

(12) **United States Patent**
Watts

(10) **Patent No.:** **US 12,390,922 B2**
(45) **Date of Patent:** ***Aug. 19, 2025**

(54) **FOLDABLE MECHANIC'S CREEPER**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **18/108,613**

(22) Filed: **Feb. 11, 2023**

(65) **Prior Publication Data**

US 2023/0191586 A1 Jun. 22, 2023

Related U.S. Application Data

(63) Continuation-in-part of application No. 17/400,143, filed on Aug. 12, 2021, now Pat. No. 11,795,720.

(60) Provisional application No. 63/064,910, filed on Aug. 12, 2020.

(51) **Int. Cl.**
B25H 5/00 (2006.01)
F16N 31/00 (2006.01)

(52) **U.S. Cl.**
CPC **B25H 5/00** (2013.01); **F16N 31/004** (2013.01)

(58) **Field of Classification Search**
CPC B25H 5/00; F16N 31/004
See application file for complete search history.

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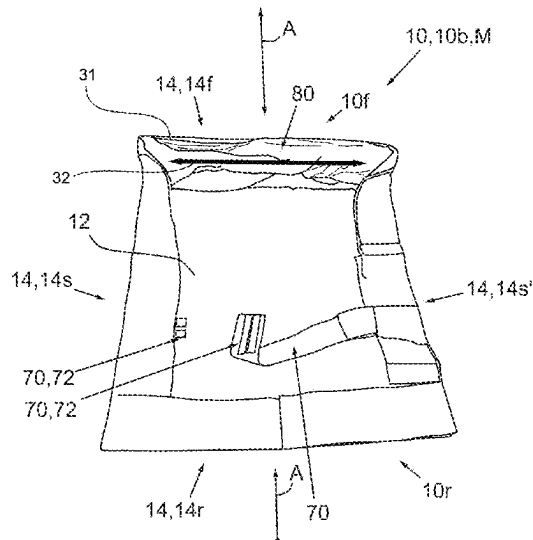
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(57) **ABSTRACT**

In one aspect there is provided a foldable creeper having a body comprised of a foldable material. The body has a first end, a second end and is foldable in a direction along a folding axis. The creeper further comprises a bottom, a raisable circumferential wall having first end portion, a second end portion, a first side wall and a second side wall, said first and second side walls running along axes that are substantially parallel to the folding axis. A first locking member and a second locking member are provided for supporting the first and second side walls. The first end portion, the second end portion and the first and second side walls are moveable relative to the bottom and cooperate to form a circumferential raised barrier around the periphery when the creeper is in an unfolded configuration.

9 Claims, 19 Drawing Sheets



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Fig. 1

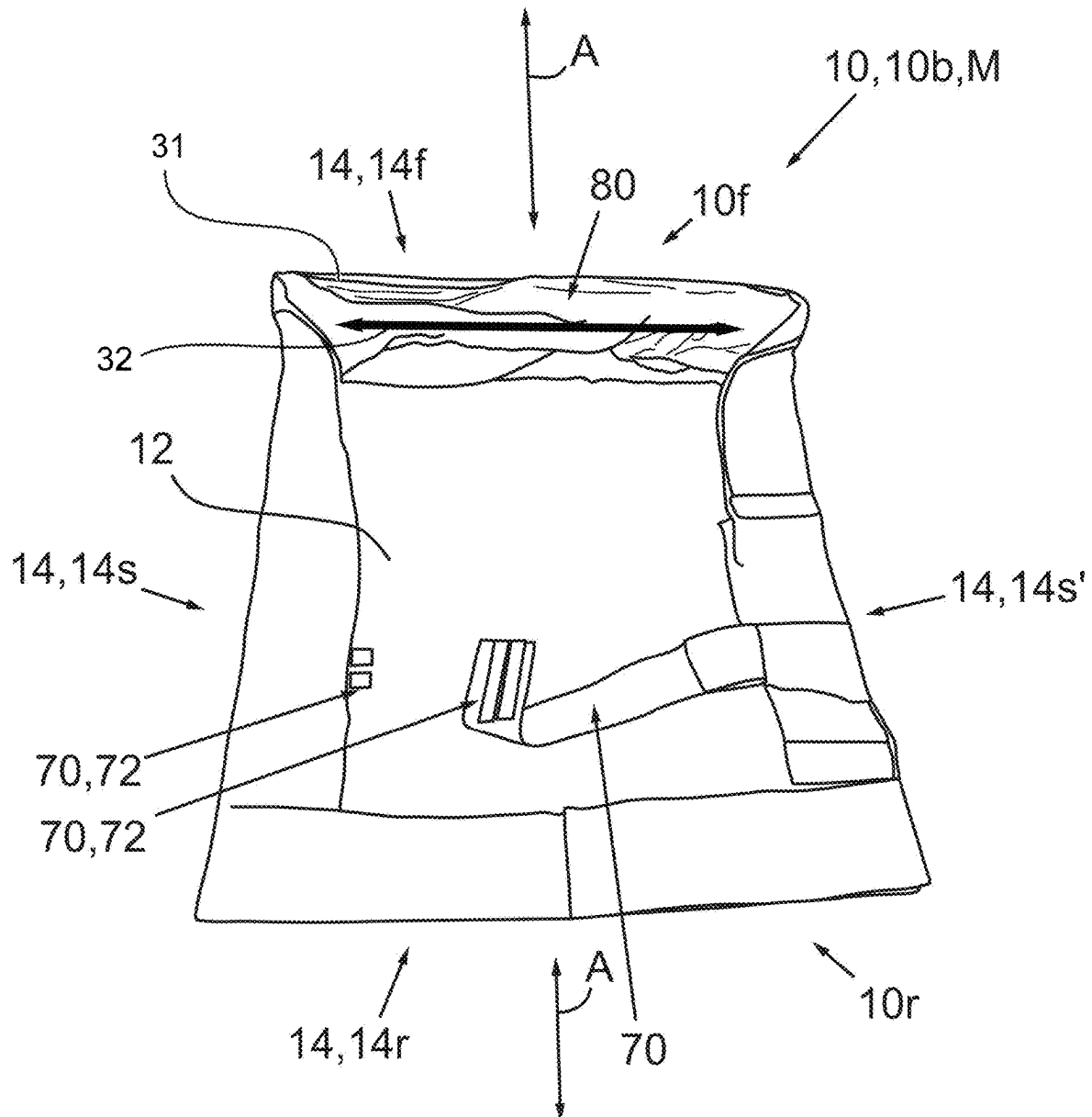


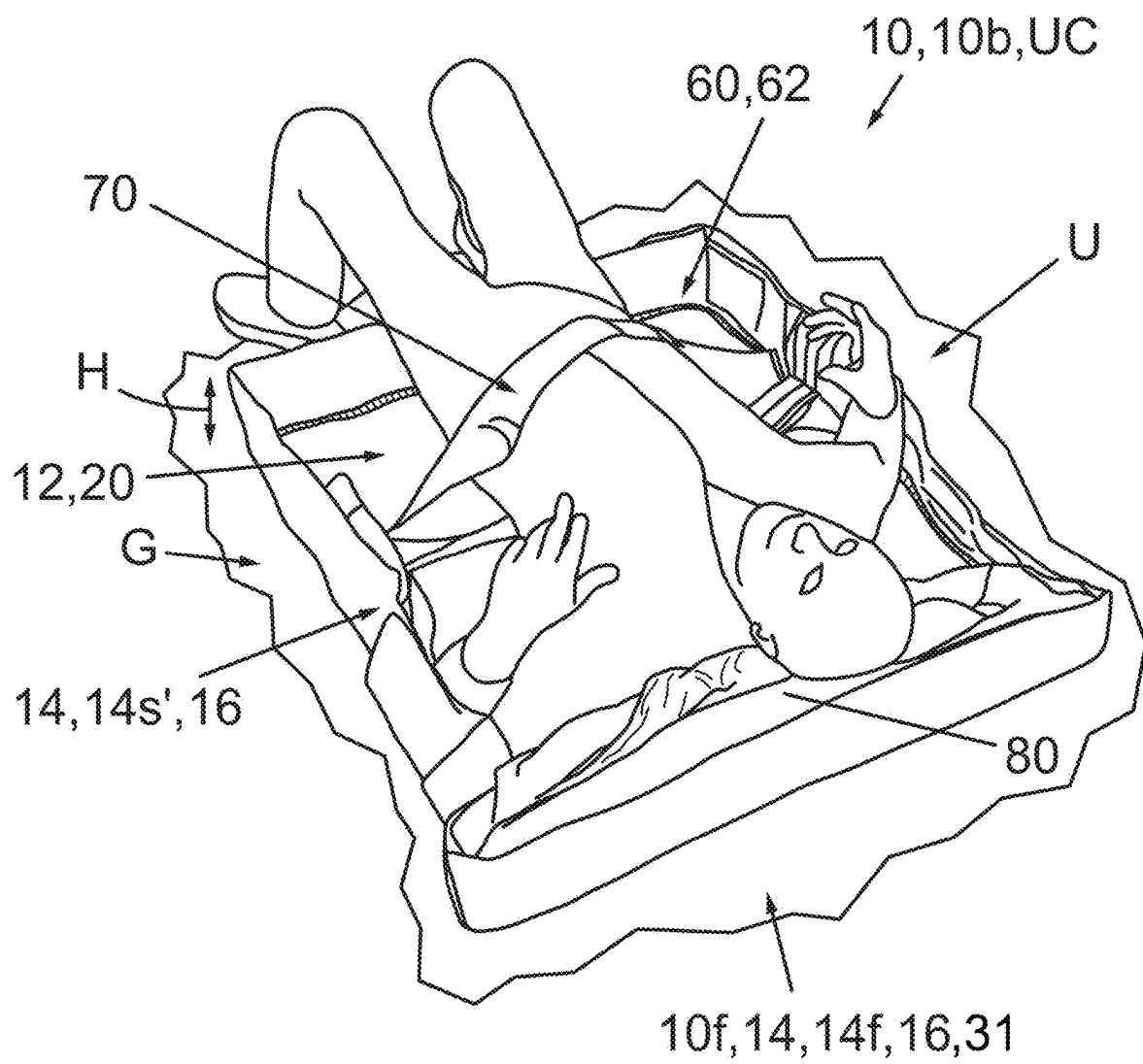
Fig. 2

Fig. 3a

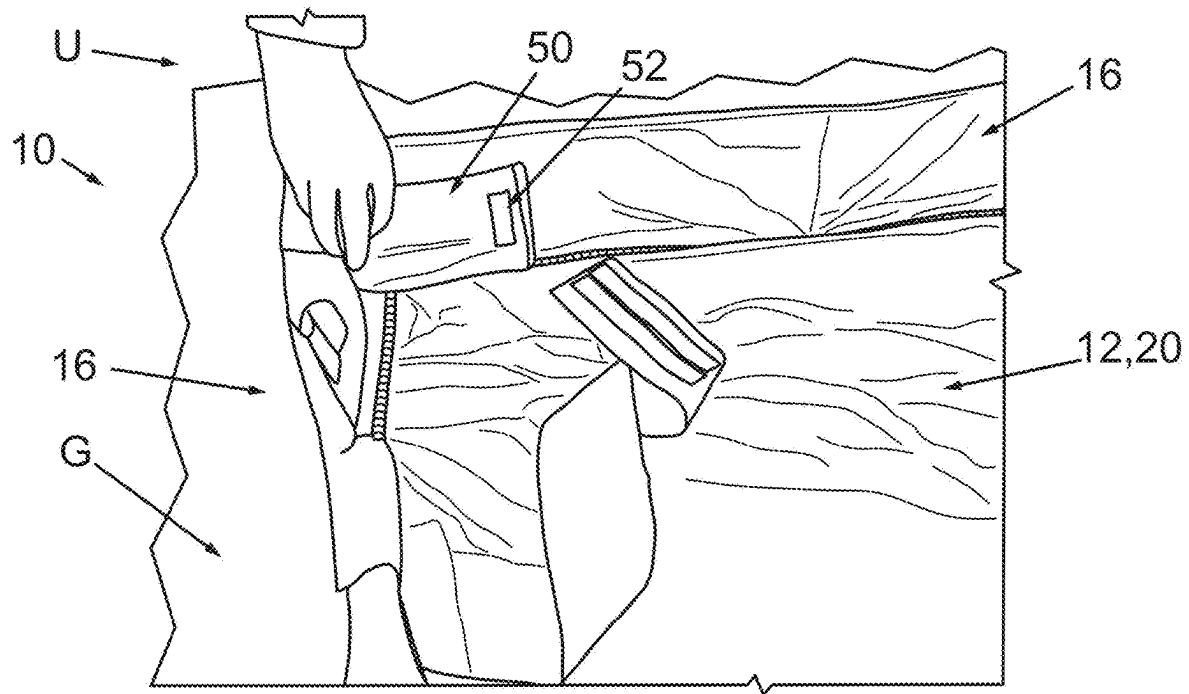


Fig. 3b

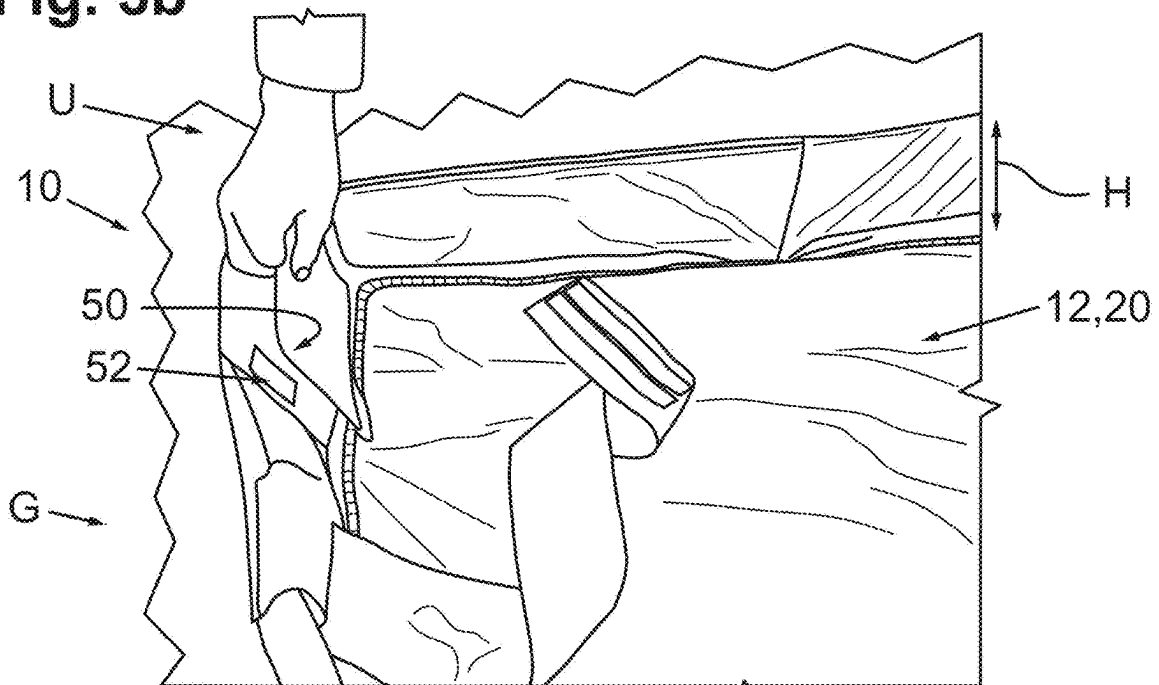


Fig. 3c

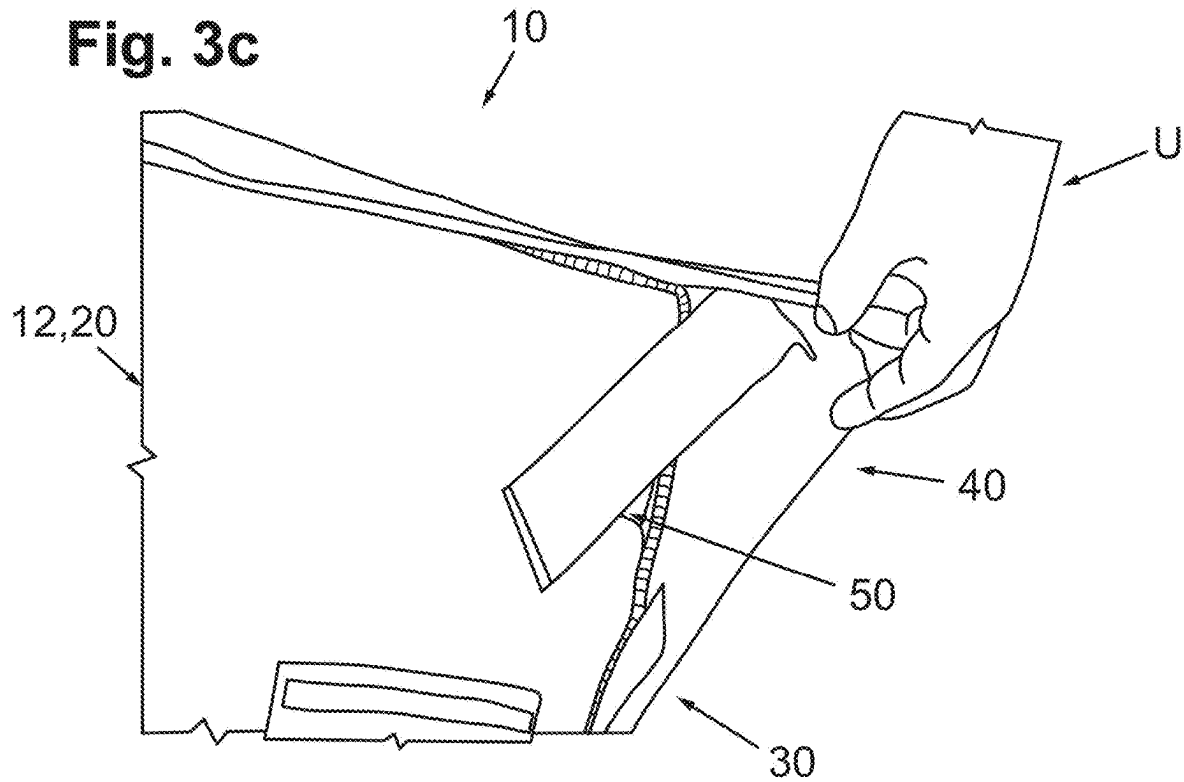


Fig. 3d

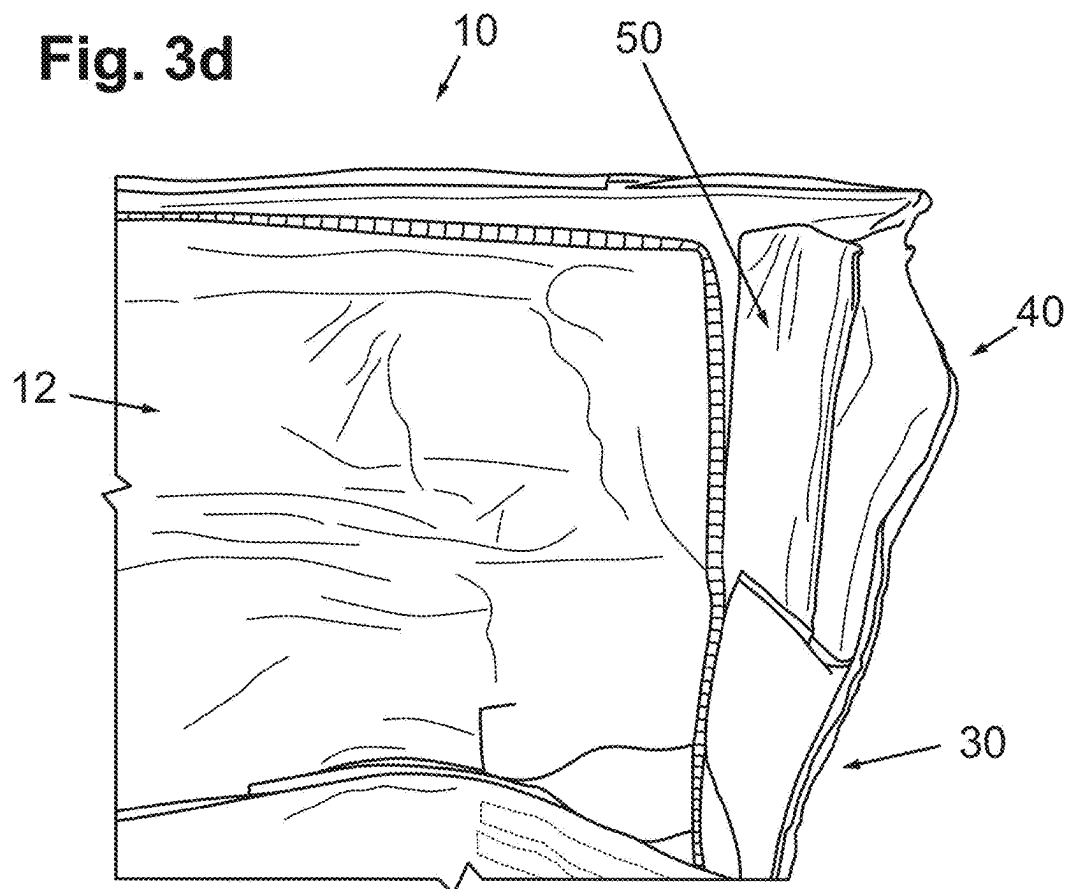


Fig. 4a

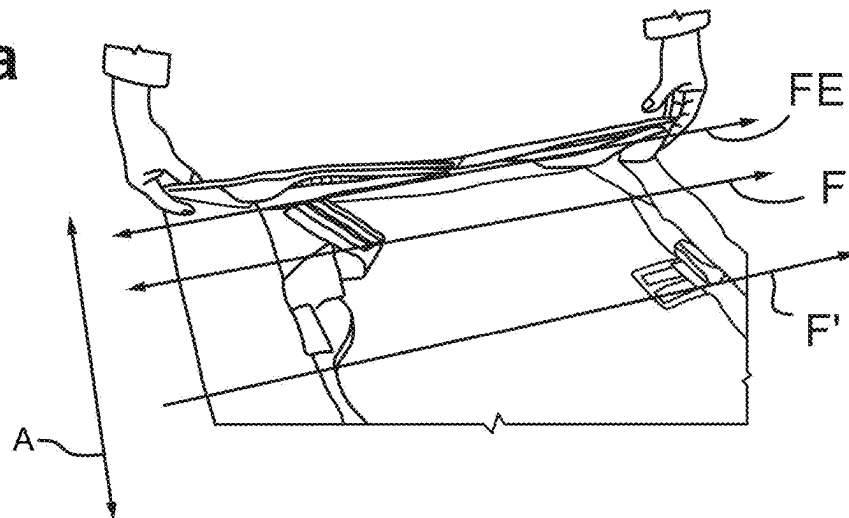


Fig. 4b

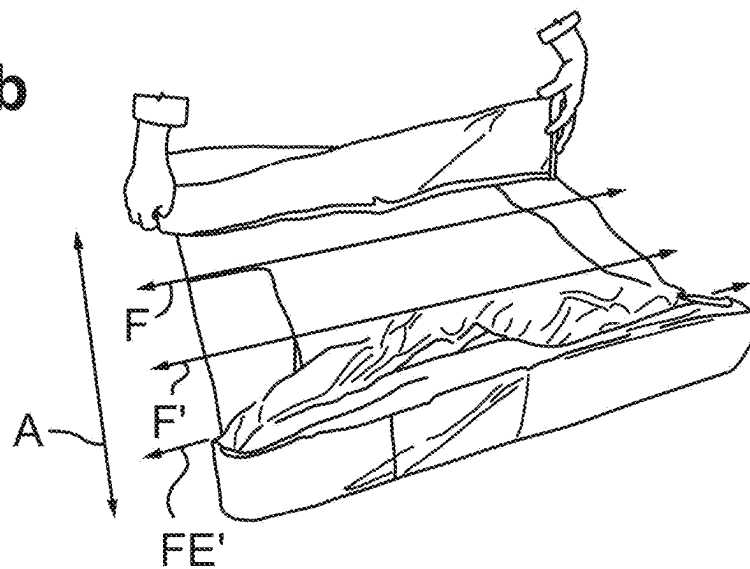
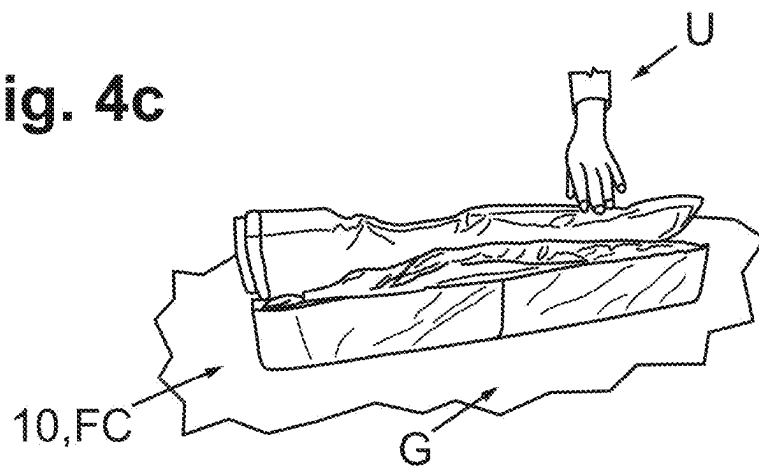


Fig. 4c



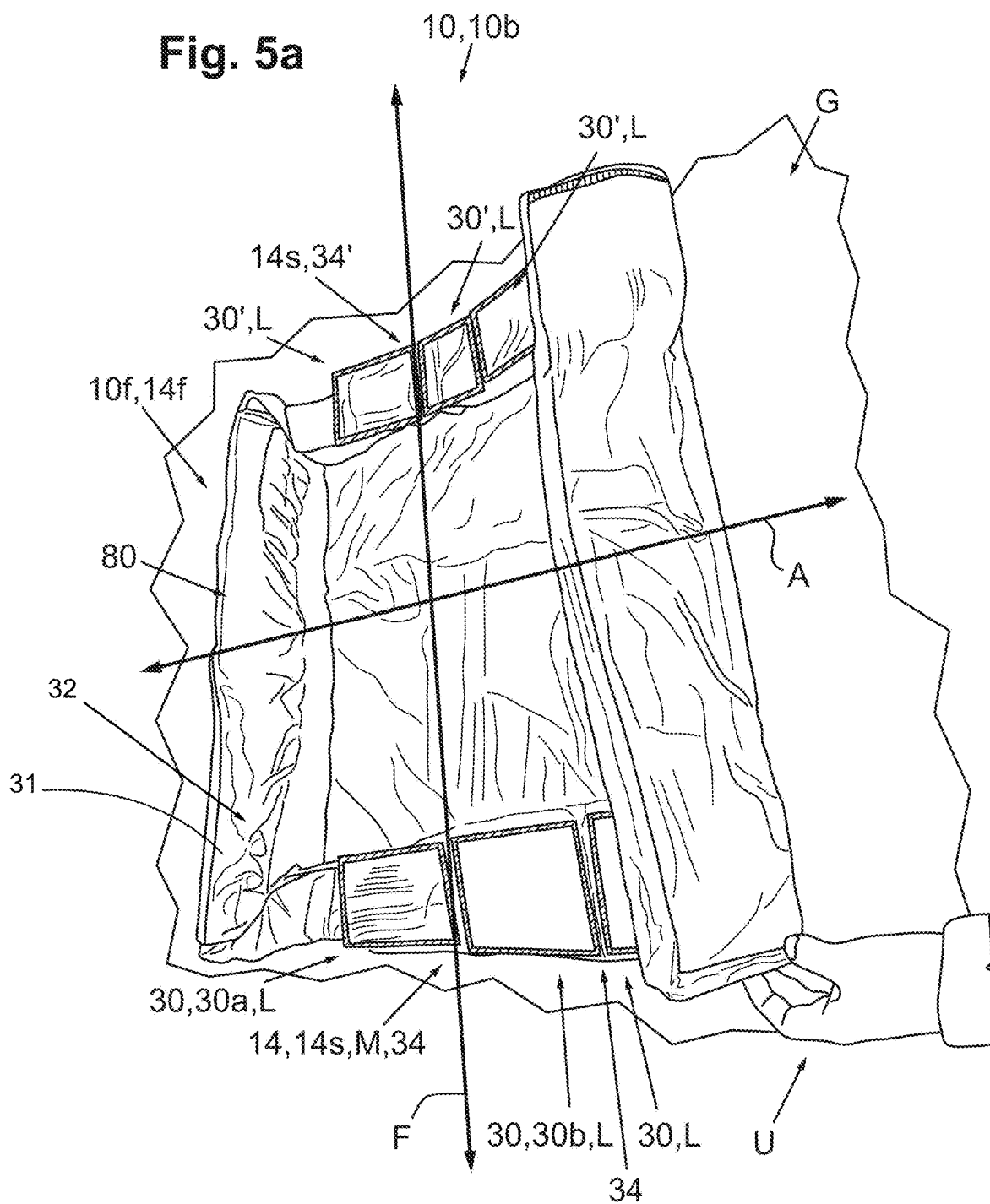


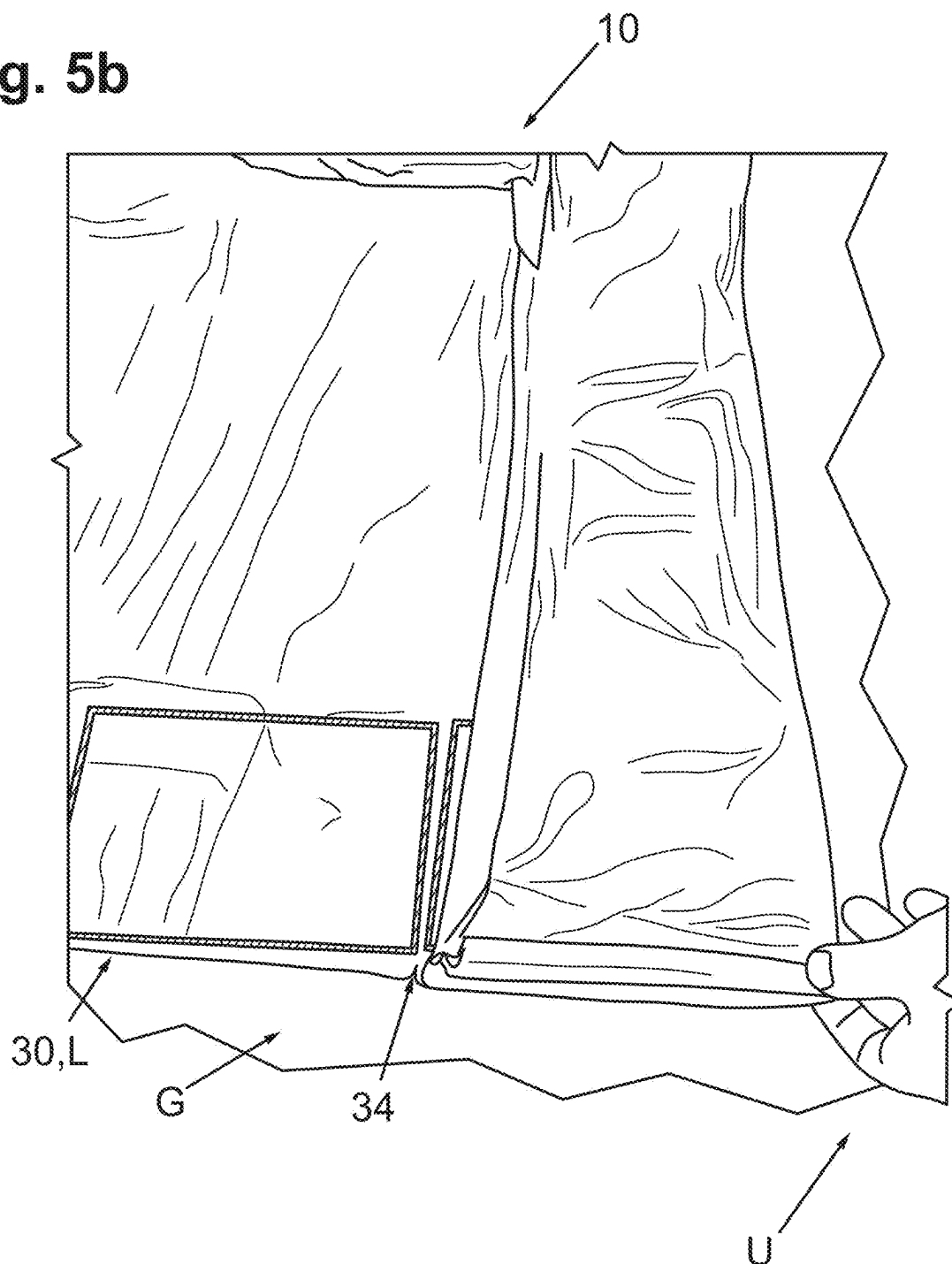
Fig. 5b

Fig. 5c

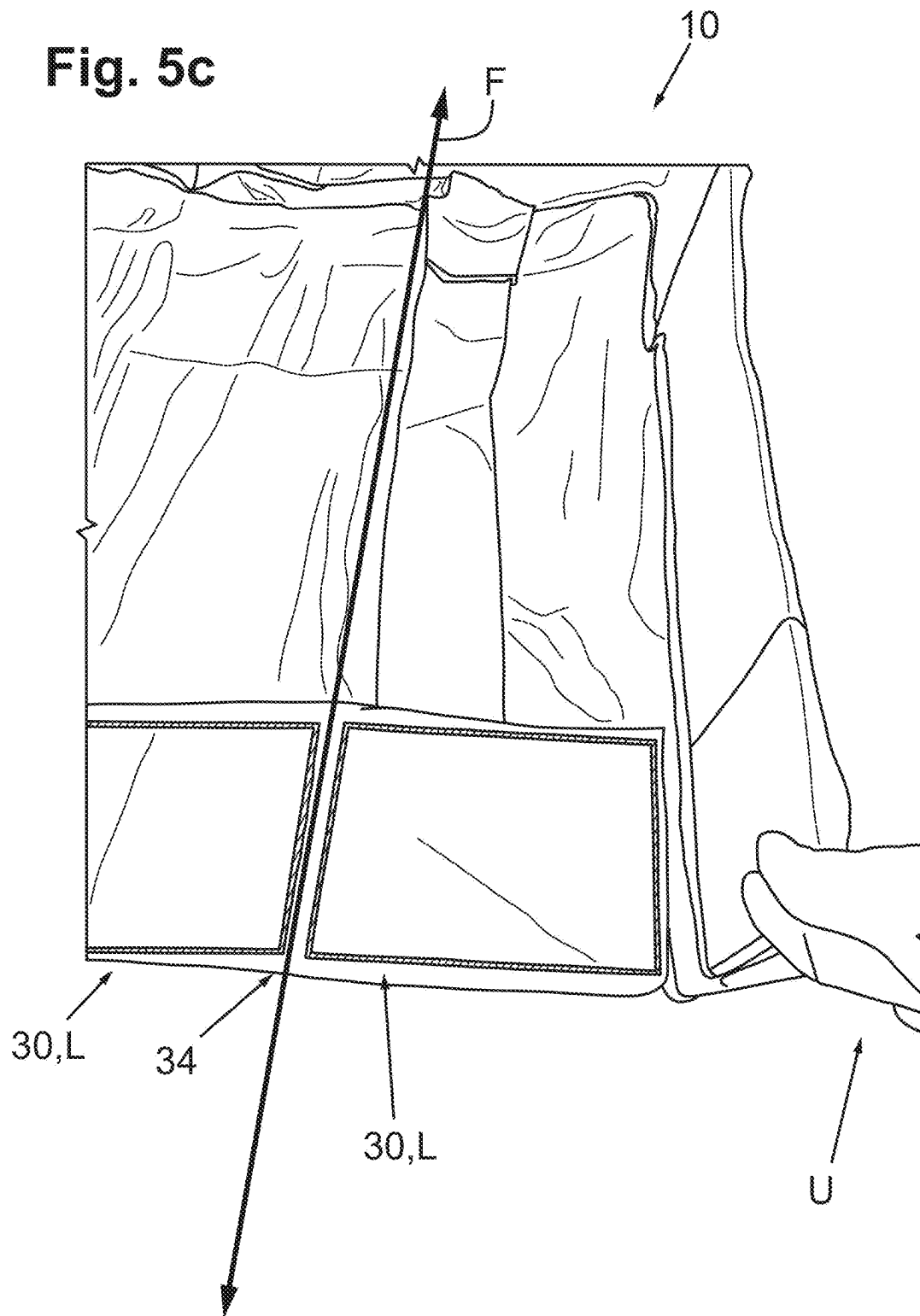


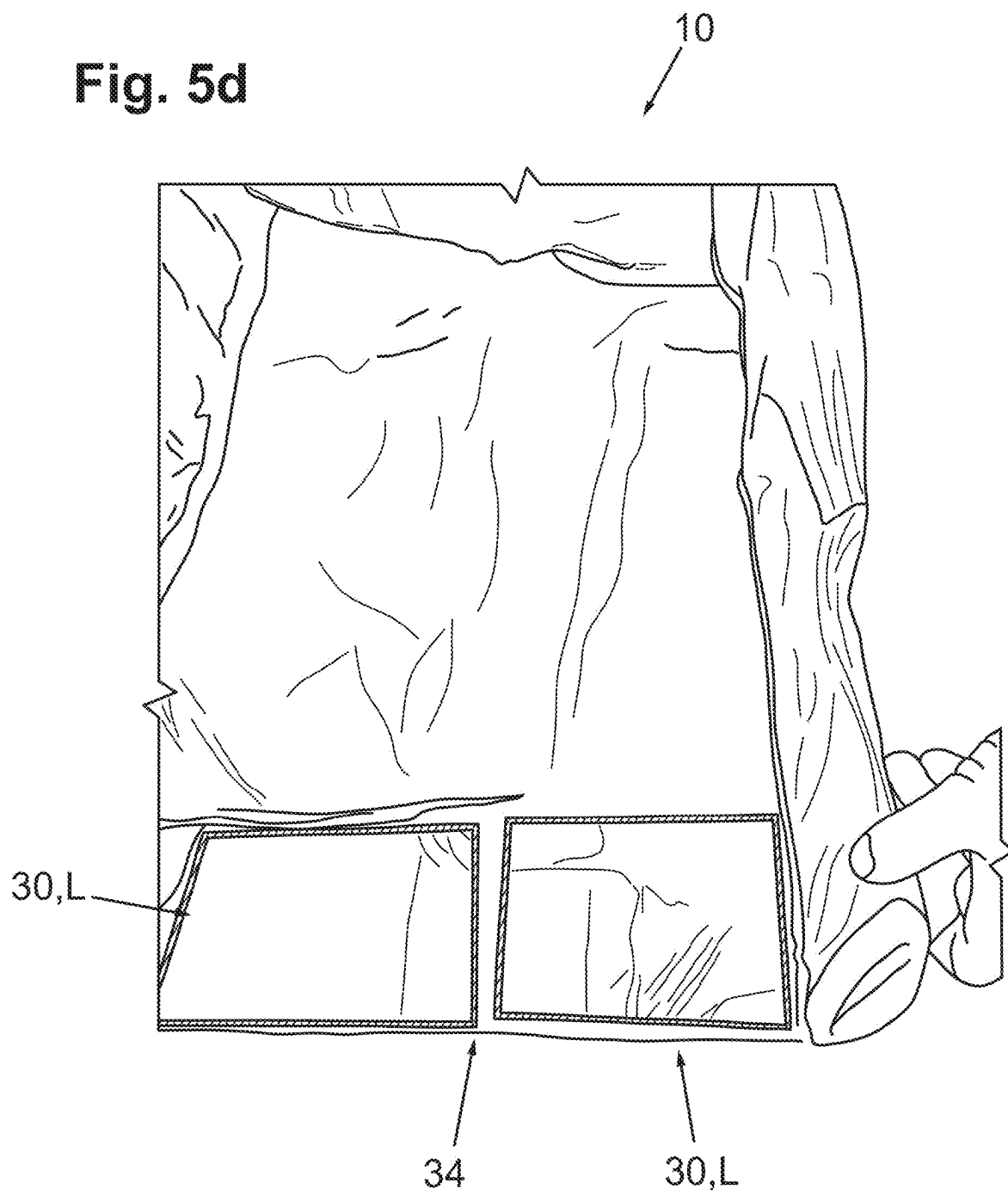
Fig. 5d

Fig. 5e



Fig. 5f

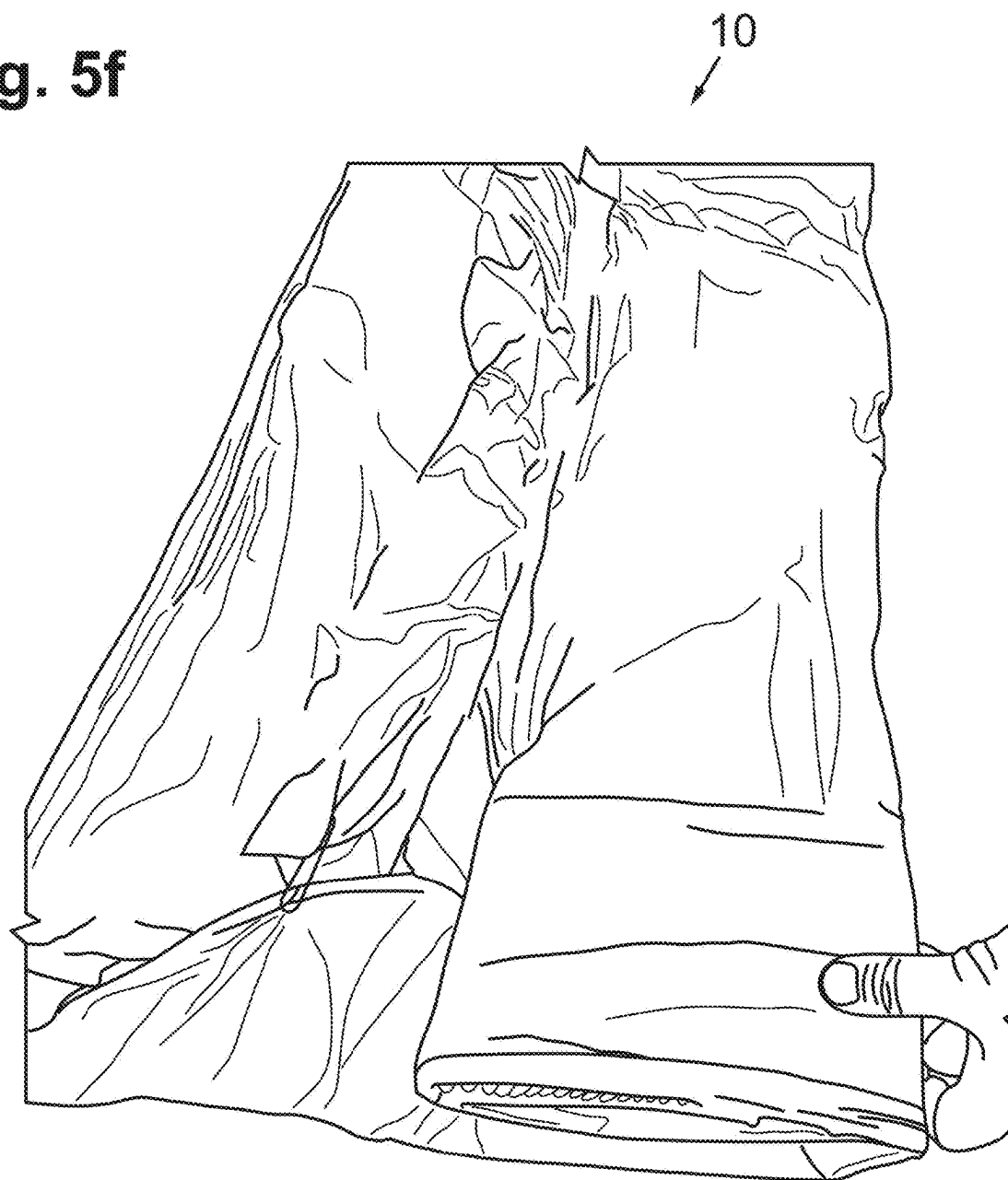


Fig. 6a

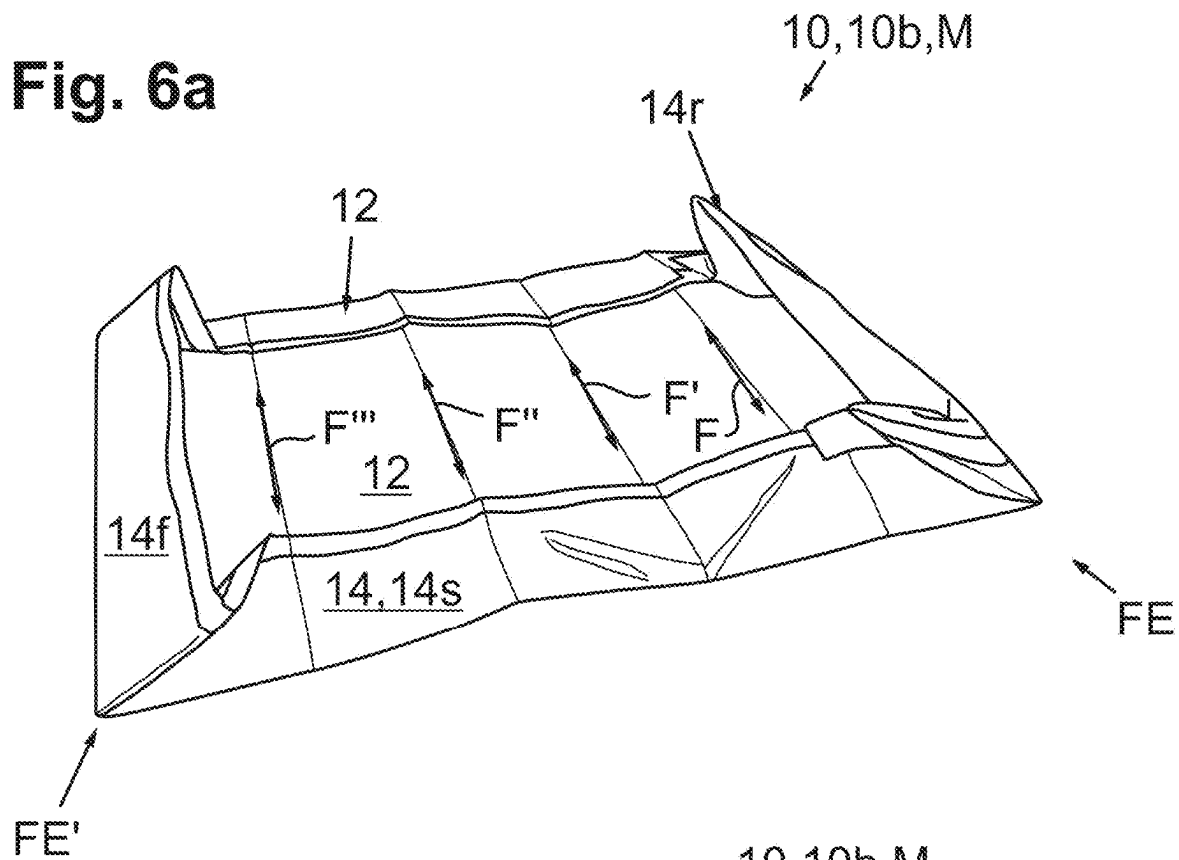


Fig. 6b

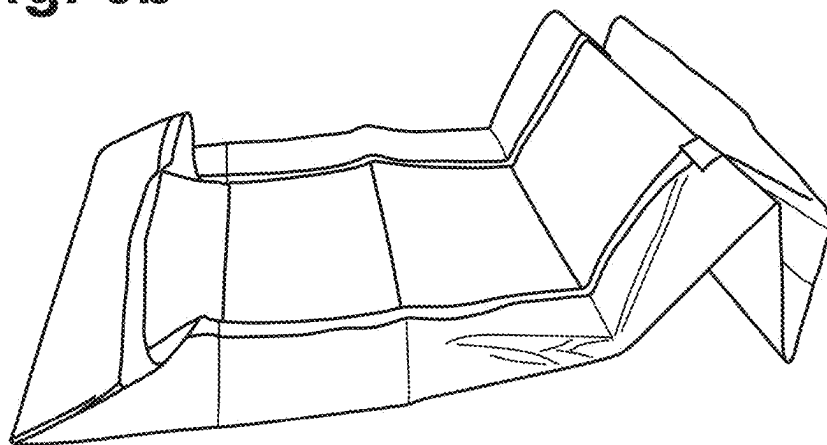


Fig. 6c

10,10b,M

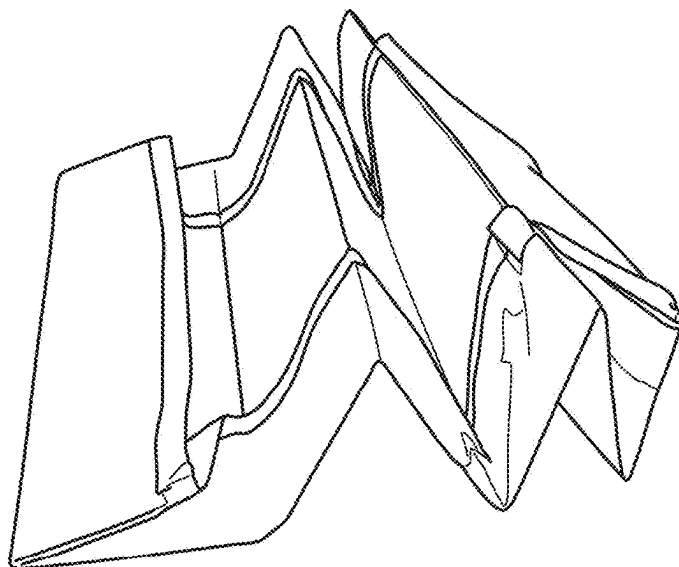


Fig. 6d

10,10b,M

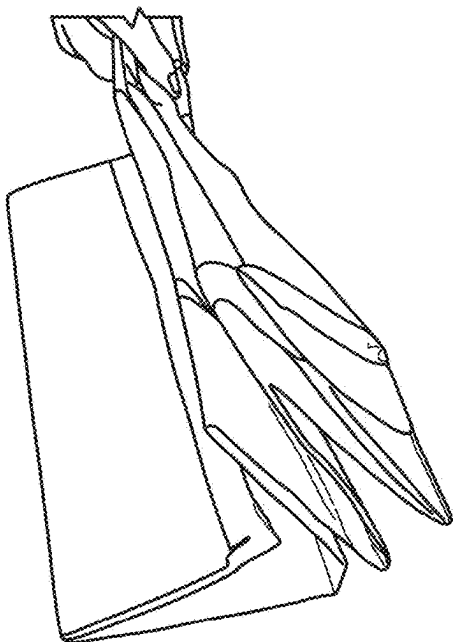


Fig. 6e

10,10b,M

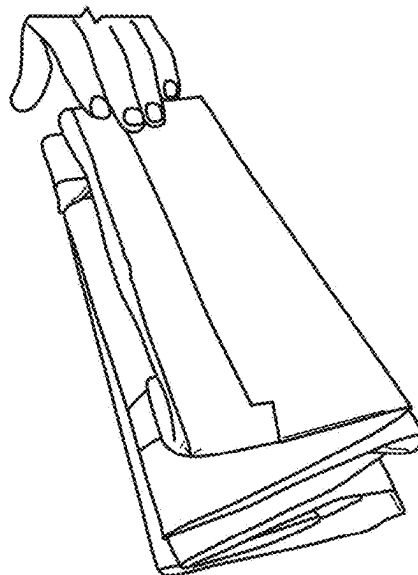
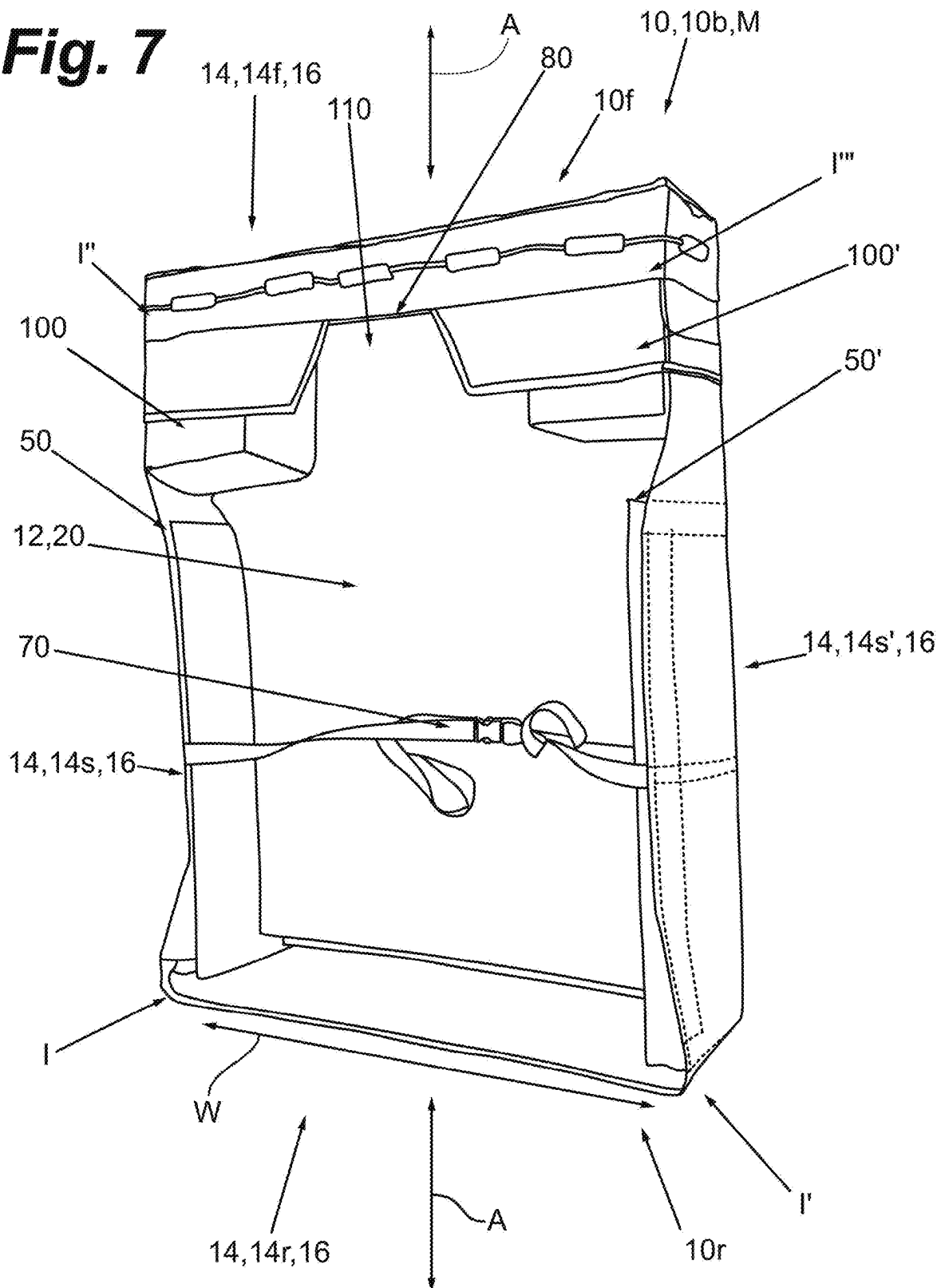
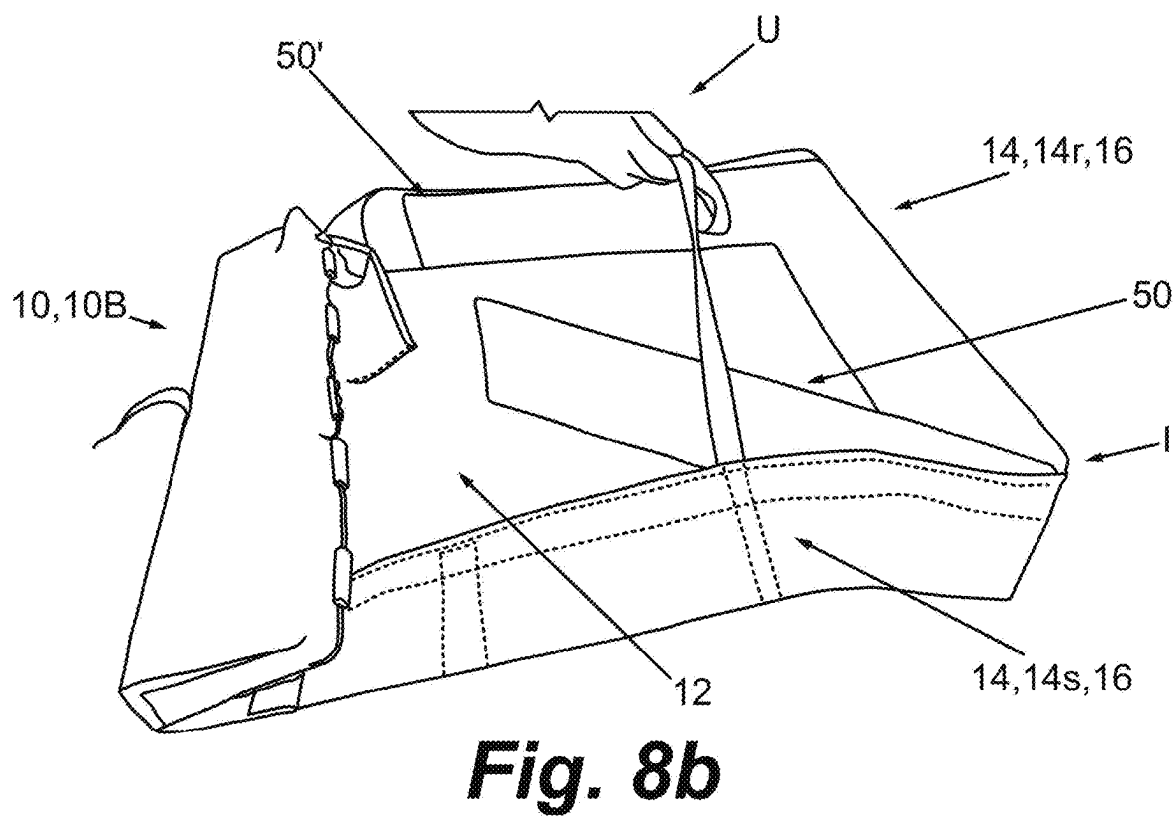
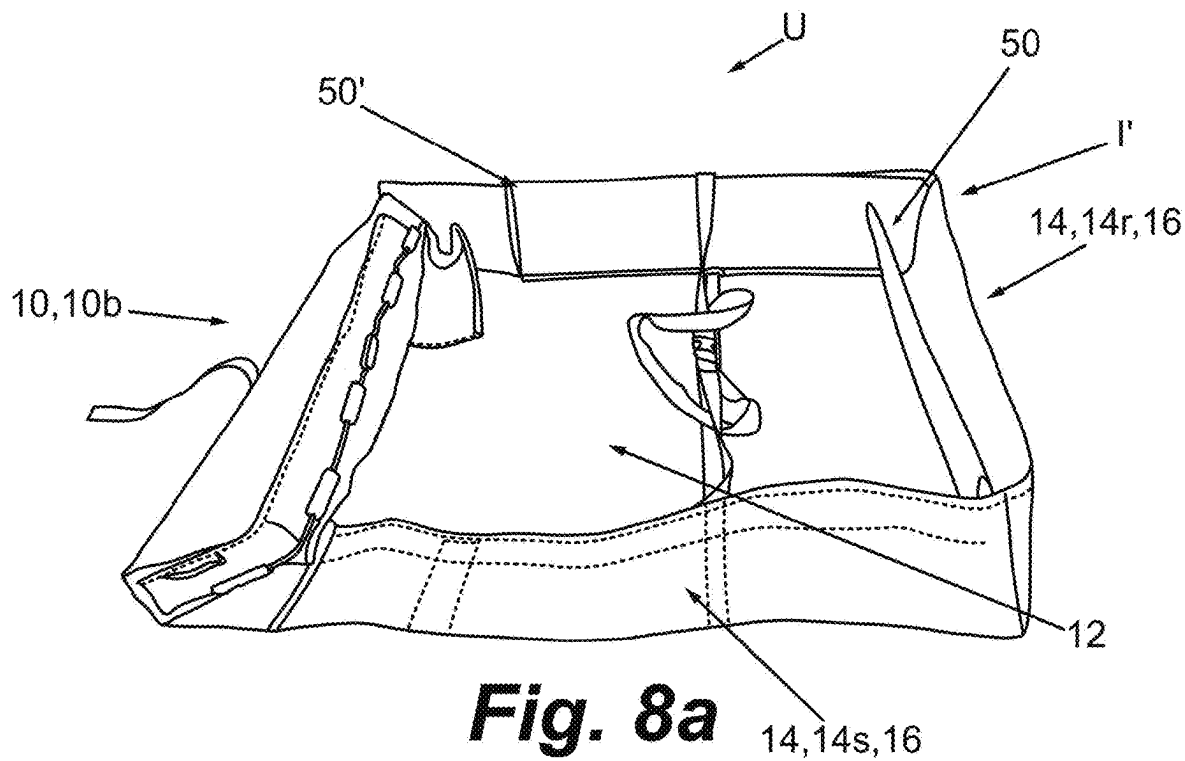


Fig. 7





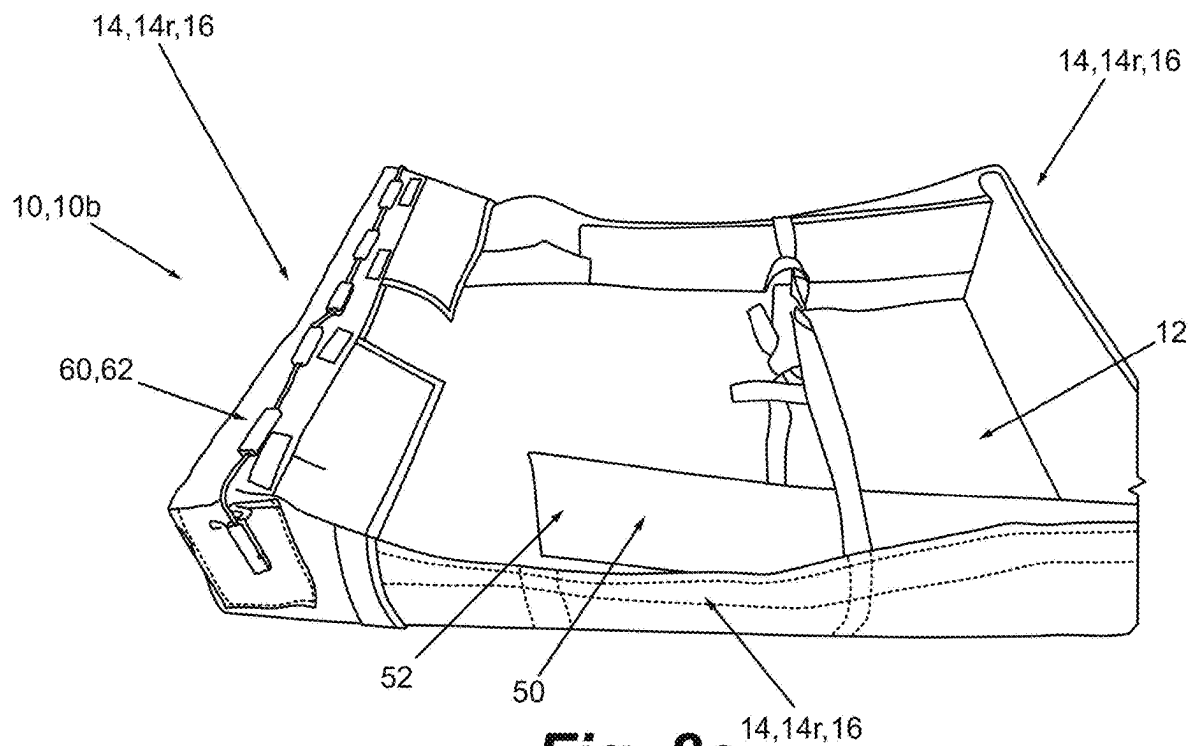


Fig. 8c

Fig. 9a

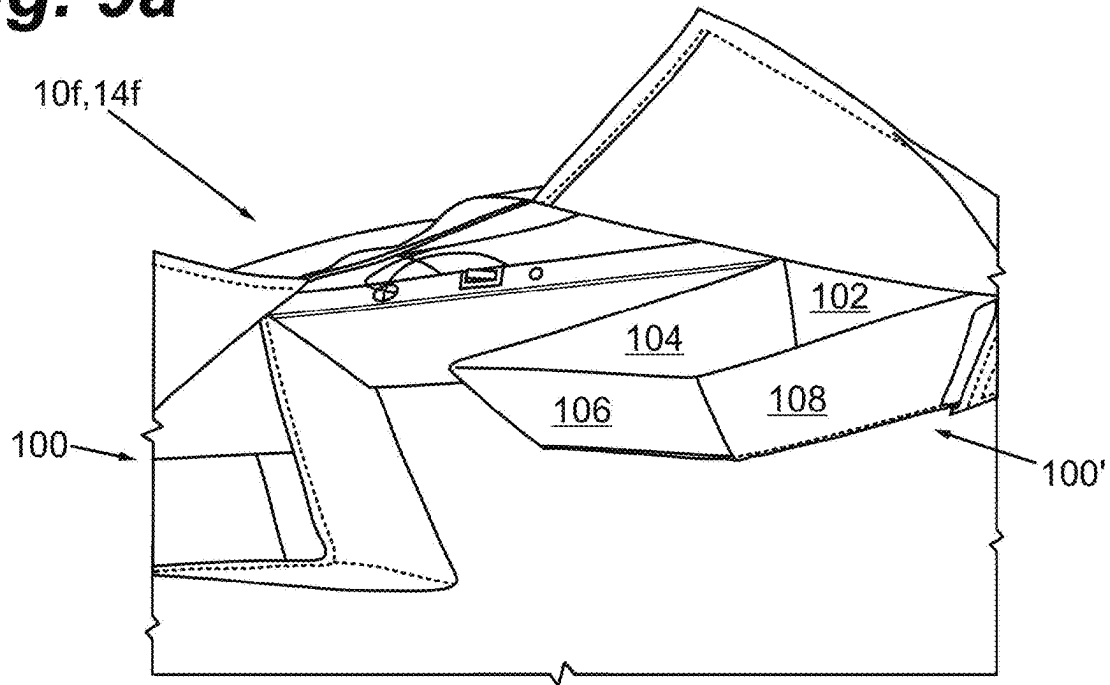
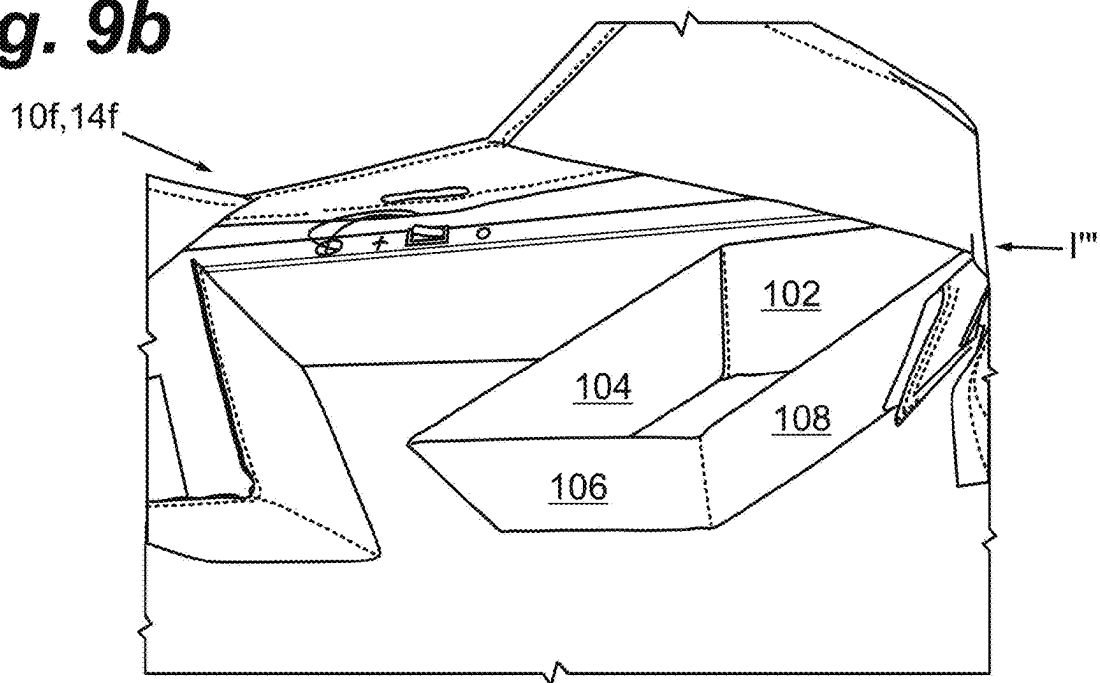
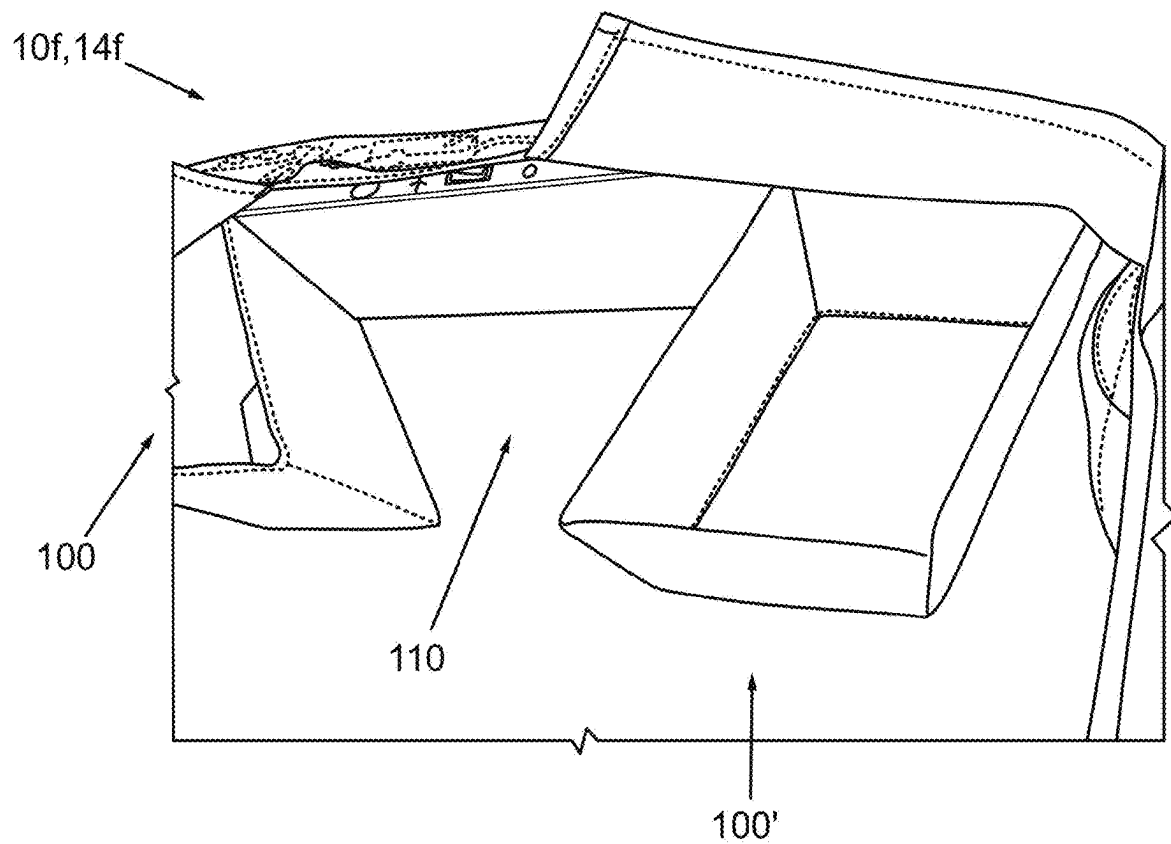


Fig. 9b



**Fig. 9c**

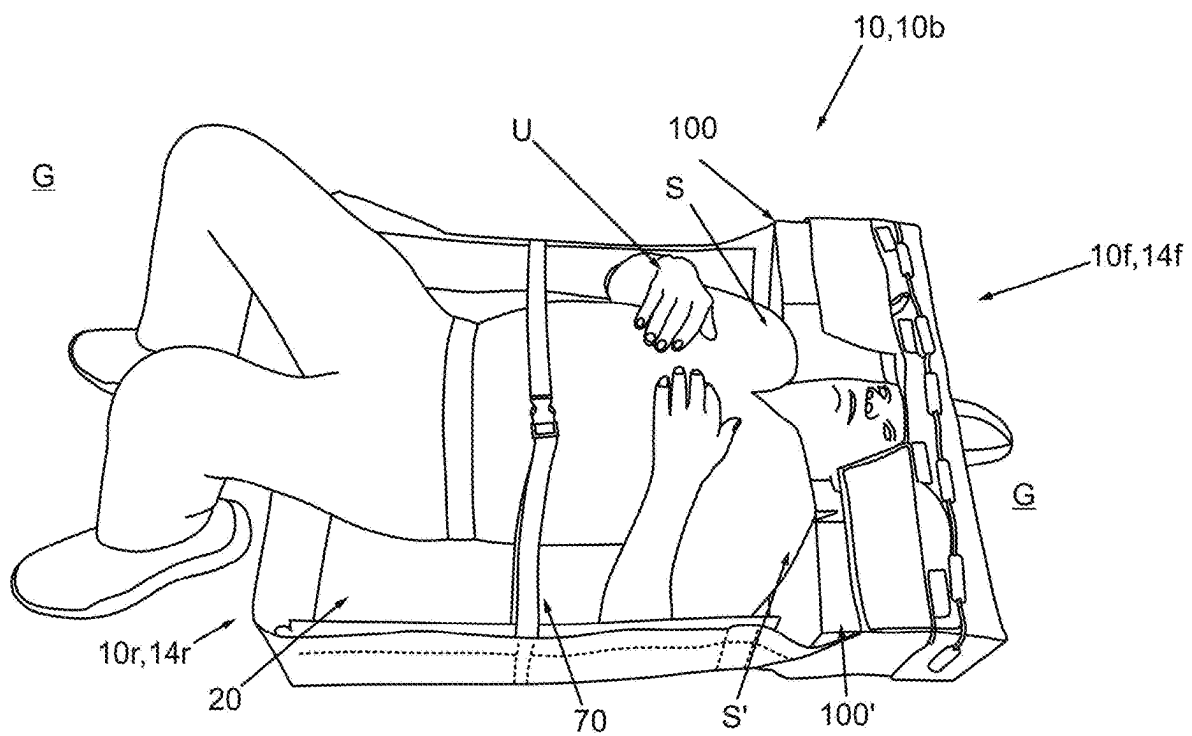


Fig. 10

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FOLDABLE MECHANIC'S CREEPER**CROSS REFERENCE TO RELATED APPLICATION**

This application is a continuation-in-part of U.S. application Ser. No. 17/400,143, filed Aug. 12, 2021 and now U.S. Pat. No. 11,795,720, entitled "Foldable Mechanic's Creeper", which claims priority to, and benefit of, U.S. Provisional Patent Application Ser. No. 63/064,910 filed Aug. 12, 2020 and entitled, "Foldable Mechanic's Creeper", the entirety of each of which is incorporated herein by reference for all purposes.

FIELD OF THE INVENTION

This invention relates generally to ground mats, mechanic's creepers and mats for catching vehicle drippings. More particularly, the invention relates to foldable mechanic's creepers suitable to catch and contain liquid drippings from vehicles.

BACKGROUND OF THE INVENTION

The background information discussed below is presented to better illustrate the novelty and usefulness of the present invention. This background information is not admitted prior art.

Mechanics creepers for use by repair persons or mechanics are well known. They typically comprise a flat framework on rollers or casters, upon which a mechanic lies while working under an automobile or the like. However, such rollers or casters raise the framework (and the mechanic lying thereon) and such creepers are not ideal for use under vehicles having low ground clearance. Moreover, rollers and casters add to the overall complexity and cost of a mechanic's creeper.

Casterless creeper are also known, for example as disclosed in U.S. Pat. No. 1,764,756, by R. W. Slee, issued Jun. 17, 1930 for "Automobile Creeper." The creeper disclosed there comprises a flat body portion adapted to slide on the floor and ground, along with a head rest with rigid base extension for engagement by the head and body of a user to advance it on the floor or ground. That creeper was built rigid cellular board having longitudinal corrugations left open at their ends for draining any water or oil out of the creeper. However, allowing water and oil to drain out of a creeper is often undesirable, e.g. in the case of oil changes where any spilled oil can ruin a garage floor or create environmental damage. Moreover, the rigid flat body of the creeper taught by Slee makes storing it more challenging as compared to a creeper that can be collapsed or folded. These prior-art creepers are also not suitable for use in outdoor winter scenarios, such as when there is a significant amount of snow on the ground; their casters get jammed and ice logged in snow, while having open ends for draining will result in snow getting on the inside of the creeper and onto a user.

Therefore, what is needed is a creeper or ground mat that does not suffer from these aforescribed limitations.

SUMMARY OF THE INVENTION

In an embodiment of the invention, there is provided a foldable creeper comprising a foldable body comprised of a foldable material. The foldable body has a first end, a second end and is foldable in a direction along a folding axis. The creeper further comprises a bottom, a raisable circumferen-

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tial wall having first end portion, a second end portion, a first side wall and a second side wall, said first and second side walls running along axes that are substantially parallel to the folding axis, a first locking member and a second locking member. The first end portion, the second end portion and the first and second side walls are moveable relative to the bottom and cooperate to form a circumferential raised barrier around the periphery thereof when the creeper is in an unfolded configuration.

In a preferred embodiment of the invention the foldable material is capable of containing water, oil and other liquids that may drain or leak out of a motor vehicle and when in the unfolded configuration and used underneath the motor vehicle, the bottom and the circumferential raised barrier cooperate to create a liquid catching basin.

In a further preferred embodiment of the invention the first and a second locking members can act to maintain the first and second side walls in a raised and upright position when the creeper is in the unfolded configuration.

BRIEF DESCRIPTION OF THE DRAWINGS

Referring to the drawings, several aspects of the present invention are illustrated by way of example, and not by way of limitation, in detail in the figures, wherein:

FIG. 1 is a perspective view of one embodiment of a foldable creeper, shown in a mostly unfolded configuration;

FIG. 2 is another perspective view of the foldable creeper of FIG. 1, shown in an unfolded configuration and in use by a user;

FIGS. 3a to 3d are perspective views of the foldable creeper of FIG. 1, showing a locking member next to a flexible folding segment;

FIGS. 4a to 4c are perspective views of the foldable creeper of FIG. 1, showing it being folded into a folded configuration in an end-over-end manner;

FIGS. 5a to 5f are additional perspective views of the foldable creeper of FIG. 1, showing it being folded into a folded configuration;

FIGS. 6a to 6e are perspective views of another embodiment of the foldable creeper, showing it being folded into a folded configuration in an accordion-like manner;

FIG. 7 is a perspective view of yet another embodiment of a foldable creeper, shown in an unfolded configuration;

FIGS. 8a-8c are perspective views of the foldable creeper of FIG. 7, showing a locking member pivoting between a storage configuration and a supporting configuration;

FIGS. 9a-9c are perspective views of the front end of the foldable creeper of FIG. 7, showing a folding shoulder support being folded or moved between a collapsed configuration and a shoulder supporting configuration; and

FIG. 10 is another perspective view of the foldable creeper of FIG. 7, shown in an unfolded configuration and in use by a user.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The following description is of preferred embodiments by way of example only and without limitation to the combination of features necessary for carrying the invention into effect. Reference is to be had to the Figures in which identical reference numbers identify similar components. The drawing figures are not necessarily to scale and certain features are shown in schematic or diagrammatic form in the interest of clarity and conciseness.

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Referring generally to the figures, the foldable creeper **10** preferably comprises a foldable body **10b** having a first or front end **10f** and a second or rear end **10r**. The body **10b** is foldable in a direction along a folding axis A, which preferably runs substantially perpendicular to the axis of the front and rear ends **10f**, **10r**; i.e. so that the creeper **10** can be folded from rear to front (or vice versa); see FIGS. **4a** to **4c**. The creeper **10** can therefore be in a folded configuration (e.g. FIGS. **4c** and **5f**), an unfolded configuration (e.g. FIG. **2**) and various partially folded configurations therein in-between.

The terms “front” and “rear” are used herein as respective references to the orientation of the foldable creeper **10** when used by a user U, wherein the “front” end will be that end where the user U may place his or her head (see FIG. **2**), and wherein the “rear” end will be that end where the user may place their legs (or drape their legs over such end; e.g. FIG. **2**). However, there may be other uses and/or different orientations for the foldable creeper **10** when the terms “front” and “rear” may not apply and wherein the terms “first” and “second” ends are more appropriate.

The body **10b** preferably comprises a bottom **12** and an upturnable or raiseable circumferential wall **14**, i.e. where wall **14** may be folded against the bottom (as can be seen in FIG. **1**) or upturned away from the bottom **12** (as can be seen in FIG. **2**). The bottom **12** is preferably substantially planar when in the unfolded configuration. The bottom end of the circumferential wall **14** is preferably joined to (or integral with) the bottom **12**, and it can form a substantially raised circumferential barrier **16** when in the unfolded configuration, i.e. when upturned, raised or “popped up” relative to the planar bottom **12**; see FIG. **2**.

Preferably the body **10b** is constructed from a flexible and foldable material M which is water-proof and suitable to contain water, oil and other liquids that may drain or leak out of motor vehicles (such as antifreeze, brake fluid and power steering fluid). The embodiment of FIGS. **1** to **5f** is constructed from a polyethylene material (similar to that used to make tarps). However, other materials, such as flexible rubber or water-proof cloth will also be suitable to construct the body **10b**, so long as the body **10b** remains foldable in a direction along the folding axis A.

The circumferential wall **14** further comprises a first or front-end portion **14f** (at the front end **10f**), a second or rear-end portion **14r** (at the rear end **10r**), a first side wall **14s** and a second side wall **14s'**. Preferably, the side walls **14s**, **14s'** run along an axis that is substantially parallel to the folding axis A, and substantially perpendicular to the front-end portion **14f** and rear-end portion **14r**. Additionally, when the creeper **10** is in the unfolded configuration, the front-end portion **14f**, rear-end portion **14r** and side walls **14s**, **14s'** are raised (upturned or pivoted) relative to the bottom **12** and cooperate to form the circumferential raised barrier **16** around the periphery of said bottom **12**.

Advantageously, when in the unfolded configuration and used underneath a vehicle, the bottom **12** and the circumferential raised barrier **16**, cooperate to provide a liquid catching basin **20** to catch any oil, water or other liquid that may come off of such vehicle and which might otherwise ruin a garage floor or create environmental damage. Preferably, the circumferential raised barrier **16** is at least 2 inches in height H above the bottom **12** (when raised). More preferably, the circumferential raised barrier **16** is 6 inches in height H above the bottom **12**, so as to allow the creeper **10** to be used in snow covered ground scenarios and the like, and thereby preventing said snow from falling from the outside into the basin **20**.

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It is to be understood that if sufficient tension was provided to the circumferential wall **14**, it could be maintained in a raised position (relative to the bottom **12**) and maintain the substantially raised circumferential barrier **16**. However, to further assist the circumferential wall **14** in forming and maintaining the substantially circumferential raised barrier **16** (when the creeper **10** is in the unfolded configuration), the creeper **10** preferably comprises a plurality of rigid panel members **30** positioned at panel locations L along or within the circumferential wall **14**. The rigid members **30** may be comprised of cardboard, plastic, wood or other rigid material suitable to maintain the flexible and foldable material M in an upright and raised manner (relative to the bottom **12**) when the creeper **10** is in the unfolded configuration. In a preferred embodiment, the panel members **30** are 6 inches in height and between 8 to 10 inches in length. Advantageously, the panel members **30** being rigid, maintain the flexible and foldable material M of the circumferential wall **14** in a raised and upright position, when the creeper **10** is in the unfolded configuration, thereby establishing the liquid catching basis **20** (see FIG. **2**). Panel members **30** may also be of other suitable dimensions, such as 2 inches in height and between 4 to 8 inches in length.

In the embodiment of FIGS. **1-5f**, the circumferential wall **14** is preferably manufactured by folded-over section (dual layer) of polyethylene material, and the rigid panel members **30** are placed therewithin at the various panel locations L during manufacturing. As such they are not visible when the creeper **10** is viewed by a user U. The panel members **30** are therefore schematically illustrated in the figures by means of white outlined rectangles labelled **30** (e.g. as in FIG. **5a**). In other embodiments (not shown), the circumferential wall **14** may be provided with pockets or sleeves to receive the rigid panel members **30** at the panel locations L. In still other embodiments (not shown), the rigid panel members **30** may be attached to the circumferential wall **14** at the locations L (e.g. either to the inside or outside portions of said wall **14**), such as by gluing, stapling, or via a removable attachment means such as a VELCRO™ brand hook and loop fastener.

Preferably, a single rigid panel member **31** is provided in, or on, each of the front-end and rear-end portions **14f**, **14r** of the circumferential wall **14**, extending substantially along said front-end and rear-end portions **14f**, **14r** between the side walls **14s**, **14s'**. More preferably, the single rigid panel member **31** at the first end **14f** may be further reinforced with a secondary bar or support member **32** (e.g. within the front-end portion **14f**). Advantageously, such a support member **32** can support the single rigid panel member **31** and will allow a user U to push the front end portion **14f** with their head through snow, mud or the like, and still maintain said front-end portion **14f** in a substantially upright manner (as it is supported by said support member) thereby maintaining the integrity of the liquid catching basin **20**. Moreover, since the folding axis A is perpendicular to said front-end and rear-end portions **14f**, **14r**, these portions **14f**, **14r** (and any associated support member or bar) will not need to be folded on top of themselves. In the embodiment of FIGS. **1-5f**, only the side walls **14s**, **14s'** are folded on top of themselves; see FIGS. **4a-5f**.

The rigid panel members **30** are preferably provided in a serial (end-to-end), non-overlapping manner along each of the first and second side walls **14s**, **14s'** as shown in FIGS. **5a-5d**. More preferably, the rigid panel members **30** along the first side wall **14s** are provided at panel locations L that substantially mirror the placement and locations of corresponding panel members **30'** positioned along the second side wall **14s'**, see FIG. **5a**.

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More preferably, at the interface (or meeting point) of adjacent panel member (e.g. **30a**, **30b** in FIG. **5a**) a small portion of the flexible and foldable material **M** of the circumferential wall **14** is left unsupported by any rigid member **30** (e.g. 4 inch width of foldable material **M** between adjacent sections) so as to define a folding section **34**. When this is done, corresponding folding sections **34**, **34'** on each of the first and second side walls **14s**, **14s'** will substantially align and, given their flexible and foldable nature (and the flexible and foldable nature of the bottom **12**), provide one or more fold axes **F**, **F'**, **F''** that run therebetween and which are aligned substantially perpendicular to the folding axis **A**. The body **10b** may be folded at one or more of the fold axes **F**, **F'**, **F''**, so that the creeper **10** can be folded from rear to front in a direction along folding axis **A** (or vice versa); see FIGS. **4a** to **5f**. Similarly, end-fold axes **FE**, **FE'** may be provided at each of the first and second ends (**10f**, **10r**) and preferably also comprise a small portion of the flexible and foldable material **M** of the circumferential wall **14** which is unsupported by any rigid member **30**. The first and second end wall portions **14f**, **14r** may be folded about their respective end-fold axes **FE**, **FE'** towards (or away from) the bottom **12**.

Each of the first and second side walls **14s**, **14s'** are preferably provided with a flexible folding segment **40** at each end of said side walls **14s**, **14s'**, i.e. where the side walls **14s**, **14s'** meet the front-end and rear-end portions **14f**, **14r** (see FIG. **3c**, **3d**, **4a**, **5a**). The flexible folding segment **40** is therefore a section of the side walls **14s**, **14s'** that is unsupported by a rigid panel member, and is able to fold on itself, thereby aiding the raising/lowering of the circumferential wall **14** relative to the bottom **12**; see FIG. **4a**.

Preferably, a pivotable, rigid and substantially planar locking member **50** is provided for supporting the one or more flexible folding segments **40** when the creeper **10** is in the unfolded configuration **UC**. In the embodiment of FIGS. **1-5f**, two pivoting, locking members **50** are provided on the inside of the rear-end portion **14r**, mounted at the interface or connection between the rear-end portion **14r** and the side walls **14s**, **14s'**; see FIGS. **3a-3d**.

In this embodiment, the locking members **50** can pivot between a storage configuration (wherein they are substantially parallel to the rear-end portion **14r** and do not interfere with the folding of the creeper **10** along the folding axis **A**, see FIG. **3a**) and a supporting configuration (where they are substantially parallel to the folding segments **40** and supporting said segments **40** in a raised position when the creeper **10** is in the unfolded configuration, see FIG. **3d**). A removable attachment **52** means, such as a VELCRO™ brand hook and loop fastener, may be provided to retain the locking members **50** in the supporting configuration.

Folding and unfolding the creeper **10** between the unfolded configuration **UC** and folded configuration **FC** may be done in an end-over-end manner as shown in FIGS. **4a** to **4c**. Or the creeper may be folded and unfolded in an alternating manner, i.e. to create an accordion-like fold, as shown in FIGS. **6a** to **6e**. Advantageously, when folded and unfolded in the accordion-like manner illustrated in FIGS. **6a** to **6e**, the exterior surface of the bottom **12** does not touch the interior surface of the bottom **12** (as is the case when folding end-over-end). More advantageously, any snow or mud that might be attached to the exterior surface of the bottom **12** will not be introduced onto the interior surface of the bottom **12**, allowing said interior surface to remain dry and uncontaminated by such snow or mud, and reducing the amount of cleaning of the creeper **10** for any subsequent use by a user **U**.

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Preferably, the creeper **10** further comprises a light source **60** and associated power source (not shown), such as a flexible and foldable LED light strip **62** mounted around the periphery of the bottom **12** (see FIG. **2**). Advantageously, the foldable LED light strip can be folded with the creeper **10** along the fold axis **F**. More advantageously, the light source **60** will assist a user **U** working underneath a vehicle or the like by illuminating the working area.

More preferably, the creeper **10** further comprises a strap **70** to fasten a user **U** to the creeper **10** when in use. The strap **70** is preferably provided with a removable attachment means **72**, such as a VELCRO™ brand hook and loop fastener to fully, or partially, remove the strap **70** from the creeper **10** and/or adjust the strap's length to accommodate different sized users.

Even more preferably, the front-end portion **14f** further comprises a cushioned or padded head rest **80** and head strap to support, and strap to, a user's head while using the creeper **10**. The head rest **80** is preferably supported by the support bar **32**. Additionally, the light source's power source may comprise a small battery and associated circuitry that is mounted within or adjacent the head rest **80**, or on the support bar **32**. Still even more preferably, the bottom **12** is of sufficient dimensions and surface area (when in the unfolded configuration) to allow a user's head, torso and hips to be supported thereupon, while also allowing a user's legs to extend or drape over the rear-end **10r**; see FIG. **2**. Advantageously, a user **U** can strap themselves into the creeper **10** using the strap **70** and any head strap, extend their legs over the rear-end **10r**, and push against the ground **G** with their legs and exert a force against the front-end **10f** to move or advance the creeper **10** forward across the ground **G**. Advantageously, the side walls **14s** and basin **20** will function not only to contain any oil, water or other liquid that may come off of a vehicle, but will also push any snow or mud that may be on the ground **G** away from the creeper's interior, thereby keeping a user **U** dry and clean.

Additional Embodiment

Referring to FIGS. **7-10** another embodiment of a foldable creeper **10** is shown. As with the previous embodiments, the foldable creeper **10** of this embodiment preferably comprises a foldable body **10b** having a first or front end **10f** and a second or rear end **10r**. The body **10b** is foldable in a direction along a folding axis **A**, which preferably runs substantially perpendicular to the axis of the front and rear ends **10f**, **10r**; i.e. so that the creeper **10** can be folded from rear to front (or vice versa). The creeper **10** can therefore be in a folded configuration, an unfolded configuration (e.g. FIGS. **7**, **8c** and **10**) and various partially folded configurations therein in-between (e.g. FIGS. **8a-8b**).

As with the previous embodiments, the body **10b** of this embodiment preferably comprises a bottom **12** and an upturnable or raiseable circumferential wall **14**, i.e. where wall **14** may be folded against the bottom (as can be seen in FIGS. **8a-8b**) or upturned away from the bottom **12** (as can be seen in FIG. **7**). The bottom **12** is preferably substantially planar when in the unfolded configuration. The bottom end of the circumferential wall **14** is preferably joined to (or integral with) the bottom **12**, and it can form a substantially raised circumferential barrier **16** when in the unfolded configuration, i.e. when upturned, raised or "popped up" relative to the planar bottom **12**; see FIG. **7**.

Preferably the body **10b** is constructed from a flexible and foldable material which is water-proof and suitable to contain water, oil and other liquids that may drain or leak out of

motor vehicles. The circumferential wall **14** further comprises a first or front-end portion **14f** (at the front end **10f**), a second or rear-end portion **14r** (at the rear end **10r**), a first side wall **14s** and a second side wall **14s'**. Preferably, the side walls **14s**, **14s'** run along an axis that is substantially parallel to the folding axis A, and substantially perpendicular to the front-end portion **14f** and rear-end portion **14r**. Additionally, when the creeper **10** is in the unfolded configuration, the front-end portion **14f**, rear-end portion **14r** and side walls **14s**, **14s'** are raised (upturned or pivoted) relative to the bottom **12** and cooperate to form the circumferential raised barrier **16** around the periphery of said bottom **12**. The bottom **12** and the circumferential raised barrier **16**, cooperate to provide a liquid catching basin **20**.

As with the previous embodiments, it is to be understood that if sufficient tension was provided to the circumferential wall **14** of this embodiment, it can be maintained in a raised position (relative to the bottom **12**) and maintain the substantially raised circumferential barrier **16** to thereby provide the liquid catching basin **20**. As with the previous embodiments, a single rigid panel member is preferably provided in, or on, each of the front-end and rear-end portions **14f**, **14r** of the circumferential wall **14**, extending substantially along said front-end and rear-end portions **14f**, **14r** between the side walls **14s**, **14s'**.

However, in this embodiment to further assist the circumferential wall **14** in forming and maintaining the substantially circumferential raised barrier **16** (when the creeper **10** is in the unfolded configuration), the creeper **10** preferably comprises locking members **50, 50'** which are elongated (relative to the locking members of the previous embodiment) and which pivot between a storage configuration (wherein they are substantially parallel to the rear-end portion **14r** and do not interfere with the folding of the creeper **10** along the folding axis A, see locking member **50'** in FIG. **8a**) and a supporting configuration (where they are substantially parallel to a side wall **14s**, **14s'** and function to maintain said sidewalls upright; see FIG. **7**). Notably, this embodiment does not comprise any rigid panel members **30**. Instead, each of the first and second side walls **14s**, **14s'** are supported and maintained upright (to form the raised barrier **16**) by the elongated locking members **50, 50'** when they are in the supporting configuration.

As shown in the drawings, elongated locking members **50, 50'** are attached in a conventional manner to the interior of the circumferential wall **14** at positions or interfaces **1, 1'** between the rear-end portion **14r** and each respective side wall **14s**, **14r** (see FIG. **7**). A removable attachment **52** means, such as a VELCRO™ brand hook and loop fastener, may be provided to retain the locking members **50** in the supporting configuration. FIGS. **8a-8c** are perspective views of the foldable creeper of FIG. **7**, showing a locking members **50, 50'** pivoting between a storage configuration and a supporting configuration. Locking members **50, 50'** preferably have a length that is substantially the same as (or at least 80% of) the interior width W (between respective side walls **14s**, **14s'**) of the rear-end portion **14r**. In a preferred embodiment, the creeper **10** is 38 inches in length (between front-end **10f** and rear-end **10r**), the interior width W is 28.5 inches, and the locking members are 24 inches in length. Advantageously, the creeper of this embodiment can be quickly set up from a folded configuration to an unfolded configuration (with the circumferential wall **14** in an upright position forming basin **20**); i.e. by simply pivoting the locking members **50, 50'** from the storage configuration to the supporting configuration.

Preferably, the foldable creeper **10** of the embodiment of FIGS. **7-10** further comprises a pair of folding shoulder supports **100, 100'** positioned in the interior of the creeper, each in a corner that is adjacent the front end **14f** and adjacent each of the respective side walls **14s**, **14s'**; as shown in FIGS. **7** and **9a-10**. The folding shoulder supports **100, 100'** may be moved or folded between a collapsed configuration (FIG. **9a**) and a shoulder supporting configuration (FIG. **10**).

When the folding shoulder supports **100, 100'** are in the shoulder supporting configuration a head recess or space **110** (of suitable dimensions to receive the head of a user) is preferably formed between the two folding shoulder supports **100, 100'**. Moreover, when the folding shoulder supports **100, 100'** are in the shoulder supporting configuration said folding shoulder supports **100, 100'** can transfer at least some force exerted upon them by a user U (from the user's shoulders S, S') to the front end **14f**. Advantageously, a user U can strap themselves into the creeper **10** using the strap or belt **70**, extend their legs over the rear-end **10r**, and push against the ground G with their legs and exert a force (via the user's shoulders S, S') which is then transmitted by the folding shoulder supports **100, 100'** (when in the shoulder supporting configuration) to the front-end **10f**, to move or advance the creeper **10** forward across the ground G (see FIG. **10**).

When the folding shoulder supports **100, 100'** are in the collapsed configuration, the folding shoulder supports **100, 100'** are folded flat against the front-end portion **14f**.

In a preferred embodiment, each of the folding shoulder supports **100, 100'** further comprise a set of four shoulder panel members **102, 104, 106, 108** pivotally connected to each other in an end-to-end, loop-like fashion, and forming a parallelogram-like configuration when viewed from above (as shown in FIG. **9c**). Preferably, one of the pivotal connections between a pair of shoulder panel members (e.g. pivotal connection between members **102** and **108**) is attached or connected at a position or interface I", I'" between the front-end portion **14f** and each respective side wall **14s**, **14r** (see FIG. **9b**). When in the collapsed position, each of the four shoulder panel members **102, 104, 106** and **108** is in a position that is substantially parallel to the front-end portion **14f** and they do not interfere with the folding of the creeper **10** along the folding axis A, see FIG. **9a**.

The shoulder panel members **102, 104, 106, 108** may be comprised of cardboard, plastic, wood or other rigid material suitable to provide a solid support for each of a user's shoulders S, S', and to transmit force from a user to the front end **10f** of the creeper. In a preferred embodiment, each shoulder panel member **102, 104, 106, 108** is 6 inches in height and between 6.5 to 9 inches in length. More preferably, the folding shoulder supports **100, 100'** provide a head recess that is 9 or 10 inches in length (relative to the front-end **10f**).

Those of ordinary skill in the art will appreciate that various modifications to the invention as described herein will be possible without falling outside the scope of the invention. In the claims, the word "comprising" is used in its inclusive sense and does not exclude other elements being present. The indefinite article "a" before a claim feature does not exclude more than one of the features being present.

The invention claimed is:

1. A foldable creeper (**10**) comprising:

- a foldable body (**10b**) comprised of a foldable material (M), having a first end (**10f**), a second end (**10r**) and foldable in a direction along a folding axis A;
- a bottom (**12**);

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a raisable circumferential wall (14) having first end portion (14f), a second end portion (14r), a first side wall (14s) and a second side wall (14s'), said first and second side walls (14s, 14s') running along axes that are substantially parallel to the folding axis (A); and

a first locking member (50) for supporting the first side wall (14s);

a second locking member (50') for supporting the second side wall (14s'); wherein the first end portion (14f), the second end portion (14r) and the first and second side walls (14s, 14s') are moveable relative to the bottom (12) and cooperate to form a circumferential raised barrier (16) around the periphery of said bottom 12 when the creeper (10) is in an unfolded configuration;

wherein the first and second locking members (50,50') are pivotable between a storage configuration and a supporting configuration; and

wherein when the first and second locking members (50,50') are in the storage configuration said first and second locking members (50,50') are substantially parallel to the second end (14r) portion.

2. The foldable creeper (10) of claim 1 wherein the foldable material (M) is capable of containing water, oil and other liquids that may drain or leak out of a motor vehicle and wherein when in the unfolded configuration and used underneath the motor vehicle, the bottom (12) and the circumferential raised barrier (16) cooperate to create a liquid catching basin (20).

3. The foldable creeper (10) of claim 1 wherein when the first and second locking members (50,50') are in the supporting configuration said first locking member (50) is substantially parallel to said first side wall (14s) and said second locking member (50') is substantially parallel to said second side wall (14s').

4. The foldable creeper (10) of claim 3 wherein the locking members (50,50') are attached to an interior of the circumferential wall (14) at interfaces (I,I') between the second-end portion (14r) and each respective first and second side wall (14s, 14s').

5. A foldable creeper (10) comprising:

a foldable body (10b) comprised of a foldable material (M), having a first end (10f), a second end (10r) and foldable in a direction along a folding axis A;

a bottom (12);

a raisable circumferential wall (14) having first end portion (14f), a second end portion (14r), a first side wall (14s) and a second side wall (14s'), said first and second side walls (14s, 14s') running along axes that are substantially parallel to the folding axis (A); and

a pair of folding shoulder supports (100, 100') positioned in the interior of the creeper, each positioned in a corner that is adjacent the first end portion (14f) and one of each of the respective first and second side walls (14s, 14s');

wherein the first end portion (14f), the second end portion (14r) and the first and second side walls (14s, 14s') are moveable relative to the bottom (12) and cooperate to

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form a circumferential raised barrier (16) around the periphery of said bottom 12 when the creeper (10) is in an unfolded configuration; and

wherein the folding shoulder supports (100, 100') are moveable between a collapsed configuration and a shoulder supporting configuration; and

wherein each of the folding shoulder supports (100, 100') further comprise a set of four shoulder panel members (102, 104, 106, 108) pivotally connected to each other.

6. The foldable creeper (10) of claim 5 wherein when the folding shoulder supports (100, 100') are in the collapsed configuration, said folding shoulder supports (100, 100') are substantially parallel to the first end portion (14f).

7. The foldable creeper (10) of claim 5 wherein when the folding shoulder supports (100, 100') are in the shoulder supporting configuration, said folding shoulder supports (100, 100') can transfer at least some force exerted upon them by a user (U) to the first end portion (14f).

8. The foldable creeper (10) of claim 5 wherein one of the pivotal connections between a pair of shoulder panel members is connected at an interface (I'',I''') between the first end portion (14f) and one of said side walls (14s, 14r).

9. A foldable creeper (10) comprising:

a foldable body (10b) comprised of a foldable material (M), having a first end (10f), a second end (10r) and foldable in a direction along a folding axis A;

a bottom (12);

a raisable circumferential wall (14) having first end portion (14f), a second end portion (14r), a first side wall (14s) and a second side wall (14s'), said first and second side walls (14s, 14s') running along axes that are substantially parallel to the folding axis (A);

a first locking member (50) for supporting the first side wall (14s);

a second locking member (50') for supporting the second side wall (14s'); and

a pair of folding shoulder supports (100, 100') positioned in the interior of the creeper, each positioned in a corner that is adjacent the first end portion (14f) and one of each of the respective first and second side walls (14s, 14s');

wherein the first end portion (14f), the second end portion (14r) and the first and second side walls (14s, 14s') are moveable relative to the bottom (12) and cooperate to form a circumferential raised barrier (16) around the periphery of said bottom 12 when the creeper (10) is in an unfolded configuration;

wherein the first and second locking members (50,50') are moveable between a storage configuration and a supporting configuration; and

wherein the folding shoulder supports (100, 100') are moveable between a collapsed configuration and a shoulder supporting configuration; and

wherein each of the folding shoulder supports (100, 100') further comprise a set of four shoulder panel members (102, 104, 106, 108) pivotally connected to each other.

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