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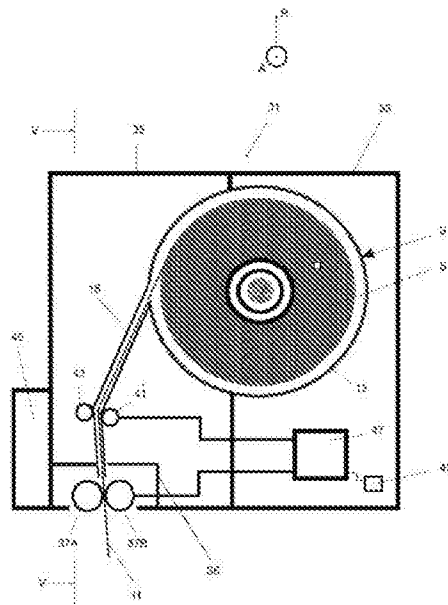
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System for storing and dispensing wipes

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An assembly comprises a roll (3) of wipe material (5), providing a peripheral free end (11) extending from the roll (3), and a dispenser (31) having a rigid housing (33, 35) with a dispensing mouthpiece (36) for dispensing successive sections from the free end (11) of the wipe material. The assembly comprises an envelope (9) within the housing, the roll (3) being rotary arranged within the envelope (9). The envelope (9) comprises a first portion (13) enclosing the roll (3) and a discharge tunnel (15). The discharge tunnel (15) extends from the first portion (13) and provides an enclosed channel for the free end (11) between the roll (3) and the mouthpiece (36).



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System for storing and dispensing wipes

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TECHNICAL FIELD

The present disclosure relates to storing and dispensing wipes, in particular wet wipes.

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BACKGROUND

Wipes or towels are suitable for nearly any cleaning and/or polishing purpose, e.g. for household cleaning, for cleaning hands, faces and/or other body parts, etc. For many occasions wet wipes are preferred, e.g. in children day care centres. However, stored wet wipes may dry out as the moisture of the wipe material evaporates. There is a desire for methods and apparatus for dispensing of wet wipes which prevent such drying out. Conversely, there is a desire for methods and apparatus for dispensing of dry wipes in a wet environment, e.g. a bath room or showering facility.

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It is noted that dispensers for wet wipes are known. e.g. EP 1 181 884 A1 discloses an electric driven dispenser for cleaning wipes, and JP 2007-159891 A discloses an electric rolled paper supply device.

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Further, US 5,439,521 discloses a dispenser for storing and dispensing moistened toilet tissue. WO 98/08763 A1 discloses a hanging dispensers for moist tissue. US 2003/0218040, discloses a method for storing and dispensing wet wipes and WO 98/04486 A1 discloses a hanging moist tissue dispenser. WO 2014/130080 A1 discloses a dispenser for flexible sheets. US 2010/0168685 A1 discloses serially dispensable antiseptic wet wipes moistened with tincture of green soap. A portable rolled wiping product is disclosed in WO 2010/049840 A2. WO 2010/054063

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Al discloses a wipes dispensing system, wherein wipes are withdrawn from the center of a roll.

5 SUMMARY

Herewith, in an aspect an assembly is provided.

The assembly comprises a roll of wipe material providing a peripheral free end extending from the roll, and a dispenser having a rigid housing with a dispensing mouthpiece
10 for dispensing successive sections from the free end of the wipe material. The assembly comprises an envelope within the housing, the roll being rotary arranged within the envelope. The envelope comprises a first portion enclosing the roll and a discharge tunnel. The discharge tunnel extends from the first portion and
15 provides an enclosed channel for the free end between the roll and the mouthpiece.

The envelope assists in establishing and/or maintaining a desired atmosphere around the wipe material within the housing, which may differ and generally will differ from the
20 atmosphere within the housing. In particular, the envelope may establish a barrier against liquids, vapours and/or particular gases, e.g. for preserving humidity of wet wipe material in a dry atmosphere and/or preserving dryness of the wipe material in a humid atmosphere.

25 The interior volume of the envelope may be significantly smaller than that of the housing, so that a desired atmosphere can be established in a reduced volume.

The roll and the envelope may be provided as an integral unit which may be formed for placement into (the
30 housing of) the dispenser for assembling the assembly.

The dispenser, in particular the housing, may be (configured to be) wall mounted, e.g. the housing comprising mounting fixtures by which it is (to be) fixed to the wall.

The dispenser may comprise systems and parts interior of the housing but exterior of the envelope. E.g., the dispenser may comprise a positioning system, a propulsion system and/or a sectioning system for transporting and/or separating successive
5 sections from the free end of the wipe material, which may be arranged in the mouthpiece. The discharge tunnel may extend from the roll up to or into the positioning system, the propulsion system and/or the sectioning system. A positioning system may be provided with or formed as a slot through which the wipe
10 material is fed which slot and formed such that bending and/or folding of the wipe material is substantially prevented e.g. being formed with a width closely conforming to the thickness of the wipe material. Also or alternatively a positioning system may be provided with or formed as one or more rollers engaging
15 the wipe material. In an embodiment, a propulsion system and a positioning system are integrated in that the propulsion is effected by active motion of part of the positioning system, e.g. in case of one or more rolls which may be driven by the wipe material when that is pulled, but which may be driven by an
20 actuator to propel the wipe material without the material being pulled.

The wipe material may be made of paper, cloth and/or other woven or nonwoven material. It may be single-ply, 2-ply, 3-ply, or of any other suitable construction. The wipe material
25 may be wet wipe material, e.g. wetted with one or more watery, oily and/or alcoholic substances, to provide wet wipes.

The roll may comprise a substantially continuous web of the wipe material, possibly provided with tear lines formed as visual markings and/or physically weakened portions such as by
30 thinning or perforating. Also, or alternatively, the roll may comprise a series of independent wipe material sections overlapping on the roll e.g. such that when one section of wipe material is withdrawn from the free end, part of a successive section of wipe material is dragged along from the roll by (an

end portion of) the former section thus re-establishing at least a portion of the free end by the latter section. The discharge tunnel may serve for at least partially supporting an overlapping portion between successive sections and possibly for
5 fixing such overlapping portion e.g. by pressing the overlapping sections together. Note that such overlapping portions may be attached together with an adhesive, by friction and/or by action of a moisturizing agent in case of wet wipes.

The roll may be provided with a core of a substantially
10 rigid material at least when compared to the wipe material. This may facilitate controlling rotation of the roll under pulling forces on the free end, facilitating peeling off successive sections of wipe material. A core is particularly useful for maintaining shape, in particular in radial direction, of the
15 roll in case of wet wipe material which tends to reduce structural strength of the roll as a whole possibly leading to deformation and/or caving in of the roll in radial direction.

In case of wet wipe material, the core may be resistant to the wetting material of the wipe material, such as watery
20 and/or oily substances, and/or substances comprising alcohols. Such wetting material resistant core may comprise metal, plastic, paper or/and cardboard and may be impregnated and/or coated to provide the resistance. The resistance should preferably last for a duration longer than the expected shelf
25 life and use life of the roll, such that the core substantially retains its structural integrity and its shape and strength for supporting the roll for at least such duration.

In an embodiment, the envelope has substantially rigid side walls extending radial with respect to the roll. In an
30 embodiment wherein the roll has a rigid core the side walls of the envelope may be sealed to the core.

The assembly may comprise one or more supports, the core being engaged and rotary supported by the support portion(s) with respect to the housing of the dispenser in use.

E.g., the core may extend axially out of the roll onto a rotary support and/or one or more supports may be inserted into an at least partially hollow core. Thus, an axis of rotation of the roll may be defined relative to (the housing of) the dispenser which may facilitate unwinding of the roll. Further, the support(s) may prevent that the roll lies on the envelope in the dispenser which could hinder unwinding the wipe material due to friction, in particular in case of wet wipe material which might stick to the envelope material. However, in such unsupported case, it is preferred that the roll is arranged within the envelope such that the free end extends from an underside of the roll. Thus, the roll may be lifted up when the free end is pulled, facilitating unwinding of the roll.

The roll may be provided with a hollow core and the one or more supports may extend into or through the core.

The core may be rotary about the one or more supports and provide a hub to the roll, the support(s) may thus form a spindle to the roll. The support(s) and the roll may be non-rotary with respect to each other with the support(s) being rotary arranged with respect to the envelope and the housing.

The support(s) may be fit within the envelope and it/they may rotate entirely within the envelope.

A support may also penetrate through the envelope and extend at least partly outside of the envelope. The envelope may be sealed to the support, e.g., the envelope and/or the support may comprise one or more elastic portions. In an embodiment, the envelope comprises one or more portions configured for penetration by a support, e.g. by markings, frangible portions, tear off portions and/or other suitable fashions.

The envelope may have a central portion extending through the hollow core of a roll provided with a hollow core, the envelope providing an enclosed tunnel extending through the core. In such case the core may be rotary about the central portion of the envelope and provide a hub to the roll.

The central portion may provide a passageway through the hollow core in which one or more support portions may be arranged which then remain outside of the interior volume enclosed by the envelope. The tunnel may be closed with a
5 frangible portion to be penetrated for freeing the passageway.

The central portion may be of different material than other portions of the envelope.

In an embodiment wherein the envelope has rigid side walls, the central portion and the side walls of the envelope
10 may form an integral reel for the wipe material, preferably with the roll being provided with a hollow core rotary about the central portion providing a hub to the roll.

In embodiments wherein the core provides a hub to the roll, one or more of the core, the support portion(s) and the
15 envelope may be formed for reduced friction, e.g. being made of or coated with a low-friction material.

The envelope may be of one or more different materials than the dispenser housing.

The envelope may comprise a flexible portion or be made
20 of a flexible material, such as a foil, e.g. a polymer foil or a paper foil, which foil may be impermeable to watery substances, oily substances and/or alcohols, e.g. by impregnation and/or coating of the foil. A laminate material, e.g. a laminated foil may also be suitably used. Preferably, one or more of the
25 envelope, the optional core and the wipe material are biodegradable.

In particular embodiments, the envelope may comprise a flexible portion or be made of a flexible material having an overhanging length l , in accordance with ASTM Standard Test
30 Method D1388-08, of about 20 cm or less, preferably about 15 cm or less, more preferably 10 cm or less, e.g. between 1 and 5 cm. Here, it is noted that ASTM D1388-08 is designed to measure the bending stiffness of a fabric and relies on a cantilever bending test, i.e. determining at which length a strip of material

extending over an edge of a horizontal supporting surface bends down under its own weight to a fixed angle. This length is referred to as the overhanging length l . Typically the strip has a width of 1 inch or 25 mm, the testing angle is 41,5 degrees and the fabric is conditioned and tested at a temperature of 23 degrees Celsius and a relative humidity of 50%. Although designed for fabrics, the test is also suitable for testing other flexible sheet materials; e.g. typical office printing paper (80 gr/m²) may have an overhanging length l of about 17 cm, which is a suitable flexibility for the envelope, but flexible polymer packaging foils for packaging wet wipes may be more flexible than that and have an overhanging length l of about 1-10 cm, in particular about 1-5 cm.

A flexible envelope also facilitates evacuation of (the interior atmosphere of) the envelope for pre-use storage since it can adopt to the shape of the roll within.

In case of an envelope with rigid side walls, the envelope may further be completed with a strip of, possibly flexible, further envelope material around the reel, which strip may form the discharge tunnel, e.g. by the strip surrounding the roll with the first portion and having ends that extend from the first portion adjacent each other and that are fastened together along their edges to form a flat tunnel.

In the assembly, the housing and one or more support portions may form a unitary object.

The roll and envelope may be provided as a separate unit, possibly provided as a kit of parts together with one or more spindle portions. This facilitates refill of the housing after the roll is emptied; the envelope and a possible core may be disposed.

The envelope may form an integral whole around the roll, without, in use, another opening than an opening at the end of the discharge tunnel for dispensing the free end, and

possibly an opening due to penetration of a spindle portion and/or a support.

The discharge tunnel may be closed or closable, e.g. with a combination of opposite interengagable locking strips and slider known per se, and/or by folding and/or rolling up and fixing the folded and/or rolled up discharge tunnel. Also or alternatively, the discharge tunnel may be closed by one or more portions of the dispenser, e.g. pressing opposite sides of the discharge tunnel towards each other. In an embodiment the dispenser may comprise a sealing portion engaging, preferably resiliently, the discharge tunnel and urging the discharge tunnel closed. Such closing of the discharge tunnel reduces drying out of wet wipe material or humidity ingress in the case of dry wipe material. The sealing portion may comprise a bending edge, e.g. a rib and/or a roller urging against the discharge tunnel. In case of a resilient engagement the resiliency may be determined for relaxing the engagement and/or freeing the discharge tunnel when dispensing a portion of the roll material but closing the discharge tunnel otherwise.

Further aspects comprise a roll of wetted paper for dispensing as sheets in a dispenser, the roll of wetted paper comprising a film of wetted paper that might be perforated and that is wound around a core, whereby the roll of wetted paper is enclosed in an envelope creating a humid surrounding for the roll, the envelope comprises a discharge tunnel having a width that is at least the width of the roll and a length that is at least more than 25% of the width, preferably more than 50% the width and more preferably 100%, a greater length providing a better insulation of the roll material inside the envelope from an outside atmosphere. The roll further is suitable for use with a supporting member to maintain the cylindrical shape of the core. The supporting member inside the envelope and its material may maintain their stiffness in the humid surroundings, the envelope may seal against both ends of supporting member or form

a cylindrical part inside supporting member. The supporting member outside envelope and core may be able to rotate around a cylindrical part of the envelope inside the core. The discharge tunnel may have a height transverse to its width and length that is smaller than the diameter of the core.

In the assembly, a propulsion system may operate by pulling on the free end and/or by driving rotation of the roll, in particular by driving the core.

The dispenser may further comprise a control system for controlling one or more dispensing actions. In particular, the control system of the dispenser may comprise one or more detectors and it may be configured to perform a dispensing action at a user-occasioned signal, which may be mechanical, e.g. turning a knob or pressing a button, and/or which may be at least partly electronical, e.g. pressing a button, triggering a proximity switch or provided via another detector and/or other type of detector.

The control system may also monitor dispensing velocity, dispensing amount (number and/or length of wipe sections dispensed, remaining length of wipe material and/or number of dispense sections on the roll, etc.), other quality control parameters (number of successive wipes dispensed per unit of time which may indicate that a default wipe length is too small or too long; humidity of wipe material; thickness of wipe material; possible tears or other damages to wipe material; propulsion force of propulsion system relative to wipe material velocity indicative of snags and/or jams; etc.)

BRIEF DESCRIPTION OF THE DRAWINGS

The above-described aspects will hereafter be more explained with further details and benefits with reference to the drawings showing a number of embodiments by way of example.

Fig. 1 shows a roll of wipe material provided with a core and comprising an envelope, partly broken away;

Fig. 1A is a side view of another embodiment;

Figs. 2A-2B are different cross section views of an embodiment of a unit of a roll of wipe material with a core and an envelope, further being provided with a support;

5 Fig. 3 shows part of a unit comprising a roll provided with a partly hollow core, an envelope and supports;

Figs. 3A-3D show further embodiments of a unit in accordance with Fig. 3;

10 Figs. 4 and 5 are sketches of the roll of Fig. 1 arranged in a dispenser (partly shown), in cross section and front view, respectively.

DETAILED DESCRIPTION OF EMBODIMENTS

It is noted that the drawings are schematic, not
15 necessarily to scale and that details that are not required for understanding the present invention may have been omitted. The terms "upward", "downward", "below", "above", and the like relate to the embodiments as oriented in the drawings, unless otherwise specified. Further, elements that are at least
20 substantially identical or that perform an at least substantially identical function are denoted by the same numeral, possibly further identified with an alphabetic suffix.

Fig. 1 schematically shows, partly broken away, a unit
1 of a roll 3 of a web of wipe material 5 provided with a hollow
25 core 7 and being enclosed in an envelope 9.

In the following, directions will be used as in a customary cylinder reference system generally indicated: the roll has an axial direction A, a radial direction R, and a tangential direction T, being mutually perpendicular.

30 The web of wipe material 5 is wound spiralling about the core 7 substantially in tangential direction T at increasing radial distance R. A free end 11 of the web material 5 extends substantially tangentially from the roll 3, absent any

structures or forces bending the free end away from that direction.

The envelope 9 comprises a first portion 13 enclosing the roll 3 and a discharge tunnel 15 extending from the first portion 13 providing an enclosed channel for the free end 11. Thus, the envelope defines an enclosed interior volume V containing the roll 3. The discharge tunnel 15 has a length L from the first portion 13, a width W and is generally flat in a direction D perpendicular to that, closely following the shape of the free end 11 of the wipe material 5 which itself has width w. The discharge tunnel 15 is flexible and may be bent and/or folded substantially in tangential or radial direction (T, R) and in axial direction (A).

The width W of the shown discharge tunnel 15 is larger than the width w of the roll 3 and the length L is comparable to the width W.

The envelope 9 is preferably made of a water-, oil- and alcohol-proof polymer foil.

In Fig. 1, the envelope 9 is formed from a single sheet of foil forming an upper side of the discharge tunnel 15, a tangential cylinder surface of and around the first portion 13 and lower side of the discharge tunnel 15. Separate foil portions are fixed, e.g. welded, to the sheet to provide end faces 14 of (the first portion 13 of) the envelope 9.

At the junction J of the first portion 13, the discharge tunnel 15 and the end faces additional material may be provided to accommodate stress build-up and prevent rupturing of the envelope at such point. Possibly, as indicated in a schematic side view in Fig. 1A, envelope portions of the end face 14' of the unit 1' are shaped so that the transition from the discharge tunnel 15 to (the circumferential part of) the first portion 13 is tapering compared to the embodiment of Fig. 1, e.g. by having an extension in the direction of the discharge tunnel 15.

It is noted that the end faces may have different shapes, e.g. a polygonal shape, providing the envelope with an according prismatic shape, although the shape of a flexible envelope may not be readily discernible when partly or entirely empty and collapsed, e.g. due to consumption of the roll. The first portion may be seen to form a storage space for the roll, at least in use essentially only in communication with the outside atmosphere through the discharge tunnel which accommodates just the free end of the roll due to having a shape substantially conforming to a single wipe's cross section.

In an embodiment (not shown) the first portion and the discharge tunnel of the envelope may be formed from one sheet or one tubular portion of envelope material, e.g. foil, wherein the discharge tunnel is formed by folding opposite sides of the envelope material towards each other and fixing them thus, e.g. by gluing and/or welding.

In Fig. 1, the unit 1 is provided with a spindle extending through the core 7. The core 7 is rotary about the spindle providing a hub to the roll 3. The spindle 17 penetrates through the envelope 9. At the position of the penetration at both sides, the envelope 9 is flexible and elastic, sealing to the spindle.

In a different embodiment, not shown, the spindle may be modular and comprise three spindle portions: a central portion within the envelope and extension portions outside of the envelope. The spindle portions may be connected together by insertion into each other wherein the envelope is arranged, e.g. squeezed, between the central portion and each extension portion. Thus, a spindle is formed which does not penetrate the envelope, which may leave the envelope intact and which may obviate seals. The spindle may be fixed to the envelope, dependent on the fixation of the spindle portions to each other. Note that also in this case the roll can rotate about the spindle with the hollow core providing a hub to the roll.

Fig. 2A shows, schematically, a cross section view along the axial direction A and Fig. 2B shows, schematically a cross section view perpendicular to the axial direction A, as indicated with IIB and IIA in Figs. 2A, 2B, respectively, of another embodiment of a unit 1 comprising a roll 3 of wipe material 5 providing a peripheral free end 11 of the wipe material 5 and having an envelope 9. The unit is provided with a spindle 17. In this embodiment, (the first portion 13 of) the envelope 9 extends through the hollow core 7 forming a tunnel 19 through the core 7. A spindle 17 extends through the envelope tunnel 19 remaining outside of the interior volume of the envelope 9. The (core 7 of the) roll 3 is rotary about both the spindle 17 and the tunnel 19.

Fig. 3 shows (only one side shown) a roll 3 of wipe material provided with a partly hollow core 7, an envelope 9 and supports 21. The supports 21 each comprise a support extension 23, a sealing flange 25 and a spindle portion 27. The spindle portion 27 is inserted into the cavity of the core 7. The core 7 is rotary about the spindle portion 27 such that the roll 3 is rotary in the envelope 9.

The spindle portions 27 penetrate the envelope 9. The sealing flanges 25 engage the envelope 9 and seal the penetration. In an embodiment, the sealing flange 25 and/or at least part of end faces of the envelope 9 may be provided with an adhesive to adhere at least part of the envelope 9 and the associated sealing flange 25 together, improving the sealing without requiring clamping the flange 25 onto the envelope 9 and/or onto the roll 3 with the envelope 9 in between, reducing friction. The support extensions 23 are to be supported by a dispenser housing to support the roll for use. When supplying the unit 1, supports 21 with a support extension 27 of suitable diameter d and/or other connection structure fitting the dispenser should be provided, possibly a series of supports 21

and/or connectors may be supplied with a unit or a number of units 1.

In another embodiment, not shown, the spindle portion is fixed to the core, the support being rotary supportable in the housing of the dispenser and the roll and the support being rotary with respect to the envelope. The flange may engage the envelope.

Fig. 3A schematically shows part of an embodiment of a unit 1A having an envelope 9A with a flexible end face 14A and., likewise, Fig. 3B shows a unit 1B having an envelope 9B with flexible first portion 13B and a substantially rigid end face 14B forming a substantially rigid side wall to the envelope 9B extending radial with respect to the roll 3. In both embodiments, the roll 3 is provided with a hollow core 7, and respective spindle portions 27A, 27B of respective supports 21A, 21B extend into the core 7.

In Fig. 3A (the end face 14A of) the envelope 9A is shown pushed into the core 7 by the spindle portion 27A when installing the unit 1A into the housing. In the embodiment of Fig. 3B the side wall 14B comprises a pre-formed portion 28B extending into the core and accommodating the spindle portion. The rigid side wall may also keep at least part of the envelope free from the roll 3 and reduce friction. In both cases, the spindle portion does not penetrate the envelope and remains outside of the interior volume enclosed by the envelope.

A flexible envelope having flexible side walls can be of lesser weight and/or can conform to a decreasing size of the roll when it is consumed, reducing the interior volume of the envelope and/or the volume of the envelope when disposed of as waste.

In use, in particular facilitated by a proper selection of respective sizes of the cavity of the core 7, of the size, thickness and flexibility of the envelope material and of the (radial) size of the spindle portion 21, the core 7 is supported

on the spindle portion 27 with the envelope 9A, 9B in between, the core 7 being rotary with respect to the envelope 9A, 9B about (the spindle portion 27A, 27B of) the support 21A, 21B, providing a hub to the roll 3. One or more spindle portions may
5 be provided by the housing or provided as separate element.

In another embodiment rigid end face portions provide both a spindle portion and a support; e.g. Fig. 3C schematically shows a unit 1C having an envelope 9C with an end face 14C forming a substantially rigid side wall extending radial with
10 respect to the roll 3. The roll 3 is provided with a hollow core 7. The end face 14C of the envelope 9C comprises a pre-formed portion 28C providing a spindle portion 27C extending into the core 7 and a pre-formed support portion 23C extending outward from the envelope with respect to the roll 3. The core 7 is
15 rotary about the spindle portion 27C such that the roll 3 is rotary in the envelope 9 about the spindle portion 27C.

Fig. 3D schematically shows a unit 1D having an envelope 9D with an end face 14D forming a substantially rigid side wall extending radial with respect to the roll 3. The roll
20 3 is provided with a hollow core 7. The end face 14D of the envelope 9D comprises a pre-formed portion 28D providing a spindle portion 27D extending into the core 7 and a pre-formed support portion 23D extending outward from the envelope with respect to the roll 3. The core 7 is rotary about the spindle
25 portion 27D such that the roll 3 is rotary in the envelope 9 about the spindle portion 27D.

Figs. 4 and 5 show perpendicular cross section views of an assembly comprising a unit 1 similar to Fig. 2A-2B arranged in a dispenser 31, taken along planes V-V and IV-IV further
30 indicated in these Figures respectively. Fig. 4 shows a cross section view of an assembly comprising a unit 1 similar to Fig. 2A-2B arranged in a dispenser 31. Here, the dispenser 31 has a rear portion 33 and a front portion 35. Fig. 5 shows schematically a cross section view of the assembly of Fig. 4,

and with the unit 1 being partly broken away (indicated with wavy line C). The dispenser 31 may be mounted to a wall (not shown), e.g. by fixing (the rear portion 33 of) the housing to the wall. E.g., by screwing the rear portion 33 to the wall through appropriate apertures in the rear wall of the rear portion 33, the dispenser may be fixed in place for use, e.g. above a work bench or counter top, where successive wipes may be conveniently taken from (the free end 11 from) the dispenser 31.

5 In an embodiment, the housing 31 can be opened by at least partially separating the front and rear portions 35, 33, which may have a hinged connection.

In Fig. 5 is shown that the roll 3 is supported in the dispenser 31 by supports 29 fixed to the dispenser 31 and having a spindle portion 27 inserted into a hollow core 7. The width in axial direction A of the core 7, the wipe material 5, the supports 29 and the dispenser 31 should be adapter to each other. Different supports 29 may serve for size adjustment.

The dispenser 31 comprises a mouthpiece 36 with friction rolls 37A, 37B that position the free end 11 of the wipe material 5 and that may exert a pulling force on the free end 11 of the wipe material 5 when rotating. Here, two rolls 37A, 37B are shown but more or less rolls and/or differently arranged rolls may be provided. To increase friction on otherwise possibly slippery wet wipe material 5, the rolls 37 may have profiled portions e.g. interengaging teeth. The mouth piece may be provided with a cutter (not shown in Fig. 4, but indicated in Fig. 5 at 39) to cut the free end 11 for separation of successive sections of wipe material 5 off the free end 11, e.g. to provide a row of perforations for tearing off the section to be used by the user. The cutter may be formed separately or as one or more (possibly serrated) blades on one or both of the rolls 37, which may cooperate for cutting, e.g. by at least partly shearing against each other. Note that the mouthpiece may be provided with a compartment as indicated in

Fig. 4, and/or otherwise separated from the remainder of the dispenser so that different local atmospheres may be established. Such differentiating between local atmospheres within the dispenser in addition to the envelope may benefit hygiene of (the inside of) the dispenser, e.g. against dust formation due to cutting or tearing sections from the wipe material.

The envelope 9 encloses the roll 3 and the discharge tunnel extends from the first portion 13 providing an enclosed channel for the free end 11 between the roll 3 and (the rollers 37 of) the mouthpiece 36. Thus, evaporation of wetting material of wet wipe material is reduced or even prevented. Adhesion of the wipe material and the envelope material, pulling the materials to each other, may further assist reduction of evaporation.

The dispenser comprises a bender 41 about which the discharge tunnel 15, and the free end 11 in it, is bent, urging the discharge tunnel 15 closed about (the free end 11 of) the web 5. In Fig. 4 (not shown in Fig. 5), an optional pressuriser 43 is arranged opposite the bender 41 to provide a counterforce against the bender 41 and further urge the discharge tunnel 15 closed. The bender and/or the pressuriser 43 may be formed as a rib, a rod, a roller, an edge of an angular portion, or suitably otherwise, e.g. a portion of (a wall of) the mouthpiece; the pressurizer 43 may be formed as a plane surface or other portion acting as an anvil to the bender 41. The bender 41 and the pressurizer may have complementary curved shapes, e.g. nested convex and concave surfaces. The bender 41 and/or the pressurizer 43 may be provided with a resilient portion, e.g. one or more springs, to urge the discharge tunnel closed for sealing and to widen and free it, at least relatively to the sealed state, for transporting (the free end 11 of) the wipe material 5. The bender 41 and/or the pressurizer 43 may be supported on wall portions defining a mouth portion (not shown).

The dispenser 31 may be manually operated, e.g. comprising a grip or a lever for propelling the wipe material. In Fig. 4 however, are indicated a sensor 45 for detection of and/or executing a user command, and an engine 47 operably
5 connected with one or both rolls 37A, 37B for rotating the roll(s) 37 to propel (the free end 11 of) the wipe material 5 and/or operably connected with the cutter to cut and separate a section of the wipe material 5. Here, the engine 47 is
10 optionally connected with one or both of the bender 41 and pressurizer 43 for freeing and closing the discharge tunnel 15. The sensor 45 may comprise a push button, a contact pad and/or a non-contact sensor, each known per se. The sensor 45 and the engine may be operatively connected (not shown). A controller 49 may be provided for detecting and processing different signals
15 from the sensor 45 and/or for controlling different dispensing actions via the engine 47.

The disclosure is not restricted to the above described embodiments which can be varied in a number of ways within the scope of the claims. For instance a positioning portion may be
20 provided for positioning the discharge tunnel in a particular position relative to the roll and/or the dispenser.

The envelope may comprise one or more rigid portions, in particular end faces. The envelope may have different or different types of end faces, e.g. one flexible and one rigid
25 end face. This may assist adapting to a particular type of the housing and/or a spindle portion thereof and/or it may assist (determining) a mounting orientation into the housing. The envelope may also be provided with visual and/or tactile indicia, e.g. logos, markings, etc. for identifying a mounting
30 orientation.

Rolls 37A, 37B, the engine 47 and/or other provisions may block transport of the wipe material under certain circumstances, e.g. when the free end is pulled without a

predetermined preceding action (freeing button, triggering sensor, etc.).

5 Instead of or in addition to a cutter a (possibly serrated) blade and/or teeth may be provided for separating a section of web material by tearing it off. These may be provided in a slot on an outside of the dispenser housing providing the dispensing mouthpiece.

CONCLUSIES

1. Een samenstel omvattende een rol (3) tissuemateriaal (5),
in het bijzonder natte-tissuemateriaal, die een vrij
5 omtrekseinde (11) verschaft dat zich van de rol (3) uitstrekt,
en een dispenser (31) die een stijf huis (33, 35) heeft met een
afgiftemondstuk (36) voor het afgeven van achtereenvolgende
secties van het vrije einde (11) van het tissuemateriaal,
waarbij het samenstel een omhulling (9) omvat binnenin het huis
10 (33, 35), waarbij de rol (3) draaibaar is gerangschikt binnen de
omhulling (9), waarbij de omhulling (9) een eerste deel (13)
omvat dat de rol omsluit en een afgiftetunnel (15) zich
uitstreckende van het eerste deel (13) een omsloten kanaal
verschaffende voor het vrije einde (11) tussen de rol (3) en het
15 mondstuk (36), waarbij het samenstel is ingericht voor het
reversibel sluiten en vrijgeven van de afgiftetunnel.

2. Het samenstel volgens conclusie 1, waarbij de rol is
voorzien van een kern van een hoofdzakelijk stijf materiaal ten
20 minste ten opzichte van het tissuemateriaal, waarbij in het
bijzonder de kern bestand is tegen het bevochtigingsmateriaal
van natte-tissuemateriaal.

3. Het samenstel volgens conclusie 2, waarbij het samenstel
25 een of meer dragers omvat, waarbij de kern wordt aangegrepen en
draaibaar ondersteund door de een of meer dragers ten opzichte
van het huis van de dispenser in gebruik.

4. Het samenstel volgens conclusie 3, waarbij de rol is
30 voorzien van een holle kern en een of meer dragers zich
uitstrekken in of door de kern.

5. Het samenstel volgens conclusie 4, waarbij de kern draaibaar is om de een of meer dragers en de rol een naaf verschaft.

5 6. Het samenstel volgens een van de conclusies 3-5, waarbij de een of meer dragers binnen de omhulling zijn gepast en geheel binnen de omhulling draaibaar zijn.

10 7. Het samenstel volgens een van de conclusies 3-5, waarbij de een of meer dragers door de omhulling heen steken en zich ten minste gedeeltelijk buiten de omhulling uitstrekken, waarbij in het bijzonder de omhulling is afgedicht op de een of meer dragers.

15 8. Het samenstel volgens een van de conclusies 2-6, waarbij de rol is voorzien van een holle kern en de omhulling een centraal deel heeft dat door de holle kern steekt, waarbij de omhulling een holle kern verschaft die zich door de kern uitstrekt, waarbij de kern draaibaar kan zijn rond het centrale
20 deel van de omhulling en de rol een naaf kan verschaffen en waarbij verder het centrale deel een passage kan verschaffen door de holle kern waarin een of meer dragers kunnen zijn gerangschikt die dan buiten de door de omhulling omsloten binnenruimte blijven.

25 9. Het samenstel volgens een van de voorgaande conclusies, waarbij de omhulling een flexibel deel omvat of van een flexibel materiaal is gemaakt, zoals een folie, welk folie ondoordringbaar kan zijn voor waterige substanties, olieachtige
30 substanties en/of alcoholen, in het bijzonder voor een of meer bevochtigingsmaterialen van natte-tissuemateriaal van de rol.

10. Het samenstel volgens conclusie 9, waarbij het samenstel is ingericht voor het reversibel sluiten en vrijgeven van de

afgiftetunnel (15) door ten minste een van het buigen, het vouwen en het oprollen van de afgiftetunnel (15).

11. Het samenstel volgens een van de voorgaande
5 conclusies, waarbij de omhulling is voorzien van onderling aangrijpende vergrendelingstrips en mogelijk een schuif.

12. Het samenstel volgens een van de voorgaande conclusies,
waarbij de omhulling een afgiftetunnel omvat, met een breedte
10 die ten minste de breedte van de rol en een lengte van ten minste meer dan 25% van de breedte, bij voorkeur meer dan 50% van de breedte en bij hogere voorkeur 100%.

13. Het samenstel volgens een van de voorgaande conclusies,
15 waarbij de dispenser een afdichtingsdeel omvat dat, bij voorkeur veerkrachtig, de afgiftetunnel aangrijpt en de afgiftetunnel dichtdrukt.

14. Het samenstel volgens conclusie 13, waarbij het
20 afdichtingsdeel een ombuiger en/of drukker omvat.

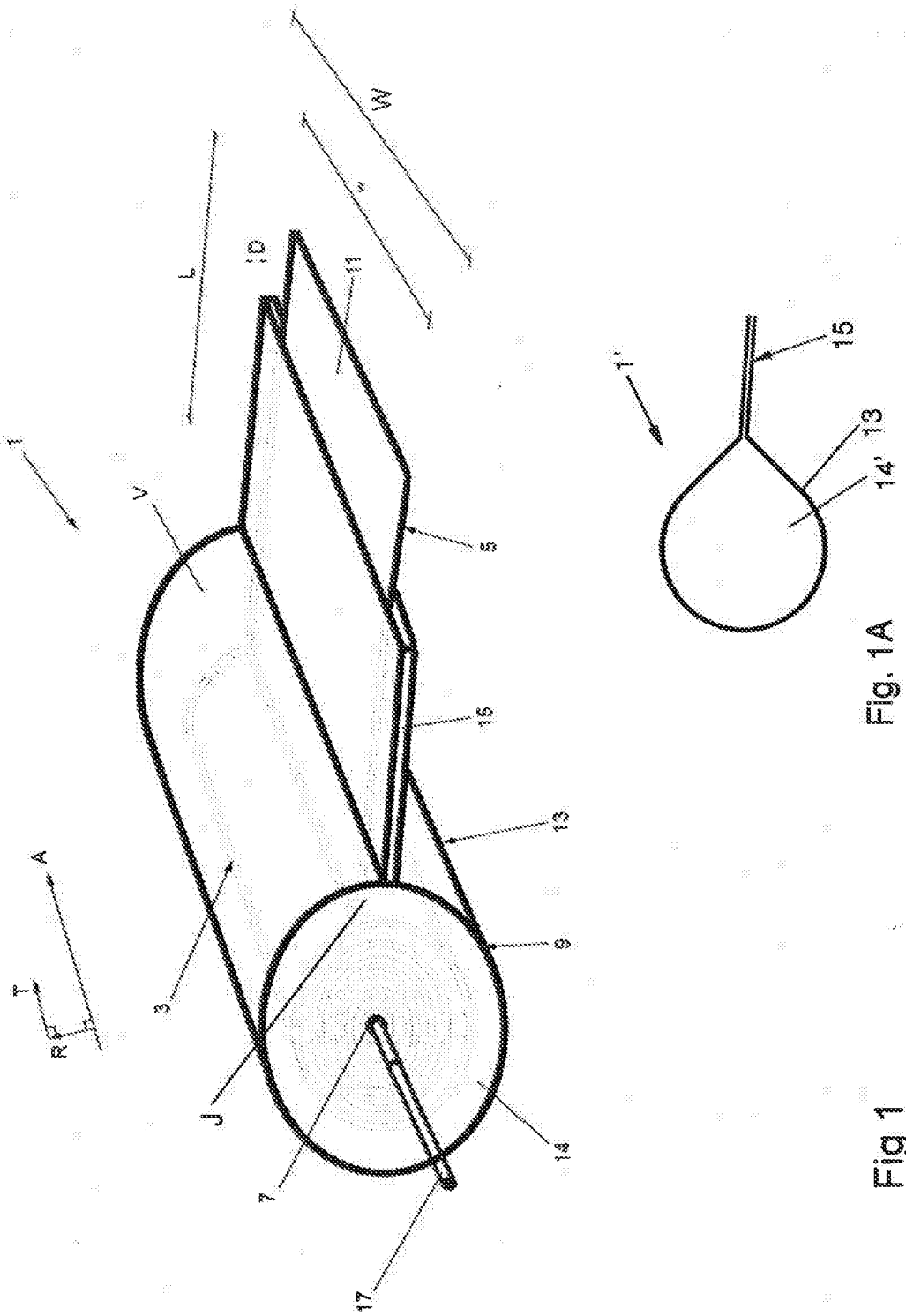
15. Het samenstel volgens een van de voorgaande conclusies,
waarbij de dispenser omvat een voortstuwingsysteem en/of een
afscheidingssysteem voor het verdelen van achtereenvolgende
25 secties van het vrije einde van het tissuemateriaal, welk voortstuwingsysteem en/of afscheidingssysteem inwendig van het huis kan zijn maar uitwendig van de omhulling en hetwelk ieder kan zijn gerangschikt in het mondstuk.

30 16. Het samenstel volgens conclusie 15, waarbij de dispenser verder een besturingssysteem omvat voor het besturen van een of meer afgiftehandelingen.

17. Een eenheid voor het samenstel volgens een van de voorgaande conclusies, de eenheid om te worden gerangschikt en gedragen in het huis van de dispenser van het samenstel, de eenheid omvattende de rol tissuedateriaal, in het bijzonder
5 natte-tissuedateriaal, verschaffende een vrij omtrekseinde zich uitstreckende vanaf de rol, waarbij de eenheid verder omvat de omhulling, de rol draaibaar binnen de omhulling gerangschikt zijnde, waarbij de omhulling een eerste deel omvat dat de rol omsluit en een afgiftetunnel die zich uitstrekt van het eerste
10 deel een omsloten kanaal verschaffend voor het vrije einde van de rol.

18. De eenheid volgens conclusie 17, waarbij de rol een kern omvat en de eenheid is ingericht voor het vormen van het
15 samenstel volgens conclusie 2 of volgens conclusie 2 en een van de conclusies 3-15.

19. De eenheid volgens conclusie 17 of 18, waarbij de eenheid een of meer asdelen en/of dragerdelen omvat en de
20 eenheid is ingericht voor het vormen van het samenstel volgens conclusie 3 of volgens conclusie 3 en een van de conclusies 4-16.



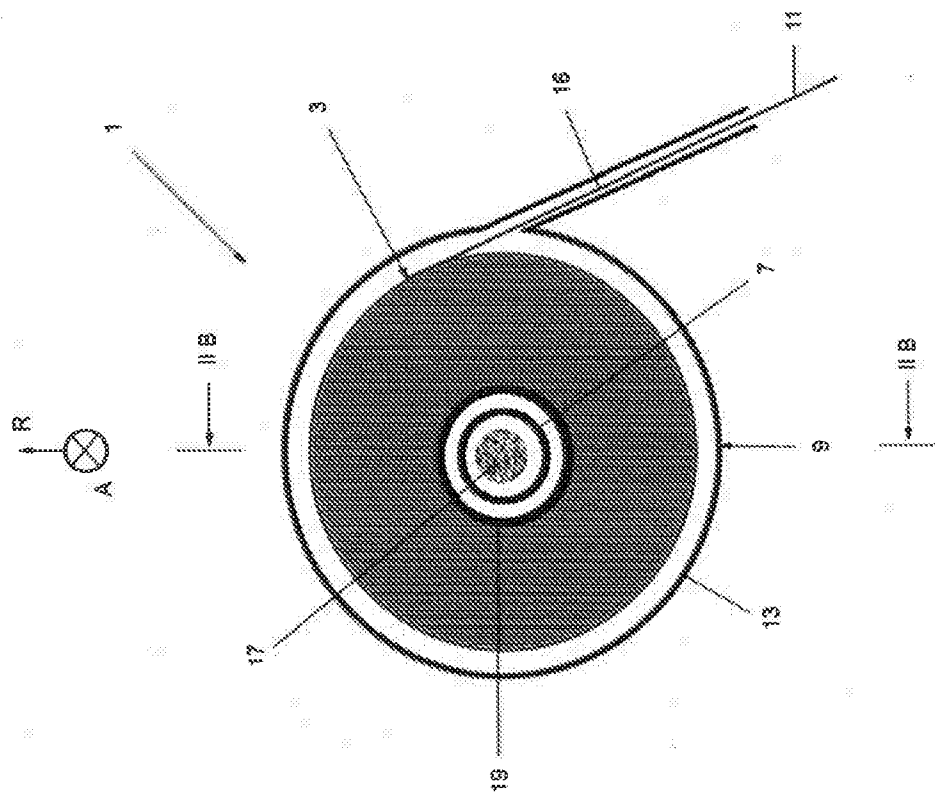
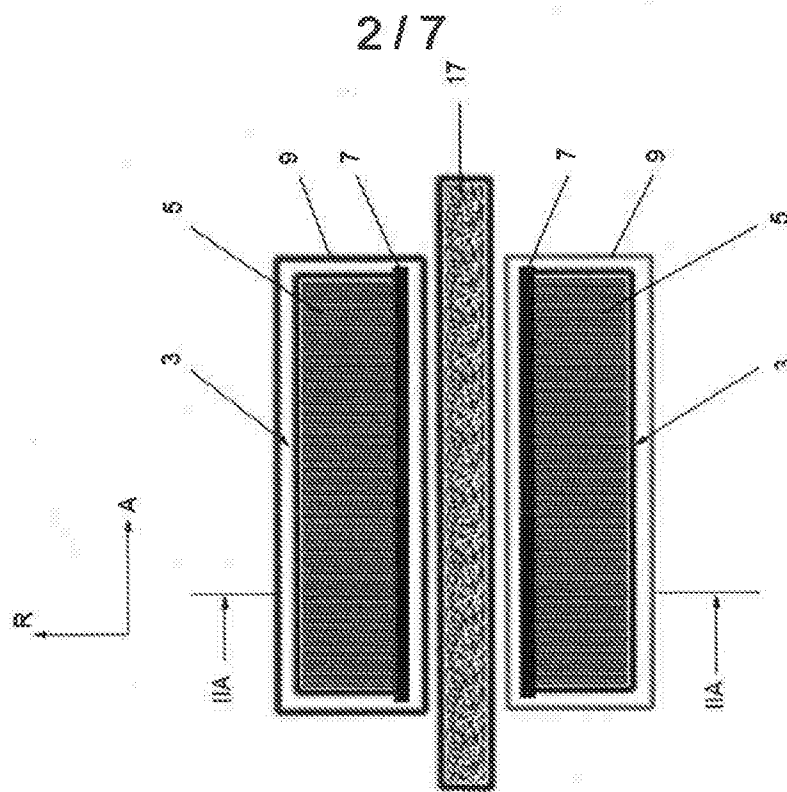


Fig. 2A



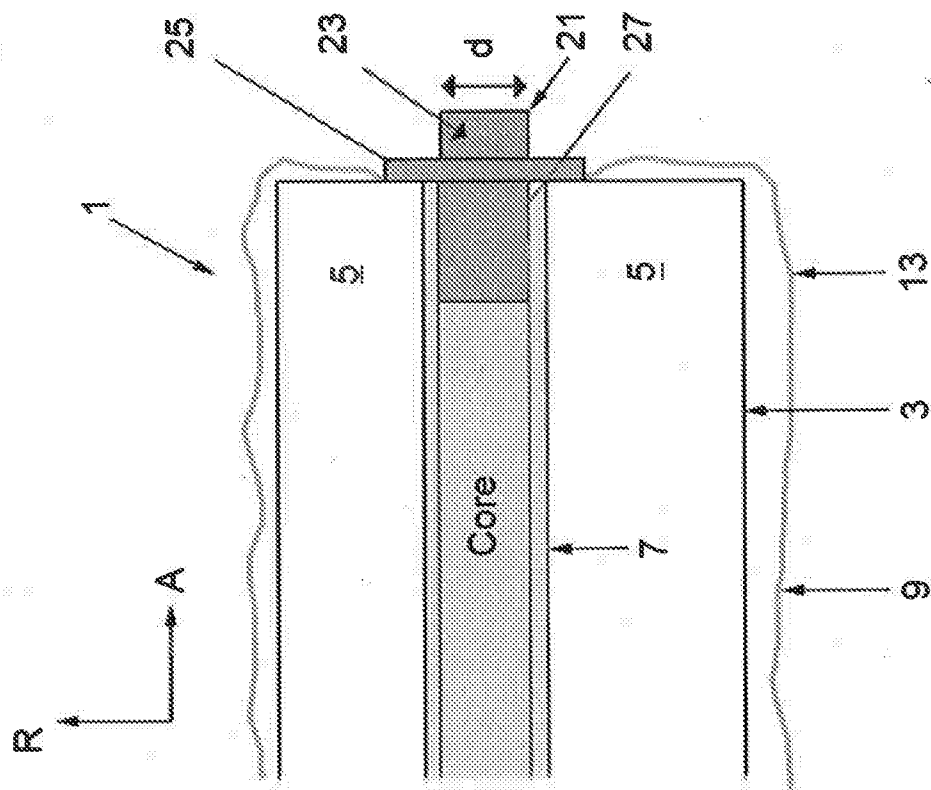


Fig. 3

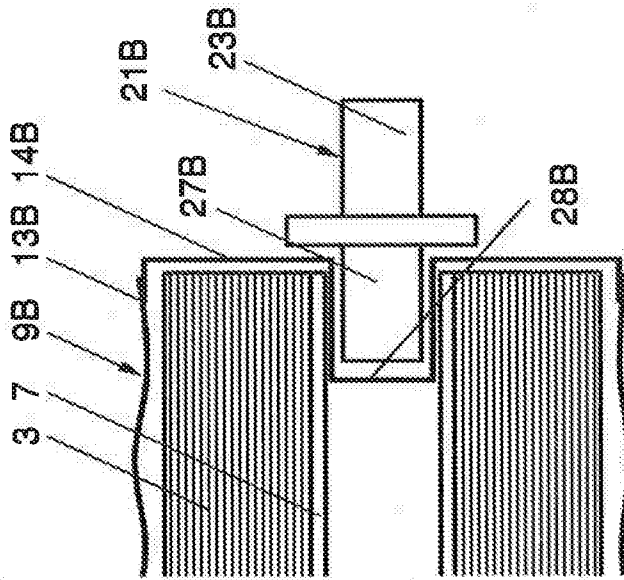


Fig. 3B

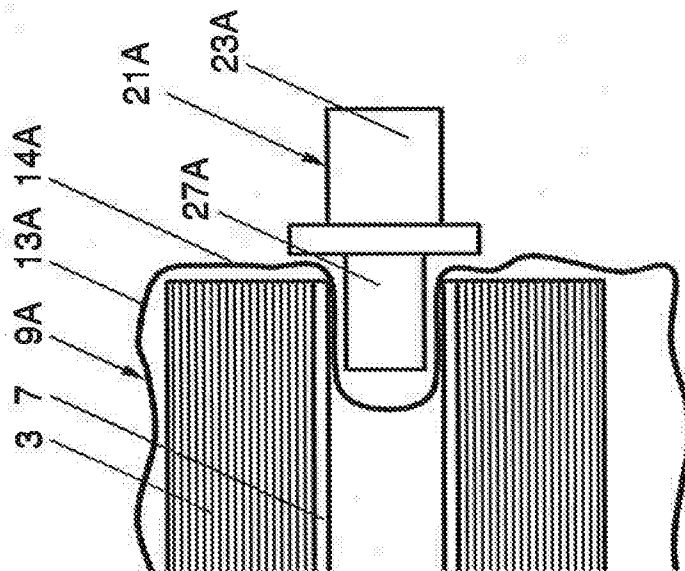


Fig. 3A

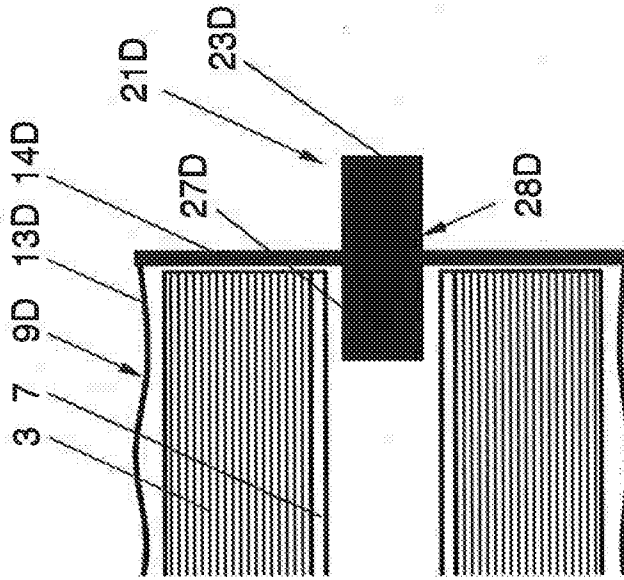


Fig. 3D

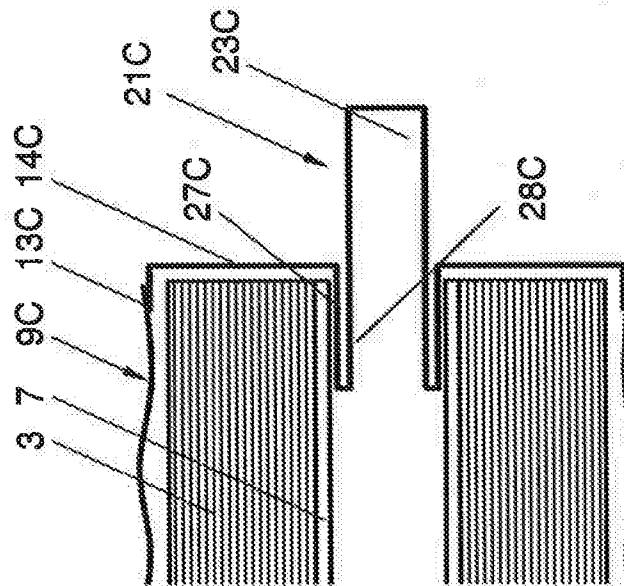


Fig. 3C

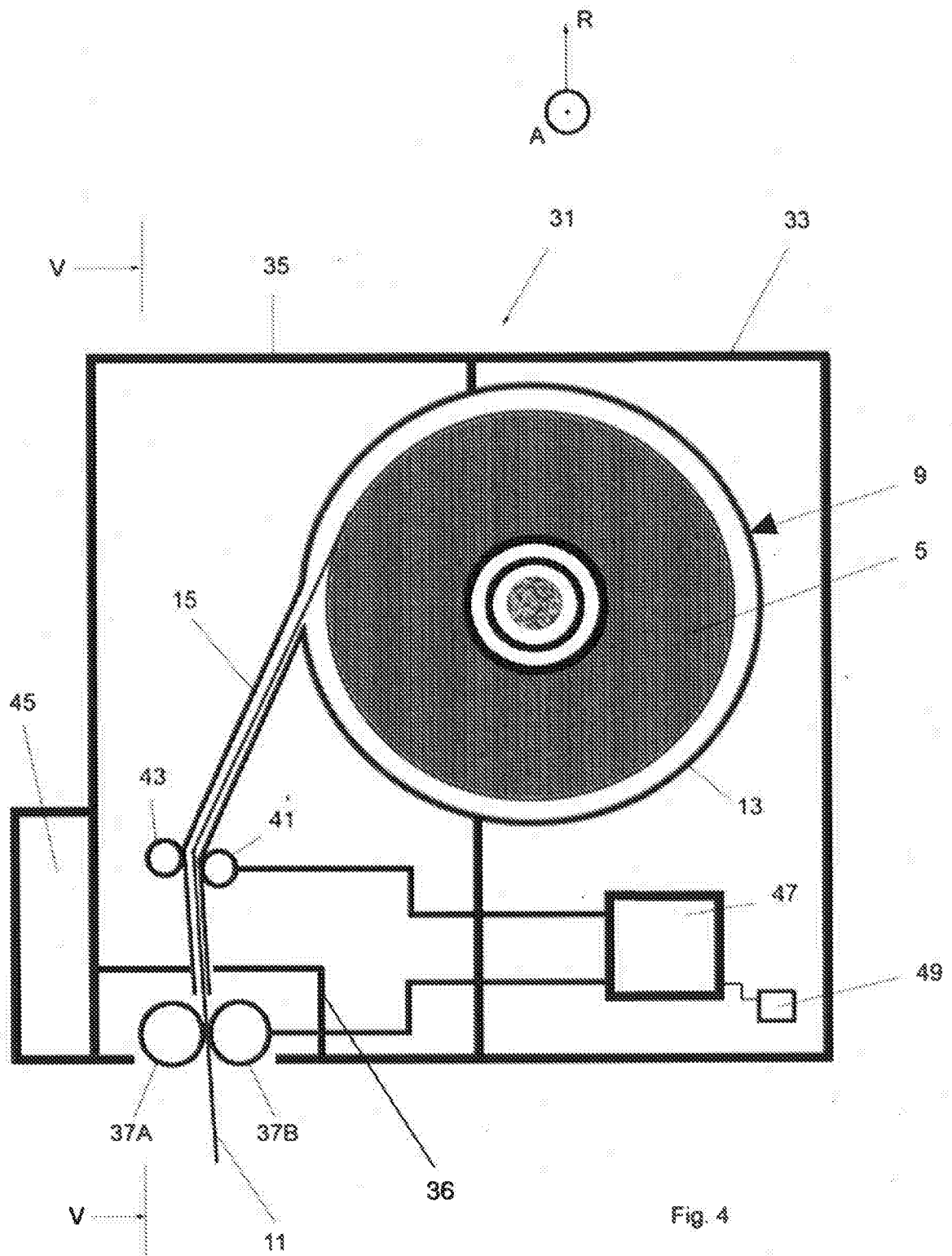


Fig. 4

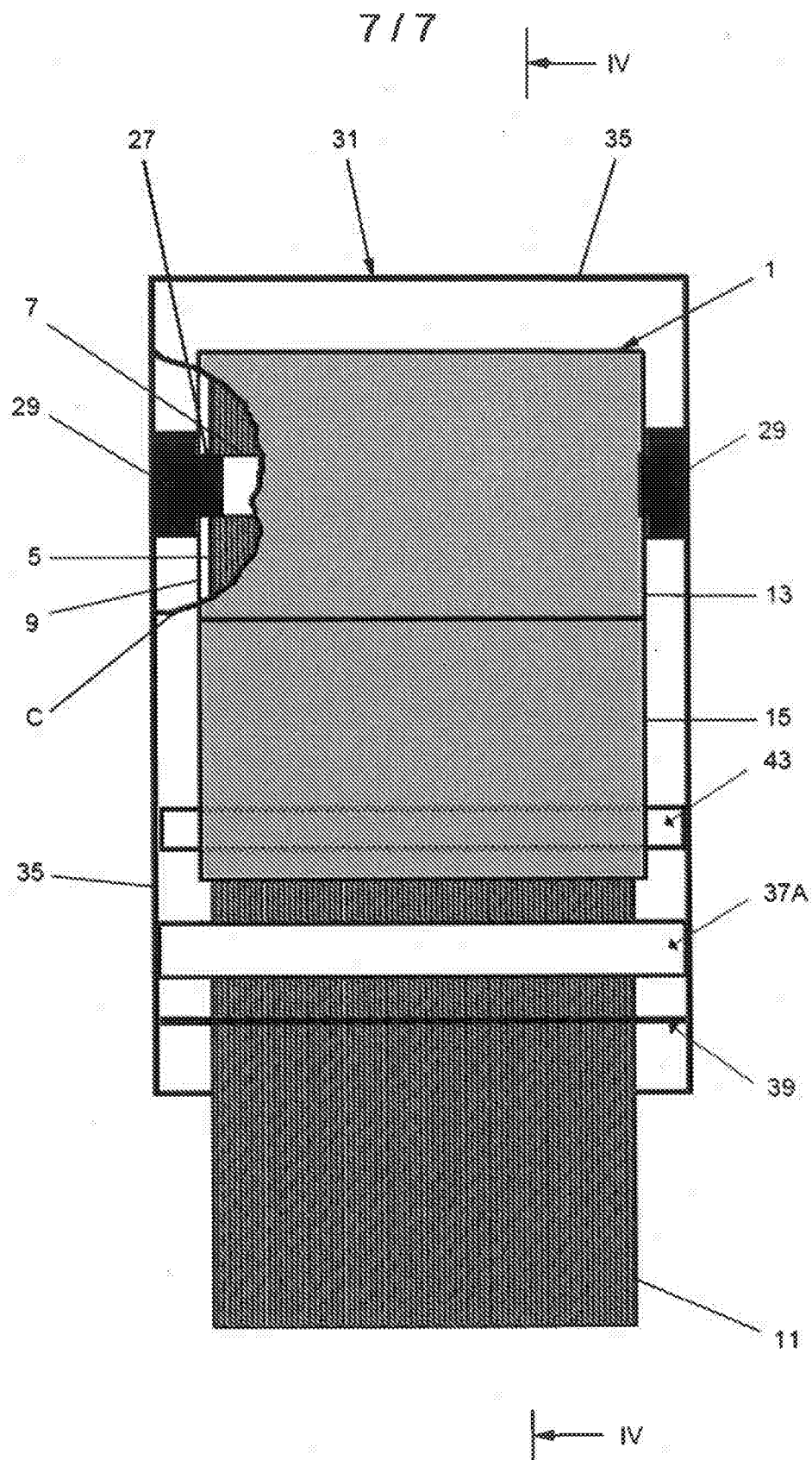


Fig. 5

ABSTRACT

An assembly comprises a roll (3) of wipe material (5), providing a peripheral free end (11) extending from the roll (3), and a dispenser (31) having a rigid housing (33, 35) with a dispensing mouthpiece (36) for dispensing successive sections from the free end (11) of the wipe material. The assembly comprises an envelope (9) within the housing, the roll (3) being rotary arranged within the envelope (9). The envelope (9) comprises a first portion (13) enclosing the roll (3) and a discharge tunnel (15). The discharge tunnel (15) extends from the first portion (13) and provides an enclosed channel for the free end (11) between the roll (3) and the mouthpiece (36).

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Octrooiaanvraag 2018287

RAPPORT BETREFFENDE HET ONDERZOEK NAAR DE STAND VAN DE TECHNIEK

Voor octrooiaanvraag 2018287 is geen onderzoek naar de stand van de techniek uitgevoerd. Het resultaat van het eerdere onderzoek naar de stand van de techniek dat door het Europees Octrooibureau is uitgevoerd voor de internationale octrooiaanvraag PCT/NL2017/050067 is namelijk mede van toepassing verklaard op octrooiaanvraag 2018287. Het eerdere onderzoeksresultaat is in zijn oorspronkelijke vorm bijgevoegd.