



US 20210007561A1

(19) **United States**(12) **Patent Application Publication****McNulty et al.**(10) **Pub. No.: US 2021/0007561 A1**(43) **Pub. Date: Jan. 14, 2021**(54) **DISPENSER FOR SHEET PRODUCTS,
PARTICULARLY NAPKINS**(52) **U.S. Cl.**CPC **A47K 10/422** (2013.01); **A47K 2010/3233**
(2013.01)(71) Applicant: **Essity Hygiene and Health
Aktiebolag, Goteborg (SE)**(72) Inventors: **Peter J. McNulty, Boston, MA (US);
John P. Devlin, Tewksbury, MA (US);
Jeffrey S. Mekler, Boston, MA (US)**

(57)

ABSTRACT

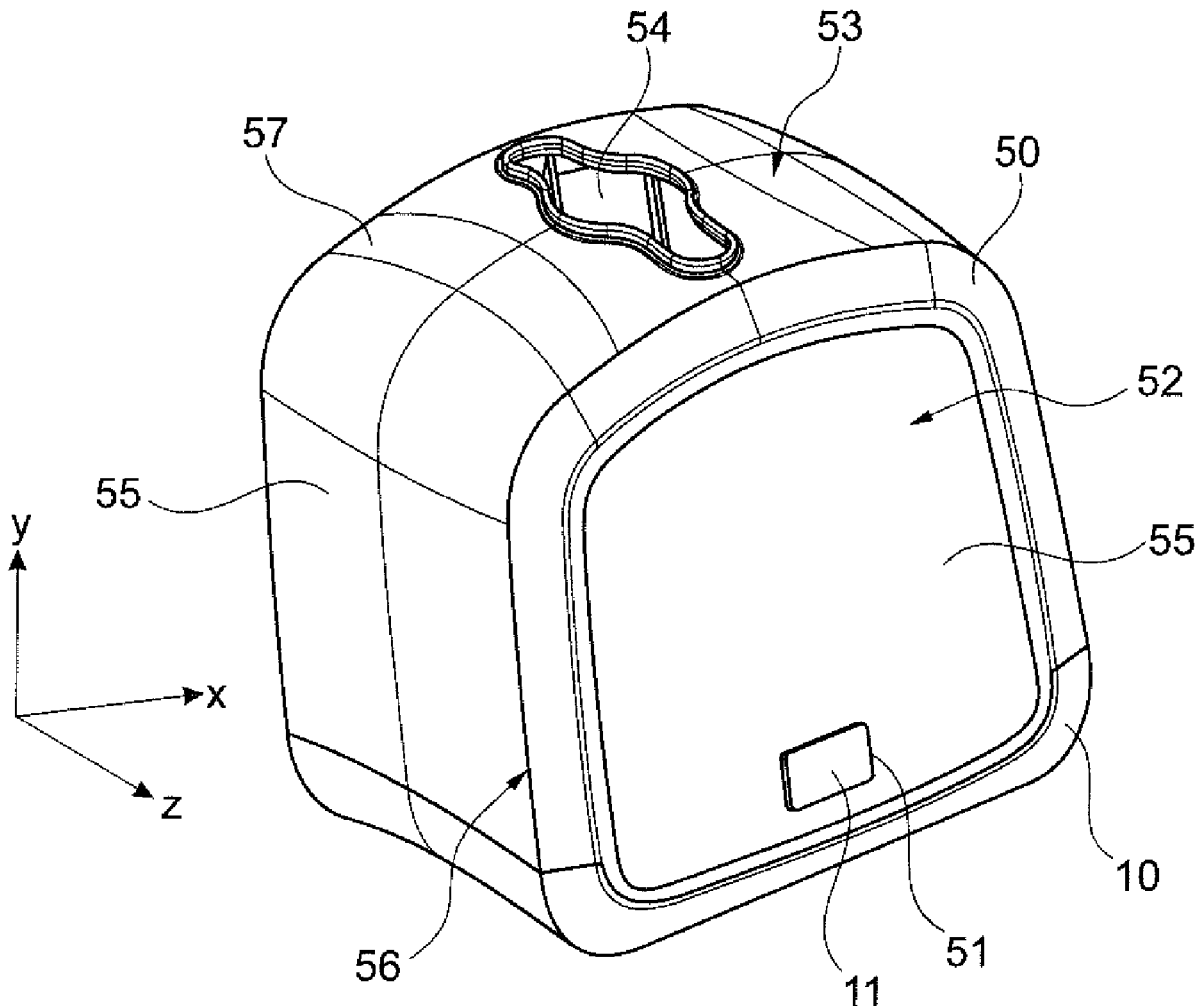
A dispenser for sheet products comprising a base, an outer shell mounted to the base, wherein the outer shell has a first portion configured to enclose a stack of sheet products to be dispensed and a second portion having a dispensing opening, the first and second portion being non-detachably and non-movably fixed relative to each other, a platen reciprocally moveable relative to the base and spring biased toward the dispensing opening, and first and second columns respectively extending from the base parallel to a movement direction of the platen on opposite sides of the platen, wherein the outer shell is detachable from the base for inserting a stack of paper products between the first and second columns onto the platen.

(21) Appl. No.: **16/981,361**(22) PCT Filed: **Mar. 19, 2018**(86) PCT No.: **PCT/EP2018/056839**

§ 371 (c)(1),

(2) Date: **Sep. 16, 2020****Publication Classification**(51) **Int. Cl.****A47K 10/42**

(2006.01)



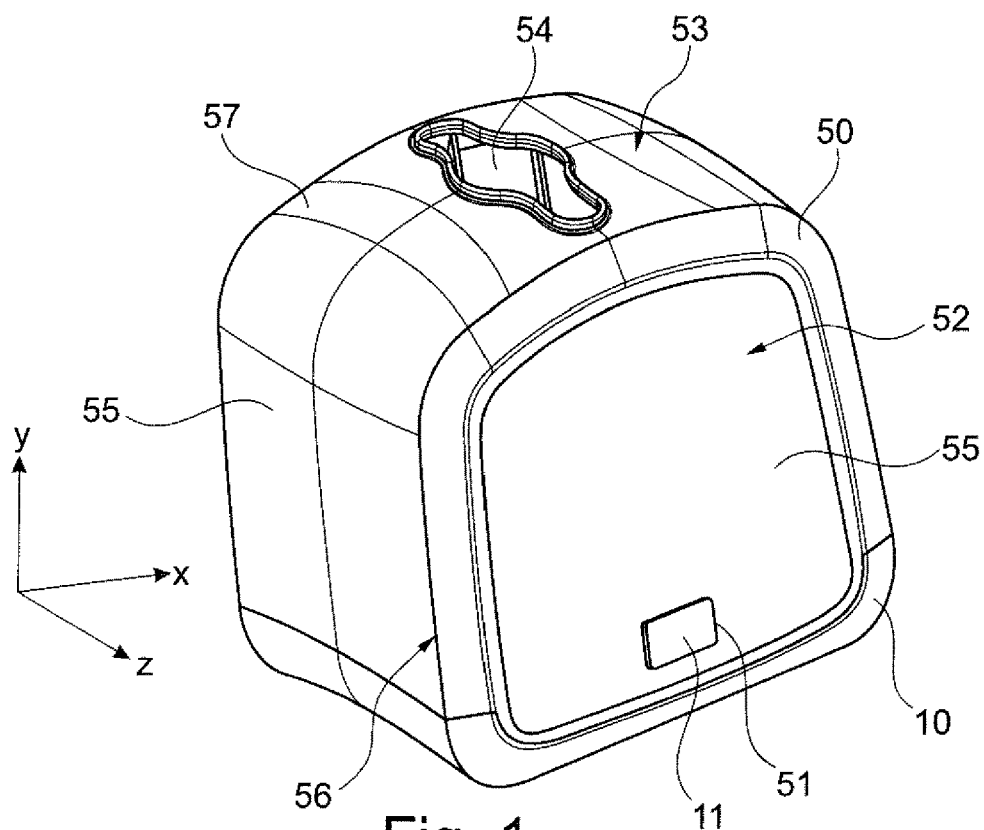


Fig. 1

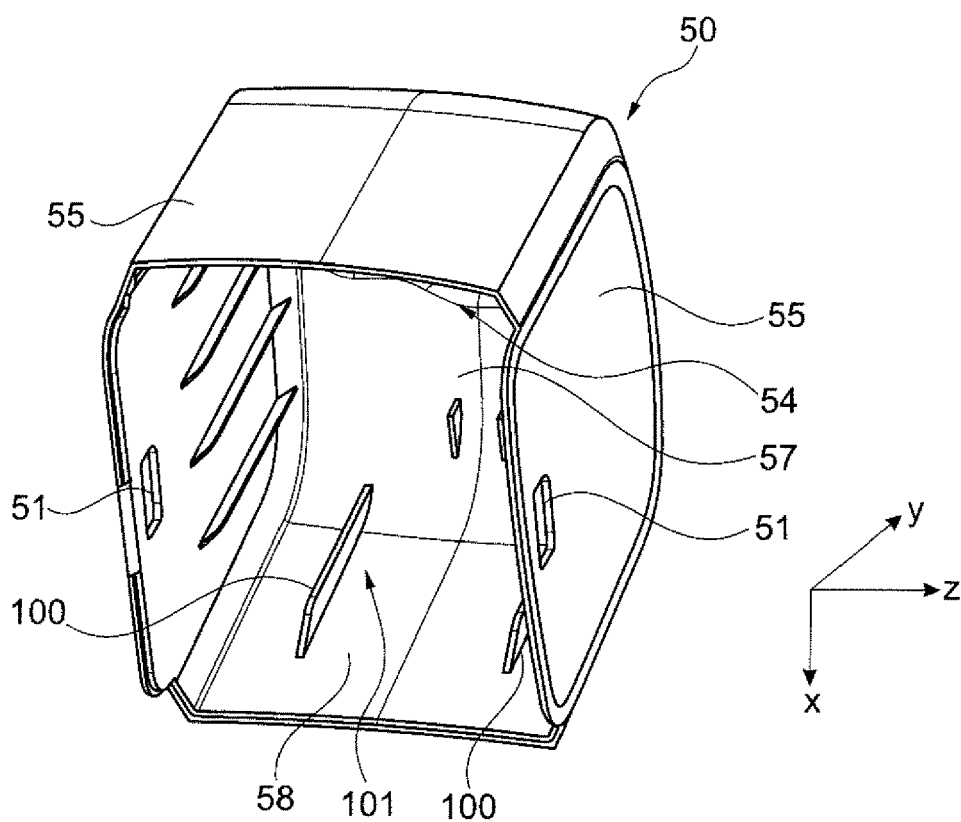


Fig. 2

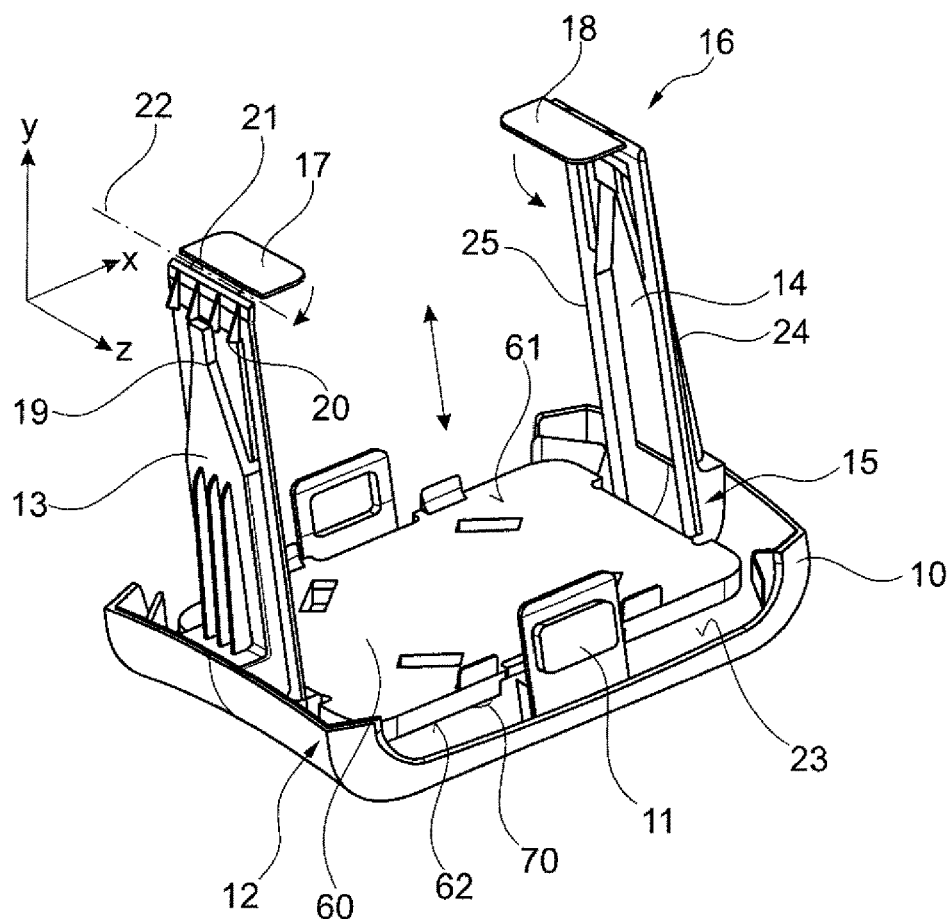


Fig. 3

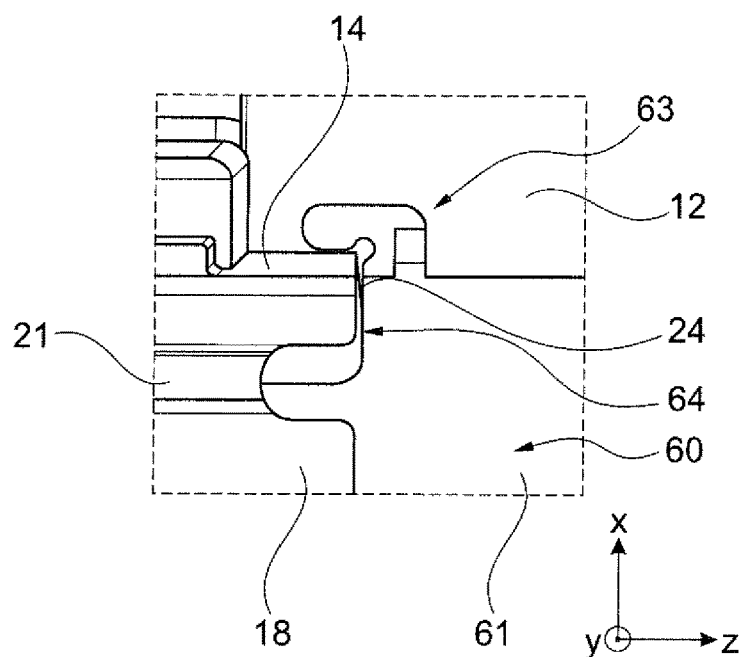
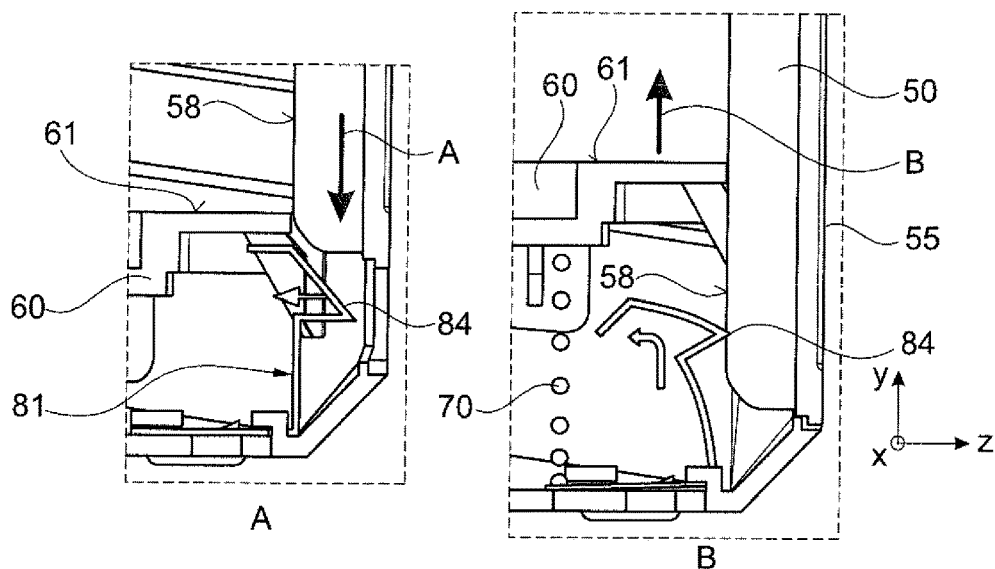
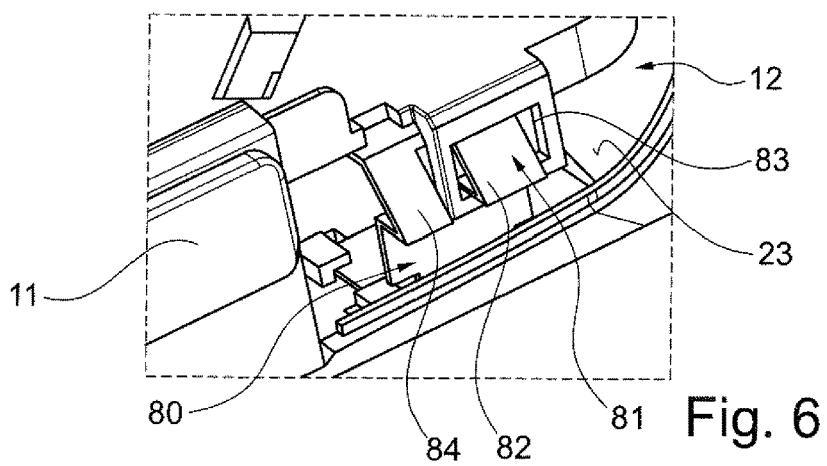
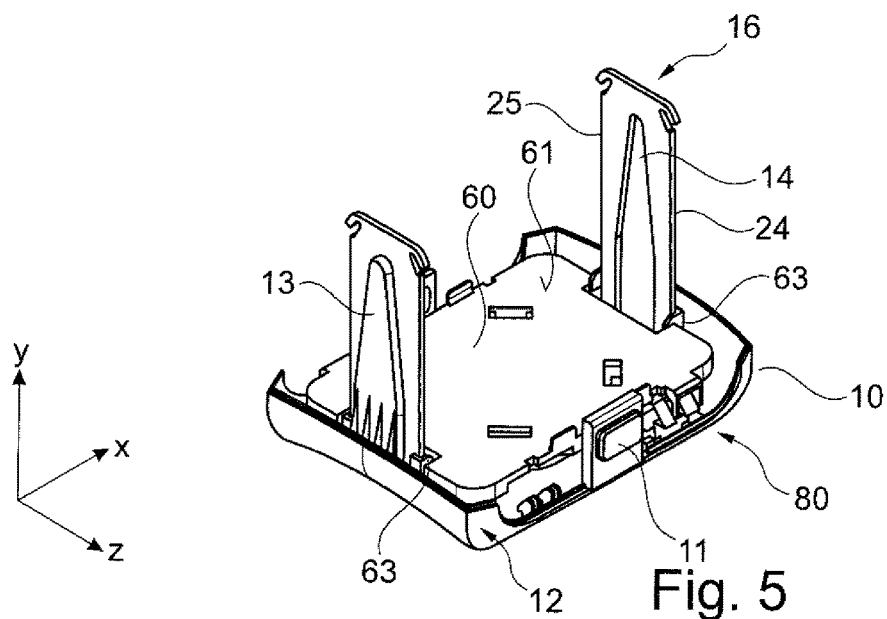


Fig. 4



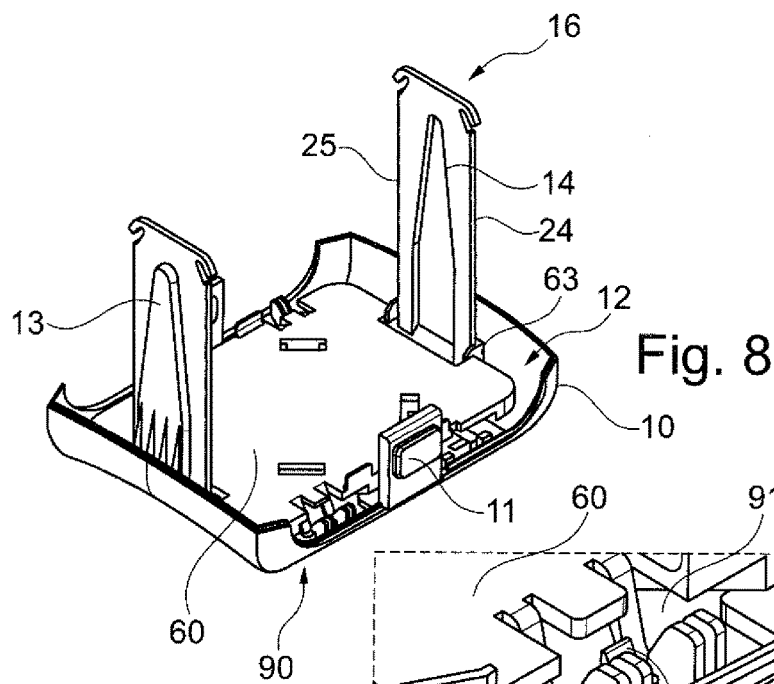


Fig. 8

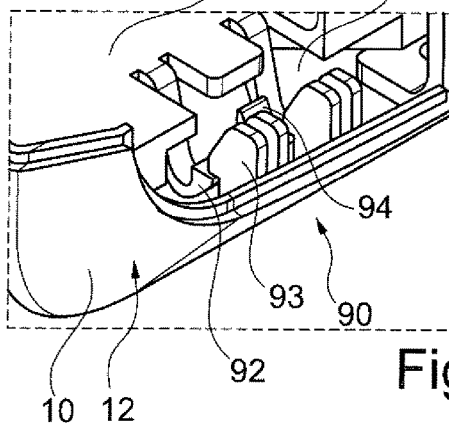


Fig. 9

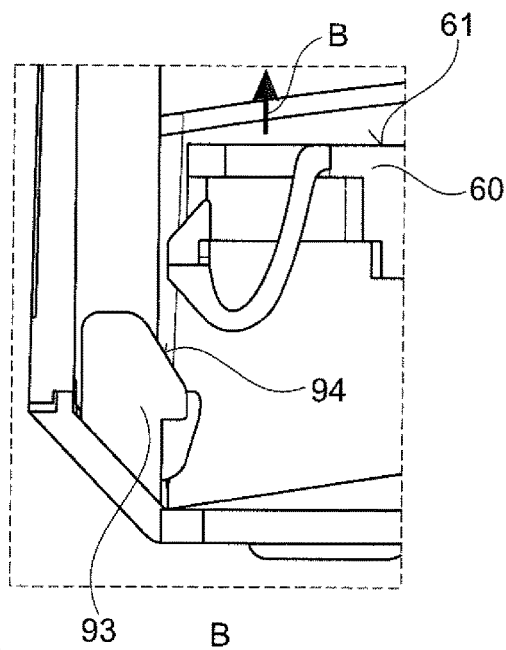
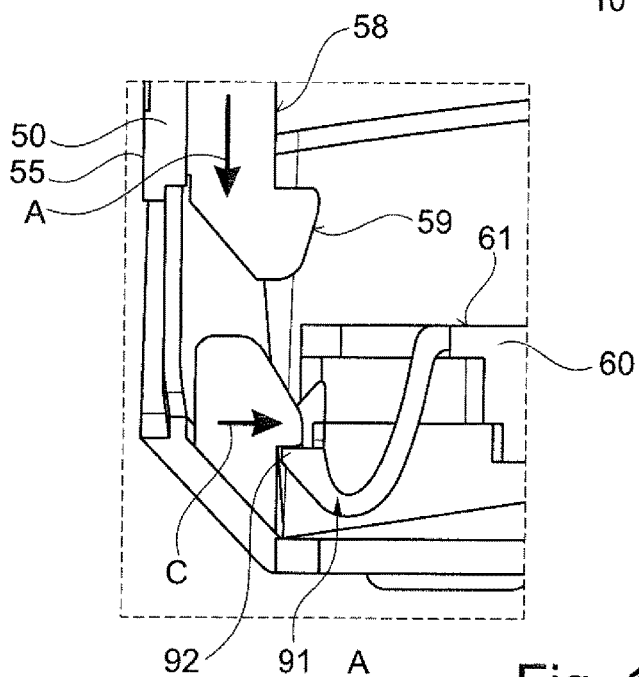


Fig. 10

DISPENSER FOR SHEET PRODUCTS, PARTICULARLY NAPKINS

CROSS REFERENCE TO RELATED APPLICATION

[0001] The present application is a U.S. national stage entry under 35 U.S.C. § 371 of, and claims priority to, International Application No. PCT/EP2018/056839, filed Mar. 19, 2018, the disclosure of which is hereby incorporated herein by reference in its entirety.

FIELD OF THE INVENTION

[0002] The present disclosure is generally related to a dispenser for sheet products, and more particularly to a dispenser configured to contain and dispense sheet products. The dispenser may be for dispensing sanitary paper sheet products such as hand towels, napkins, facial tissues, toilet paper or other wiping products in sheet form. Even more particular, the disclosure relates to so-called table top dispensers usually disposed on a table or a countertop.

BACKGROUND OF THE INVENTION

[0003] Napkins in the form of sheets of material (e.g., paper or non-woven) intended for wiping and for hygienic purposes are common commercial items (e.g., in restaurants or cafeterias) that may be provided in the form of stacks of napkins disposed in a dispenser having a dispensing opening from which individual napkins can be readily removed when needed. The dispenser for the napkins should be easy to handle, should protect the napkins until use and should be easy to move to a location where the napkins are needed, such as a table or a counter and the like.

[0004] A commonly used option is to arrange the napkins in an interfolded stack which is placed standing on a spring biased platen in a container having a dispensing opening at the top of the container. The napkins are then successively removed from the top of the stack through the dispensing opening. The platen and thereby the stack are urged towards the dispensing opening to feed the individual napkins to the dispensing opening until all of the napkins have been removed from the dispenser.

[0005] Interfolded napkins are sheets of materials arranged in a stack of superposed sheets which are each folded at least once. The sheets are interlinked in such a way that the separate folded sheets of material form a chain of sheets in which each sheet has a leading panel and a trailing panel, the trailing panel being at least partly overlapped with the leading panel of the subsequent sheet in the stack. In this manner, the individual sheets are held loosely together by means of frictional forces arising between the overlapping parts. The sheets may be dispensed from a dispenser by pulling at the leading panel of the first sheet (leading sheet) in the stack. In this manner, the first sheet is extracted at the same time as a predetermined part of the leading panel of a subsequent sheet is fed into a dispensing position in the dispenser.

[0006] Some dispensers have a lid or cover with a dispensing opening that restricts the width of the dispensed napkin in order to keep the leading panel of the next napkin to be dispensed from falling back into the dispenser. After all the napkins contained in the dispenser have been removed, the dispenser has to be refilled. For this purpose, the lid or cover is usually pivotably hinged to the body of the dis-

penser. Thus, the lid or cover may be opened giving access to the interior of the body for inserting a new stack of napkins. Examples of such dispensers may be found in WO 2014/037041 A1, WO 2006/132618 A1 or WO 2017/180070 A1.

[0007] Dispensers of the kind described above are generally made of a plastic material, thus being relatively inexpensive to manufacture. Nevertheless, those dispensers are made up of many parts requiring a relatively laborious assembly of the dispenser and are sometimes even double-walled (see, e.g., WO 2016/029964 A1, WO 2006/132618 A1 or WO 2017/180070 A1) leading to a relatively high material usage. Particularly for emerging markets, there is accordingly a need to further simplify those dispensers so as to decrease the manufacturing costs. At the same time, however, the dispensers need to be user-friendly regarding the dispensing process as well as the refilling process.

SUMMARY OF THE INVENTION

[0008] Accordingly, it would be desirable to provide a dispenser made up of a relatively few number of parts, that is easy and inexpensive to manufacture and still provides satisfying or even improved user-friendliness.

[0009] According to one aspect, a dispenser for sheet products is disclosed. The dispenser can be particularly configured for containing and dispensing sanitary paper products in sheet form. Examples of sanitary paper products are hand towels, paper napkins, facial tissues, toilet paper and other wiping products in sheet form. The sheet products may be made of tissue paper (ISO 12625-1) or non-woven (ISO 9092). The dispenser may consist of a base, an outer shell detachably mounted to the base and having a dispensing opening, a platen reciprocally moveable relative to the base and a biasing member such as a spring, biasing the platen away from the base and toward the dispensing opening in the outer shell. In one aspect, the dispenser may consequently consist of four structural parts only. Upon the detachment of the outer shell from the base, an upper supporting surface of the platen is readily accessible and one may easily insert or place a new stack of sheet products on the platen so that the refilling process is simplified. In order to even further improve the user-friendliness, the base may comprise first and second upright columns on opposite sides of the platen that may serve for guiding the platen in the direction of its movement and/or for aligning a new stack of sheet products on the supporting surface of the platen. The columns may be longitudinal, vertically extending from the base. Further, the columns may be flat. Furthermore, the columns may be positioned at the shorter sides of the platen, if the platen is substantially rectangular.

[0010] In this context and throughout this disclosure, an outer shell may be understood as an external, usually hard (rigid), protective and/or enclosing case or cover of the dispenser. In the same manner, the base may be understood as the bottom and/or supporting part of the outer shell. The dispensing opening in the outer shell is to be understood as the opening through which a sheet product may be withdrawn from the dispenser by a user. The base may have a supporting surface or a pedestal configured to place the base and, thus, the dispenser on a horizontal surface such as a table or countertop. In this disclosure, the platen may be a support for supporting the sheet products within the dispenser and by means of the spring pressing them against the inner surface of the outer shell surrounding the dispensing

opening. The platen may be plate-shaped having a substantially square supporting surface which may in shape and/or area correspond to the shape of the sheet products or the foot print of the stack.

[0011] In accordance with another aspect, a dispenser for sheet products comprises a base and an outer shell mounted to the base. The outer shell has a first portion configured to enclose a stack of sheet products to be dispensed and a second portion having a dispensing opening. In particular, the first portion may define a space circumferentially enclosing the stack of sheet products and being open at its bottom and closed at its top by the second portion. When mounted to the base, the base closes the open bottom and supports the outer shell. The first portion and the second portion are fixed relative to each other. In this context, “fixed” is to be understood in that the portions are non-movable relative to each other and/or permanently fixed to each other in that no separation of the portions by a user is intended for refilling the dispenser. Yet, the portions may still be made from separate parts being attached to each other. In particular, “fixed relative to each other” is meant to exclude a lid having the dispensing opening and being hinged to side walls or being detachably fixed to the side walls for refilling. Rather and according to the present disclosure, the entire outer shell, including the first and second portion, is to be removed for refilling. In one example, the first portion comprises two pairs of opposite side walls which may be connected to each other at their vertical edges, and the second portion comprises a top wall fixed to the side walls, i.e., at their upper edges. In one aspect, the outer shell is made of one integral piece, particularly an injection molded part. The dispenser of this aspect further comprises a platen reciprocally moveable relative to the base and spring biased toward the dispensing opening. First and second columns, respectively, extending or protruding from the base parallel to a movement direction of the platen on opposite sides of the platen are provided. According to an example, the columns may vertically extend or protrude from the base and the base may be configured for being placed on a horizontal surface such as on a table or a countertop. The first and second columns may be separate parts that are attached or mounted to the base. Alternatively, the first and second columns may be integrated parts of the base, i.e., the first and second columns and the base are one piece, for example an injection molded part. For inserting a stack of paper products between the first and second columns onto the platen, the outer shell is detachably mounted to the base. Thus, the outer shell may translationally be removed from the base in the direction of movement of the platen and/or along the extension of the columns.

[0012] Once the outer shell is removed from the base and a new stack of sheet products is placed on the platen, the user has to temporarily hold the stack of sheet products with the platen being retained in a retracted position against the force of the spring. In this context, the retracted position may be considered as a position in which the platen is moved to a position closest to the base.

[0013] To avoid or reduce this necessity, the dispenser may further comprise a stop at each of the first and second columns, respectively, provided at an end of the first and second columns opposite to the base. In particular, the columns are attached to the base or integrally formed with the base at a first end vertically extending from the base to a second end in a longitudinal direction. The stops are provided at the second end. The stops are configured to

engage with a leading sheet product of the stack of sheet products and/or the platen in an extended position. The leading sheet product of the stack of sheet products is to be considered as the first sheet product of the stack of sheet products to be dispensed through the dispensing opening, i.e., the uppermost sheet product in the stack of sheet products supported on the platen. The extended position of the platen is a position in which the platen is moved furthest away from the base by the spring without any sheet product being supported on the platen and in which the platen contacts or is engaged with a surface of the stops facing the platen. In one example, the stops may extend perpendicularly to the longitudinal extension of the columns and/or the direction of movement of the platen, i.e., horizontally, from the second end of the columns. In this example, it is no longer required to manually retain the platen in the retracted position once a new stack of sheet products has been placed on the platen, because this task is taken over by the stops engaged with the leading sheet product of the stack of sheet products and thereby holding the platen via the stack in the retracted position. A further advantage of this example is that the platen is retained in the extended position by the stops upon detachment of the outer shell from the base for refilling. Thus, the platen does not move in an uncontrolled manner when detaching the outer shell from the base.

[0014] In order to enable an easy refilling process and particularly a simple process of placing a new stack of sheet products on the platen, the stops are flexible. According to one aspect, the stops are flexible in opposite directions, but stiff enough to counteract a force exerted via a stack of sheet products by the spring biased platen and/or a force exerted directly by the spring biased platen onto the stops to thereby maintain the stack of sheet products in position on the platen and/or limit the upward movement of the platen. In a particular example, the stops are more flexible in a direction towards the base parallel to the movement direction of the platen than in a direction away from the base parallel to the movement direction of the platen. In another example, the stops are flexible in only one direction, namely the direction towards the base parallel to the movement direction of the platen. For this purpose, the stops may have a stack engaging part for engaging with the leading sheet product of the stack of sheet products or the supporting surface of the platen in an extended position and a fixing part which is fixed to the free ends of the first and second columns. The engaging part and the fixing part are connected by a hinge such as a living hinge. For more details regarding the configuration of the stops and on how to achieve flexibility, reference is made to WO 2016/029964 A1 the content of which is incorporated by reference. In this context, the entire description of the “holdback members 11” of this document is incorporated by reference. In this embodiment, a new stack of sheet products may be inserted between the second ends of the columns flexing the stops toward the base and thereby pushing the platen against the force of the spring toward the retracted position. Once the stack of sheet products has passed the stops, the stops spring back and the user may release the stack. Subsequently, the platen is retained in the retracted position via the stack of sheet products with the leading sheet product of the stack of sheet products being in contact or engaged with a lower surface of the stops.

[0015] In one example, the stops are made of an elastic material such as polypropylene. The stops may be separate parts fitted to the respective end of the first and second

columns. This is particularly advantageous because the first and second columns are preferably made of a hard, rigid plastic material such as acrylonitrile butadiene styrene (ABS).

[0016] So as to enable a controlled movement of the platen and thereby a simplified refilling process, the platen has guide members on opposite sides, respectively engaged with the first and second columns. In an example, the guide members may hook on the first and second columns. Thus, the guide members may guide the platen along the first and second columns in the direction of movement of the platen and limit the movement of the platen in at least one or even two direction(-s) perpendicular to the movement direction of the platen.

[0017] In one example, each guide member has a pair of distanced grooves, respectively engaged with opposite longitudinal side edges of the respective first and second columns to limit the movement of the platen in two directions perpendicular to each other and perpendicular to the movement direction of the platen.

[0018] According to an aspect, the base and/or the columns and/or the outer shell may be made of a rigid plastic material, particularly of the acrylonitrile butadiene styrene (ABS) group.

[0019] In addition or alternatively to the stops, the dispenser may further comprise a retention mechanism configured to temporarily retain the platen in the retracted (refilling) position while the outer shell is detached from the base. As previously described, it may be cumbersome to insert a new stack of sheet products and at the same time manually retain the platen in the retracted position or pushing the platen toward the retracted position while inserting a new stack. Thus, in some embodiments, the dispenser includes a retention mechanism that enables a user to manually push the platen against the spring force towards the base and thereby engage the platen with the retention mechanism with the platen being retained in the retracted position, thereby enabling easy refilling.

[0020] According to one configuration of this aspect, the retention mechanism may comprise an engaging member and an engaged member with the engaging member being configured to be engaged with the engaged member when manually moving the platen into the retracted refilling position while the outer shell is detached from the base.

[0021] In those embodiments, it may be beneficial to automatically release the retention mechanism from the platen upon attachment of the outer shell to the base so that the platen again supplies the sheet products to the dispensing opening by being urged toward the dispensing opening. In particular, the engaging member may be provided with a release portion configured to be engaged with the outer shell to release the engaging member from the engaged member when the outer shell is attached to the base.

[0022] For example, the engaging member may be a latch fixed relative to the base and to be engaged with a cutout or hook, as the engaged member, fixed relative to the platen.

[0023] Alternatively, the engaging member may be a latch fixed relative to the platen and to be engaged with a cutout or hook, as the engaged member, fixed relative to the base.

[0024] Moreover, channels may be provided on an inner surface of the outer shell, the channels engaging with the columns upon attachment of the outer shell to the base. When attaching/detaching the outer shell to/from the base,

the outer shell is guided along the columns simplifying a controlled attachment/detachment.

[0025] According to an aspect, a width of the columns is within the range of 15 mm and 50 mm. In another example, the width of the columns **13, 14** is within the range of 20 mm and 40 mm. In a particular example, the width of the columns **13, 14** is between 25 mm and 35 mm.

[0026] Further aspects of the present disclosure may be found in the following description of a particular embodiment making reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0027] FIG. 1 shows a perspective view of a dispenser.

[0028] FIG. 2 shows a perspective view of the outer shell of the dispenser of FIG. 1.

[0029] FIG. 3 shows a perspective view of the dispenser of FIG. 1 with the outer shell being detached and embodying stops.

[0030] FIG. 4 shows a partial top view of FIG. 3.

[0031] FIG. 5 shows a perspective view of a dispenser of FIG. 1 with the outer shell of FIG. 2 being detached and embodying a first example of a retention mechanism.

[0032] FIG. 6 shows a partial enlarged perspective of the retention mechanism of the dispenser of FIG. 5.

[0033] FIGS. 7A and B show a schematic cross-section through the retention mechanism of the dispenser of FIG. 5 for describing its function.

[0034] FIG. 8 shows a perspective view of a dispenser of FIG. 1 with the outer shell of FIG. 2 being detached and embodying a second example of a retention mechanism.

[0035] FIG. 9 shows a partial enlarged perspective of the retention mechanism of the dispenser of FIG. 8.

[0036] FIGS. 10A and B show a schematic cross-section through the retention mechanism of the dispenser of FIG. 8 for describing its function.

DETAILED DESCRIPTION OF THE INVENTION

[0037] An example of a dispenser according to the present disclosure is shown in FIG. 1. The dispenser comprises a base **10** and an outer shell **50** defining a housing of the dispenser. The housing defines an interior volume configured to accommodate a stack of sheet products, such as napkins. The outer shell **50** is detachably attached to the base **10**. For this purpose, the base has elastic latches **11** on opposite sides which are engaged with a respective cutout **51** in the outer shell **50** so as to releasably fix the outer shell **52** to the base **10**. When the outer shell **50** is to be detached from the base **10**, the latches **11**, which are accessible through the cutout **51**, may be pressed inward by a user to disengage them from the cutouts **51** and enable detachment of the outer shell **50**.

[0038] The outer shell **50** also shown in FIG. 2 comprises a first portion **52** defining a circumferential enclosure for a stack of sheet products (not visible in FIG. 1) to be dispensed from the dispenser via a dispensing opening **54** disposed in a second portion **53** of the outer shell **50**. Accordingly, the outer shell **50** may comprise two pairs of opposite side walls **55** and connected to each other at the corners or corner portions **56**. Accordingly, the side walls **55** define the first portion **52**, which is open at its bottom facing the base **10** and closed at its top by a top wall **57** defining the second portion **53** having the dispensing opening **54**. In one embodi-

ment, the outer shell **50** is made of rigid plastic material such as ABS. The outer shell **50** may be manufactured in an injection molding process so that the outer shell **50** is an integral one piece component.

[0039] The base **10** is shown in FIG. 3. In the illustrated example, the base **10** comprises a bottom portion **12**, which is configured to correspond to a lower portion of the outer shell **50** so as to define the housing upon attachment of the outer shell **52** to the base **10**.

[0040] Moreover, the base **10** comprises two columns **13**, **14**. In one example, the columns **13**, **14** are manufactured together with the bottom portion **12** from a rigid plastic material such as ABS. Alternatively, the columns **13**, **14** may be separate parts which are subsequently attached or assembled with the bottom portion **12**. Yet, as with respect to the outer shell **50**, the columns **13**, **14** may as well be manufactured in an injection molding process together with the bottom portion **12** so that the bottom portion **12** and the columns **13**, **14** are an integral one piece component.

[0041] The columns **13**, **14** may, as in the illustrated example, be longitudinal elements having opposite ends **15**, **16** as seen in the longitudinal direction and vertically extending or protruding from the bottom portion **12** of the base **10**. In this context, the columns **13**, **14** are attached to the bottom portion **12** of the base **10** at their ends **15**, whereas the opposite ends **16** may be considered as free ends.

[0042] In the particular example shown in the figures, the columns **13**, **14** extend or protrude from the bottom portion **12** of the base **10** and taper away from the base. Further, the columns **13**, **14** are formed as flat elements in that their length in the longitudinal direction (Y direction) and their width in a width direction perpendicular to the longitudinal direction (Z direction) are larger than the thickness in the thickness direction perpendicular to the longitudinal direction and to the width direction (X direction). In an example, the width of the columns **13**, **14** is within the range of 15 mm and 50 mm. In another example, the width of the columns **13**, **14** is within the range of 20 mm and 40 mm. In a particular example, the width of the columns **13**, **14** is between 25 mm and 35 mm, such as 25 mm.

[0043] Each of the columns **13**, **14** comprises a stop **17**, **18** at its free end **16**. The stops **17**, **18** are made of an elastic material such as polypropylene. In the illustrated example, the stops **17**, **18** are made separately from the columns **13** and **14** and are attached to the free end **16** of the columns **13**, **14** by means of a releasable connection, such as, and without limitation, a snap fit connection (e.g., hooks **19** of the stops **17**, **18** engaged with cutouts **20** at the free end **16** of the columns **13**, **14**).

[0044] The stops **17**, **18** are flexible in a direction towards the base **10** (bottom portion **12**). To put it differently, the stops **17**, **18** may be flexed at a film (living) hinge **21** about an axis **22** parallel to the width direction (Z direction) of the columns **13**, **14**.

[0045] The stops **17**, **18** are prevented from being flexed upward beyond the position shown in FIG. 3 (substantially parallel orientation to the platen **60** or more particularly the supporting surface **61** of the platen). Accordingly, the stops **17**, **18** are flexible or elastic in only one direction, namely a direction toward the bottom portion **12** of the base **10** or toward an inner surface of each of the columns **13**, **14**. At least, however, flexing upward is not intended and the stops **17**, **18** are less flexible in an upward direction than in a

downward direction. In order to achieve the required and intended flexibility, the configuration of the hinge as well as the manufacturing process (e.g., injection molding) are of importance. For details in regard of the configuration of the stops, reference is made to WO 2016/029964 A1.

[0046] The dispenser comprises a platen **60**. The platen **60** has an upward supporting surface **61** on which the sheet products are to be placed. The platen **60** is reciprocally movable along the columns **13**, **14** in a direction indicated by the double arrow in FIG. 3 (Y direction). In particular, the platen **60** is movable between a retracted position close to the base **10** or the bottom portion **12** of the base **10** as shown in FIG. 3 and an extended position in which the upwardly facing supporting surface **61** of the platen **60** is in contact with a downwardly facing surface of the stops **17**, **18** limiting further upward movement of the platen **60** beyond the stops **17**, **18**.

[0047] In order to continuously feed the sheet products towards the dispensing opening **54** upon withdrawal of the sheet products from the dispenser, the platen **60** is urged towards the dispensing opening **54** by a spring **70**. The spring **70** is disposed between a downward surface **62** of the platen **60** and an upward surface **23** of the bottom portion **12** of the base **10**.

[0048] Further, at the sides of the columns **13**, **14** the platen **60** is provided with a guide member **63** engaging with (e.g., hooking on) the columns **13**, **14** and guiding the platen along the columns **13**, **14** in the Y direction and limiting the movement in the width direction (Z direction) and/or the X direction. In the illustrated example, the guide member **63** is in the form of a T-groove guide with the platen **60** having the T-grooves and the respective column respectively engaging the T-groove. To put it differently, a pair of distanced grooves **64** is provided and the grooves **64** are respectively engaged with opposite longitudinal side edges **24**, **25** of the respective first and second columns.

[0049] In the following, reference is made to the refilling process of the dispenser shown in FIGS. 1 to 4.

[0050] When all the sheet products contained in the dispenser are dispensed and new sheet products need to be filled into the dispenser, the user first pushes the latches **11** to disengage them from the cutouts **51**. Subsequently, the user is enabled to detach the outer shell **50** from the base **10** substantially in a translational movement along the Y direction.

[0051] In this situation, the upward surface (supporting surface) **61** of the platen **60** is in an extracted position in which the upward surface **61** is in abutting contact with a surface of the stops **17**, **18** facing the upward surface **61** of the platen **60**. Accordingly, the platen **60** is maintained in the extracted position by the stops **17**, **18**.

[0052] The user then grips a stack of sheet products and inserts the stack from the top in FIG. 3 between the columns **13**, **14** flexing the stops **17**, **18** at the hinge **21** about the axis **22** towards the inner surfaces of the columns **13**, **14** so that the stack of sheet products may pass the stops **17**, **18**. During this process, the stack contacts the supporting surface **61** of the platen **60** and the platen **60** is pushed downward toward the bottom portion **12** of the base **10** against the spring force of the spring **70** and guided along the columns **13** and **14** by the guide member **63** in a controlled manner.

[0053] Once the leading sheet product (uppermost sheet product) in the stack of sheet products has passed the stops **17**, **18**, the stops **17**, **18** spring back due to their elasticity.

Once the user releases the stack of sheet products, the surfaces of the stops **17**, **18** facing the leading sheet product come in contact with the leading sheet product when the stack of sheet products is pushed upward by the platen **60** being urged upwardly by the spring **70**. Consequently, the stack of sheet products is maintained in position and the outer shell **50** may easily be attached to the base **10** by engaging the latches **11** with the cutouts **51**. Further and as visible from FIG. 2, the outer shell **50** has ribs **100** on its inner surface **58** forming channels **101** which are respectively engaged with the columns **13**, **14** during attachment of the outer shell **50** to the base **10**. Accordingly, the outer shell **50** is guided by the channels **101** along the columns **13**, **14** during attachment/detachment of the outer shell **50** to/from the base **10**.

[0054] A further dispenser is shown in FIGS. 1, 2 and 5 to 7. The only difference as compared to the dispenser described with respect to FIGS. 1 to 4 is that the stops **17**, **18** are omitted and instead a retention mechanism **80** is embodied. The retention mechanism **80** is provided to temporarily retain the platen **60** in the retracted position for refilling when the outer shell **50** is detached from the base **10**.

[0055] For this purpose, the retention mechanism **80** comprises an engaging member **81** and an engaged member. The engaging member **81** may, for example, be fixed to the bottom portion **12** of the base **10**. The engaging member **81** may be made of bent sheet metal, thus being flexible and elastic. The engaging member **81** may have a latch **82**. The engaging member **81** may further have a release portion **84** configured to engage with an inner surface **58** of the outer shell **50** upon attachment of the outer shell **50** to the base **10**.

[0056] The engaged member may be in the form of a cutout **83** formed in a side surface of the platen **60**.

[0057] Accordingly, a user may place a new stack of sheet products on the supporting surface **61** of the platen **60** and push the platen **60** downward against the spring force of the spring **70**. Once the platen **60** reaches the retracted position as shown in FIG. 5, the latch **82** is first pressed inward and subsequently springs back to engage with the cutout **83**. Accordingly, the platen **60** is retained in the retracted position, even if the user releases the platen **60**. As a result, the stack of sheet products can easily be placed on the supporting surface resting between the columns **13** and **14** and on the upward supporting surface **61** enabling easy attachment of the outer shell **50**.

[0058] When attaching the outer shell **50** as shown in FIGS. 7A and B by translationally moving the outer shell **50** along the arrow A in FIG. 7A, an inner surface **58** of the outer shell **50** comes in contact with the release portion **84** of the engaging member **81** and pushes the engaging member **81** inward whereby the latch **82** is released from the cutout **83**. Consequently, the platen **60** may move upward as shown by the arrow B in FIG. 7B being urged by the spring **17**.

[0059] An alternative retention mechanism **90**, which may be used instead of the retention mechanism **80**, is shown in the dispenser depicted in FIGS. 1, 2 and 7 to 10. The retention mechanism **90** is provided to temporarily retain the platen **60** in the retracted position for refilling when the outer shell **50** is detached from the base **10**.

[0060] For this purpose, the retention mechanism **90** comprises an engaging member **91** and an engaged member. The engaging member **91** may, for example, be fixed to the

platen **60**. The engaging member **91** is one piece with the platen **60** and integrally formed in an injection molding process. The engaging member **91** may have one or more flexible latches **92**. The engaging member **91** may further have a release portion **94** configured to engage with an inner surface **58** of the outer shell **50** or a ramp **59** at the inner surface **58** of the outer shell **50** upon attachment of the outer shell **50** to the base **10**.

[0061] The engaged member may be in the form of one or more hooks **93** formed at the bottom portion **12** of the base **10**.

[0062] Accordingly, a user may place a new stack of sheet products on the supporting surface **61** of the platen **60** and push the platen **60** downward against the spring force of the spring **70**. Once the platen **60** reaches the retracted position as shown in FIG. 9, the latches **92** are first pressed inward by the slanted surfaces **94** of the hooks **93** and subsequently spring back to engage with the hooks **93**. Accordingly, the platen **60** is retained in the retracted position, even if the user releases the platen **60**. As a result, the stack of sheet products may be placed on the supporting surface and rests between the columns **13** and **14** and on the supporting surface **61** enabling easy attachment of the outer shell **50**.

[0063] When attaching the outer shell **50** as shown in FIGS. 10A and B by translationally moving the outer shell **50** along the arrow A in FIG. 10A, a ramp **59** on an inner surface **58** of the outer shell **50** comes in contact with the release portion **94** of the engaging member **91** and pushes the engaging member **91** inward (see arrow C in FIG. 10A), whereby the latches **92** are released from the hooks **93**. Consequently, the platen **60** may move upward as shown by the arrow B in FIG. 10B being urged by the spring **17**.

[0064] The use of the stops **17**, **18** and of the retention mechanisms **80**; **90** has been disclosed separately in the illustrated example embodiments. Yet, it will be apparent that the stops and a retention mechanism may as well be embodied in one dispenser. Thus, the present disclosure is not limited to the above examples, but various modifications and alterations are conceivable within the scope of the appended claims.

What is claimed is:

1. A dispenser for sheet products comprising:

a base (**10**);

an outer shell (**50**) mounted to the base, wherein the outer shell has a first portion (**52**) configured to enclose a stack of sheet products to be dispensed and a second portion (**53**) having a dispensing opening (**54**), the first and second portion being non-detachably and non-movably fixed relative to each other;

a platen (**60**) reciprocally moveable relative to the base (**10**) and spring biased toward the dispensing opening (**54**); and

first and second columns (**13**, **14**) respectively extending from the base (**10**) parallel to a movement direction of the platen (**60**) on opposite sides of the platen, wherein the outer shell (**50**) is detachable from the base (**10**) for inserting a stack of paper products between the first and second columns onto the platen.

2. The dispenser according to claim 1, wherein the first portion (**52**) comprises two pairs of opposite side walls (**55**) and the second portion (**53**) comprises a top wall (**57**) non-detachably and non-movably fixed to the side walls (**55**).

3. The dispenser according to claim 1 or 2, wherein the first (52) and second (53) portions are made of one piece.

4. The dispenser according to any one of the preceding claims, further comprising a stop (17, 18) at each of the first and second columns (13, 14), respectively provided at an end (16) of the first and second columns opposite to the base (10), the stops being configured to engage with a leading sheet product of the stack of sheet products and/or the platen (60) in an extended position.

5. The dispenser according to claim 4, wherein the stops (17, 18) are flexible parallel to the movement direction of the platen (60).

6. The dispenser according to claim 5, wherein the stops (17, 18) are more flexible parallel to the movement direction of the platen (60) in a direction towards the base (10) than a direction away from the base.

7. The dispenser according to claim 4, 5 or 6, wherein the stops (17, 18) are made of an elastic material.

8. The dispenser according to claim 7, wherein the stops (17, 18) are made of polypropylene.

9. The dispenser according to any one of claims 4 to 8, wherein the stops (17, 18) are separate parts fitted to the respective ends (16) of the first and second columns (13, 14).

10. The dispenser according to any one of the preceding claims, wherein the platen (60) has guide members (63) on opposite sides, respectively engaged with the first and second columns (13, 14).

11. The dispenser according to claim 10, wherein each guide member (63) has a pair of distanced grooves (64), respectively engaged with opposite longitudinal side edges (24, 25) of the respective first and second columns.

12. The dispenser according to any one of the preceding claims, wherein the base (10) and/or the columns (13, 14) and/or the outer shell (50) are made of a rigid plastic material, particularly of the acrylonitrile butadiene styrene group.

13. The dispenser according to any one of the preceding claims, further comprising a retention mechanism (80; 90) configured to temporarily retain the platen (60) in a retracted position while the outer shell (50) is detached from the base (10).

14. The dispenser according to claim 13, wherein the retention mechanism (80; 90) comprises an engaging member (81; 91) and an engaged member (83; 93), wherein the engaging member is configured to be engaged with the engaged member when manually moving the platen (60) into the retracted position while the outer shell (50) is detached from the base (10).

15. The dispenser according to claim 14, wherein the engaging member (81; 91) is provided with a release portion (84; 94) configured to be engaged with the outer shell (50) to release the engaging member from the engaged member when the outer shell is attached to the base (10).

16. The dispenser according to claim 14 or 15, wherein the engaging member (81) is a latch (82) fixed relative to the base and to be engaged with a cutout or hook, as the engaged member (83), fixed relative to the platen.

17. The dispenser according to claim 14 or 15, wherein the engaging member (91) is a latch (92) fixed relative to the platen and to be engaged with a cutout or hook, as the engaged member (93), fixed relative to the base.

18. The dispenser according to any one of the preceding claims, wherein the outer shell (50) has channels (101) parallel to the movement direction of the platen respectively engaged with the first and second columns (13, 14).

19. That dispenser according to anyone of the preceding claims, wherein a width of the columns (13, 14) in a direction perpendicular to the movement direction of the platen and to a distance between the columns (13, 14) is not more than 50 mm and not less than 10 mm.

* * * * *