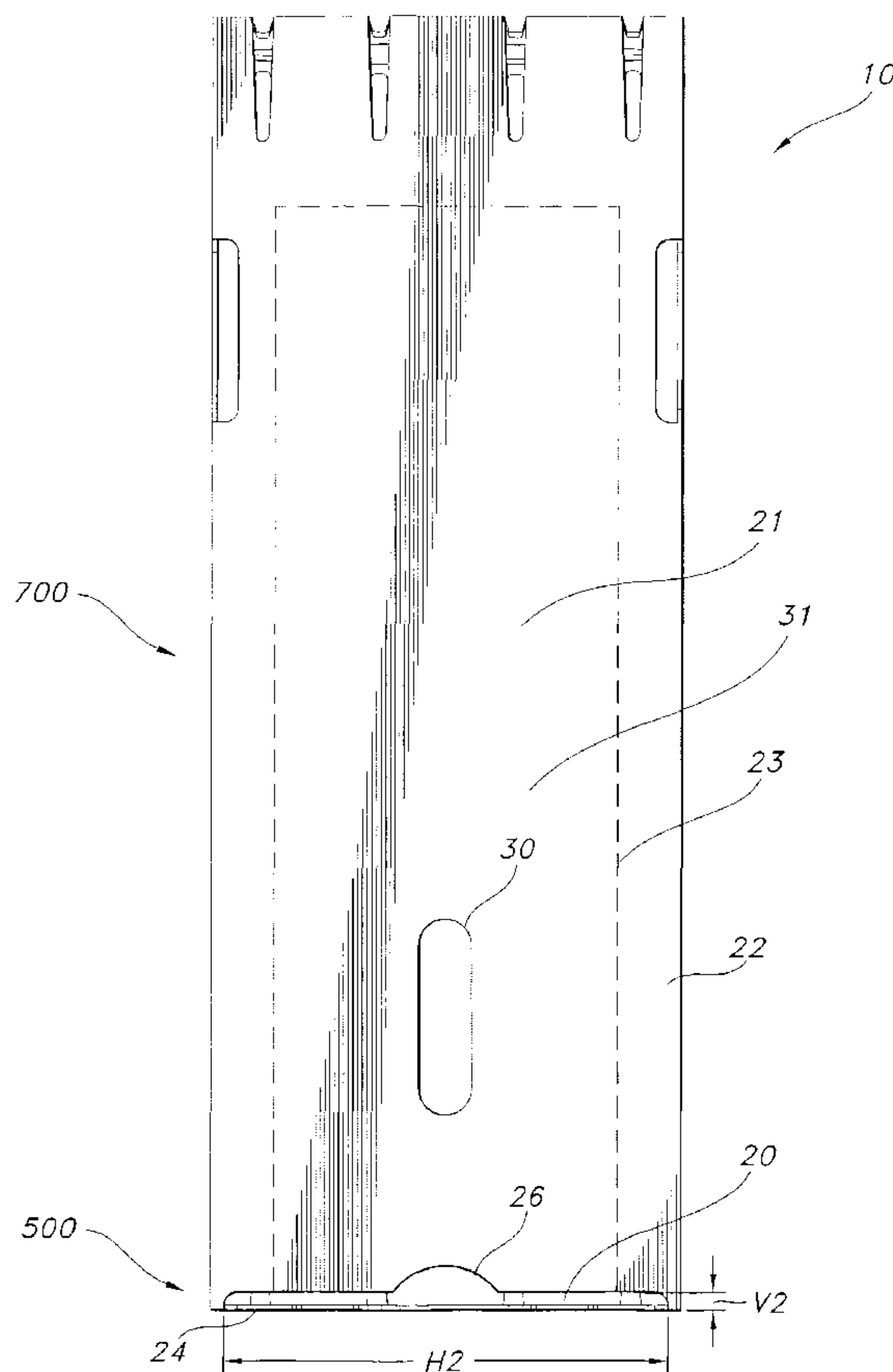




(86) Date de dépôt PCT/PCT Filing Date: 2003/11/13
 (87) Date publication PCT/PCT Publication Date: 2004/07/22
 (85) Entrée phase nationale/National Entry: 2005/06/16
 (86) N° demande PCT/PCT Application No.: US 2003/036402
 (87) N° publication PCT/PCT Publication No.: 2004/060125
 (30) Priorité/Priority: 2002/12/31 (10/334,470) US

(51) Cl.Int.⁷/Int.Cl.⁷ A47K 10/42, B65D 83/08
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(54) Titre : CARTOUCHE DE DISTRIBUTION DE PRODUITS EN PAPIER
 (54) Title: CARTRIDGE FOR DISPENSING PAPER PRODUCTS



(57) Abrégé/Abstract:

A stacked paper product dispensing cartridge (10) includes a plurality of walls including side walls and at least one end wall (24). The side walls and end wall (24) define an interior area that contains stacked paper products oriented so as to extend substantially

(57) **Abrégé(suite)/Abstract(continued):**

perpendicular to at least one of the side walls. The cartridge (10) further includes a bulk dispensing opening (31) defined within at least one of the side walls. The cartridge (10) may further include at least one limited-access dispensing opening (20). The cartridge (10) may further include removable portions (21) defined in the cartridge walls, removal of at least a portion of the removable portions (21) creating openings (31) in the cartridge (10). Additional openings could be provided for controlling the dispensing and alignment of the paper products within the cartridge (10).

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
22 July 2004 (22.07.2004)

PCT

(10) International Publication Number
WO 2004/060125 A1

(51) International Patent Classification⁷: **A47K 10/42,**
B65D 83/08

(21) International Application Number:
PCT/US2003/036402

(22) International Filing Date:
13 November 2003 (13.11.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/334,470 31 December 2002 (31.12.2002) US

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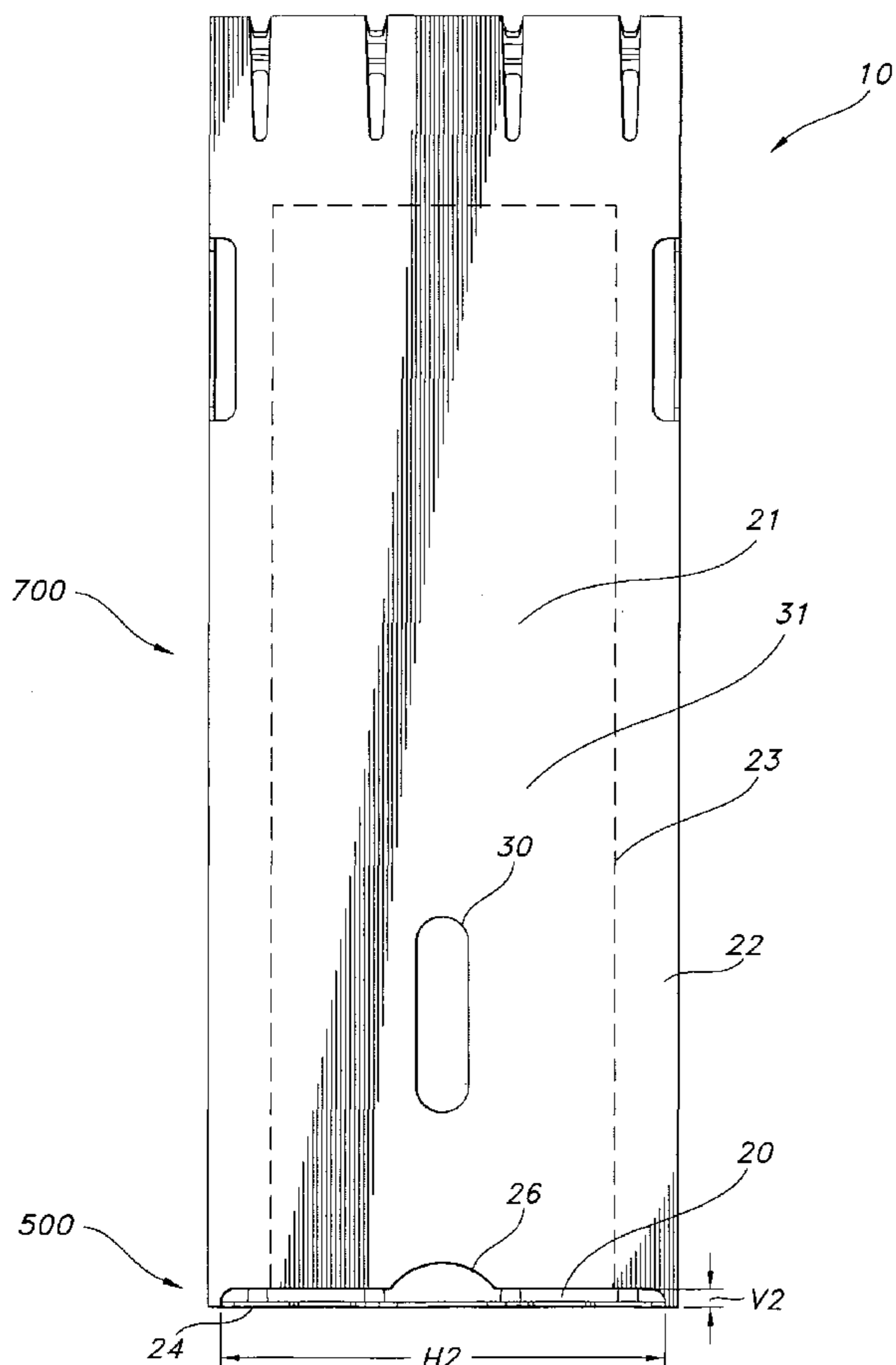
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(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

[Continued on next page]

(54) Title: CARTRIDGE FOR DISPENSING PAPER PRODUCTS



(57) Abstract: A stacked paper product dispensing cartridge (10) includes a plurality of walls including side walls and at least one end wall (24). The side walls and end wall (24) define an interior area that contains stacked paper products oriented so as to extend substantially perpendicular to at least one of the side walls. The cartridge (10) further includes a bulk dispensing opening (31) defined within at least one of the side walls. The cartridge (10) may further include at least one limited-access dispensing opening (20). The cartridge (10) may further include removable portions (21) defined in the cartridge walls, removal of at least a portion of the removable portions (21) creating openings (31) in the cartridge (10). Additional openings could be provided for controlling the dispensing and alignment of the paper products within the cartridge (10).

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European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

— *with international search report*

CARTRIDGE FOR DISPENSING PAPER PRODUCTS

BACKGROUND

Various types of dispensers for paper products have been developed to provide
5 ready availability of the paper products to users. Such dispensers are often provided in
public places such as restaurants or rest rooms where customers remove from the
dispenser a desired amount of paper products for personal use. In some high traffic areas,
such as fast food restaurants, a large number of customers may use a paper product
dispenser such as a napkin dispenser in a short period of time. Therefore, dispensers
10 have been developed that hold a large number of paper products for use by a large
number of consumers.

Some dispensers are designed to be used in conjunction with a cartridge
containing paper products. Cartridges provide many advantages to proprietors,
custodians, and users of the paper products. For example, U.S. Pat. No. 6,419,113 to
15 Tramontina discloses a cartridge for holding and dispensing a plurality of paper products.
The cartridge is insertable into a dispenser having a dispensing opening through which
paper products are dispensed. As another example, U.S. Pat. No. 6,415,949 to
Tramontina discloses a reversible cartridge that holds a plurality of paper products and
that dispenses a controlled amount of the same in both a one-at-a-time mode and a
20 several-at-a-time mode. These cartridges solve the problems of uniform dispensing of
individual or controlled amounts of paper products from large dispensers, solve problems
associated with loading large dispensers, provide a means of easily determining how
many paper products remain within the cartridge or dispenser, and reduce the number of
types of cartridges that a facility must have in stock.

25 However, there are times at which users of the cartridge have a need to quickly
remove a larger number of products from the cartridge than is possible with "one-at-a-
time" or "several-at-a-time" cartridges. Such a "bulk" delivery mode may be advantageous
to allow the user discretion to remove as many products as desired. For example, the
cartridge could be used at a drive in window where an employee needs to be able to
30 quickly remove a quantity of products that will change depending on the size of order.
Alternatively, the cartridge may be used where customers have access to it so that it
would be advantageous to limit the number of paper products that can be removed at one
time. Therefore, there is a need for a cartridge that not only provides a limited-quantity
dispensing mode, but additionally provides a bulk dispensing mode. Desirably, the

cartridge allows a proprietor or custodian to select the mode that is most advantageous for the particular circumstances.

SUMMARY

5 The aforesaid needs are fulfilled and the problems experienced by those skilled in the art overcome by the improved stacked paper product dispensing cartridge of the present invention. The cartridge of the present invention includes a plurality of walls including side walls and at least one end wall. The side walls and end wall define an interior area that contains stacked paper products oriented so as to extend substantially
10 perpendicular to at least one of the side walls. The cartridge further includes a bulk dispensing opening defined within at least one of the side walls. In another embodiment, the bulk dispensing opening is defined only within the side wall.

 In a further aspect, the bulk dispensing opening has a width parallel to the edges of the stacked paper products that is between about 50 percent to about 90 percent of the
15 width of the side wall in which the bulk dispensing opening is defined. In another embodiment, the bulk dispensing opening has a height perpendicular to the edges of the stacked paper products that is between about 50 percent to about 99 percent of the height of the side wall in which the bulk dispensing opening is defined. In yet another
20 embodiment, the bulk dispensing opening exposes a substantial portion of the stacked paper products.

 In a further aspect, the cartridge further includes a limited-access dispensing opening defined within at least the end wall. In another embodiment, the limited-access dispensing opening is defined only within the end wall. In a further embodiment, the limited-access dispensing opening is defined within the end wall and at least one of the
25 side walls.

 In a further aspect, the bulk dispensing opening and the limited-access dispensing opening are contiguous. In another embodiment, the bulk dispensing opening and the limited-access dispensing opening are separated by a portion of the side wall in which the bulk dispensing opening is defined.

30 In a further aspect, the cartridge further includes a first end wall, a second end wall, a first limited-access dispensing opening defined within at least the first end wall, and a second limited-access dispensing opening defined within at least the second end wall. In another embodiment, the first limited-access opening is defined only within the first end wall. In a further embodiment, the second limited-access dispensing opening is defined

within the second end wall and at least one of the side walls. In an even further embodiment, the bulk dispensing opening and the second limited-access dispensing opening are separated by a portion of the side wall in which the bulk dispensing opening is defined. In an alternate embodiment, the bulk dispensing opening and the second limited-
5 access dispensing opening are contiguous.

In a further aspect, at least one of the dispensing openings includes a removable panel. In another embodiment, the removable panel defines an opening configured to provide a visual indication of the number of paper products within the interior area.

In another aspect, the present invention includes a stacked paper product
10 dispensing cartridge including a first end wall and a plurality of side walls defining an interior area, and a stack of paper products within the interior area. The first end wall has a first opening therein adapted to provide access to less than about twenty of the paper products. At least one of the side walls has a second opening therein exposing at least a substantial portion of the stack. In another embodiment, the second opening exposes a
15 majority of the stacked paper products.

In a further aspect, the second opening has a width parallel to the edges of the stacked paper products that is between about 50 percent to about 90 percent of the width of the side wall in which the second opening is defined. In another embodiment, the second opening has a height perpendicular to the edges of the stacked paper products
20 that is between about 50 percent to about 99 percent of the height of the side wall in which the second opening is defined.

In a further aspect, the first opening is defined only within the end wall. In another embodiment, the first opening is defined within the end wall and at least one of the side walls. In a further embodiment, the first and second openings are contiguous. In an
25 alternate embodiment, the first and second openings are separated by a portion of the side wall in which the second opening is defined.

In a further aspect, the cartridge further includes a second end wall having a third opening therein adapted to provide access to less than about twenty of the paper products. In one embodiment, the third opening is defined within the second end wall and
30 at least one of the side walls. In another embodiment, the second and third openings are separated by a portion of the side wall in which the second opening is defined. In an alternate embodiment, the second and third openings are contiguous.

In a further aspect, at least one of the dispensing openings includes a removable panel. In another embodiment, the removable panel defines an opening configured to provide a visual indication of the number of paper products within the interior area.

Additional objects and advantages of the invention will be set forth in part in the following description, or may be obvious from the description, or may be learned through the practice of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will be more fully understood from the following detailed description, taken in conjunction with the accompanying drawings, wherein like reference numerals refer to like parts, and in which:

FIG. 1 is a rear elevation view of an exemplary cartridge for holding a plurality of stacked paper products and dispensing the same, the cartridge being configured for several-at-a-time dispensing.

FIG. 2 is a rear elevation view of the FIG. 1 cartridge configured for bulk dispensing by removal of a removable portion.

FIG. 3 is a front elevation view of the FIG. 1 cartridge.

FIG. 4 is a top elevation view of the FIG. 1 cartridge depicting an exemplary slit adapted for the removal of a limited number of paper products in one dispensing event.

FIG. 5 is a bottom elevation view of the FIG. 1 cartridge depicting an exemplary slit adapted for the removal of a single paper product at a time.

FIG. 6 is a perspective view of the FIG. 1 cartridge, the cartridge shown in FIG. 1 having been rotated 180 degrees end to end about the x-axis, the cartridge being configured for several-at-a-time dispensing.

FIG. 7 is a perspective view of an exemplary cartridge inserted into a dispenser housing adapted to dispense a limited number of stacked paper products or bulk quantities of stacked paper products, the cartridge shown adapted to dispense a limited number of paper products.

FIG. 8 is a perspective view of an exemplary cartridge inserted into a dispenser housing adapted to dispense a limited number of stacked paper products or bulk quantities of stacked paper products, the cartridge shown adapted to dispense bulk quantities of paper products.

FIG. 9 is an alternate rear elevation view of the FIG. 1 cartridge configured for bulk dispensing by removal of a removable portion.

FIG. 10 is an alternate front elevation view of the FIG. 1 cartridge configured for bulk dispensing.

5

DETAILED DESCRIPTION

Reference will now be made in more detail to the presently preferred embodiments of the invention, one or more examples of which are illustrated in the drawings. Each example is provided by way of explanation of the invention and not meant as a limitation of the invention. For example, features illustrated or described as part of one embodiment or figure can be used on another embodiment or figure to yield yet another embodiment. It is intended that the present invention include such modifications and variations.

As generally depicted in FIGS. 1-6, one embodiment of a cartridge 10 is disclosed in which stacked paper products 12 are placed and from which paper products 12 are dispensed. The paper products 12 may be paper napkins, paper towels, toilet tissue, or any other similar material. The cartridge 10 is desirably made of heavy paper or cardboard, but may be made of any other suitable material within the scope of the invention.

The cartridge 10 comprises a plurality of cartridge walls 18 including a top end wall 24, a corresponding bottom end wall 34, and side walls 44. The cartridge walls 18 together define an interior area 26. The side walls 44 have bottom edges 45 that meet the side edges 47 of the bottom wall 34 at the respective bottom corners 49. Similarly, the side walls 44 have top edges 51 that meet the side edges 53 of the top wall 24 at the respective top corners 55. It should be understood that the terms "top" and "bottom" are used only to describe the relative positions of each end wall. During use in a dispenser housing, either end of the cartridge 10 may be located at a bottom or dispensing end of the dispenser housing. To minimize any potential for confusion, all terms referring to the topographical features of the dispenser 10, including the terms "front", "rear" or "back", "top", and "bottom" are used only to refer to their respective positions as depicted in FIG. 6.

The cartridge of the present invention has at least one dispensing opening adapted for bulk dispensing of paper products from the cartridge. FIGS. 1, 2, 9, and 10 depict a first type of dispensing opening adapted for bulk dispensing of paper products from the cartridge 10. In FIGS. 1, 2, and 9, the rear wall 22 of the cartridge defines an opening,

referred to hereafter as a bulk dispensing opening 31, which allows substantially unlimited access to the paper products (not shown) contained within the cartridge 10. The bulk dispensing opening 31 is configured to allow bulk dispensing of paper products in a single dispense. While FIGS. 1, 2, and 9 depict the bulk dispensing opening 31 at a dispensing zone 700 in the rear wall 22 of the cartridge 10, it is contemplated that other locations could be used. For example, the bulk dispensing opening 31 could alternatively and/or additionally be located in the front wall 36 (see FIG. 10), and so forth.

In reference to FIG. 1, the rear wall 22 of the cartridge 10 optionally includes a removable portion 21, removal of which creates the bulk dispensing opening 31 to allow substantially unlimited access to the paper products contained within the cartridge 10. To facilitate removal of the removable portion 21, the edges of the removable portion 21 may be weakened, scored, or perforated to form one or more lines of weakness 23.

In reference to FIG. 2, the bulk dispensing opening 31 is desirably sized such that the horizontal dimension "H1" is about the same as or only slightly smaller than the width of the paper products 12 contained within the cartridge 10 and the vertical dimension "V1" is only slightly smaller than the height of the stack of paper products 12 contained within the cartridge 10. Desirably, the bulk dispensing opening 31 has a width in the x-direction between about 50% to about 90% of the width of the rear wall 22 in which the bulk dispensing opening 31 is defined. More desirably, the bulk dispensing opening 31 has a width in the x-direction between about 60% to about 80% of the width of the rear wall 22 in which the bulk dispensing opening 31 is defined. Desirably, the bulk dispensing opening 31 has a height in the y-direction between about 50% to about 99% of the height of the rear wall 22 in which the bulk dispensing opening 31 is defined. More desirably, the bulk dispensing opening 31 has a height in the y-direction between about 65% to about 95% of the height of the rear wall 22 in which the bulk dispensing opening 31 is defined. Even more desirably, the bulk dispensing opening 31 has a height in the y-direction between about 80% to about 95% of the height of the rear wall 22 in which the bulk dispensing opening 31 is defined.

As such, it can be seen how the cartridge 10 may be used in a dispenser housing designed to dispense paper products in bulk, i.e., many at a time. This is accomplished by providing access to at least a substantial portion of the paper products, a majority of the paper products, or, desirably, the entire stack of paper products so that only the discretion of the user will limit the quantity of paper products to be removed. For example, if the edges of all the paper products in the cartridge are exposed, the user can use one hand to grasp and remove a handful of paper products by grasping the edges of as many products

as are desired. As another example, the user can use two hands to remove as many as the entire quantity of paper products from the cartridge.

The bulk dispensing opening 31 may be used in conjunction with one or more additional dispensing openings that limit access to the paper products 12 in the cartridge 10, i.e., a limited-access dispensing opening. By providing more than one dispensing opening, the cartridge can be configured for different user selected dispensing modes. For example, the cartridge can include a limited-access dispensing opening configured to limit access to a single paper product per dispense, i.e., a one-at-a-time dispensing opening. Additionally or alternatively, the cartridge can include a limited-access dispensing opening configured to limit access to several paper products per dispense, i.e., a several-at-a-time dispensing opening.

FIGS. 1, 4 and 9 depict one type of limited-access dispensing opening in the cartridge 10. A slit, slot, orifice or channel, referred to hereafter as a several-at-a-time dispensing opening 20, serves to control access to the paper products (not shown) contained within the cartridge 10. The several-at-a-time dispensing opening 20 is desirably configured to dispense a limited quantity of paper products at each dispense. In one embodiment, the several-at-a-time dispensing opening 20 is configured to dispense less than 20 paper products per dispense. In other embodiments, the several-at-a-time dispensing opening 20 is configured to dispense less than 15 paper products per dispense, less than 10 paper products per dispense, or less than 6 paper products per dispense, and so forth. Generally speaking, the several-at-a-time dispensing opening 20 provides for the reliable and trouble free dispensing of a corresponding amount of paper products in a single dispensing event.

Looking more specifically at FIGS. 1 and 4, it can be seen that the several-at-a-time dispensing opening 20 is defined by the cartridge rear wall 22 and top wall 24 of the cartridge 10. However, it is contemplated that other locations may be used. Additionally, as shown in FIG. 1, the several-at-a-time dispensing opening 20 may be contiguous with the bulk dispensing opening 31. Alternatively, the several-at-a-time dispensing opening 20 may be separated from the bulk dispensing opening 31 by a portion of the cartridge walls 18, as shown in FIG. 9.

Referring again to FIGS. 1 and 4, the several-at-a-time dispensing opening 20 is desirably sized so that it has a horizontal dimension "H2" that is about the same as or slightly greater than the width of the paper products within the cartridge 10 and a vertical dimension "V2" that is large enough to permit the passage of a limited number of paper products. For example, if the paper products are in the form of folded paper napkins, the

vertical dimension "V2" of the dispensing opening may be sized so that a limited number of folded paper napkins may be extracted. This could be achieved by making the vertical dimension "V2" some multiple of the thickness of an individual folded paper napkin. For example, the vertical dimension "V2" is desirably greater than about 2 and less than about 20 thicknesses, more desirably greater than about 2 and less than about 10 thicknesses, and even more desirably greater than about 2 and less than about 6 thicknesses. Additionally, it is contemplated that the horizontal dimension "H2" may be greater than, about the same as, or less than the horizontal dimension "H1" of the bulk dispensing opening.

10 The paper product may be accessed by an optional thumb slot 26 and/or an optional finger slot 28. Desirably, these slots are located on the top wall 24 and rear wall 22 of the cartridge 10 and may be centered with respect to the dimensions of the cartridge 10 or the dimensions of the several-at-a-time dispensing opening 20. However, whether the thumb slot 26 is located on the rear wall 22 or top wall 24 is a matter of preference. 15 The point to note is that the several-at-a-time dispensing opening 20 is desirably expanded to include the thumb slot 26 and/or the finger slot 28.

FIGS. 3, 5 and 10 depict another type of limited-access dispensing opening in the cartridge 10. A slit, slot, orifice or channel, referred to hereafter as a one-at-a-time dispensing opening 32, serves to control access to the paper products (not shown) 20 contained within the cartridge 10. The one-at-a-time dispensing opening 32 is desirably configured to dispense a single paper product at each dispense.

The one-at-a-time dispensing opening 32 is defined by the cartridge bottom wall 34 of the cartridge 10. However, it is contemplated that other locations may be used. The one-at-a-time dispensing opening 32 may have many shapes within the scope of the present invention, as long as the opening provides easy access for a user and delivery of 25 paper products for "one-at-a-time" or single product dispensing. It may be desirable that the bottom wall 34 be disposed at an angle with respect to the front wall 36 as can be seen in FIGS. 3 and 10.

Thus, it can be seen how the cartridge 10 may be used in dispenser housings 30 designed to dispense paper products singly, i.e., one at a time. This is accomplished by providing access only to a portion of the face of the paper product 12. For example, if the paper products are in the form of folded paper napkins, and only an exposed face of a single napkin is accessible to a user, extracting that napkin from the cartridge 10 leaves the next napkin in the stack exposed.

The cartridge 10 can be provided such that each dispensing opening 20, 31, and 32 is provided with removable portions 21. This enables a user to select which dispensing opening 20, 31, or 32 from which the paper products 12 are to be dispensed and thereby limit access to only the desired opening.

5 It is important to understand that the cartridge 10 may include both a several-at-a-time dispensing opening 20 and a one-at-a-time dispensing opening 32. These openings may be located at opposite ends of the cartridge 10 or at least at different dispensing zones within the cartridge 10 as can be at least partially observed in FIG. 6. This feature enables a single cartridge 10 to be used in at least three different types of dispenser
10 housings, for example, a dispenser housing adapted to dispense a controlled plurality of paper products, a dispenser housing adapted to dispense paper products singly, or a dispenser housing adapted for bulk dispensing of paper products.

It is also important to note that FIG. 1 depicts the several-at-a-time dispensing opening 20 in dispensing zone 500 at a bottom portion of the cartridge 10. Similarly, FIG.
15 3 also depicts the one-at-a-time dispensing opening 32 in dispensing zone 600 at a bottom portion of the cartridge 10. Since it is more desirable to dispense limited quantities of paper products from the bottom of a dispenser housing, the cartridge 10 is made to be flipped 180 degrees end for end along the x-axis. Though not required, it is also contemplated that the container could be flipped end for end along the y-axis and/or the z-
20 axis as well. The several-at-a-time dispensing opening 20 and the one-at-a-time dispensing opening 32 could be relocated accordingly to accommodate numerous variations of dispenser housings. Positioning the cartridge 10 as shown in FIG. 1 such that paper products are dispensed from the several-at-a-time dispensing opening 20 allows the cartridge 10 to be used with a dispenser 100 similar to that shown in FIGS. 7 and 8
25 whereas the FIG. 3 position using the one-at-a-time dispensing opening 32 is adapted to be used with a dispenser adapted for one-at-a-time sheet dispensing.

Referring again to FIGS. 1-6, the cartridge 10 may include a plurality of openings 16. Optionally, the openings 16 may contain removable portions 14, the removal of which creates the openings 16 in the cartridge 10. The openings 16 are disposed in outside walls
30 18 of the cartridge 10 so that the openings 16 can encompass and receive protrusions from a dispenser housing that may extend into the cartridge 10. Dispenser housings having protrusions extending into a cartridge containing paper products are disclosed, for example, in U.S. Pat. No. 6,415,949 to Tramontina, the entire contents of which are incorporated herein by reference. Thus, upon placement of the cartridge 10 into an

appropriate dispenser housing, portions of the dispenser housing may protrude through the openings 16 to contact the paper products 12 within the cartridge 10.

To permit visual inspection of the amount of paper products remaining in the cartridge 10 in the event one of the "front" walls don't have the bulk dispensing feature, the cartridge 10 may define at least one additional slot 30 through one of the cartridge walls 18. More desirably, at least one such slot 30 is visible from outside a dispenser housing when the cartridge 10 is in the interior area of a dispenser housing. Since the cartridge 10 can be loaded in more than one orientation, it is desirable to provide at least one such slot 30 on the rear wall 22 and at least one such slot 30 on the front wall 36, an amount of paper products 12 disposed within the cartridge 10 being determinable by visually inspecting the amount of paper products 12 through the slot 30. As shown in FIG. 7, two slots 30 may be provided in a single wall to provide a greater range of visual inspection. Note that FIGS. 1-3, and 6 reflect an embodiment having only one such slot 30 located in the rear wall 22 and in the front wall 36. In fact, any number or arrangement of slots is possible within the scope of the invention.

Further in accordance with the invention, at least some of the openings 16 may have removable portions 14 corresponding to a first group of slots 38 and a second group of slots 40. The slots 38, as shown in FIG. 3, are adapted to receive at least one protrusion, which is generally an attachment to or a part of a dispenser housing. These protrusions may extend from the dispenser housing, through the slot or slots 38 to contact the paper products within the cartridge 10. By contacting the paper products, the protrusions may impede, without actually prohibiting, the movement of the paper products toward the dispensing zones 500 or 600 and the dispensing openings 20 or 32 depending upon the dispenser housing used to dispense the paper products.

The second group of slots 40 may be provided in the cartridge walls 18 to adapt the cartridge 10 for use in dispenser housings wherein the dispenser housing contains a rib member or members designed to protrude through the cartridge walls 18, also to contact the paper products. These second group of slots 40 are preferably disposed at least partly in the top wall 24 and/or the bottom wall 34 of the cartridge 10 and are adapted to receive the rib members which are mounted or otherwise attached to the dispenser housing. These slots 40 enable the rib members to space, slow, align, and support the paper products as they are moved toward the dispensing zones 500 or 600 and the dispensing openings 20 or 32 depending upon the dispenser housing used to dispense the paper products.

Some of these slots 40 can be of a different size than other of slots 40. In fact, it may be desirable in at least the top wall 24, to make the slots 40 smaller near a centerline of the cartridge 10 and larger near the outer edges of the cartridge 10 as depicted in FIG. 4. This configuration is adapted to accommodate dispenser housing rib members of differing heights. The rib members closest to the centerline may be shorter or protrude less distance into the cartridge 10 than do the outermost rib members. This has the effect of bowing the center portions of the paper products toward the dispensing opening 20 or 32.

Looking further to FIG. 4, it is also contemplated that the cartridge may have at least one additional opening 42. This opening 42 may correspond to a key or tab located on a particular dispenser housing. The key would provide the cartridge 10 with a device minimizing the possibility that the cartridge could be improperly loaded into the dispenser housing. It is desirable that the key be associated with a particular dispenser housing variation. In that way, in the event a custodian were to attempt to incorrectly load the cartridge 10 into the particular dispenser housing, or alternatively attempt to load the cartridge 10 in the wrong orientation, the key would not engage the opening 42 in the cartridge 10 thus preventing the cartridge 10 from seating within the dispenser housing.

Generally speaking, the removable portions 14 and/or 21 may either be removed or simply not formed in the cartridge walls 18 during manufacture of the cartridge 10. Depending upon the circumstances desired, these removable portions 14 and/or 21 can be removed during installation of the cartridge 10 in an appropriate dispenser housing. If the removable portions 14 and/or 21 are to be removed (or simply not formed) as part of the manufacturing process, the cartridge 10 may be shipped to the user wrapped, for example in a plastic bag, to prevent contamination and/or to preserve the sterility of the paper products 12 in the cartridge 10. If the removable portions 14 and/or 21 are to be removed as part of the installation process, the edges of the removable portions 14 and/or 21 should be weakened, scored, or perforated, etc. for easy removal. In an alternate embodiment, the removable portions 14 and/or 21 are either not formed or are removed prior to shipment to the consumer. This minimizes the work necessary in loading the cartridge 10 into a dispenser housing.

Additional features which could be desirable are that at least the top wall 24 and/or the bottom wall 34 of the cartridge 10 be disposed at an angle with respect to the front wall 36 and the rear wall 22 of the cartridge 10 as can be seen in FIG. 3. However, as depicted in FIG. 6, it may be more desirable to have the top wall 24, or that wall comprising the several-at-a-time dispensing opening 20 to be perpendicular to its adjacent walls. In any

case, it is desirable to dispense the paper products 12 from the several-at-a-time dispensing opening 20 or one-at-a-time dispensing opening 32 so that a face of the paper products 12 is parallel to the top wall 24 or bottom wall 34 from which the paper products 12 are being dispensed.

5 As illustrated in FIGS. 7-8, the cartridge 10 is adapted to be inserted into the interior area of a dispenser housing 100. The cartridge 10 is further adapted for holding or containing the paper products 12 to be dispensed. It can be seen that the cartridge 10 is sized to fit snugly within an interior area of the dispenser housing 100. The cartridge 10 disposed within the dispenser housing 100 is configured for either limited quantity
10 dispensing or bulk dispensing. The cartridge 10 depicted in FIG. 7 has been adapted for several-at-a-time dispensing. The cartridge 10 depicted in FIG. 8 has been adapted for bulk dispensing through the bulk dispensing opening 31 by removal of the removable portion 21.

Though not necessary to practice of the invention, the paper products contained
15 within the cartridge 10 are desirably interfolded or tab interfolded napkins to provide metered feeding of one or a number of such individual napkins at any one time. If the paper product is, for example, an interfolded paper napkin or tissue, a leading flap or tail is available to extend from a dispensing opening for a user to grasp. Pulling the leading flap will result in one-at-a-time dispensing of the product, while grasping the edges of a stack
20 will allow the dispensing of the napkins grasped. The dispensing of interfolded napkins is discussed in greater detail in Skerrett, et al., U.S. Pat. No. 6,213,346 and Ito et al., U.S. Pat. No. 4,469,243, the entire contents of these patents being incorporated herein by reference. If a non-interfolded product is used in the cartridge 10, there will be no leading flap as in the interfolded format. Generally speaking, the number of products dispensed
25 will be the same as the number of napkin edges gripped.

It will be apparent to those skilled in the art that various modifications and variations can be made in the present invention without departing from the scope and spirit of the invention. It is intended that the present invention include such modifications and variations as come within the scope of the appended claims and their equivalents.

CLAIMS

What is claimed is:

1. A stacked paper product dispensing cartridge comprising:
 - a plurality of walls including side walls and at least one end wall, the side walls and end wall defining an interior area,
 - a bulk dispensing opening defined within at least one of the side walls, stacked paper products disposed in the interior area oriented so as to extend substantially perpendicular to at least one of the side walls.
2. The cartridge of claim 1 wherein the bulk dispensing opening is defined only within the side wall.
3. The cartridge of claim 1 wherein the bulk dispensing opening comprises a removable panel.
4. The cartridge of claim 3 wherein the removable panel defines an opening configured to provide a visual indication of the number of paper products within the interior area.
5. The cartridge of claim 1 wherein the bulk dispensing opening has a width parallel to the edges of the stacked paper products, the width of the bulk dispensing opening being between about 50 percent to about 90 percent of the width of the side wall in which the bulk dispensing opening is defined.
6. The cartridge of claim 1 wherein the bulk dispensing opening has a height perpendicular to the edges of the stacked paper products, the height of the bulk dispensing opening being between about 50 percent to about 99 percent of the height of the side wall in which the bulk dispensing opening is defined.
7. The cartridge of claim 1 wherein the bulk dispensing opening exposes a substantial portion of the stacked paper products.
8. The cartridge of claim 1 further comprising a limited-access dispensing opening defined within at least the end wall.
9. The cartridge of claim 8 wherein the limited-access dispensing opening is defined only within the end wall.
10. The cartridge of claim 8 wherein the limited-access dispensing opening is defined within the end wall and at least one of the side walls.
11. The cartridge of claim 8 wherein the bulk dispensing opening and the limited-access dispensing opening are contiguous.

12. The cartridge of claim 8 wherein the bulk dispensing opening and the limited-access dispensing opening are separated by a portion of the side wall in which the bulk dispensing opening is defined.
13. The cartridge of claim 8 wherein at least one of the first and second dispensing openings further comprises a removable panel.
14. The cartridge of claim 1 further comprising:
 - a first end wall,
 - a second end wall,
 - a first limited-access dispensing opening defined within at least the first end wall,
 - a second limited-access dispensing opening defined within at least the second end wall.
15. The cartridge of claim 14 wherein the first limited-access opening is defined only within the first end wall.
16. The cartridge of claim 14 wherein the second limited-access dispensing opening is defined within the second end wall and at least one of the side walls.
17. The cartridge of claim 16 wherein the bulk dispensing opening and the second limited-access dispensing opening are separated by a portion of the side wall in which the bulk dispensing opening is defined.
18. The cartridge of claim 14 wherein the bulk dispensing opening and the second limited-access dispensing opening are contiguous.
19. The cartridge of claim 14 wherein at least one of the dispensing openings further comprises a removable panel.
20. The cartridge of claim 14 wherein the first and second limited-access dispensing openings are located at opposite ends of the stack of paper products.
21. The cartridge of claim 1 wherein the paper products are interfolded napkins.
22. A stacked paper product dispensing cartridge comprising:
 - a first end wall and a plurality of side walls defining an interior area; and,
 - a stack of paper products within the interior area;wherein the first end wall has a first opening therein adapted to provide access to less than about twenty of the paper products; and,
 - further wherein at least one of the side walls has a second opening therein exposing at least a substantial portion of the stack.

23. The cartridge of claim 22 wherein the at least one of the first and second openings comprises a removable panel.
24. The cartridge of claim 22 wherein the second opening has a width parallel to the edges of the stacked paper products, the width of the second opening being between about 50 percent to about 90 percent of the width of the side wall in which the second opening is defined.
25. The cartridge of claim 22 wherein the second opening has a height perpendicular to the edges of the stacked paper products, the height of the second opening being between about 50 percent to about 99 percent of the height of the side wall in which the second opening is defined.
26. The cartridge of claim 22 wherein the second opening exposes a majority of the stacked paper products.
27. The cartridge of claim 22 wherein the first opening is defined only within the end wall.
28. The cartridge of claim 22 wherein the first opening is defined within the end wall and at least one of the side walls.
29. The cartridge of claim 22 wherein the first and second openings are contiguous.
30. The cartridge of claim 22 wherein the first and second openings are separated by a portion of the side wall in which the second opening is defined.
31. The cartridge of claim 22 further comprising a second end wall having a third opening therein adapted to provide access to less than twenty of the paper products.
32. The cartridge of claim 31 wherein the first opening is defined only within the first end wall.
33. The cartridge of claim 32 wherein the third opening is defined within the second end wall and at least one of the side walls.
34. The cartridge of claim 33 wherein the second and third openings are separated by a portion of the side wall in which the second opening is defined.
35. The cartridge of claim 33 wherein the second and third openings are contiguous.
36. The cartridge of claim 31 wherein at least one of the openings further comprises a removable panel.
37. The cartridge of claim 31 wherein the first and third openings are located at opposite ends of the stack of paper products.

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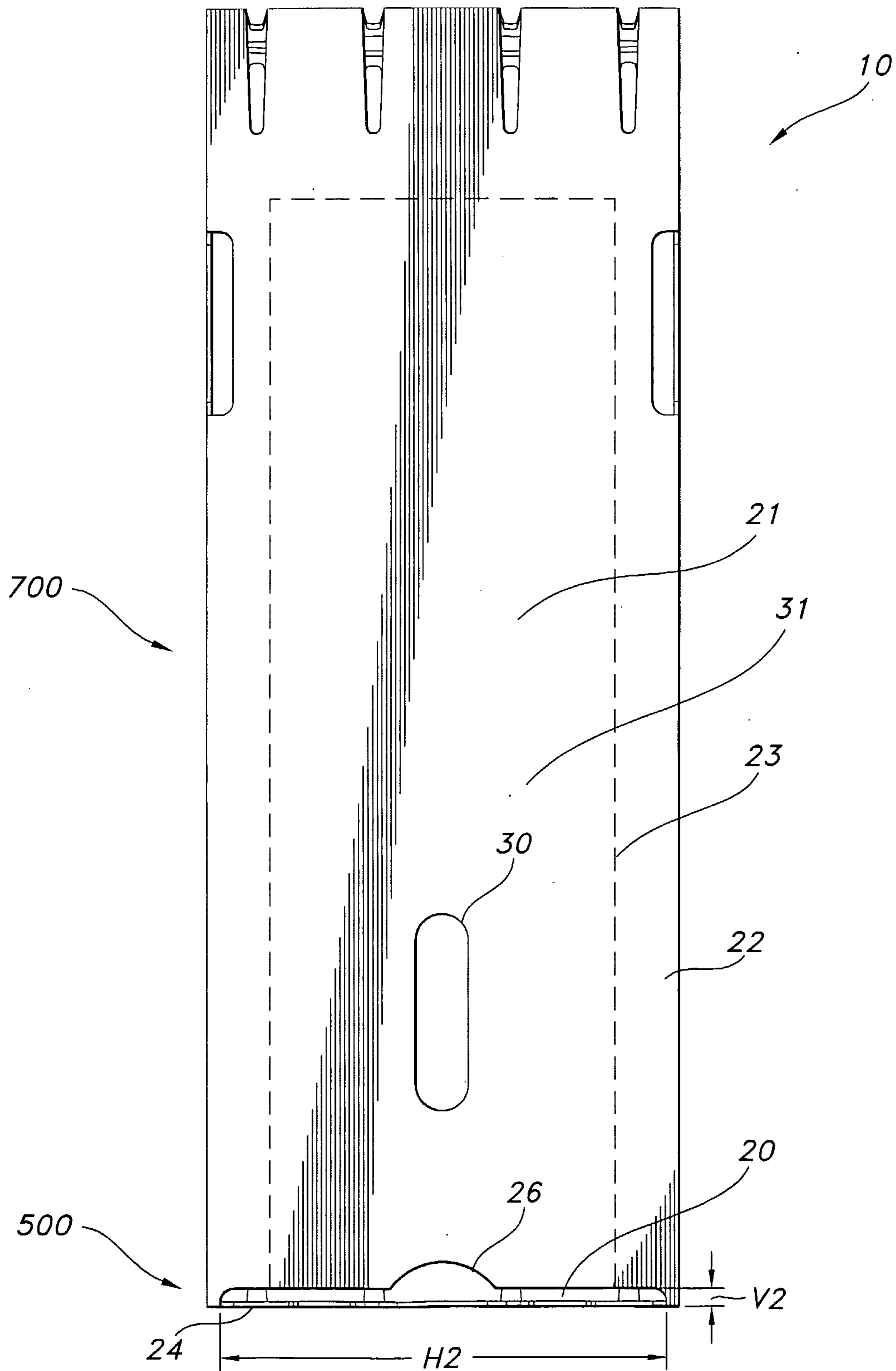


FIG. 1

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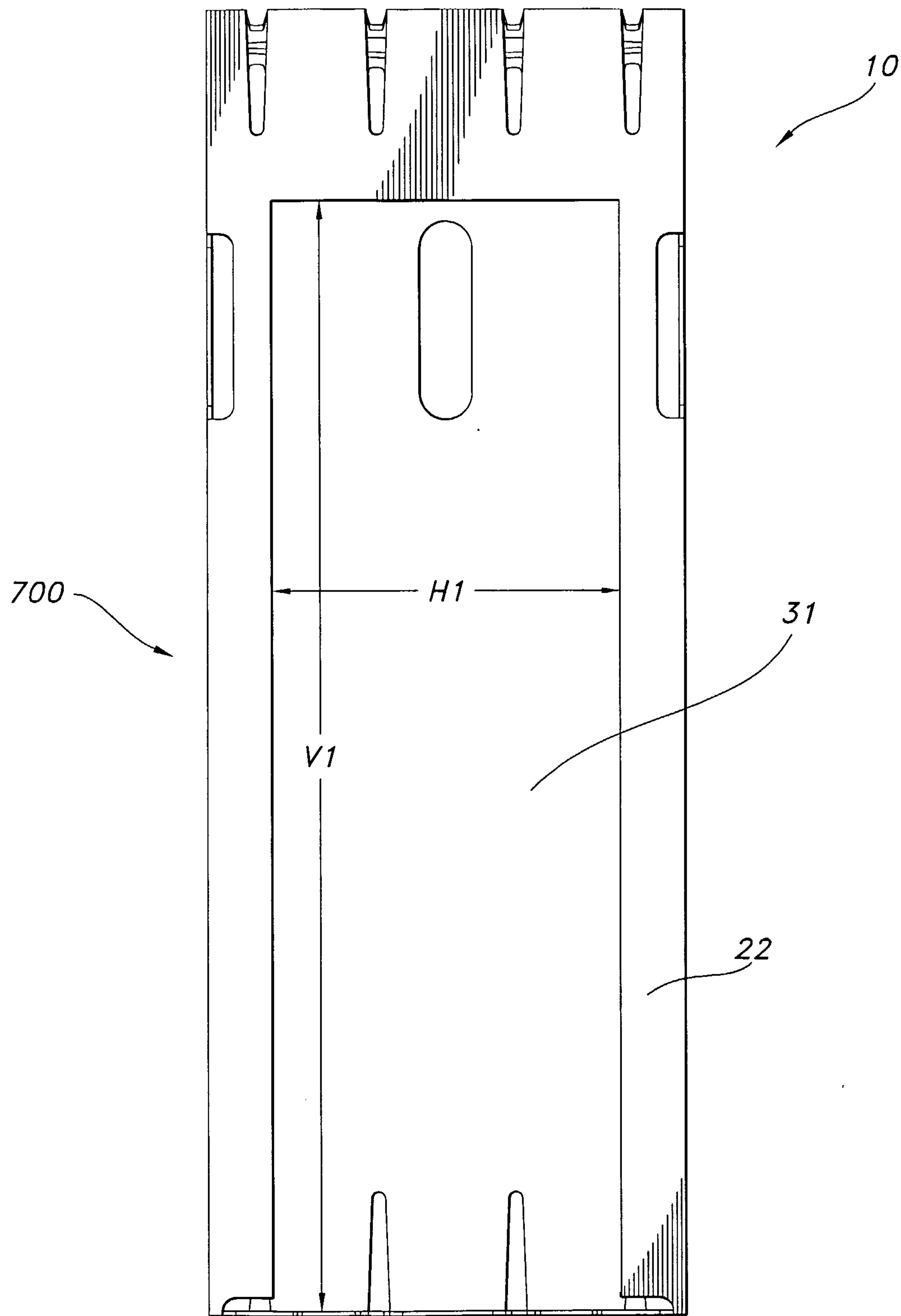


FIG. 2

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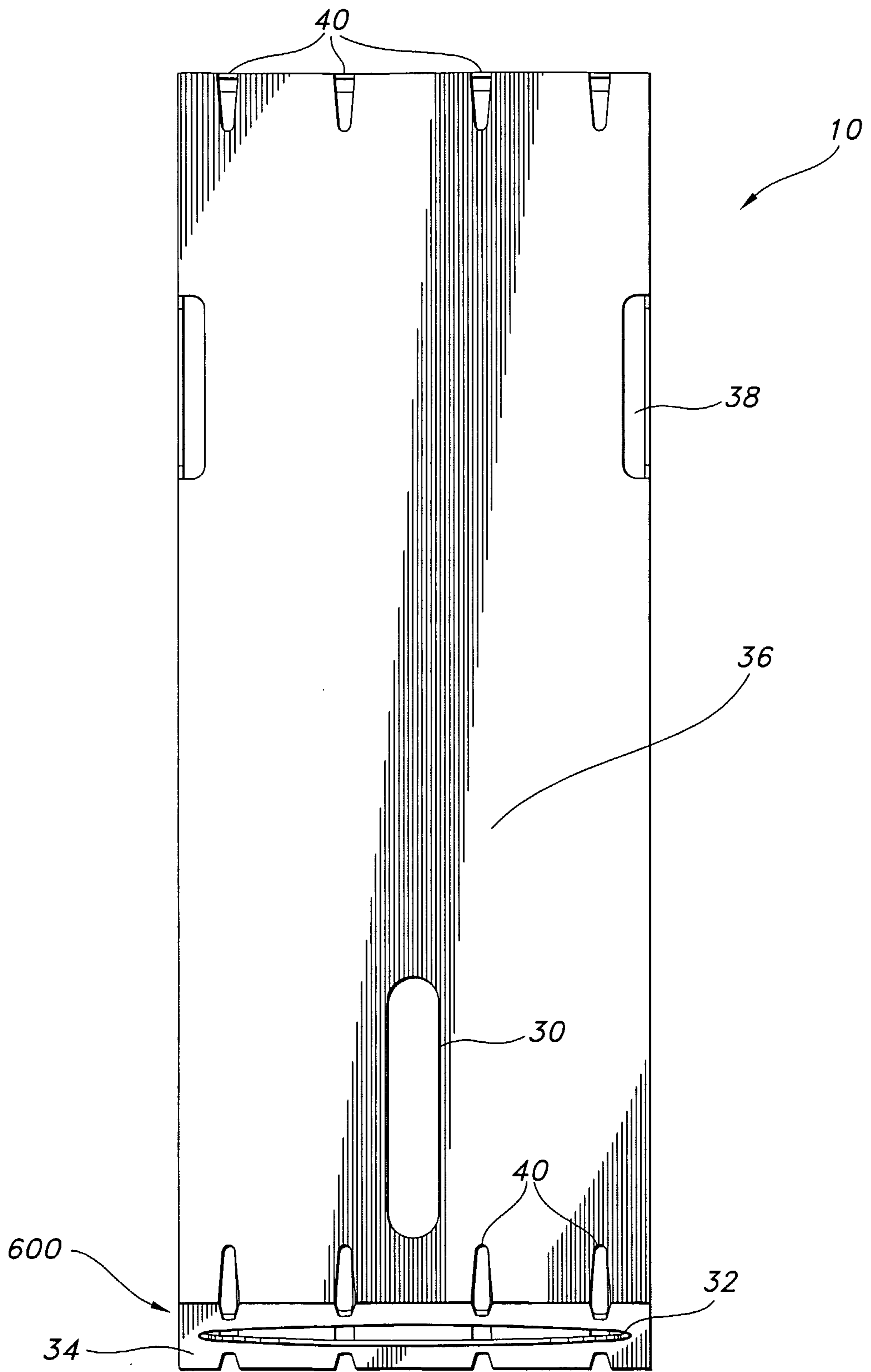


FIG. 3

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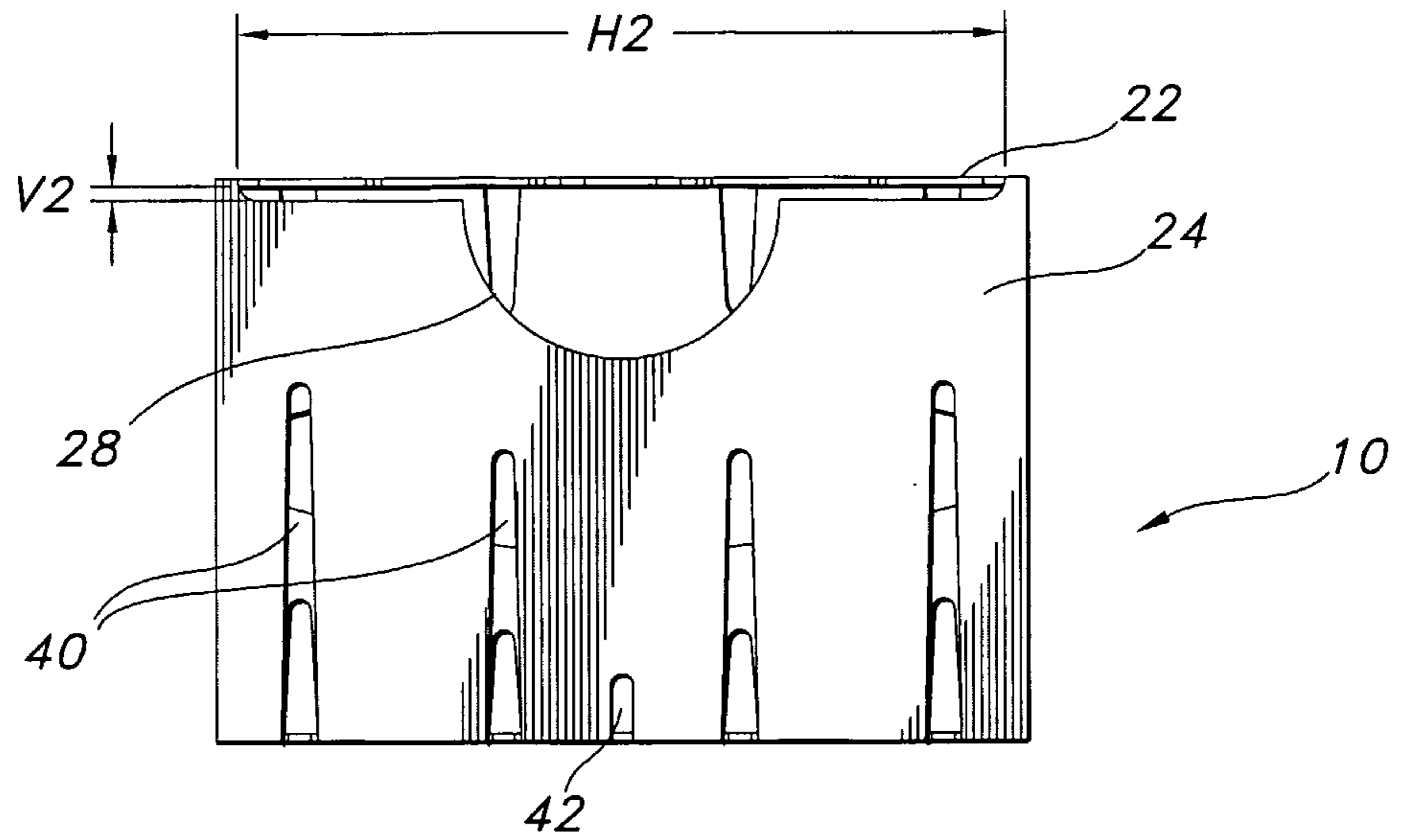


FIG. 4

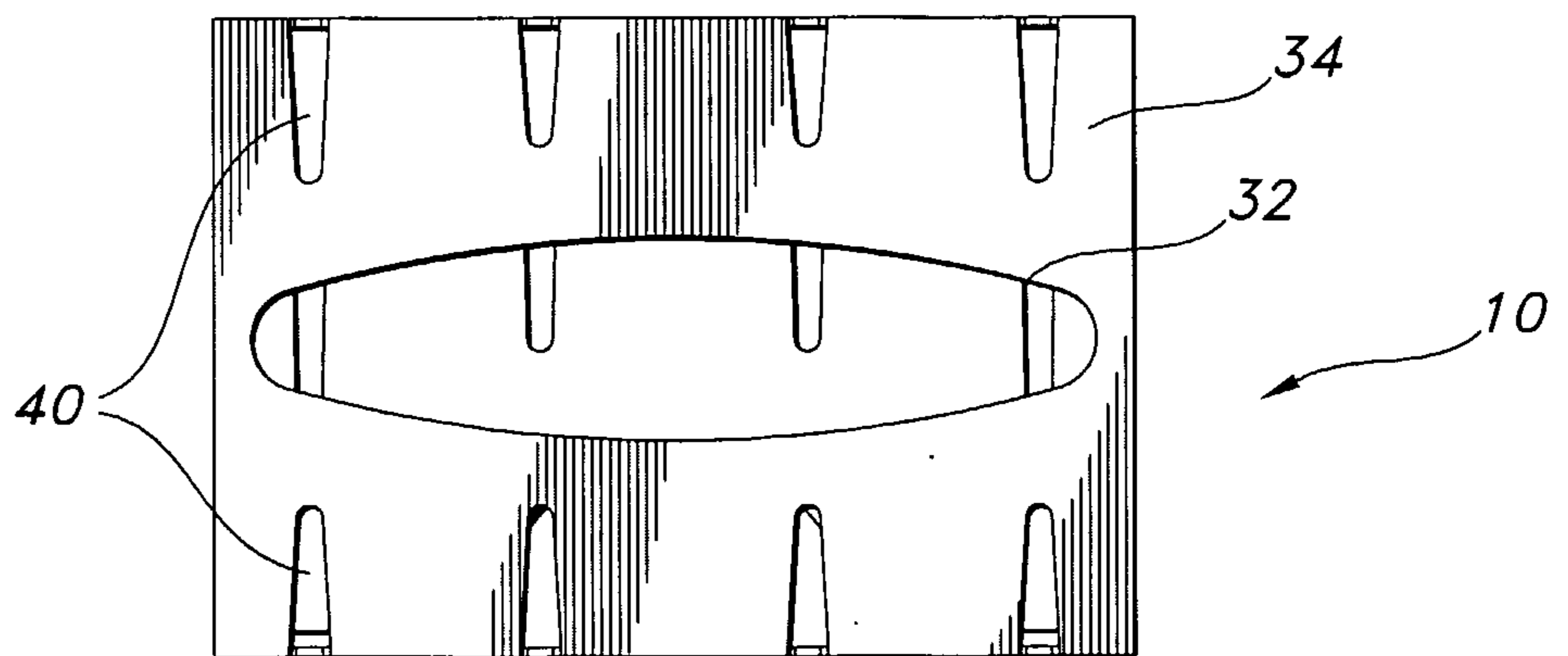


FIG. 5

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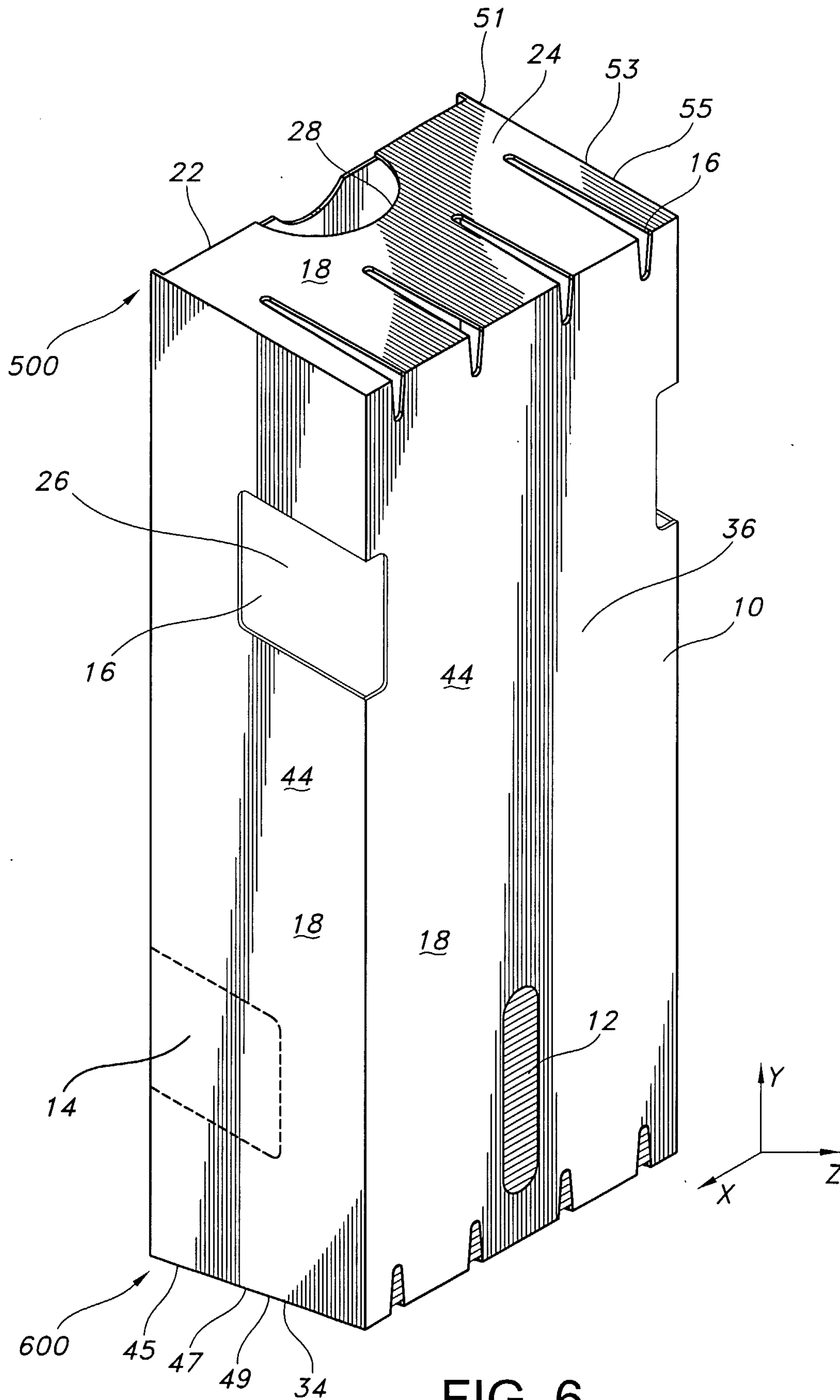


FIG. 6

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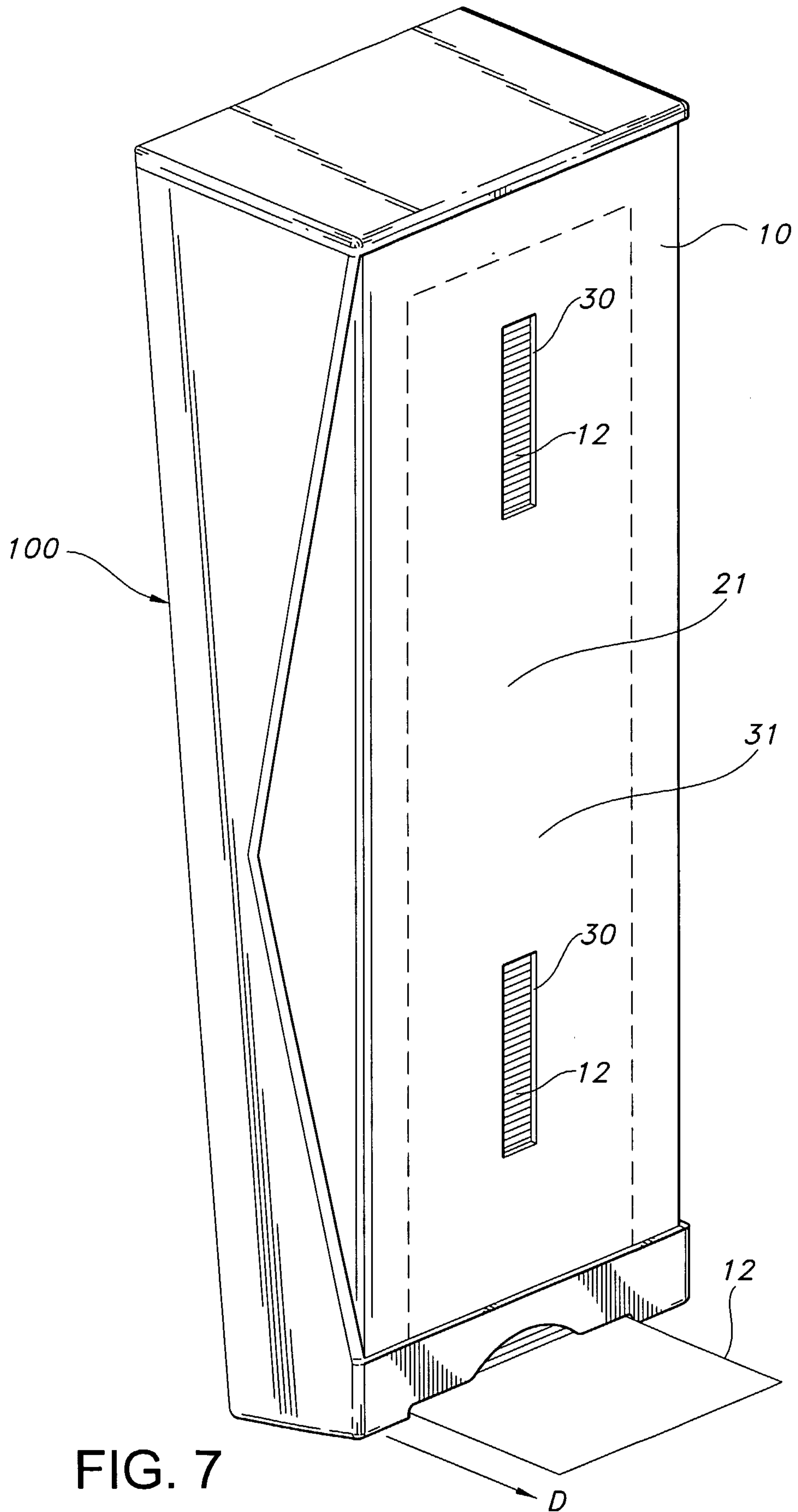


FIG. 7

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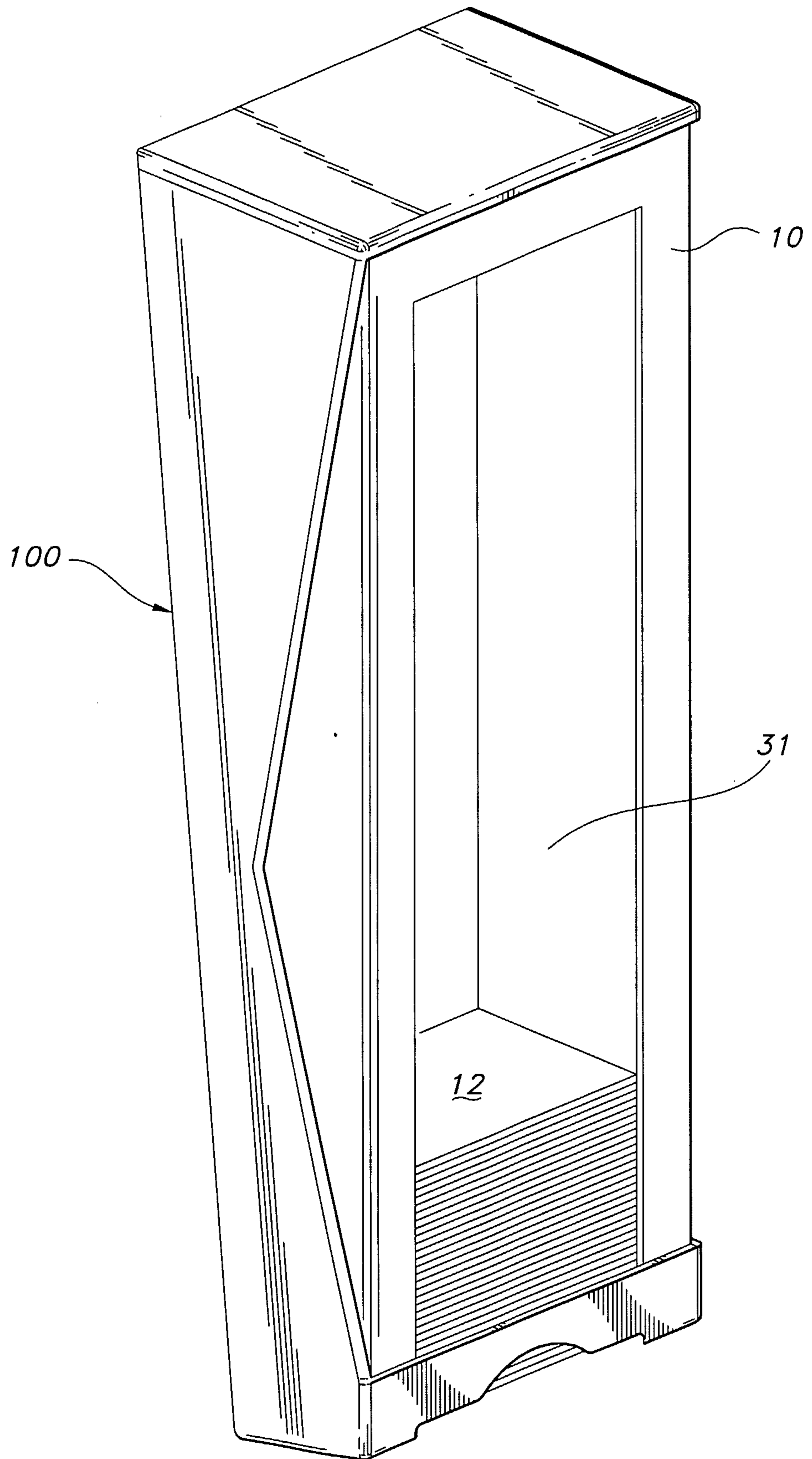


FIG. 8

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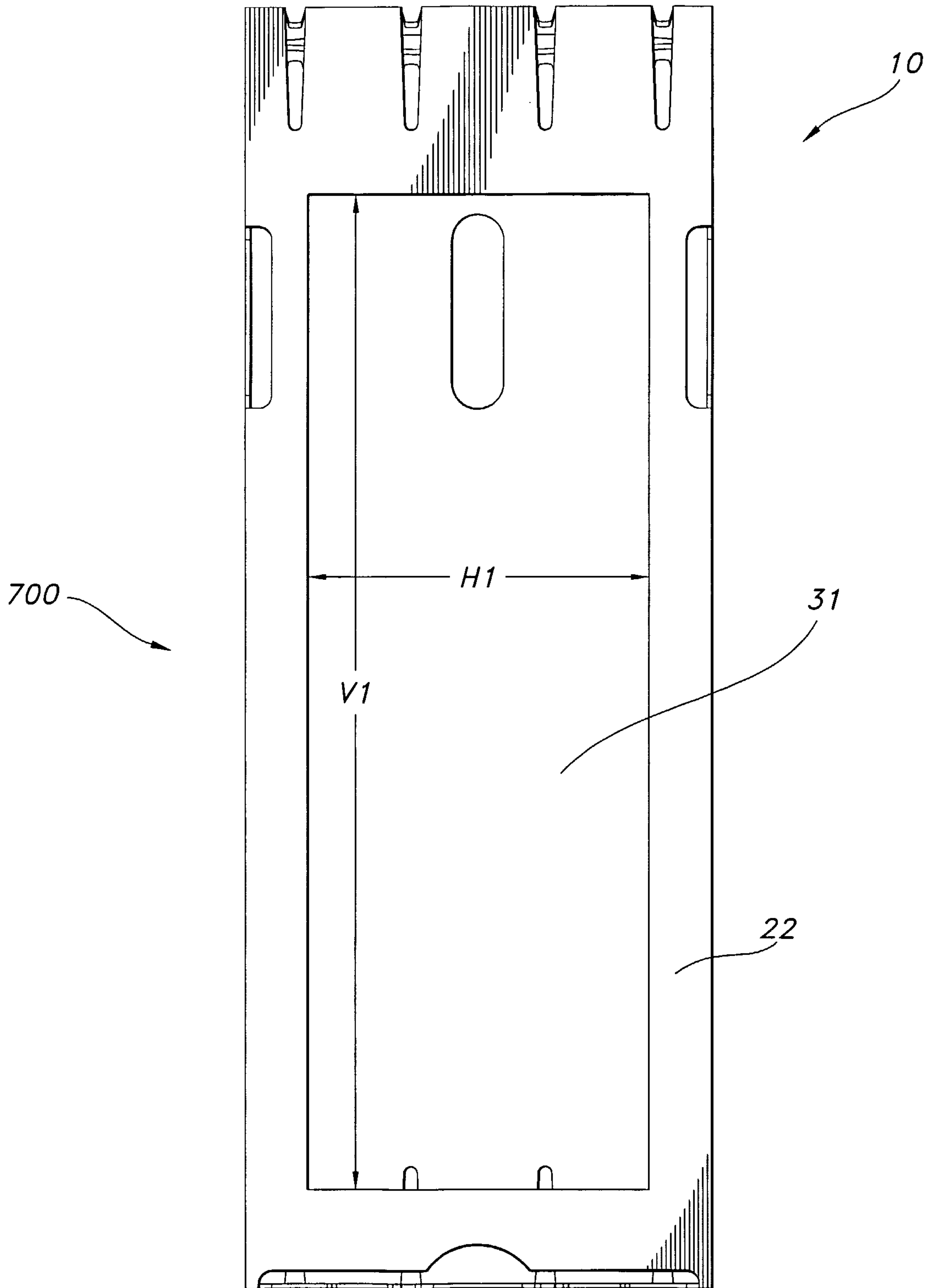


FIG. 9

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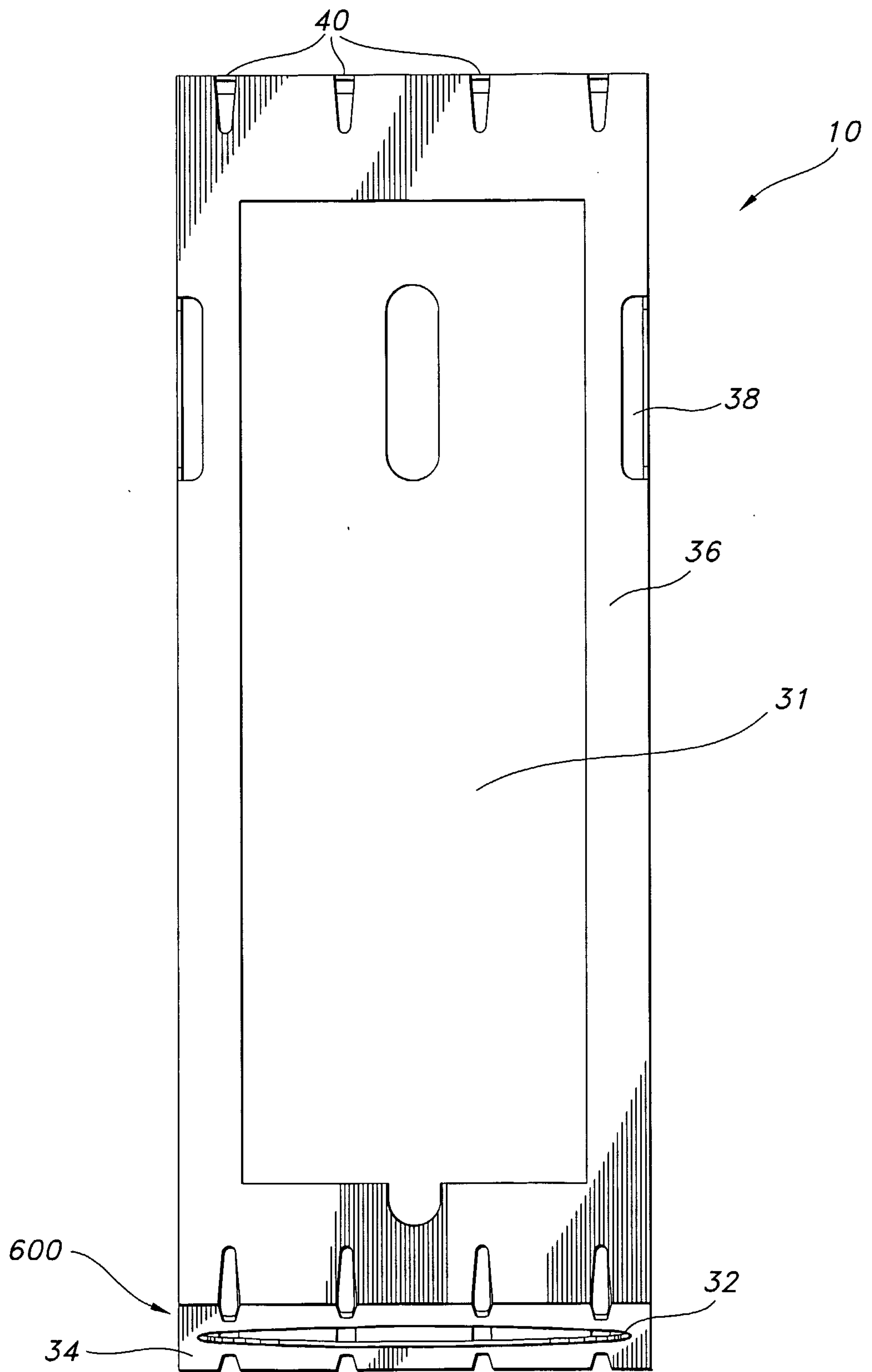


FIG. 10

