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(54) BAG AND METHOD FOR PRODUCING A BAG

(57) Bag (10) for receiving and containing goods, the bag (10) comprising a first wall panel (12); a second wall panel (14); a bottom section (16); an upper section (20), opposite to the bottom section (16); a first side section (22); a second side section (24), opposite to the first side section (22); a carrying handle (18), or a handle zone for a carrying handle (18), arranged in the upper section (20); a first side opening (26) arranged in the first side section (22); and a reclosable flap (28) for closing the first side opening (26). A method for producing a bag (10) is also provided.

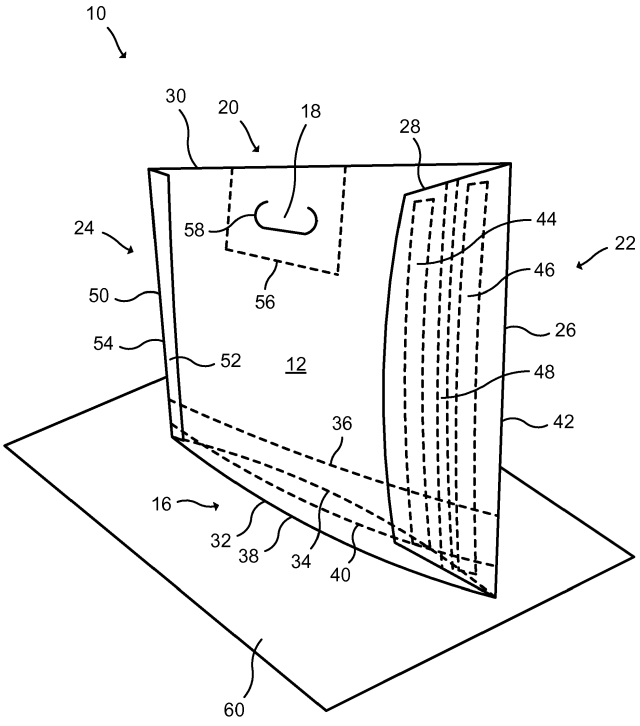

Fig. 8

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Description

Technical Field

[0001] The present disclosure generally relates to bags. In particular, a bag for receiving and containing goods comprising a reclosable flap for closing a side opening and a method for producing a bag, are provided.

Background

[0002] The market for e-commerce packaging is currently dominated by corrugated boxes and polybags. One example of a shipping polybag comprises a closable opening and no handle.

[0003] Carrier solutions for the retail segment are dominated by top loadable carrier bags. A typical retail carrier bag comprises two face panels, side gussets bridging the face panels and a handle on top of each face panel. The face panels and the side gussets are typically made of paper.

[0004] US 8961012 B2 discloses a bag having a front panel, a back panel and a gusset panel, all formed of multi-ply plastic sheet material. Either or both of the front panel and the gusset panel at one side has an extension, and either or both of the back panel and the gusset panel at the other side has an extension. The extensions are welded together at outer margins thereof so that the width of the combined extensions is greater than the width of the gusset panel. The extensions are formed with carrying apertures.

Summary

[0005] One object of the present disclosure is to provide a bag that is simple and convenient to handle.

[0006] A more particular object of the present disclosure is to provide a bag that is simple and convenient to pick up at, carry from and/or return to a retail store and/or a pick up point (for click and collect shopping).

[0007] A more particular object of the present disclosure is to provide a bag that is simple and convenient to handle by a worker in a retail store, pick up point, e-tailer, distribution center and/or warehouse.

[0008] A further object of the present disclosure is to provide a bag that can be converted or transformed from a shipping bag to a carrier bag and/or from a carrier bag to a shipping bag.

[0009] A still further object of the present disclosure is to provide a bag that can easily be loaded with goods.

[0010] A still further object of the present disclosure is to provide a bag that is strong, durable, tear resistant, puncture resistant and/or wet resistant, for example that can withstand an intercontinental return journey.

[0011] A still further object of the present disclosure is to provide a bag that is environmentally friendly, such as biodegradable.

[0012] A still further object of the present disclosure is to provide a bag that can stand stably.

[0013] A still further object of the present disclosure is to provide a bag that is compact to store.

[0014] A still further object of the present disclosure is to provide a bag that has a large printing area.

[0015] A still further object of the present disclosure is to provide a bag that enables a simple, cheap and/or efficient production.

[0016] A still further object of the present disclosure is to provide a bag that solves several or all of the foregoing objects.

[0017] A still further object of the present disclosure is to provide a method of producing a bag solving one, several or all of the foregoing objects.

[0018] According to one aspect, there is provided a bag for receiving and containing goods, the bag comprising a first wall panel; a second wall panel; a bottom section; an upper section, opposite to the bottom section; a first side section; a second side section, opposite to the first side section; a carrying handle, or a handle zone for a carrying handle, arranged in the upper section; a first side opening arranged in the first side section; and a reclosable flap for closing the first side opening.

[0019] When an item is contained in the bag, the bag adopts an expanded state. The bag may adopt several expanded states, depending on the volume of the goods received in the bag, i.e. the degree to which the bag is filled. The first side opening may be defined by the first wall panel, the second wall panel and the bottom section.

[0020] The bottom section of the bag may be configured to support the bag on a horizontal surface at least in an expanded state of the bag. The bottom section of the bag may thus alternatively be referred to as a support section. When the bag is supported by the bottom section on a horizontal surface, the bag may be said to stand or be erected. In this position, the upper section may extend horizontally, substantially horizontally, generally horizontally, may be inclined with respect to horizontal or may form, for example, a V-shape. Furthermore, in this position of the bag, the first side section and/or the second side section may extend vertically, substantially vertically, generally vertically or may be inclined with respect to vertical. In any case, the first side section and/the second side section may be substantially perpendicular to, or perpendicular to, the bottom section and/or the upper section.

[0021] The bag according to the present disclosure may thus have "functions" in at least three of four edges of the bag, i.e. the carrying handle or the handle zone for the carrying handle in the upper section, the bottom section for supporting the bag on a horizontal surface at least in an expanded state of the bag, and the reclosable flap for closing the first side opening. The fourth edge, i.e. in the second side section, may for example be permanently closed, e.g. by means of a flap, by means of a flap plus a part of the tube (i.e. the first wall panel, the second wall panel and the bottom section) and/or by gluing the first wall panel to the second wall panel, or may comprise a

closable flap.

[0022] The bag according to the present disclosure may be loaded with goods or merchandise (e.g. clothes, shoes, foodstuffs) from the side while the bag is standing or lying down. The bag may thus constitute a side loadable bag. Loading of the bag while the bag is standing is particularly space saving.

[0023] After the bag has been loaded with goods, the bag may be closed to transform into a retail carrier bag or transform into a shipping bag. By means of the reclosable flap, a customer may close the bag again for returning goods in the bag, e.g. by of posting the bag or by carrying the bag back to a retail store. When the bag is closed a second time, e.g. when the reclosable flap is closed again, the bag may transform into a shipping bag for transportation.

[0024] The bag may comprise one or more perforated handle lines through the first wall panel and the second wall panel, e.g. created by means of die cutting or perforating. In this case, the area of the perforated handle lines constitutes a handle zone for a carrying handle. In this manner, the bag may have a smooth exterior profile (e.g. with no protruding parts) in a first closed state during shipping. This reduces the risk of tearing the bag during outbound shipping.

[0025] The handle zone may be elongated and extend in a direction between the first side section and the second side section. The handle zone for a carrying handle may be formed by a circumferential weakened line which defines a carrying handle or by a weakened line which is not fully circumferential. The handle zone may comprise weakened lines other than perforated lines.

[0026] When the bag is delivered to a customer (e.g. at a pick up point or retail store), the carrying handle may be opened, e.g. by breaking the one or more perforated handle lines and folding up the handle flap such that the carrying handle is created from the handle zone. In this manner, the bag is also converted into a retail carrier bag or "gift bag". The bag may comprise one or several carrying handles according to the present disclosure.

[0027] The carrying handle may alternatively be constituted by a through hole. Regardless of the type of carrying handle, the carrying handle may be substantially centered along the upper section. Alternatively, or in addition, one or more non-centered carrying handles may be used.

[0028] The carrying handle or the handle zone for the carrying handle, as the case may be, may have a geometrical center point 4.5 cm to 8.5 cm, such as approximately 6.5 cm, from a top side of the upper section, e.g. a top fold line.

[0029] The bag according to the present disclosure may for example be used to ship and carry clothes, shoes, foodstuffs and household goods. Throughout the present disclosure, the first wall panel and the second wall panel may alternatively be referred to as a first main side and a second main side, respectively.

[0030] The reclosable flap may be tamper-proof. For example, the reclosable flap may comprise at least one tear strip for tearing the reclosable flap and at least one fastening element for fastening the reclosable flap to the first wall panel or to the second wall panel. The tear strip may be arranged distal of one of the at least one fastening element in an open state of the reclosable flap. Throughout the present disclosure, a fastening element may be constituted by a peel and seal strip. However, alternative types of fastening elements are conceivable. The fastening element may extend over substantially the entire length of an associated flap, e.g. of the reclosable flap.

[0031] The major parts of the bag of the present disclosure are preferably made of a paper material. As an example, the wall panels, the bottom section and the side sections may be made of a paper material. These parts of the bag are preferably formed from a single piece of paper material. Further, the reclosable flap, a second permanently closed flap and/or a second closable flap may comprise the same paper material.

[0032] The paper material may for example have a grammage of 70 gsm to 150 gsm, such as 80 gsm to 140 gsm, such as 85 gsm to 120 gsm. "gsm" means g/m^2. The grammage is measured according to the standard ISO 536:2012.

[0033] It has been found that high puncture resistance is particularly advantageous for e-commerce bags. The puncture resistance of a paper material depends i.a. on the stretchability, the tensile strength and the tear strength.

[0034] The paper material is preferably a kraft paper material. The pulp used for forming the paper material preferably comprises at least 50% softwood pulp, more preferably at least 75% softwood pulp and most preferably at least 90 % softwood pulp.

[0035] In one embodiment, the paper material has the following characteristics:

- a tensile strength in the machine direction (MD) of at least 10.0 kN/m, preferably at least 10.8 kN/m;
- a tensile strength in the cross direction (CD) of at least 5.5 kN/m, preferably at least 5.9 kN/m;
- a stretchability in the MD of at least 2.0 %, preferably at least 2.3 %;
- a stretchability in the CD of at least 5.5 %, preferably at least 6.0 %;
- a tear strength in the MD of at least 1000 mN, preferably at least 1085 J/m^2; and
- a tear strength in the CD of at least 1050 mN, preferably at least 1150 J/m^2.

[0036] In another embodiment, the paper material has the following characteristics:

- a tensile strength in the MD of at least 6.5 kN/m, preferably at least 7.3 kN/m;
- a tensile strength in the CD of at least 4.6 kN/m, preferably at least 5.2 kN/m;
- a stretchability in the MD of at least 4.8 %, preferably

at least 5.8 %;

- a stretchability in the CD of at least 7.0 %, preferably at least 8.0 %;
- a tear strength in the MD of at least 1000 mN, preferably at least 1100 J/m^2, more preferably at least 1200 J/m^2; and
- a tear strength in the CD of at least 1050 mN, preferably at least 1120 J/m^2, more preferably at least 1280 J/m^2.

[0037] In yet another embodiment, the paper material has the following characteristics:

- a tensile strength in the MD of at least 7.0 kN/m, preferably at least 8.0 kN/m;
- a tensile strength in the CD of at least 4.2 kN/m, preferably at least 4.5 kN/m;
- a stretchability in the MD of at least 9.0 %, preferably at least 10.0 %;
- a stretchability in the CD of at least 7.0 %, preferably at least 8.5 %;
- a tear strength in the MD of at least 1300 mN, preferably at least 1400 mN; and
- a tear strength in the CD of at least 1500 mN, preferably at least 1700 mN.

[0038] Examples of paper materials suitable for the bag according to the present disclosure include Performance White SE WS-R (a white sack paper), Expression Tough 90 gsm, Expression Tough 100 gsm and FibreForm® (all marketed by BillerudKorsnäs AB (Sweden)).

[0039] The paper material of the present disclosure may be coated, e.g. with a pigment coating.

[0040] The bottom section may be constituted by a gusset. The gusset may for example comprise a pair of subpanels folded along a gusset fold line. The two subpanels of the gusset may have a generally flattened "V" shape when the bag is in a collapsed state. Thus, in the collapsed stated of the bag, the gusset fold line may have an acute angle. In one expanded state of the bag, the gusset fold line may have an obtuse angle such that the bottom section is concave. In a further expanded state of the bag, the gusset fold line may have a more obtuse angle. Alternatively, the bottom section of the bag may be flat or substantially flat when the bag adopts one or more expanded states.

[0041] The bag according to the present disclosure may however not necessarily be able to adopt a flat collapsed state. A bag according to the present disclosure may for example alternatively comprise a bottom section constituted by a flat, possibly rigid, bottom panel, for example glued to the first wall panel and the second wall panel.

[0042] The first wall panel, the second wall panel and the bottom section may together have a generally triangular appearance when the bag adopts an expanded state. This design lowers the center of gravity of the bag. For example, an empty bag adopting an expanded state can stand more stably, e.g. on a horizontal surface or in the trunk of a car.

[0043] The bag may be substantially flat in a collapsed state. Several empty bags may thus be stored and/or transported in a stack which is space saving. In the collapsed state of the bag, the thickness of the bag may substantially correspond to the sum of the thicknesses of the first wall panel and the second wall panel.

[0044] According to one example, a user (e.g. a worker at a retail store, e-tailer, distribution center and/or warehouse) may pick up a bag according to the present disclosure in a collapsed state, insert his/her hand into the bag (e.g. through the first side opening or through a second side opening in the second side section) and spread his/her fingers within the bag to separate the first wall panel and the second wall panel such that the bag adopts a slightly expanded state. In this expanded state, the bag may be laid down or put standing on a horizontal surface, such as a desk, and the bag can be loaded with goods. This loading procedure is comfortable for the user and does not require much desk space if the bag is standing. In the first closed state, i.e. when the reclosable flap closes the first side opening a first time, the bag may be shipped or may be handed over to a customer. In case the bag is handed over to a customer, the customer can carry the bag by means of the carrying handle. The bag in the collapsed state may thus be transformed either into a shipping bag or into a retail carrier bag.

[0045] The upper section may be substantially flat in an expanded state of the bag. The bag may thus be asymmetrical in a direction between the bottom section and the upper section, e.g. in a vertical direction if the bag is standing. Since the upper section is substantially flat in an expanded state of the bag, the empty bag has a relatively low center of gravity and can thereby stand stably.

[0046] The first wall panel and the second wall panel may be formed from a single piece of material and may be folded along a top fold line in the upper section. However, the bag according to the present disclosure may alternatively comprise a first wall panel and a second wall panel formed from different pieces of material and for example glued together in the upper section.

[0047] The bag may be formed from a single piece of material. For example, at least the first wall panel, the second wall panel and the reclosable flap may be formed from a single piece of material. An optional second flap for closing a second side opening at the second side section may also be formed from the same piece of material. A reinforcing member according to the present disclosure may be formed from a different piece of the same material or of a different material.

[0048] The bag may have a width, in a direction between the first side section and the second side section, and a height (e.g. in a collapsed state of the bag), in a direction between the upper section and the bottom section, and wherein the width of the bag is larger than the height of the bag. Thus, the upper section and the bottom section may constitute long sides of the bag and the first

side section and the second side section may constitute short sides of the bag. In this case, when carrying the bag by means of the carrying handle, the bag is oriented horizontally, i.e. the bag has a horizontal extension that is larger than the vertical extension. Relatively large goods can thereby be accommodated within the bag while maintaining a relatively large vertical clearance between the bag and the ground when the bag is carried. Moreover, this is comfortable for the user since the center of gravity of the bag and the goods is positioned relatively close to the hand of the person carrying the bag. Swinging of the bag is thereby reduced. In addition, the bag according to the present disclosure may be designed for long objects, for example ski poles, which may be arranged horizontally within the bag while the bag is carried.

[0049] The width of the bag may be at least 10 %, such as at least 20 %, such as at least 30 %, such as at least 40 %, such as at least 50 %, larger than the height of the bag. According one example, the bag has a width between 15 cm and 150 cm, a height of 12 cm to 115 cm, and a width to height ratio between 1.2:1 and 1.4:1. According to a further example, the bag has a width between 25 cm and 80 cm, a height of 20 cm to 60 cm and a width to height ratio between 1.2:1 and 1.4:1. According to a further example, the bag has a width between 40 cm and 60 cm and a height of 30 cm to 50 cm.

[0050] However, a bag according to the present disclosure may alternatively have a width, in a direction between the first side section and the second side section, and a height (e.g. in a collapsed state of the bag), in a direction between the upper section and the bottom section, and wherein the width of the bag is smaller than the height of the bag. Thus, the upper section and the bottom section may constitute short sides of the bag and the first side section and the second side section may constitute long sides of the bag. In this case, the bag may have an appearance similar to a handbag. This type of bag may be used for shipping small garments, like underwear. Moreover, this type of narrow bag also helps centering of the mass in the bag.

[0051] The bag may further comprise a reinforcing member for reinforcing the bag around the carrying handle, or around the handle zone for the carrying handle. The bag may thus be closed in the area of the carrying handle such that this area remains closed during use of the bag. The reinforcing member thus also contributes to seal the interior of the bag.

[0052] The reinforcing member may be constituted by one or several reinforcing patches. In case a plurality of reinforcing patches are employed, the reinforcing patches may be stacked. A reinforcing member comprising a plurality of stacked reinforcing patches increases the stiffness of the carrying handle. The reinforcing member may be attached to the insides of the first wall panel and the second wall panel, e.g. by gluing.

[0053] The reinforcing member may be substantially centered, or centered, over a center of gravity of the bag in an unloaded state. The reinforcing member may be substantially centered, or centered, between the first side section and the second side section.

[0054] According to one example, the reinforcing member extends along less than 50 %, such as less than 35 %, such as less than 25 %, of the distance in a direction between the first side section and the second side section. In regions of the upper section where no reinforcing member is provided, the cavity of the bag may extend all the way up to the top of the upper section, e.g. up to a top fold line of the bag. If such region is disposed adjacent to an opening of the bag, the loading and unloading of goods into/from the bag is facilitated. The reinforcing member may have a height that is larger than the height of the carrying handle, or of the handle zone for the carrying handle, for example approximately three times larger. Alternatively, or in addition, the reinforcing member may have a width that is larger than the width of the carrying handle, or of the handle zone for the carrying handle, for example approximately twice as large.

[0055] The reclosable flap may comprise two fastening elements and one tear strip arranged between the two fastening elements. In this case, the second side section may be permanently closed. The closing of the second side section may in this case be carried out during manufacture of the bag. The closing of the second side section may for example be implemented by means of a second flap that is glued to the first wall panel or the second wall panel or by means of gluing the first wall panel to the second wall panel.

[0056] A first fastening element (e.g. the most distal fastening element on the reclosable flap when the flap is open) may be used to close the bag a first time, e.g. prior to shipping the bag or prior to handing over the bag to a customer at a retail store. The customer may then open the bag by tearing the tear strip such that the reclosable flap is divided into a first reclosable flap section and a second reclosable flap section. In this case, the first reclosable flap section remains on first wall panel or the second wall panel by means of the first fastening element. However, the bag can be opened by opening the second reclosable flap section. Should the customer want to close the bag again, e.g. for returning merchandise, the second reclosable flap section may be connected to the first wall panel or the second wall panel by means of a second fastening element (e.g. the most proximal fastening element on the reclosable flap when the reclosable flap is open) such that the bag is closed by means of the reclosable flap.

[0057] The tear strip may for example be constituted by two parallel rows of perforations on the reclosable flap between the two fastening elements. The perforations may for example be produced by means of die cutting or perforating. The tear strip may extend parallel with the first side section, e.g. substantially vertically, or vertically, when the bag is standing.

[0058] Each of the two fastening element may be constituted by a peel and seal strip. In this case, the peel and seal strips and the tear strip may be manufactured

by providing two glue lines (e.g. of pressure sensitive glue) on the reclosable flap, covering the glue lines with a release liner and perforating the release liner and the reclosable flap. Thus, in order to close the reclosable flap a first time, the most distal part of the release liner (most distal when the reclosable flap is open) may be peeled off and the reclosable flap may be closed by pressing the most distal glue line onto the first wall panel or the second wall panel. In order to open the bag, the tear strip of the reclosable flap formed by the two perforation lines may be torn off such that a first reclosable flap section of the reclosable flap stays glued on the bag and a second reclosable flap section of the reclosable flap is opened. In order to close the reclosable flap a second time, the most proximal part of the release liner (most proximal when the reclosable flap is open) may be peeled off and the reclosable flap may be closed by pressing the most proximal glue line of the second reclosable flap section onto the first wall panel or the second wall panel.

[0059] The bag may further comprise a second side opening arranged in the second side section and a second closable flap for closing the second side opening. In this case, the second closable flap may comprise at least one fastening element for fastening the second closable flap to the first wall panel or to the second wall panel. A bag according to this example thus has "functions" in all four edges of the bag. The second closable flap may be closed after loading the bag with goods for the first time, e.g. at a warehouse or retail store. The closing of the second closable flap may be permanent, e.g. such that the second closable flap cannot be opened without tearing the bag.

[0060] Each of the first reclosable flap and the second closable flap may be connected to either the first wall panel or the second wall panel. Thus, if the first reclosable flap and the second closable flap are connected to the first wall panel in their closed states, the second wall panel provides a large surface for printing. The printing area may be rectangular and may or may not include the area of the carrying handle (or the handle zone for the carrying handle).

[0061] The bag according to the present disclosure may constitute both a shipping bag and a retail carrier bag. The bag may be converted or transformed from a shipping bag to a retail carrier bag and from a retail carrier bag to a shipping bag.

[0062] According to a further aspect, there is provided a method for producing a bag, the method comprising providing a piece of material; converting the material into a tube; folding the material along a top fold line, along a first bottom fold line and along a second bottom fold line to define a first wall panel, a second wall panel and a bottom section; and providing a reclosable flap for closing the tube. The step of converting the material into a tube may comprise converting the material into a one side gusseted tube.

[0063] The method may further comprise providing at least one tear strip on the reclosable flap for tearing the reclosable flap; and providing at least one fastening element on the reclosable flap for fastening the reclosable flap to the first wall panel or to the second wall panel. The step of providing a reclosable flap for closing the tube may comprise folding the material along a first side fold line to define the reclosable flap for closing the tube. The steps of the method do not necessarily have to be carried out in the mentioned order.

[0064] The bag according to the present disclosure may be produced in the machine direction. That is, the top fold line and/or the bottom section may be parallel with the machine direction. In this case, the fold line of the reclosable flap may be substantially perpendicular to the machine direction, i.e. substantially parallel with the cross direction. The bag according to the present disclosure may be produced at high machine speeds and without major reconstruction or reconfiguration of existing machines.

[0065] According to a further aspect, there is provided a method for transporting goods for delivery by use of a bag according to the present disclosure. The method may further comprise delivering goods for online or mail order trading.

Brief Description of the Drawings

[0066] Further details, advantages and aspects of the present disclosure will become apparent from the following embodiments taken in conjunction with the drawings, wherein:

Fig. 1: schematically represents a side view of one example of a bag in a first open state;
Fig. 2: schematically represents a cross sectional view along line A-A in Fig. 1;
Fig. 3: schematically represents a cross sectional view along line B-B in Fig. 1;
Fig. 4: schematically represents a perspective view of the bag in the first open state;
Fig. 5: schematically represents a top view of a material blank for the bag;
Fig. 6: schematically represents a top view of one example of a tear strip;
Fig. 7: schematically represents a side view of the bag in a first closed state;
Fig. 8: schematically represents a perspective view of the bag in the first closed state;
Fig. 9: schematically represents a side view of the bag in a second open state;
Fig. 10: schematically represents a side view of the bag in a second closed state;
Fig. 11: schematically represents a side view of a further example of a bag in a first open state;
Fig. 12: schematically represents a perspective view of the bag in Fig. 11 in the first open state;
Fig. 13: schematically represents a top view of a material blank for the bag in Figs. 11 and 12;
Fig. 14: schematically represents a side view of the

bag in Figs. 11 to 13 in a first closed state;

Fig. 15: schematically represents a perspective view of the bag in Figs. 11 to 14 in the first closed state;

Fig. 16: schematically represents a side view of the bag in Figs. 11 to 15 in a second open state; and

Fig. 17: schematically represents a side view of the bag in Figs. 11 to 16 in a second closed state.

Detailed Description

[0067] In the following, a bag for receiving and containing goods comprising a reclosable flap for closing a side opening and a method for producing a bag, will be described. The same reference numerals will be used to denote the same or similar structural features.

[0068] Fig. 1 schematically represents a side view of one example of a bag 10 in a first open state. Fig. 2 schematically represents a cross sectional view along line A-A in Fig. 1. Fig. 3 schematically represents a cross sectional view along line B-B in Fig. 1.

[0069] With collective reference to Figs. 1 to 3, the bag 10 comprises a first wall panel 12, a second wall panel 14 and a bottom section 16. The bag 10 comprises a handle zone for a carrying handle 18 arranged in an upper section 20, opposite to the bottom section 16. The bag 10 further comprises a first side section 22 (the right section in Fig. 1) and a second side section 24 (the left section in Fig. 1), opposite to the first side section 22. A first side opening 26 is arranged in the first side section 22 and the bag 10 further comprises a first flap or reclosable flap 28 for closing the first side opening 26.

[0070] In the example of Figs. 1 to 3, the first wall panel 12, the second wall panel 14, the bottom section 16 and the reclosable flap 28 are formed from a single piece of paper. The first wall panel 12 and the second wall panel 14 are folded along a top fold line 30 in the upper section 20. The bottom section 16 comprises a first bottom fold line 32, a second bottom fold line 34 and an intermediate gusset fold line 36 such that a V-shaped gusset is formed. A first gusset subpanel is defined between the first bottom fold line 32 and the gusset fold line 36 and a second gusset subpanel is defined between the second bottom fold line 34 and the gusset fold line 36.

[0071] A first end 38 of the material overlaps with a second end 40 of the material and glue is provided in the overlap such that a tube is formed. In this example, the first end 38 is comprised by the first wall panel 12 and the second end 40 is comprised by the bottom section 16.

[0072] The reclosable flap 28 is foldable along a first side fold line 42 from the open state in Fig. 1 to a closed state where the reclosable flap 28 overlaps the first wall panel 12. The reclosable flap 28 comprises a first fastening element 44 for fastening the reclosable flap 28 to the first wall panel 12, a second fastening element 46 for fastening the reclosable flap 28 to the first wall panel 12 and a tear strip 48 arranged between the first fastening element 44 and the second fastening element 46. Each of the first fastening element 44 and the second fastening element 46 may for example be constituted by peel and seal strips.

[0073] In the example of Figs. 1 to 3, the bag 10 comprises a closed side 50 in the second side section 24. The closed side 50 is in this example implemented as a second flap 52 that is folded along a second fold line 54 and glued on the first wall panel 12. The second flap 52 is thus permanently closed. The closed side 50 of the bag 10 may however be closed in alternative ways.

[0074] As shown in Figs. 1 and 3, a reinforcing member 56 is arranged around the carrying handle 18 to stabilize the carrying handle 18 and to seal the interior volume of the bag 10. The reinforcing member 56 is in this example constituted by a reinforcing patch that is arranged between the first wall panel 12 and the second wall panel 14 and is glued to the first wall panel 12 and/or to the second wall panel 14. The reinforcing member 56 may for example have a rectangular shape, as illustrated in Fig. 1.

[0075] The handle zone for the carrying handle 18 is in this example defined by a perforated handle line 58. The perforated handle line 58 comprises two curved ends and a lower interconnecting line. Thus, by breaking the perforated handle line 58, a handle flap can be folded upwards and the carrying handle 18 is ready for being used to carry the bag 10. The perforated handle line 58 may alternatively be continuous. As a further alternative, the carrying handle 18 may be constituted by a punched through hole.

[0076] As can be gathered from Fig. 2 which illustrates the bag 10 in a slightly expanded state, the bag 10 can be expanded to have a relatively large interior opening laterally outside the reinforcing member 56. The bag 10 may be further expanded from the slightly expanded state illustrated in Fig. 2 to a further expanded state where the gusset fold line 36 is substantially flat. This facilitates the loading and unloading of goods into and out from the bag 10. Fig. 2 further shows that the bag 10 has a generally triangular appearance and that the upper section 20 is substantially flat in an expanded state.

[0077] From the state illustrated in Fig. 2, the bag 10 may be collapsed into a collapsed state where the bag 10 is substantially flat. In the collapsed state, the first wall panel 12 and the second wall panel 14 may mate such that a thickness of the bag 10, at least in a major area of the bag 10, substantially corresponds to the sum of the thicknesses of the first wall panel 12 and the second wall panel 14.

[0078] Fig. 4 schematically represents a perspective view of the bag 10 in the first open state. In Fig. 4, the empty bag 10 is supported on a horizontal surface 60, such as on a desk at a retail store or in a warehouse, and is ready to be loaded with goods, such as goods or merchandise (e.g. clothes, shoes, foodstuffs). As can be seen in Fig. 4, the bag 10 extends vertically from the horizontal surface 60.

[0079] Fig. 5 schematically represents a top view of a material blank 62 for the bag 10. However, in the machine, a tube will be formed continuously. With reference to Fig. 5, one example of a method for producing the bag 10 in Figs. 1 to 4 will be described. The order of the steps may be altered.

[0080] Two glue lines may be applied to the reclosable flap 28 and glue may be applied for the reinforcing member 56 around the carrying handle 18. A glue line may also be applied to the second flap 52. The optional reinforcing member 56 may be attached to the material and a release liner may be applied over the reclosable flap 28.

[0081] The first wall panel 12 and the bottom section 16 may be cut out from a continuous web of material such that several consecutive blanks 62 are fed in the machine direction MD (e.g. to the left in Fig. 5). The reclosable flap 28 of a leading blank 62 may be integral with the second flap 52 of a trailing blank 62 etc. That is, the first wall panel 12 and the bottom section 16 may be cut while the web is intact.

[0082] Glue may be then applied to the first end 38 and/or the second end 40 of the blank 62. Perforated handle lines 58 for the carrying handle 18 may then be cut in the first wall panel 12 and in the second wall panel 14 (and optionally through the reinforcing member 56). Perforated lines for the tear strip 48 may be cut in the reclosable flap 28 and optionally in the release liner. Instead of perforating the lines for the tear strip 48 in the machine, the tear strip 48 may alternatively be created after the machine.

[0083] The flat material web may then be converted into a tube. The tube may then be folded by folding the material at the top fold line 30, the first bottom fold line 32, the second bottom fold line 34 and the gusset fold line 36. The material may then be cut to separate a leading reclosable flap 28 of a leading blank 62 from a trailing second flap 52 of a trailing blank 62. The first side fold line 42 between the second wall panel 14 and the reclosable flap 28 and the second fold line 54 between the second wall panel 14 and the second flap 52 may then be created. The second flap 52 may then be folded and connected to the first wall panel 12.

[0084] Fig. 6 schematically represents a top view of one example of a tear strip 48. As can be seen in Fig. 6, the tear strip 48 comprises two parallel perforated lines. Each perforation line comprises a first line, parallel with the general extension direction of the tear strip 48, and a second line angled inwardly and connected to the first line.

[0085] Fig. 7 schematically represents a side view of the bag 10 containing goods in a first closed state. The reclosable flap 28 is folded and connected to the first wall panel 12 by means of the first fastening element 44. As can be seen in Fig. 7, the width of the bag 10 is larger than the height of the bag 10. In other words, the extension of the bag 10 in a direction between the first side section 22 and the second side section 24, is larger than the extension of the bag 10 in a direction between the upper section 20 and the bottom section 16. The bag 10 of this example thus has a generally rectangular appearance with a main extension direction in the lateral direction.

[0086] In the state illustrated in Fig. 7, the bag 10 has a smooth exterior profile. For example, the risk for tearing the bag 10, e.g. during shipping, is reduced. In this state, the bag 10 may be shipped. Alternatively, the bag 10 in the state illustrated in Fig. 7 may be handed over to a customer at a retail store. In this case, the carrying handle 18 may be opened, i.e. the perforated handle line 58 may be broken.

[0087] Fig. 8 schematically represents a perspective view of the bag 10 in the first closed state loaded with goods. Also in the loaded first closed state, the bag 10 can stand stably on the horizontal surface 60.

[0088] Fig. 9 schematically represents a side view of the bag 10 in a second open state. The second state of the bag 10 is adopted by tearing off the tear strip 48, such that the reclosable flap 28 is divided into a first reclosable flap section 28a and a second reclosable flap section 28b, and by opening the second reclosable flap section 28b. The first reclosable flap section 28a remains connected to the first wall panel 12. Since the reclosable flap 28 needs to be torn in order to open the bag 10 into the second open state, the reclosable flap 28 is tamper-proof.

[0089] Fig. 10 schematically represents a side view of the bag 10 in a second closed state. Should a customer want to return the purchased goods, the goods can again be loaded into the bag 10 and the reclosable flap 28 can be closed a second time by folding the second reclosable flap section 28b and connecting the second reclosable flap section 28b to the first wall panel 12 by means of the second fastening element 46.

[0090] Fig. 11 schematically represents a side view of a further example of a bag 10 in a first open state. Mainly differences with respect to Figs. 1 to 10 will be described. The bag 10 of this example comprises a second closable flap 64 arranged in the second side section 24 for closing a second side opening 66 arranged in the second side section 24. The second closable flap 64 comprises a first fastening element 44. A distal section of the reclosable flap 28 is connected to the first wall panel 12, e.g. by means of glue applied during manufacture of the bag 10.

[0091] Fig. 12 schematically represents a perspective view of the bag 10 in Fig. 11 in the first open state. In the first open state, the bag 10 can be loaded with goods, for example in a warehouse or in a retail store. After loading, the bag 10 can be closed into the first closed state by folding the second closable flap 64 over the second side opening 66 and by connecting the second closable flap 64 to the first wall panel 12 by means of the first fastening element 44.

[0092] Fig. 13 schematically represents a top view of a material blank 62 for the bag 10 in Figs. 11, 12 and 14 to 17. The bag 10 in the example in Figs. 11, 12 and 14 to 17 may be produced in a corresponding manner as described in connection with Fig. 5. Differences include

the provision of only the second fastening element 46 on the reclosable flap 28, the attachment of a distal section of the reclosable flap 28 to the first wall panel 12 and the provision of a first fastening element 44 on the second closable flap 64. In the example of Figs. 11,12 and 14 to 17, the reclosable flap 28 is sealed to the first wall panel 12 during production.

[0093] Fig. 14 schematically represents a side view of the bag 10 in Figs. 11 to 13 in a first closed state and loaded with goods. Also in this example, the bag 10 has a smooth exterior profile and is ready to be transported. Once the second closable flap 64 has been connected to the first wall panel 12 by means of the first fastening element 44, the second closable flap 64 can no longer be opened (without tearing the bag 10).

[0094] Fig. 15 schematically represents a perspective view of the bag 10 in Figs. 11 to 14 in the first closed state. As illustrated, the bag 10 containing goods can be put standing on a horizontal surface 60. In this state, the carrying handle 18 may be opened and the bag 10 can be handed over to a customer, e.g. at a retail store or a pick up point.

[0095] Fig. 16 schematically represents a side view of the bag 10 in Figs. 11 to 15 in a second open state. The second open state of the bag 10 is adopted by tearing off the tear strip 48 such that a first reclosable flap section 28a remains on the first wall panel 12 and such that the second reclosable flap section 28b can be opened in order to access the interior of the bag 10. As can be seen in Fig. 16, also the bag 10 in the example according to Figs. 11 to 17 is tamper proof.

[0096] Fig. 17 schematically represents a side view of the bag 10 in Figs. 11 to 16 in a second closed state. Thus, in case a customer wants to return an item, the item may be loaded into the bag 10 and the reclosable flap 28 may be closed by connecting the second reclosable flap section 28b to the first wall panel 12 by means of the second fastening element 46.

[0097] While the present disclosure has been described with reference to exemplary embodiments, it will be appreciated that the present invention is not limited to what has been described above. Although the bag 10 may be produced with the dimension ratios presented in the drawings, it will be appreciated that the dimensions of the parts may be varied as needed. Accordingly, it is intended that the present invention may be limited only by the scope of the claims appended hereto.

Claims

1. Bag (10) for receiving and containing goods, the bag (10) comprising:

   - a first wall panel (12);
   - a second wall panel (14);
   - a bottom section (16);
   - an upper section (20), opposite to the bottom section (16);
   - a first side section (22);
   - a second side section (24), opposite to the first side section (22);
   - a carrying handle (18), or a handle zone for a carrying handle (18), arranged in the upper section (20);
   - a first side opening (26) arranged in the first side section (22); and
   - a reclosable flap (28) for closing the first side opening (26).

2. The bag (10) according to claim 1, wherein the reclosable flap (28) is tamper-proof.

3. The bag (10) according to claim 1 or 2, wherein the reclosable flap (28) comprises at least one tear strip (48) for tearing the reclosable flap (28) and at least one fastening element (46) for fastening the reclosable flap (28) to the first wall panel (12) or to the second wall panel (14).

4. The bag (10) according to any of the preceding claims, wherein the major parts of the bag (10) are made of paper material.

5. The bag (10) according to any of the preceding claims, wherein the bottom section (16) is constituted by a gusset.

6. The bag (10) according to any of the preceding claims, wherein the first wall panel (12), the second wall panel (14) and the bottom section (16) together have a generally triangular appearance when the bag (10) adopts an expanded state.

7. The bag (10) according to any of the preceding claims, wherein the bag (10) is substantially flat in a collapsed state.

8. The bag (10) according to any of the preceding claims, wherein the upper section (20) is substantially flat in an expanded state of the bag (10).

9. The bag (10) according to any of the preceding claims, wherein the first wall panel (12) and the second wall panel (14) are formed from a single piece of material and folded along a top fold line (30) in the upper section (20).

10. The bag (10) according to any of the preceding claims, wherein the bag (10) is formed from a single piece of material.

11. The bag (10) according to any of the preceding claims, wherein the bag (10) has a width, in a direction between the first side section (22) and the second side section (24), and a height, in a direction

between the upper section (20) and the bottom section (16), and wherein the width of the bag (10) is larger than the height of the bag (10).

12. The bag (10) according to any of the preceding claims, further comprising a reinforcing member (56) for reinforcing the bag (10) around the carrying handle (18), or around the handle zone for the carrying handle (18).

13. The bag (10) according to any of the preceding claims, wherein the reclosable flap (28) comprises two fastening elements (44, 46) and one tear strip (48) arranged between the two fastening elements (44, 46).

14. The bag (10) according to any of the preceding claims, further comprising a second side opening (66) arranged in the second side section (24) and a second closable flap (64) for closing the second side opening (66), wherein the second closable flap (64) comprises at least one fastening element (44) for fastening the second closable flap (64) to the first wall panel (12) or to the second wall panel (14).

15. Method for producing a bag (10), the method comprising:

- providing a piece of material;
- converting the material into a tube;
- folding the material along a top fold line (30), along a first bottom fold line (32) and along a second bottom fold line (34) to define a first wall panel (12), a second wall panel (14) and a bottom section (16); and
- providing a reclosable flap (28) for closing the tube.

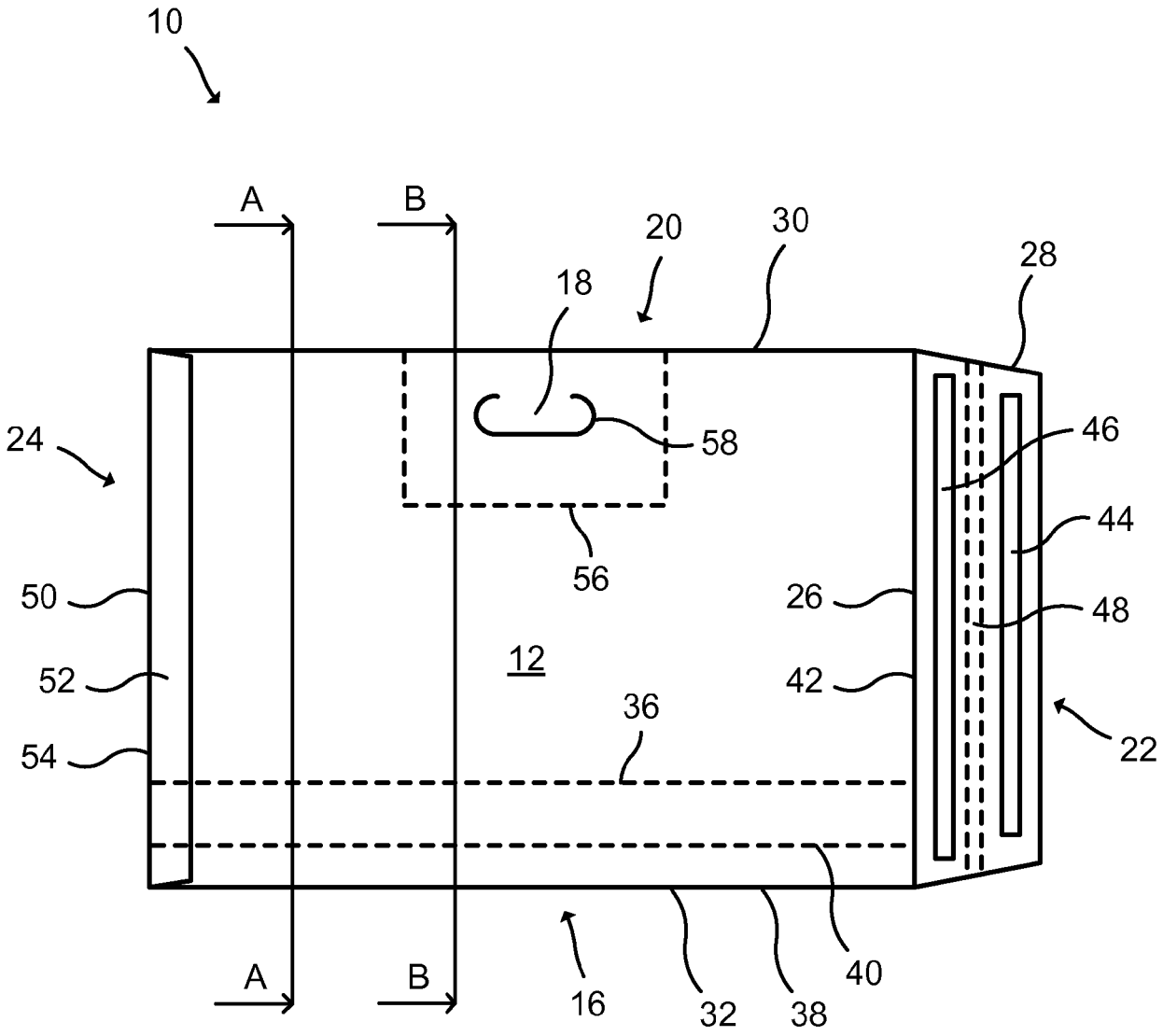
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Fig. 1

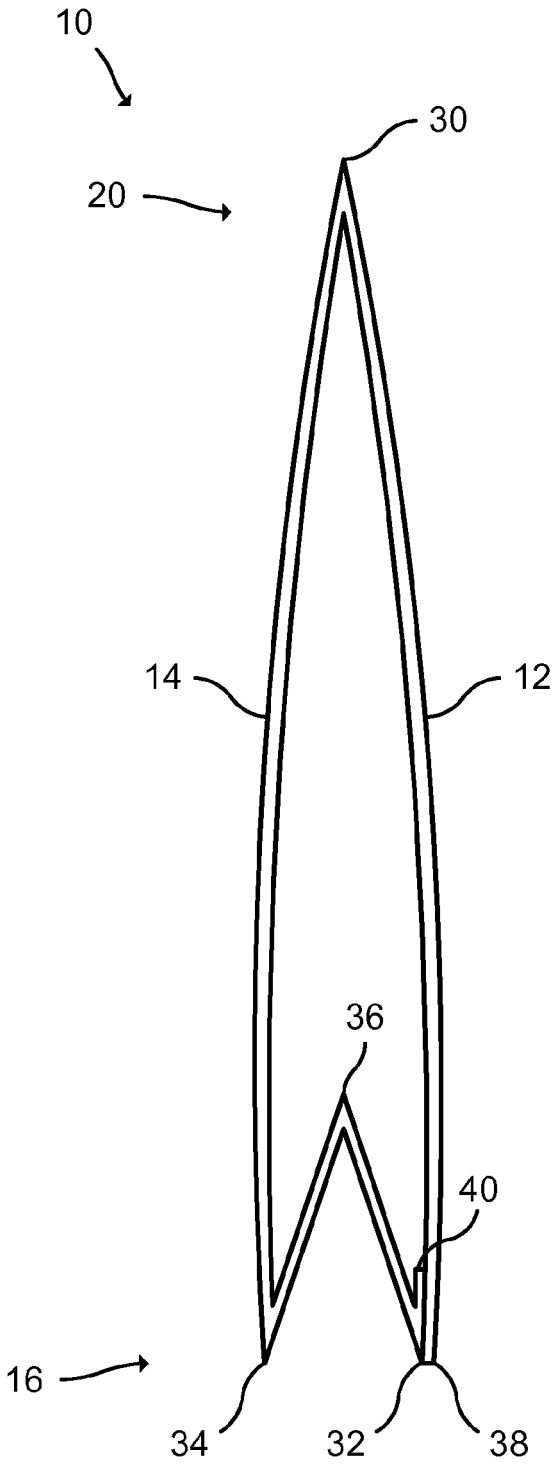

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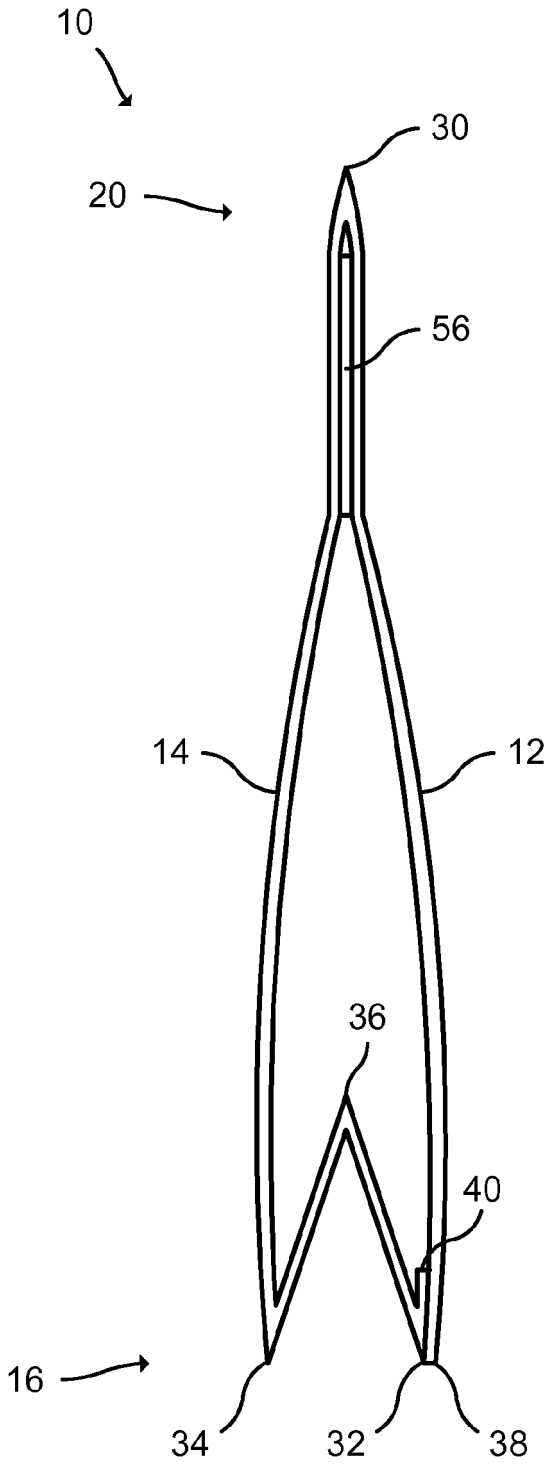
Fig. 2



B-B

Fig. 3

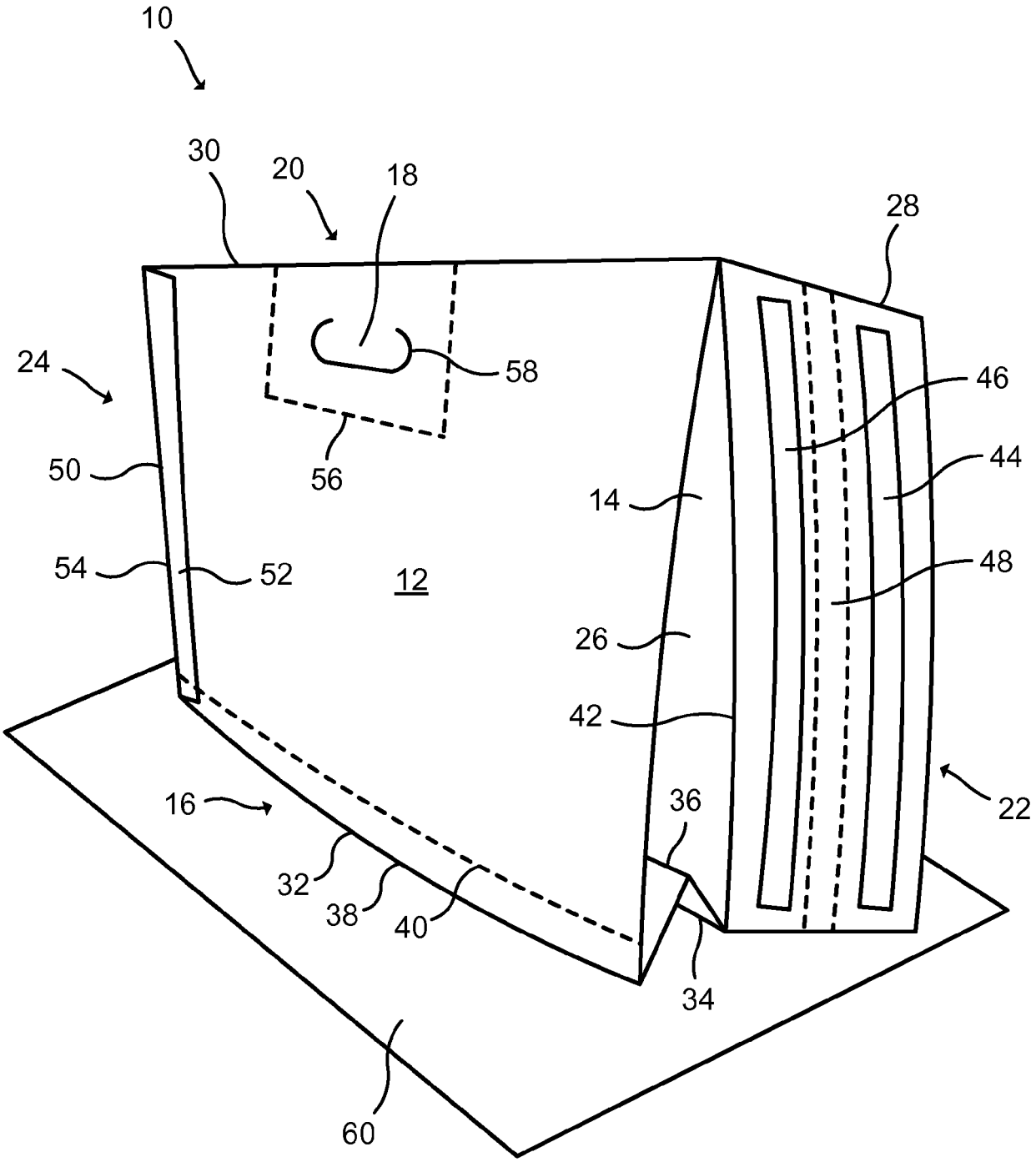

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Fig. 4

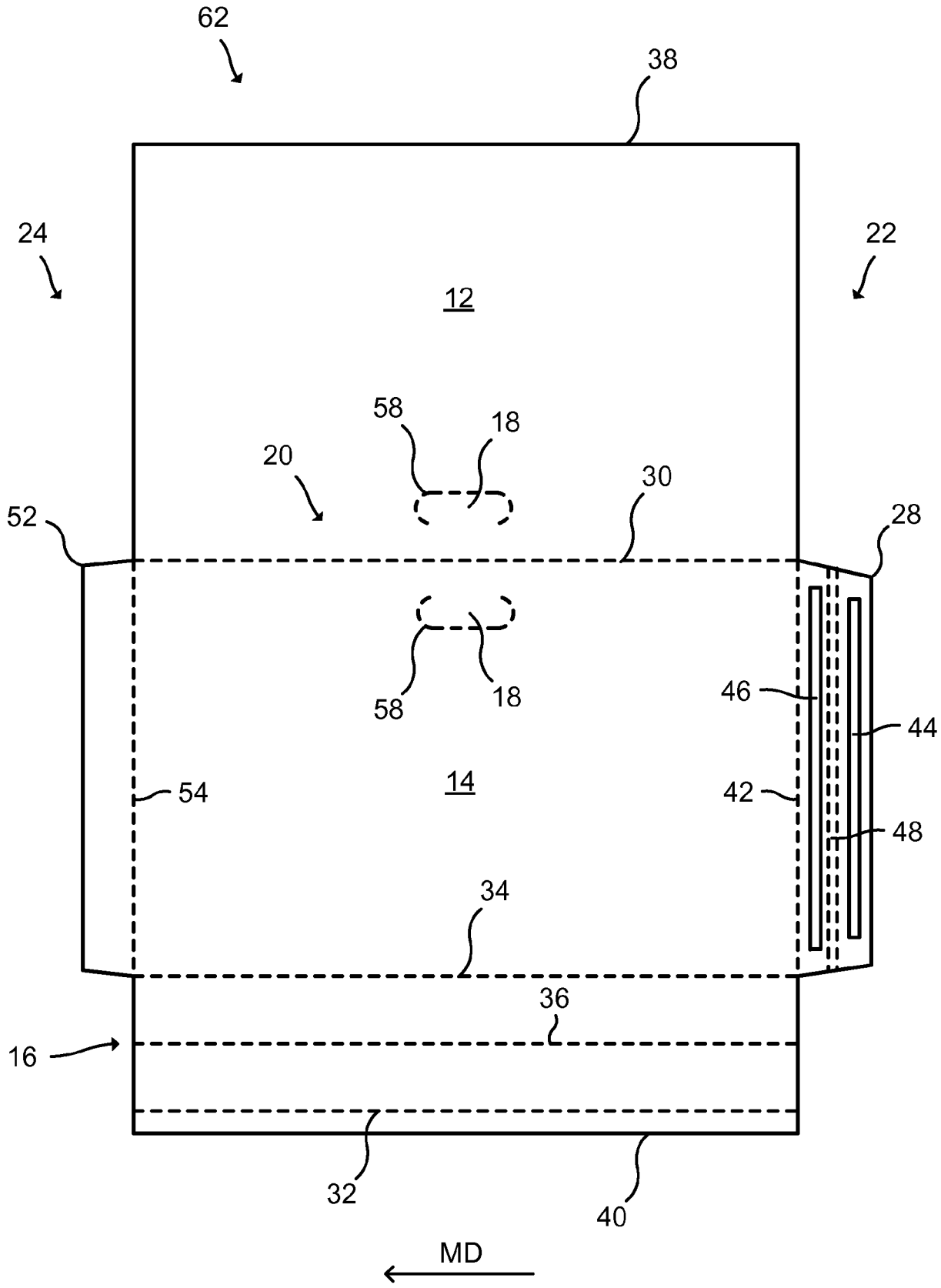
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Fig. 5

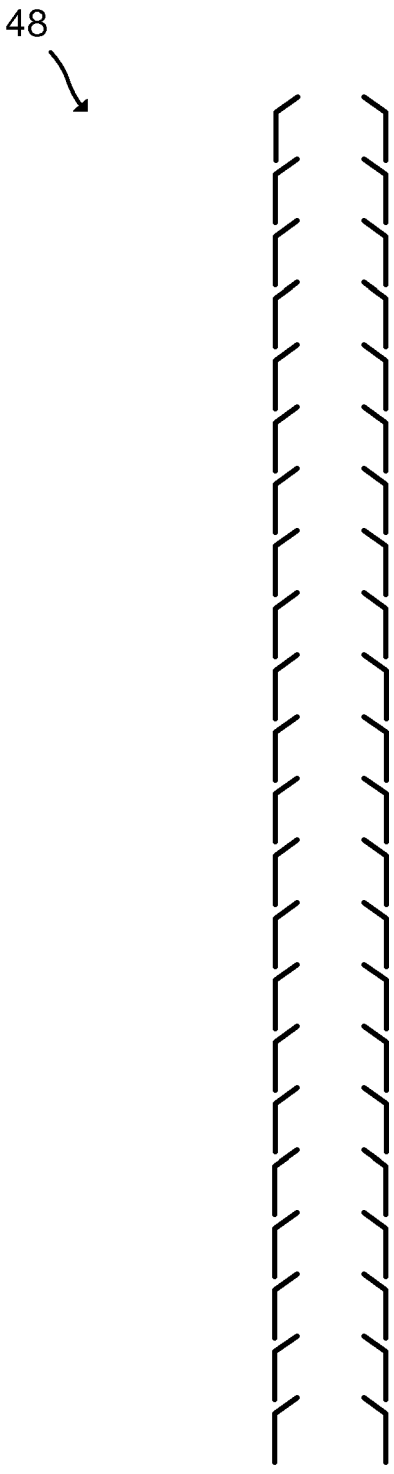

Fig. 6

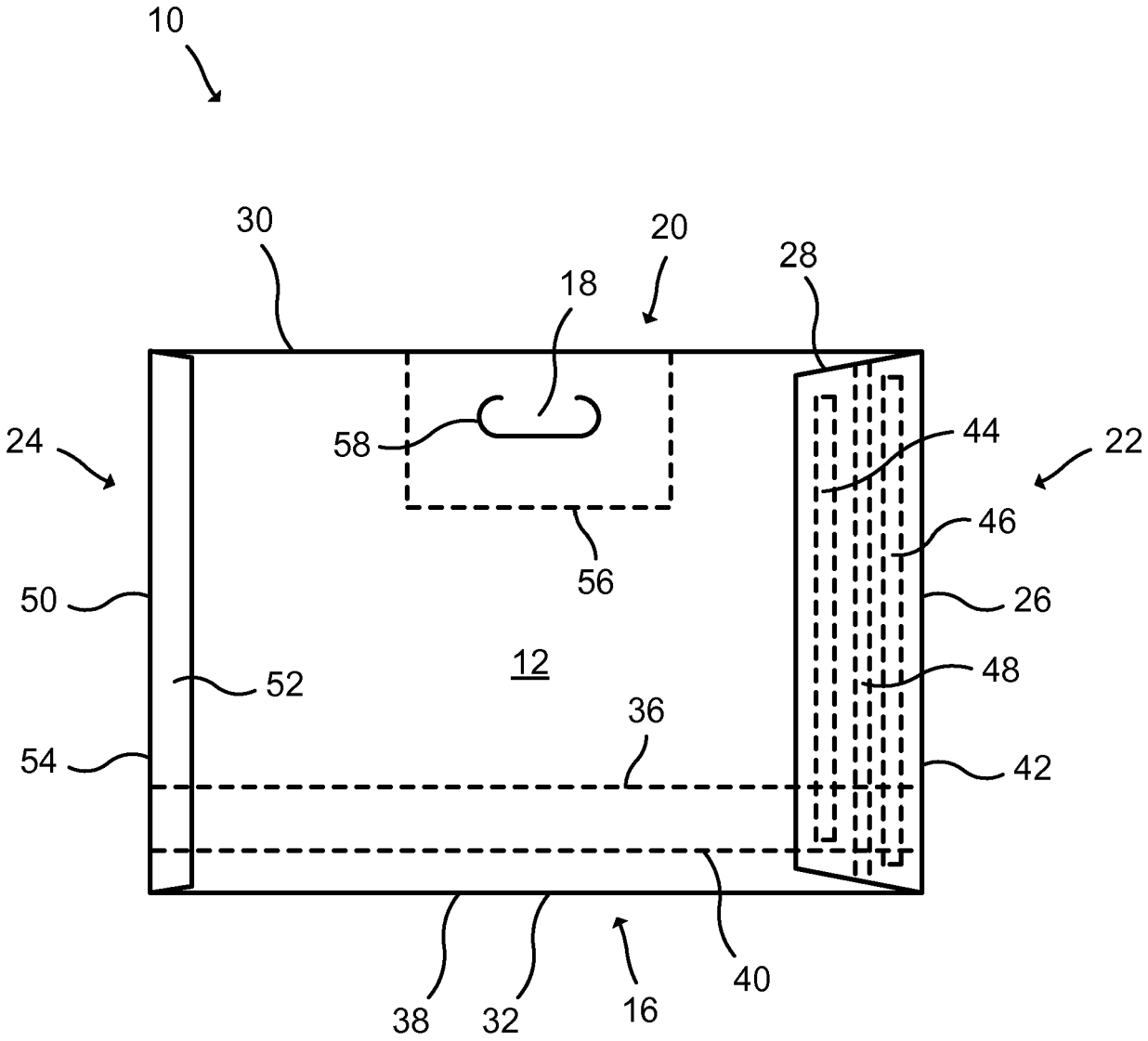

Fig. 7

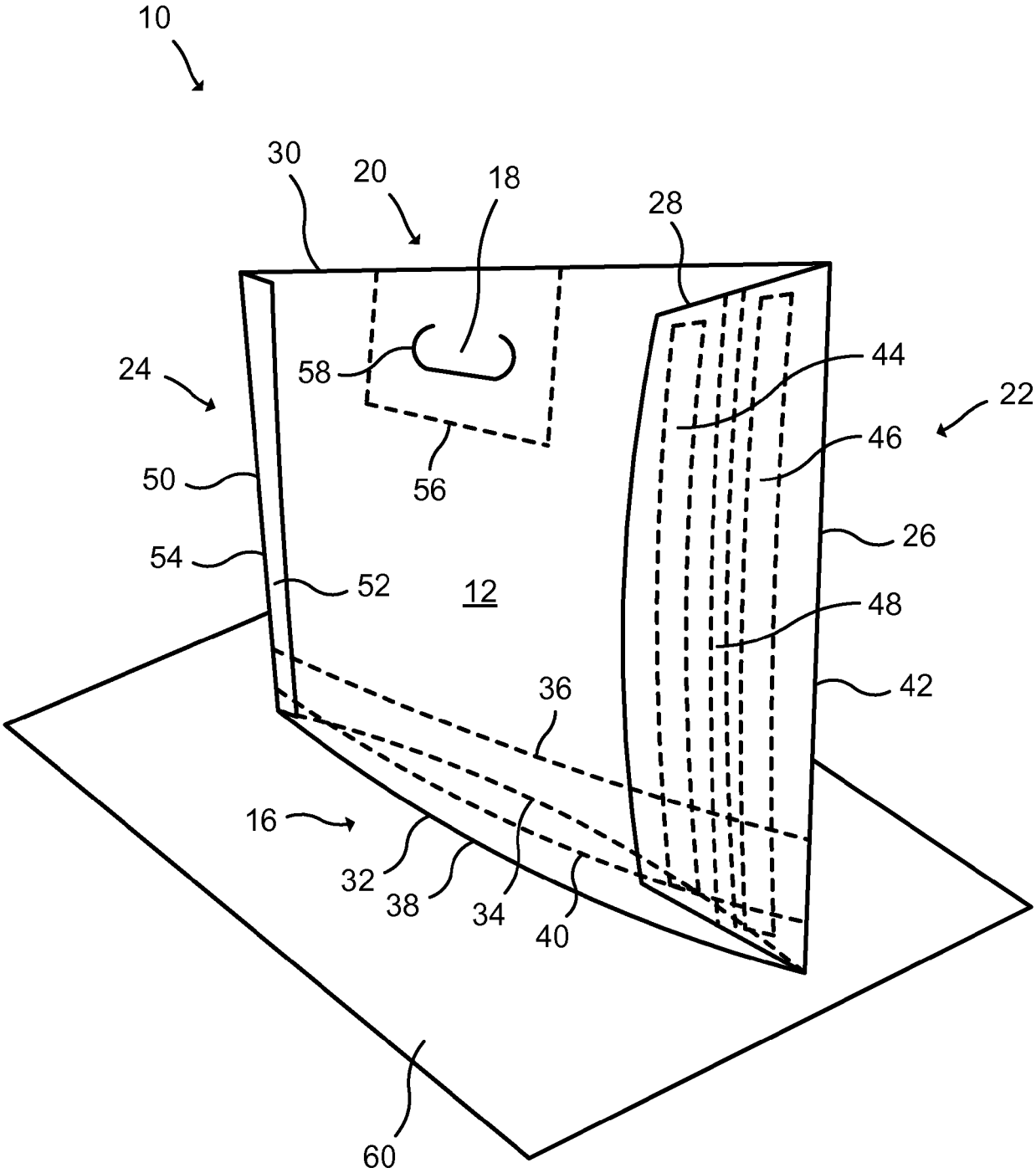
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Fig. 8

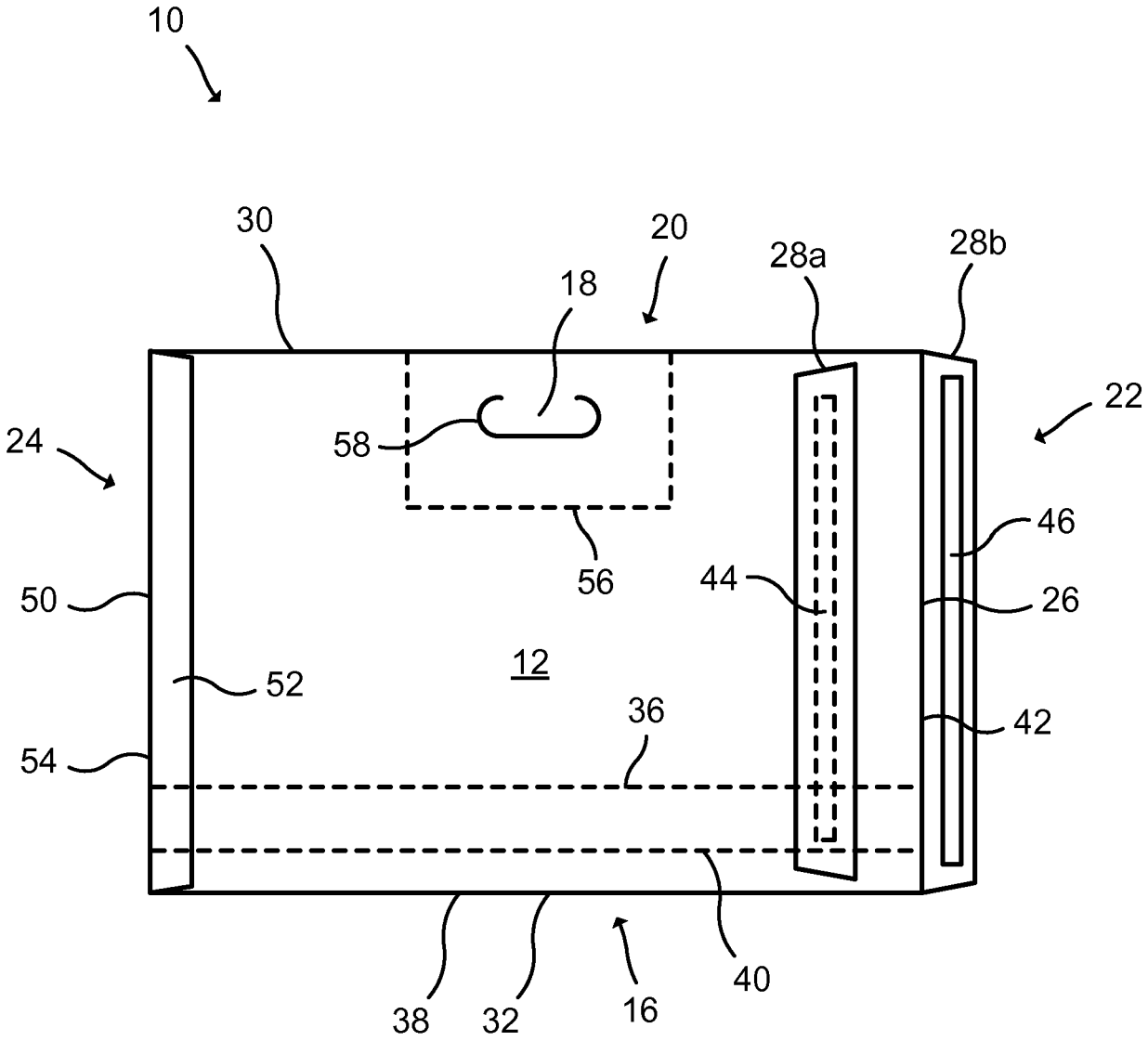

Fig. 9

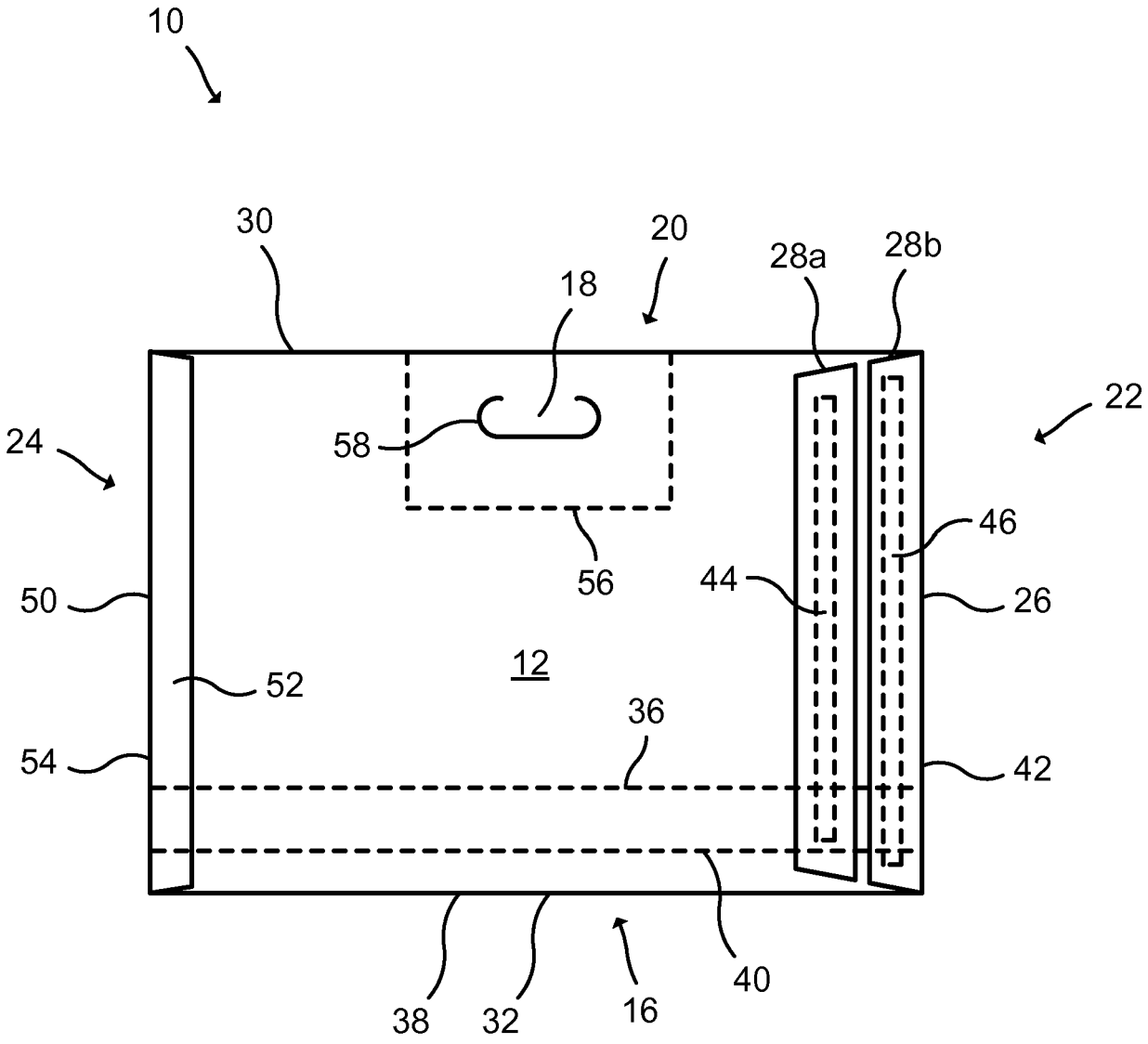

Fig. 10

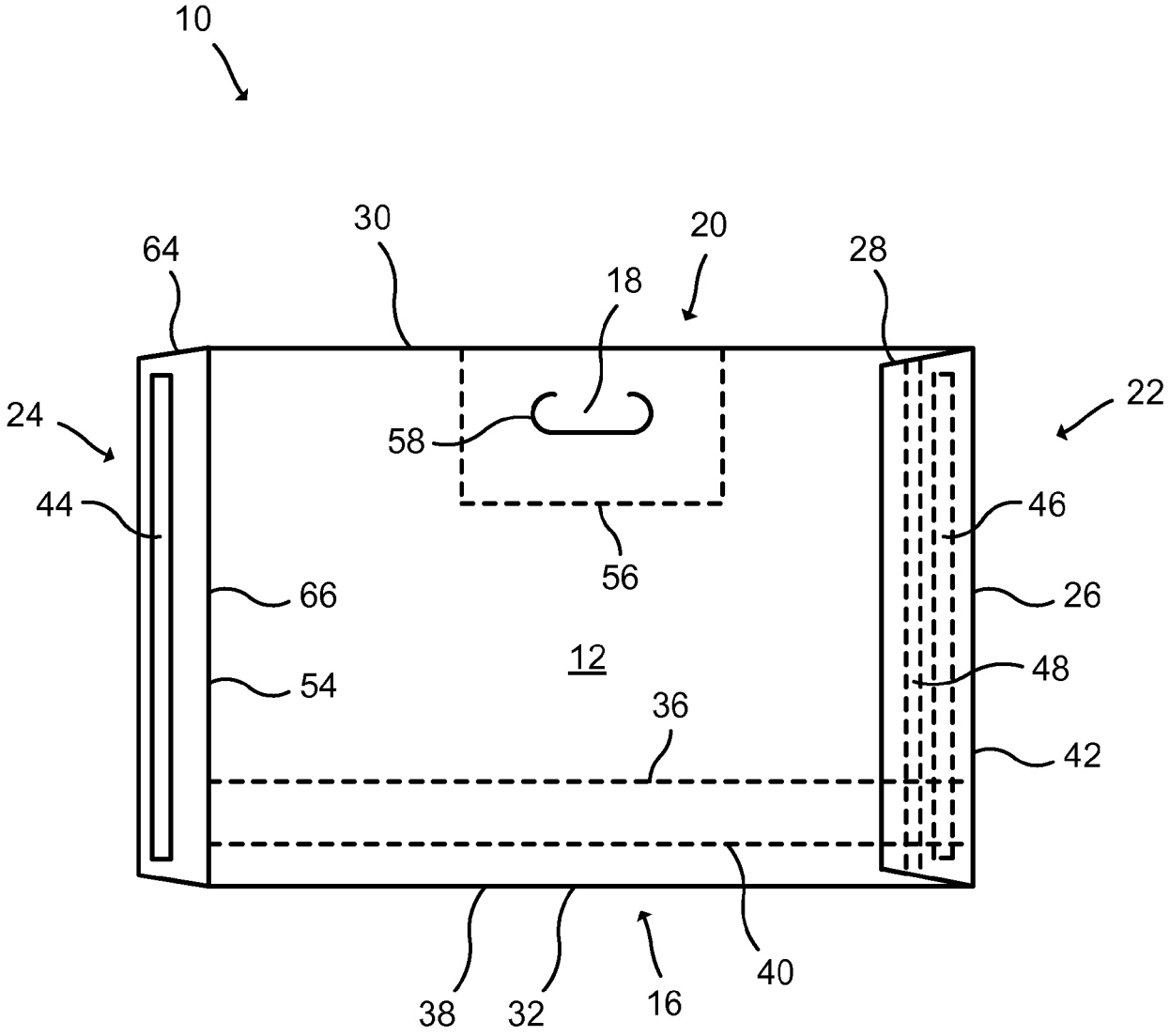

Fig. 11

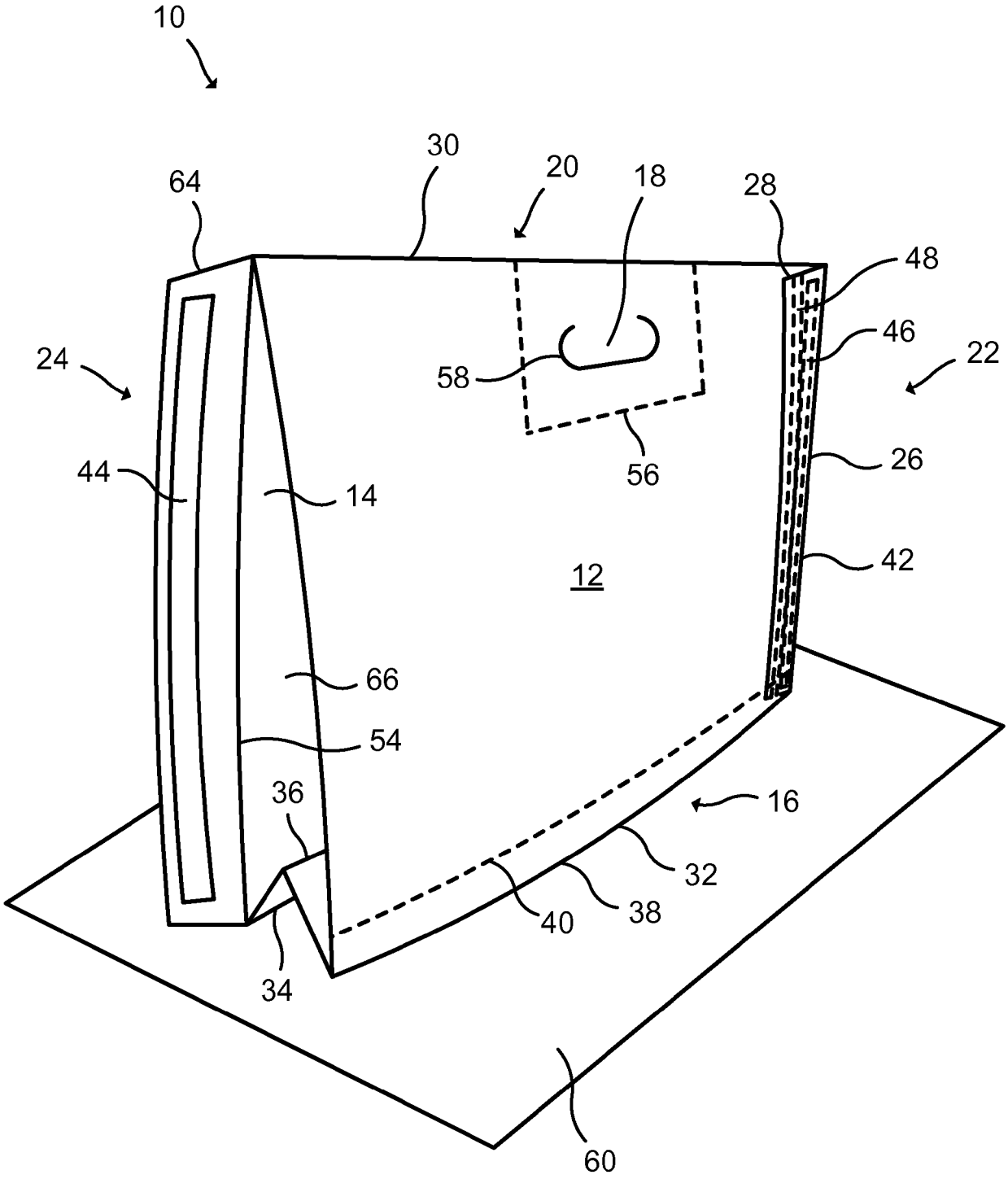
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Fig. 12

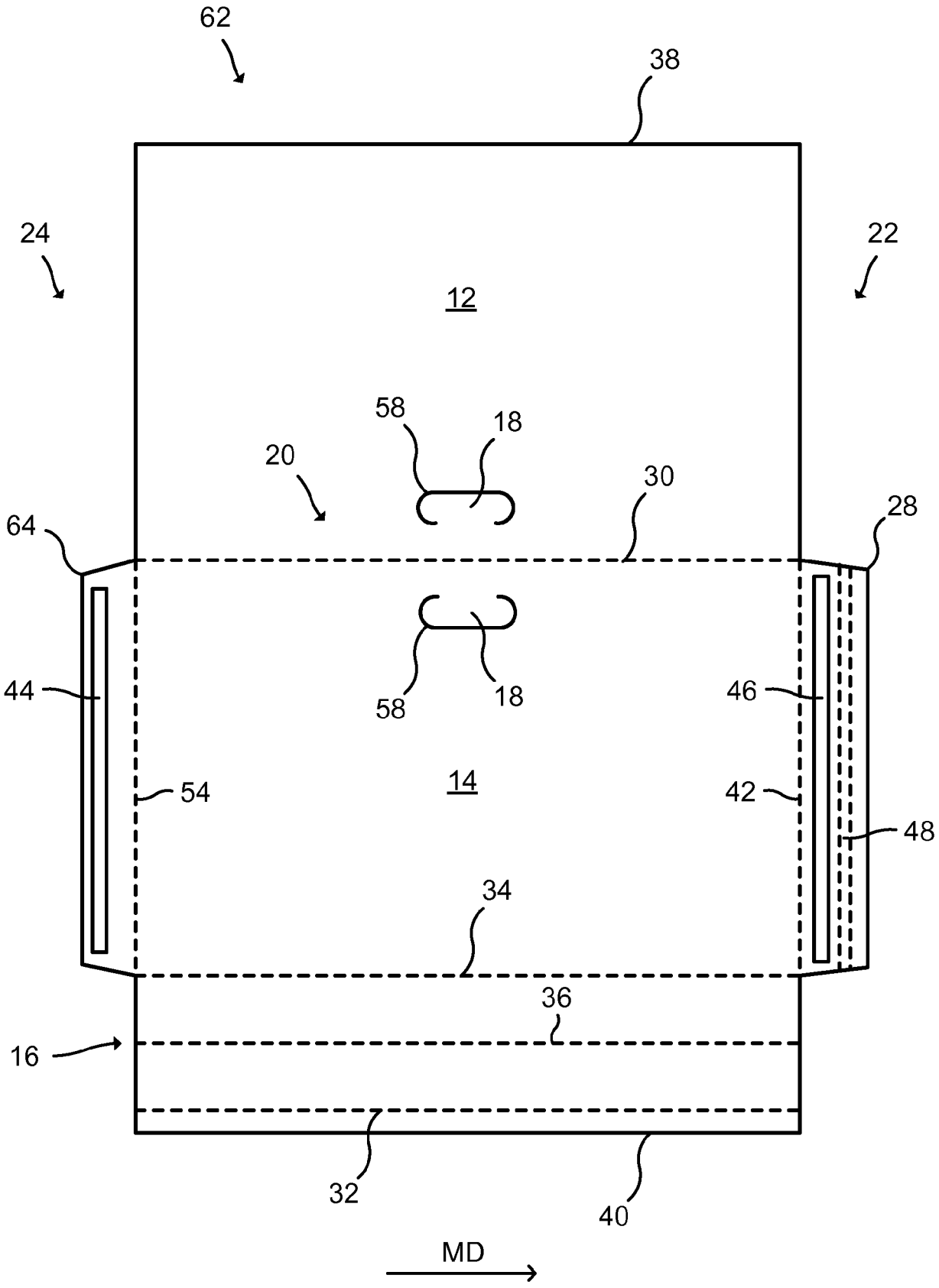
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Fig. 13

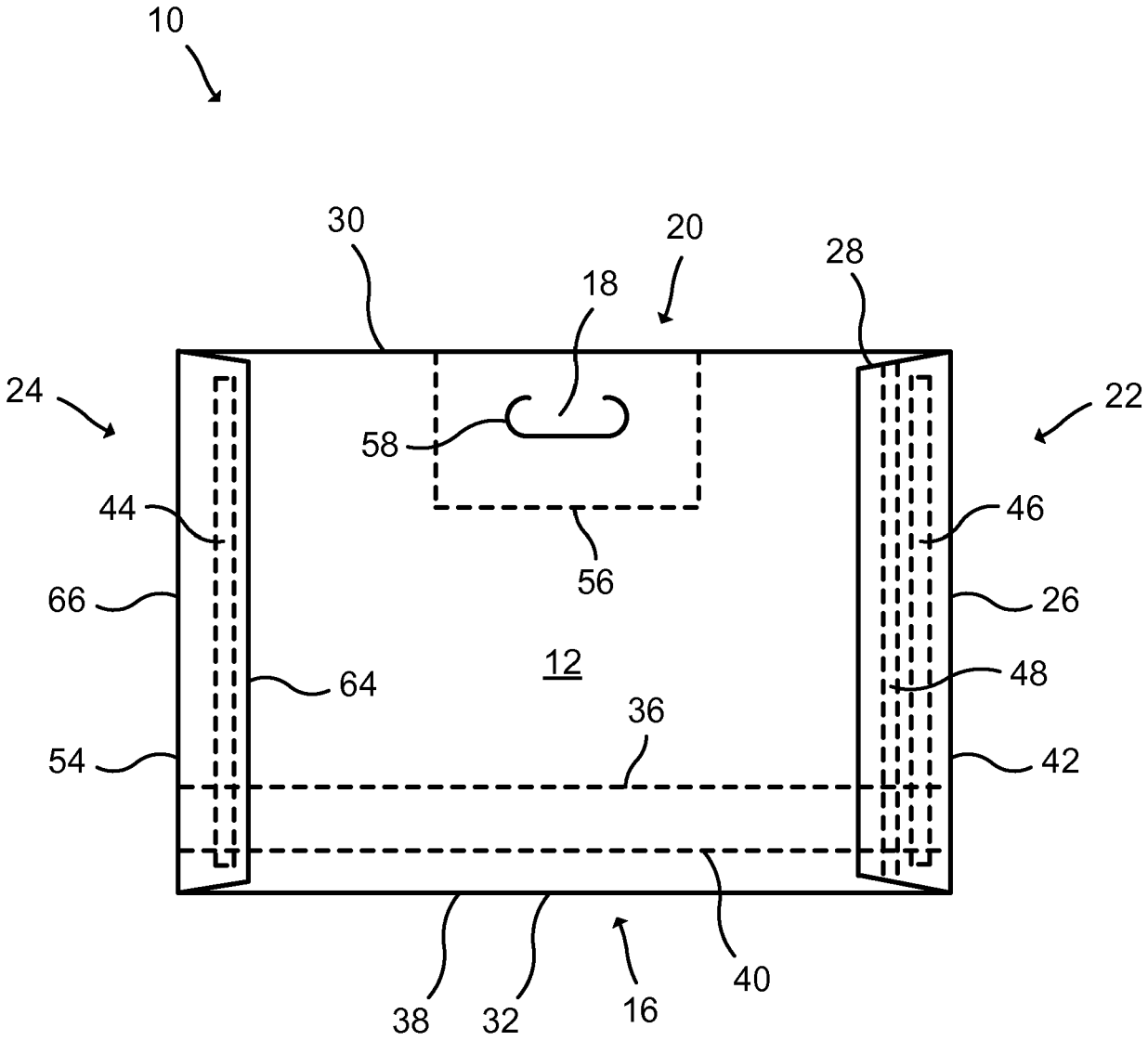

Fig. 14

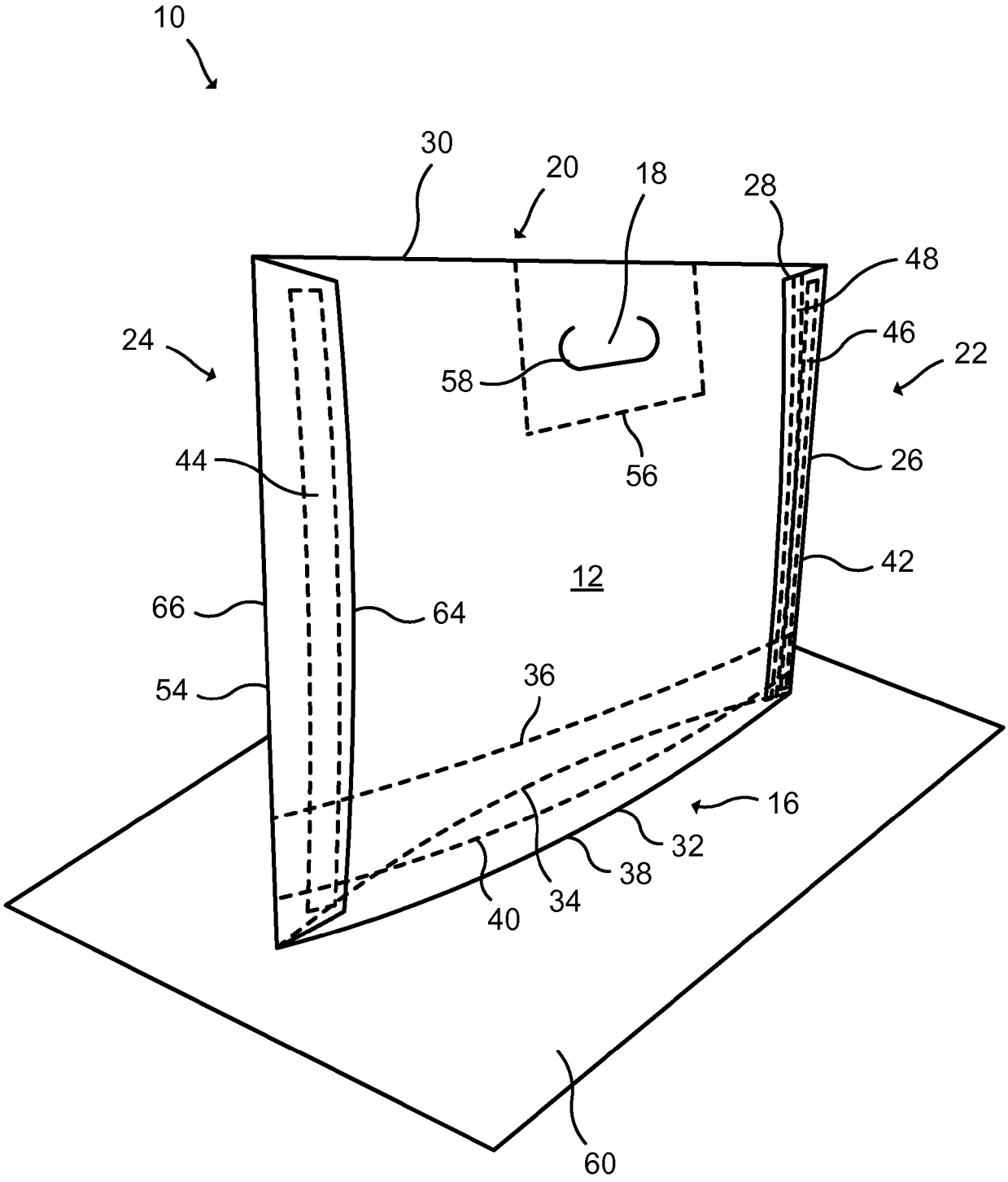
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Fig. 15

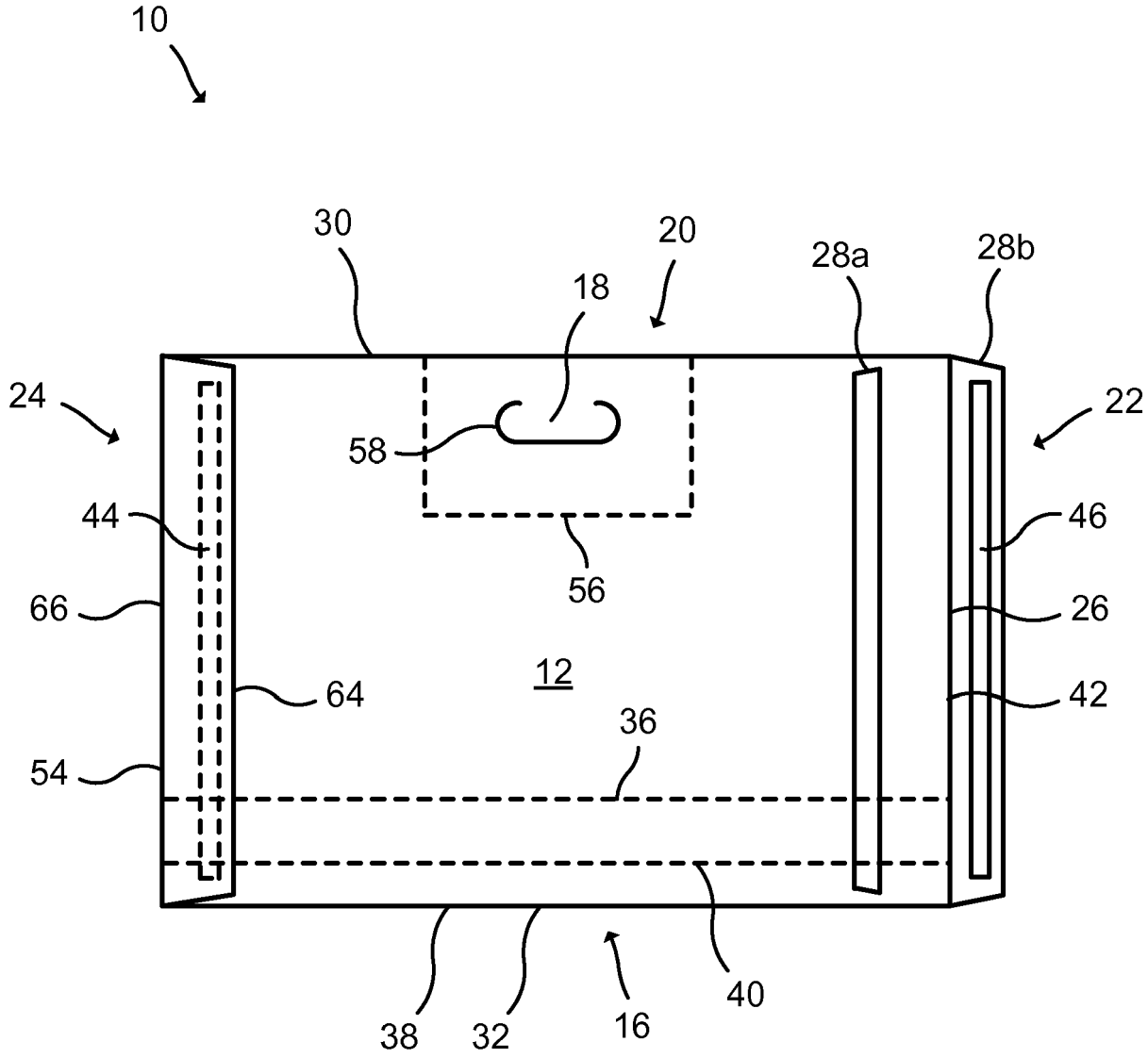

Fig. 16

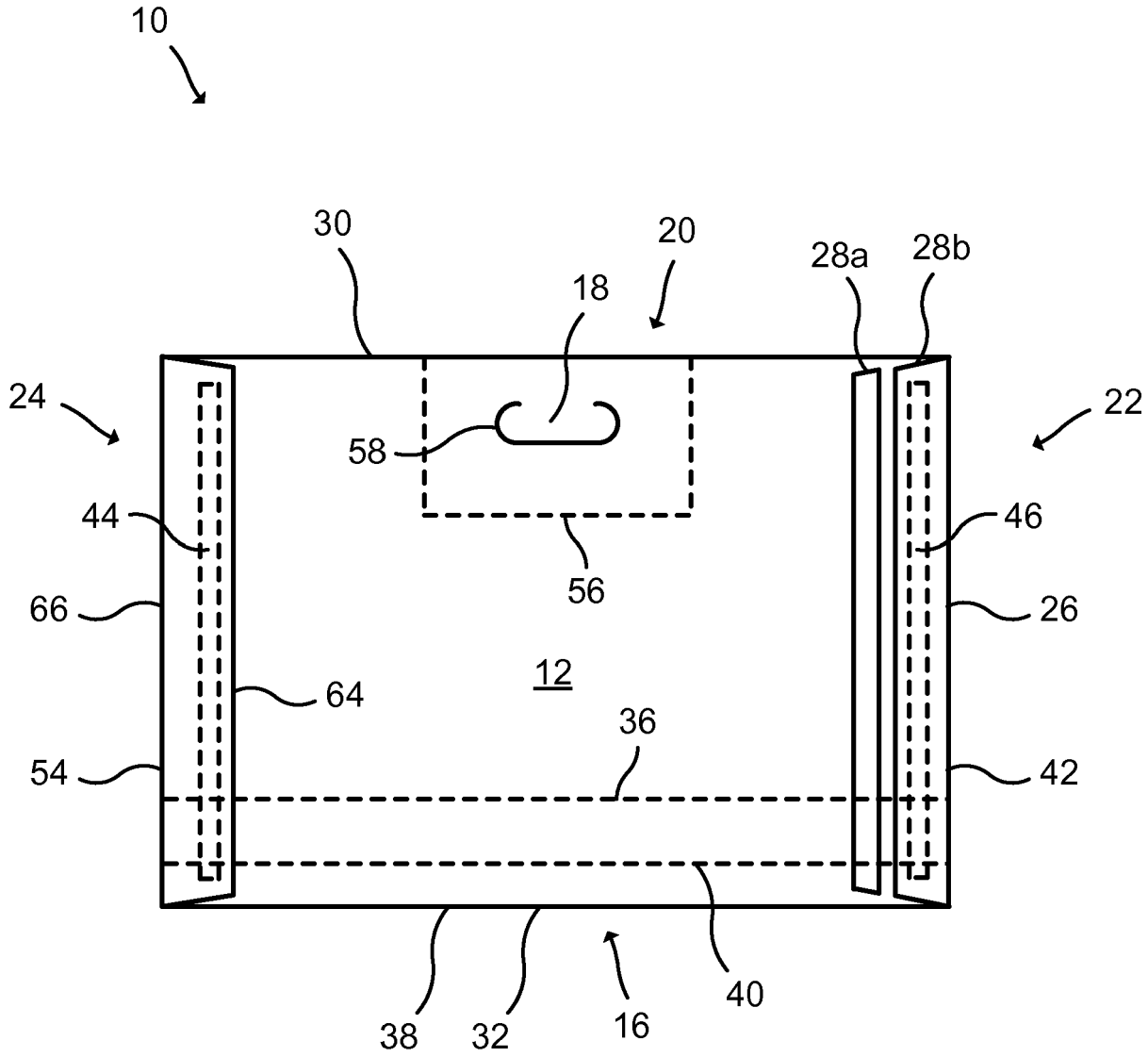

Fig. 17

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EUROPEAN SEARCH REPORT

Application Number
EP 18 15 8376

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	16 May 2018	Segerer, Heiko

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