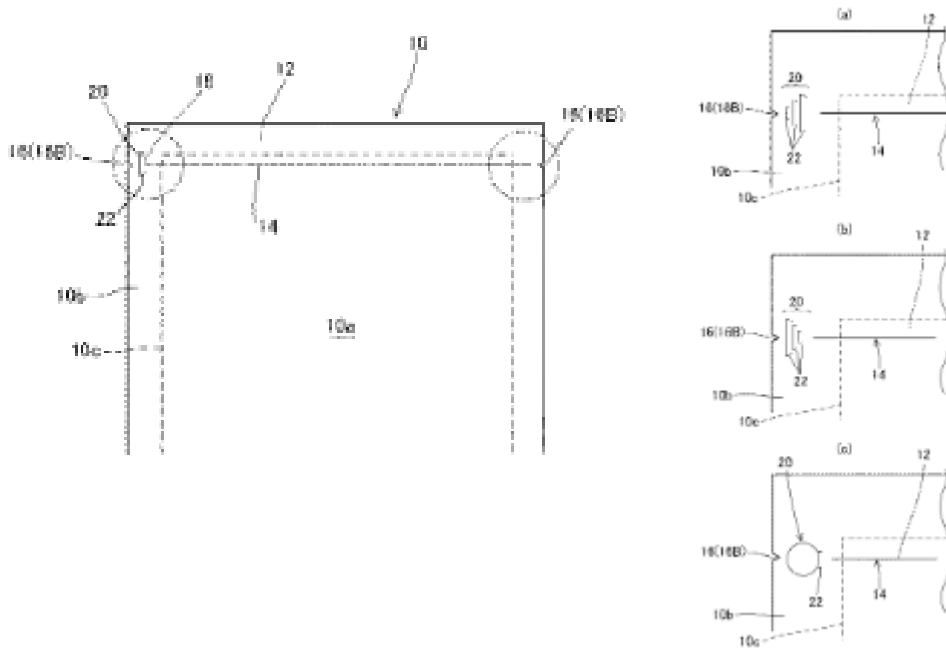
- 42 The applicant argues that these differences are significant. They note that in JP 2018043765 A there is a very large sealed area, with a correspondingly large tear stop. This they argue is deliberately chosen to be so large that it would not fit into a usual longitudinal seam at all. Similarly, it would also be completely disadvantageous in terms of material utilisation to pull a correspondingly wide seal down to the floor as a complete longitudinal seam. The constant width of between 5mm and 15mm of the sealing seam at the second longitudinal edge, as defined in the amended independent claim 1, is a fundamental difference to JP 2018043765 A.
- 43 They go on to contend that when faced with the teachings of this document, it would not have been obvious to the skilled person to modify the arrangement of this document to instead have a narrow constant width sealing seam which the tear stop is provided within, because there is absolutely nothing in this document which discloses or suggests such modifications or the technical advantages thereof. Furthermore, making such a modification would require a complete structural and functional overhaul and redesign of the arrangement, and would thus not have been an obvious thing to do.
- 44 The examiner however notes that the description of JP 2018043765 A at paragraph 0034 states that the radius of the semicircle portion of the tear stop may be as little as 1mm. Such a tear stop would they argue fit comfortably within a seam whose width is between 5mm and 15mm.

- 45 The skilled person would I believe recognise that JP 2018043765 is directed to the problem of avoiding the torn piece of the packaging becoming detached from the remainder of the packaging. They would also recognise that the size of the seam containing the tear stop is determined primarily by the size of the tear cut. In other words, the document does not suggest any other reason for the size of the seam where the tear stop is. Consequently, when informed by the description that the tear stop could have a width, including the curved sections, of around 2mm, the skilled person would be aware that that could be accommodated wholly within a seam that has a width of significantly more than 2mm. Hence, I am satisfied that an arrangement where the seam was between 5mm and 15mm and where the tear stop was provided fully within that seam would not require any degree of invention.
- 46 I would make one final observation on this piece of prior art. That is that it is clearly directed to the idea of having curved end sections on the tear stop and that it includes a list of several further Japanese patents that have tear strips with curved end sections. This reinforces my finding above that this is indeed part of the common general knowledge of the skilled person.

JP 2009132444 A

(3) Identify what, if any, differences exist between the matter cited as forming part of the "state of the art" and the inventive concept of the claim or the claim as construed;

- 47 I can be brief when discussing the final prior art relied on by the examiner. This document as shown in the figures below discloses a packing bag comprising front and back panels consisting of heat-sealable bag film which are connected to each other at their edges via sealing seams 10b. The film packing bag further comprises tear initiating means 16 and a tear stop 20 in the form of a cut comprising a first longitudinal section and curved end section which is situated within the width of the sealing seam (see sealing seam boundary 10c), where the seam width is constant along its full length.
- 48 The examiner contends that the difference between JP 200913 2444 A and the inventive concept of claim 1 is that there is a single tear initiating means and the sealing seam has a width of between 5mm-15mm.
- 49 The applicant notes, rightly in my opinion, that there is a further difference in that JP 2009132444 A fails to disclose that the tear stop is provided at the opposite edge to that of the tear initiating means. They highlight that the purpose of the tear stop in this document is not to prevent complete detachment of the torn portion of the packaging but rather to interrupt any accidental tearing of the packaging that might occur. This prevents the packaging from being accidentally opened.
- 50 I accept this. I would note that whilst notches labelled slightly unclearly as 16B are provided at both ends of the tear line 14, it is clear that the tear initiation is at the same side as the tear stop (or interruption) means 20.



(4) Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?

- 51 The applicant argues that providing the tear initiating means and tear stop on opposite sides of the packaging stop would directly go against the teachings of JP 2009132444 A, and so would not have been an obvious thing to do. If the skilled person were to have removed the tear initiating means adjacent the tear stop, the product would no longer be fit for purpose, i.e. it would no longer be possible to prevent accidental opening of the bag. Also, there is absolutely nothing in this document which discloses or suggests such modifications or what technical advantages might be achieved by doing this.
- 52 I agree. As noted, the purpose of the tear stop or interrupter is clearly different in this document to that of the inventive concept. I do not believe that it would be obvious to modify the arrangement in this document given its clear teaching to provide an arrangement complying with that of the inventive concept of claim 1.

Dependent claims

- 53 The applicant has not pointed towards any features in the dependent claims that might provide a saving amendment. Rather they argue that their inventiveness stems from that of claim 1. The examiner argues that, if not disclosed in at least one of the cited documents, all the features of claims 2-11 constitute steps that would be obvious to a person skilled in the art. The dependent claims relate to methods and materials for constructing the packaging bag (claims 2-5), the design of the tear initiating means (claim 6), the particular dimensions of the tear stop (claims 7-10) and the provision of a reclosure element (claim 11).
- 54 I have reviewed these dependent claims and accept that when taken with the disclosure in the application as filed, they do not clearly point to any saving feature that could provide for an allowable claim.

Conclusion

- 55 I have found that the invention as set out in claims 1-11 filed on 15th August 2023 does not involve an inventive step having regard to the disclosures in DE 202018106857 U, JP H0769370 A and JP 2018043765 A and the common general knowledge of the skilled person.
- 56 I therefore refuse the application under section 18(3).

Appeal

- 57 Any appeal must be lodged within 28 days after the date of this decision.

PHIL THORPE

Deputy Director, acting for the Comptroller