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(54) **Folding hanger system for luggage**

Faltbarer Kleiderbügel für Gepäck

Cintre pliable pour bagages

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(73) Proprietor: **SAMSONITE CORPORATION**
Denver, Colorado 80239 (US)

(72) Inventor: **King, William L.**
Denver, Colorado 80209 (US)

(74) Representative: **Grünecker, Kinkeldey,**
Stockmair & Schwanhäusser Anwaltssozietät
Maximilianstrasse 58
80538 München (DE)

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Description

BACKGROUND OF THE INVENTION

Field of the Invention:

[0001] The invention has generally to do with clothes hangers, particularly with clothes hangers for use in conjunction with luggage cases.

Background Art:

[0002] Hangers for clothes and garments have been manufactured for centuries. While over time there have been some alterations in composition and material (*e. g.*, the change from wood to plastic-coated wire), the commonly encountered clothes hanger has remained mostly unchanged in form and utility for decades. Modem lifestyles have encouraged the development of collapsible and/or foldable hangers i.e. GB 2184008A. The object of most foldable hangers has been to provide a hanger that is reduced in size for storage when not in use.

[0003] For example, U.S. Pat. No. 5,145,098 to Tung discloses a hanger device that is foldable about two axes in order to reduce its size to promote portability. No provision is made to allow use of the hanger while in the folded configuration.

[0004] Similarly, U.S. Pat. No. 5,085,357 to Chen teaches a collapsible garment hanger which occupies little space for storage, but offers little utility while in the folded configuration.

[0005] As people generally have been traveling more and more, especially for business reasons, it has become the practice to provide luggage cases in which hangers may be removably placed to allow easy clothes packing from closet to suitcase. U.S. Pat. No. 2,001,156 to Ritter, Jr., for instance, teaches a hanger that is useable in a suitcase as well as upon a closet clothes rod. It is increasingly desirable to provide luggage cases which are small enough to be "carried on" and stowed aboard modem aircraft, and yet will accommodate formal business attire without undue wrinkling. Compact, wrinkle-free luggage packing may be promoted by hanging clothes in a folded condition within a luggage case.

[0006] Hangers have been proposed which may be used while in the folded position, for example the device shown in U.S. Pat. No. 920,894 to Bonsall. Such devices often have been less than satisfactory because their use frequently is limited to suit coats and shirts, and the garments are prone to slide off the folded hanger.

[0007] U.S. Pat. No. 4,186,858 to Tatematsu discloses a flexible hanger that is bendable to hang a suit coat in a folded manner. The flexible hanger does not accommodate pants or slacks thereon and, as disclosed, is not useable upon an ordinary closet clothes rod.

[0008] Despite the foregoing, a need remains for a hanger that securely holds clothing, including pants, in an orderly folded position within a luggage case, and yet may be used as well to hang the clothes upon an ordinary closet clothes rod. The following claimed invention was developed to satisfy this unmet need.

SUMMARY OF THE INVENTION

[0009] The present invention includes a foldable hanger and an innovative trolley for removably attaching the hanger within a luggage case. The hanger broadly comprises to halves connected by a generally vertical hinge, permitting the halves to be folded between an open coplanar position, and a closed, juxtaposed, overlapping position. The hanger may be used, with clothing thereon, in either the open position or the closed position. A hook has a hinged connection to one of the halves for pivotal movement between a retracted position and an extended position. The hook serves the dual functions of: (1) when in the extended position, allowing the hanger to be suspended from an ordinary clothes closet rod; and (2) when in the retracted position, preventing a garment from sliding off the hanger when the hanger is in the closed position. An optional slidable pant loop permits the hanger to carry pants regardless of whether the hanger is in the open or closed position. A trolley assembly mounted within a luggage case permits the hanger in the folded position to be removably attached within the luggage case despite the retracted position of the hook.

[0010] A primary object of the invention is to provide a hanger which can be folded for use in hanging vertically folded clothing within a tall, narrow compartment, and unfolded for use in hanging unfolded clothing upon a conventional clothes hanger rod.

[0011] A primary advantage of the invention is that an effective means is provided for preventing folded clothing from sliding off the folded hanger.

[0012] Another advantage of the invention is that a means is provided for suspending pants from a folding hanger without interfering with the foldability of the hanger or its balance when used in the unfolded position.

[0013] According to the invention, there is provided a foldable hanger for clothes and garments comprising first and second central body members pivotally connected to each other being pivotable between an open, generally coplanar position and a closed, juxtaposed position, shoulder members respectively extending from the central body members, and a hook-shaped garment retainer member pivotally connected to one of said central body members for pivotal movement between an extended position substantially coplanar with one of said central body members and a retracted position substantially parallel with said one, central body member; wherein said garment retainer member is disposable between said central body members in said juxtaposed position. The hook is movable from the extended posi-

tion to the retracted position for engagement against the garment, and the central body members are pivotable from the coplanar position to the juxtaposed position while the hook is engaged against the garment. In one preferred embodiment, when the central body members are in the coplanar position, the first central body member overlaps a portion of the second central body member, one of the body members having at least one aperture therein and the other one of the central body members comprising at least one tab extending therefrom insertable through the aperture to secure the overlapping relation. The hanger optionally is provided with a loop holder upon one of the central body members, with a pant loop slidably disposed in the loop holder. The pant loop is movable between a central position and an offset position upon the hanger.

[0014] There is provided an improved means for removably securing clothing within luggage, including a hanger comprising a first central body member pivotally connected to a second central body member, whereby the central body members are pivotable between a generally coplanar position and a juxtaposed position and a hook pivotally connected to one of the central body members for pivotal movement between an extended position substantially coplanar with the one of the body members and a retracted position substantially parallel with the one central body member, whereby the hook is disposable between the two central body members in the juxtaposed position; and a trolley within the enclosed space for removably attaching the hanger to the luggage. In one embodiment, the hanger further comprises a first support arm extending from a respective one of the central body members. The hanger may have at least one aperture therein, where the trolley means for attaching comprises a rod insertable through the aperture. More preferably, a first support arm has a pair of spaced-apart apertures therein, and the trolley means for attaching comprises two spaced-apart horizontal rods insertable through the apertures. There optionally is provided a second support arm extending from the other one of the central body members, the second support member having a pair of spaced-apart apertures therein, the apertures in said first support arm being alignable with the apertures in the second support arm when the central body members are in the juxtaposed position, each of the two spaced-apart horizontal rods insertable through respective aligned apertures in the first support arm and the second support arm.

[0015] Other objects, advantages and novel features, and further scope of the applicability of the present invention will be set forth in part in the detailed description to follow, taken in conjunction with the accompanying drawings, and in part will become apparent to those skilled in the art upon examination of the following, or may be learned by practice of the invention. The objects and advantages of the invention may be realized and attained by means of the instrumentalities and combinations particularly pointed out in the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016] The accompanying drawings, which are incorporated into and form a part of the specification, illustrate a preferred embodiment of the present invention and, together with the description, serve to explain the principals of the invention. The drawings are only for the purpose of illustrating a preferred embodiment of the invention and are not to be construed as limiting the invention. In the drawings:

Fig. 1 is a front view in elevation of a luggage case according to the present invention;
Fig. 2 is a side view in elevation view of the luggage case shown in Fig. 1;
Fig. 3 is a perspective view of the luggage case shown in Fig. 1, showing the case in an open position and with garments disposed therein according to a preferred embodiment of the present invention;
Fig. 4 is an enlarged view of a broken-away portion of the interior of the case shown in Fig. 3, showing hanger and trolley elements according to a preferred embodiment of the invention, in use for hanging garments;
Fig. 5 is a front view in elevation of a hanger according to the present invention, shown in an open position and hanging upon a rod shown in section;
Fig. 6 is a side view of the hanger shown in Fig. 5;
Fig. 7 is a back view of the hanger shown in Fig. 5;
Fig. 8 is a perspective view of the hanger shown in Fig. 5, shown in a partially closed position;
Fig. 9 is a top view of the hanger shown in Fig. 5;
Fig. 10 a back view of the hanger according to a preferred embodiment of the present invention, showing a garment hanging thereon and the hanger hook in an extended position;
Fig. 11 is a back view of the hanger shown in Fig. 10, showing the hanger hook in a retracted position to engage against the garment;
Fig. 12 is a view in elevation of the hanger according to a preferred embodiment of the present invention, in the closed position and with a folded garment hanging thereon; and
Fig. 13 is a perspective broken-away view of the hanger in a closed position and disposed upon an interior component of an item of luggage.

DESCRIPTION OF THE PREFERRED EMBODIMENT (BEST MODE FOR CARRYING OUT THE INVENTION)

[0017] The invention finds particularly beneficial use in luggage, although it will be apparent that the invention may find practical application in any situation where a simple, reliable, foldable hanger is desired (*e.g.* in narrow lockers or closets). In this specification and in the claims, the terms "luggage," "luggage case," "suitcase" or "case" shall mean luggage generically, and include vertical or "upright" cases, pullman suitcases, garment

bags and the like, whether wheeled or not. For purposes of illustration but not by way of limitation, the invention shall be described with reference to a wheeled vertical case **20**, shown generally in Figs. 1 and 2. It will be readily apparent to one of ordinary skill in the art, however, that aspects of the invention are applicable to a wide variety of luggage apparatus. Case **20** is depicted as an upright, generally rectangular prismatic container having a bottom, four sides, and a top defining an enclosed space wherein items of clothing and other personal articles may be organized and stowed for transport. Case **20** may be composed of any materials known in the art, and may be hard-sided plastic, but is illustrated as a "soft sided" luggage manufactured from nylon or other durable fabric disposed upon a lightweight frame.

[0018] Fig. 3 further shows that case **20** may have a front section **22** and rear section **24**. Front section **22** is flexibly joined to rear section **24** along a common edge, as by a fabric hinge or the like, so that front section **22** may be swung or pivoted out from rear section **24** in a door- or lid- like fashion to allow convenient access to the interior. To close the case **20**, front section **22** and rear section **24** are aligned and secured together (*e.g.* by a zipper) along their common periphery. Figs. 1-3 illustrate that front section **22** may include one or more pocket storage compartments **26**, **28** which may be accessible only from the outside of bag **20** while the bag is closed (Figs. 1 and 2), or only from the inside while the bag is open (Fig. 3), or from both outside and inside. Figures 1-3 also show that the case **20** may be equipped with two or more wheels and skids in accordance with known art, to allow case **20** to be tipped and towed across a supporting surface by the user, or to allow the case to rest steadily in an upright position as shown in the figures. The case **20** also is provided with one or more conventional carry and/or wheel handles.

[0019] An advantage of the invention is that the interior compartment of the case **20** may be, from side-to-side, narrower than usual in the art. This narrowed dimension is achieved without sacrificing substantial contained volume. Clothing, *e.g.* a man's suit coat, is folded about a vertical axis for placement within the case **20**, as shown in Fig. 3, allowing the case to be narrower in width and thus more easily manipulated, stored, and towed. The compartment within the rear section **24** of the case preferably is sufficiently tall to accommodate the hanging placement of a man's suit coat therein without need for horizontal folding. Nevertheless, in other luggage types, such as garment bags, the garments may be folded again medially to fit into a shorter compartment height. As seen in Fig. 3, the innovative mode of folding and hanging clothing **32**, **33** is possible through the use of an inventive trolley assembly **38** and hanger **40**, which are mountable within the upper interior of the rear section **24** of wardrobe case **20**. The trolley assembly **38** and hanger **40** together function as a means for removably securing clothing within the enclosed space of the case **20**.

[0020] Attention is invited to Figs. 4-12, which collectively illustrate the folding hanger aspect of the invention. The folding hanger, generally depicted at **40**, preferably is composed of a durable, slightly flexible thermoplastic. Hanger **40** has a pair of rigid, generally planar central body members **44**, **45** from each of which a respective one of legs **50**, **51** extends laterally. Shoulder members **46**, **47** extend in an angle downward from the upper portion of each of the central body members **44**, **45** to intersect with respectively associated legs **50**, **51**. Shoulder members **46**, **47** and legs **50**, **51** preferably are integrated with their respective central body members **44**, **45** so that each of shoulder members **46**, **47** and legs **50**, **51** is a rigid molded extension of its corresponding body member **44** or **45**. The distal end of each shoulder member similarly is integrally molded with the distal end of an associated shoulder member.

[0021] As indicated in Figs. 6-9, the body members **44**, **45** are pivotally joined by a preferably vertically disposed body hinge **54**. Body hinge **54**, whose knuckles preferably are integrally molded with the body members **44**, **45**, permits one body member **45** to pivot with respect to the other body member **44**, as indicated by the directional arrow of Fig. 9, so that the entire hanger **40** may be folded about a vertical axis to juxtapose the shoulder members **46**, **47** and legs **50**, **51**, as indicated in Figs. 8, 9 (phantom lines). In the preferred embodiment, the body hinge **54** is a conventional pin-and-knuckles arrangement, but it is immediately appreciated that alternative hinge forms, such as a flexible fabric or plastic living hinge, may suffice in the invention. Moreover, alternative embodiments of the invention may employ a main body hinge **54** that is disposed non-vertically to join pivotally the central body members **44**, **45**. Accordingly, the hanger **40** preferably is foldable about a vertical axis between an open position in which the central body members **44**, **45**, shoulders **46**, **47**, and legs **50**, **51** are all substantially coplanar, as seen in Figs. 5, 7, and 9, and a folded or closed position in which the body members **44**, **45**, and their respective shoulders and legs, are mutually parallel or nearly parallel, as suggested in Figs. 4, 12, and 13, and shown in phantom lines in Fig. 9.

[0022] As best seen in Figs. 4, 5, 7 and 8, one central body member **44** preferably but not necessarily is more extensive in size than the other body member **45**. The smaller member **45**, preferably fashioned in the shape of a right-angled triangle, has hinge **54** disposed upon its vertical edge, forming a right angle with the bottom of the body member **45**. The larger body member **44**, preferably fashioned in the shape of an isosceles or equilateral triangle, so that the larger body member **44** essentially is twice as large as, and a double reflection of, the smaller member **45**. The body hinge **54** preferably is disposed along the vertical axis of symmetry of the larger body member **44**, so that the smaller body member **45** is pivotable from an overlapping position substantially coextensive with a half of the larger member

45.

[0023] An advantage of this preferred configuration is the congruent overlap provided between the smaller member **45** and one half of the larger member **44** when the hanger **40** is folded to the open position. This overlap preferably is secured by means of one or more snap tabs **58**, **58'** distending from one of the body members (member **44** in the illustrations), for snap or frictional engagement into corresponding apertures **59**, **59'** through the other body member (member **45** as illustrated). A preferred and fully functional embodiment may include a single centrally located tab insertable through a single corresponding aperture, but the use of paired apertures and tabs as shown in the drawings provides a doubly secure snapped connection. As shown in Fig. 8, the tabs **58**, **58'** preferably are disposed along an edge of the larger member **44** while the apertures **59**, **59'** are along the hypotenuse of the smaller body **45**. When the members **44**, **45** are pivoted to the coplanar fully open position, the snap tabs **58**, **58'** snap into place within apertures **59**, **59'** to reliably hold the smaller body member **45** in a flush overlap against the larger member **45**. This snap-secured, overlapping configuration provides a strong, generally inflexible, hanger that reliably bears weight, and which is resistant to inadvertent or accidental folding or collapse. When it is desired to fold the hanger **40** to the closed position, the smaller member **45** is firmly pulled away from the larger central body member **44** to pull the tabs **58**, **58'** back through the apertures **59**, **59'** to disengage the overlapped connection.

[0024] As shown in Figs. 5-8, a hanger hook **60** is pivotally connected to central body member **44** by means of a neck hinge **62**. Neck hinge **62** permits hanger hook **60** to be folded between an extended position as shown in Figs. 5 and 8, and a retracted position as shown in Fig. 7. In the extended position, the hanger hook **60** is substantially coplanar with the body member **44**. When pivoted to the retracted position, as indicated by the directional arrows of Fig. 6, the hanger hook **60** is generally parallel to the body member **44**. In practice, when the hanger **40** is in the open position to hang a garment thereon, the hook **60** and central body members **44**, **45** are generally contained within the same imaginary plane. When the hanger **40** is in the folded position, the body members **44**, **45** are approximately parallel, with the hook **60** sandwiched parallel between them (Figs. 12 and 13).

[0025] Hanger hook **60** preferably is composed of the same material as body members **44**, **45** and is configured with a semicircular inside surface **63** engageable with a circular or other horizontal rod to allow the entire hanger **40** to be hung upon a conventional clothes closet bar **30**, clothes rack rod, or the like, as indicated in Fig. 5. Thus, by means of hanger hook **60**, hanger **40**, may be used to hang an item of clothing in a standard closet. The hanger **40** is best used in the open, unfolded position to hang garments in a normal closet, but may less satisfactorily by used in the folded position with the hanger hook **60** extended for use upon the clothes rod **30**.

[0026] Fig. 5, 7, and 8 show that from the top of at least one, and preferably both, of body members **44**, **45** extend support arms **65**, **66,** which like shoulder members **46**,**47**, are bilaterally symmetrical about a vertical axis. Also like each of shoulder members **46**, **47**, each support arm **65**, **66** preferably is integrated with a corresponding one of central body members 44, **45** so that each support arm is a rigid extension of its corresponding body member. Each support arm **65**, **66** preferably is completely pierced by at least one, and preferably by two, trolley apertures **68**, **68'** and **69**, **69'**. Trolley apertures **68**, **68'**, **69**, **69'** are holes of a shape corresponding to the cross sectional shape of trolley rods **82**, **82'** (Fig. 4), preferably round, which holes penetrate each of support arms **65**, **66** near each of the horizontal ends of arms **65**, **66**. Support arms **65**, **66** and apertures **68**, **68'**, **69**, **69'** permit the hanger **40** to be secured placed within a luggage case as further described herein. As best illustrated by Fig. 4, trolley apertures **68**, **68'**, **69**, **69'** are separated by a distance substantially equal to the distance between trolley rods **82**, **82'**.

[0027] Thus, while hanger **40** is useable to hang an unfolded garment upon a standard clothes rod **30**, the hanger is specially adapted to hang inside a luggage case upon an innovative trolley assembly **38** when in the closed position, as shown generally in Figs. 3 and 4. Trolley assembly **38** is mounted in the upper portion of the rear section **24** of the case **20**. A folded garment **32** may be reliably retained upon the hanger **40** and the hanger **40** securely but removably attached to the case **20** by means of the trolley assembly. The folded garment **32** thus may be packed within the case with ease, security, and minimal wrinkling.

[0028] Reference is made to Fig. 4. In one embodiment, the trolley assembly **38** includes a pair of horizontal, spaced-apart trolley rods **82**, **82'**. Disposed immediately above and parallel to the trolley rods **82**, **82'** are a corresponding pair of latch rods **84**, **84'** mounting a respective pair of slotted swing latches **86**, **86'**. Swing latches **86**, **86'** may be fixed in their respective positions upon the lengths of latch rods **84**, **84'** or alternatively may be slidably movable along latch rods **84**, **84'** for adjustably securable positioning at various positions along the lengths of the rods **84**, **84'**. The latches **86**, **86'** swing or rotate about horizontal axes. The latches **86**, **86'** are manually pivotable between an open position (latch **84'** Fig. 4) and a closed position (latch **84** in the figure).

[0029] As Figs. 3 and 4 indicate, the hanger **40** is removably mountable upon the trolley rods **82**, **82'**. Swing latches **86**, **86'**, when both in the open position, permit the hanger **40** to be slipped into position upon the trolley rods **82**, **82'**. With the hanger **40** upon the trolley rods **82**, **82'**, the latches **86**, **86'** are swung down into the closed position. When latches **86**, **86'** are in the closed position, the adjacent trolley rod **82** extends through the slot in the latch, so that the latch (latch **86** in Fig. 4) ef-

fectively encircles or encompasses the trolley rod **82** to prevent the hanger from sliding off the end of the rod **82**.

[0030] Accordingly, when hanger **40** has been folded back upon itself to the closed position, as shown in Figs. 4, 9 (phantom lines) and 12, the corresponding pairs of apertures **68**, **68'**, **69**, **69'** are co-aligned, and rods **82**, **82'** are alignable with and insertable through all the apertures. The engagement of hanger **40** upon trolley rods **82**, **82'**, by slidably inserting trolley rods **82**, **82'** through trolley apertures **68**, **68'**, **69**, **69'** in both support arms **65**, **66'**, allows hanger **40** to be removably mounted within case **30** in a secure horizontal position. Hanger hook **60** is folded into the retracted position to allow unimpeded use of the support arms **65**, **66** to engage hanger **40** upon trolley rods **82,82'.**

[0031] Particular reference to Figs. 10-12 shows that an advantage of the invention is that neck hinge **62** permits hanger hook **60** to be folded down against an article of clothing **32** to hold the clothing in place upon hanger **40**. The garment is first placed upon the shoulder members **46**, **47** of hanger **40** generally according to convention, as shown in Fig. 10. Hanger hook **60** is pivoted to the retracted position, and folded against the garment, to sandwich the garment between hook **60** and the body member **44**, as depicted in Fig. 11. Notably, and as best shown in Fig. 11, an outside surface **64** of the hanger hook **60** is shaped so as to be substantially vertical when the hanger hook **60** is in the retracted position. Thus, when the hanger hook **60** is retracted, the outside surface **64** preferably is substantially parallel to the axis of rotation of the body hinge **54**, engaged against the garment **32**, and parallel to the vertical line about which the garment is folded. The hanger **40** may then be folded about body hinge **54**, with hanger hook **60** disposed between portions of the garment and also sandwiched between the body members **44**, **45**, so that the folded hanger and garment assume the position shown in Fig. 12. With the hanger **40** so folded, the article of clothing disposed thereon also is folded vertically. With the hanger **40** and the garment in a folded position, and the hanger hook **60** in the retracted position, the outside surface **64** of the hook **60** is engaged against the garment **32** to hold the garment upon the folded hanger; the hook prevents the garment from sliding down and off the shoulder members **46**, **47** (*i.e*. from sliding down and to the right in Fig. 12). Advantageously, the garment is maintained upon the overlapping shoulder members **46**, **47** in the position shown in Fig. 4. The garment **32** and hanger **40** may then be placed upon trolley rods **82**, **82'** as shown in Fig. 3.

[0032] Attention is invited to Figs. 5 and 7, showing that the hanger **40** optionally is provided with a pant loop **70** upon which ties, pants, skirts, or other garments may be placed. In one alternative embodiment, pant loop **70** comprises a substantially closed, elongated, loop of, for example, rigid plastic or heavy gage wire, the loop being sufficiently wide to receive a pair of pants **33** therethrough (Fig. 4). The loop **70** is slidably disposed within loop holder **73**. Loop holder **73** includes a grooved, or preferably substantially tubular, member affixed to the bottom of the larger central body member **44** and to the bottom of the respective leg **50**. As best seen in Fig. 5, the upper portion of the loop **70** is retained within the channel or groove of the loop holder **73**, but is slidable therein to allow the loop **70** to move side-to-side with respect to the hanger **40**. The pant loop **70** thus is movable between an offset position substantially adjacent to one of the central body members **44** and/or one of the legs **50** (solid lines in Fig. 5) and a central position substantially adjacent to both body members **44**, **45** or legs **50**, **51** (phantom lines in Fig. 5). The bottom portion of the pant loop **70** is provided with a substantially cylindrical pad member **76** which has a larger radius than the loop **70** to offer a clean, padded surface upon which a garment may securely drape with minimal wrinkling.

[0033] Notably, the provision of the pant loop **70** as so configured does not interfere with the folding operation of the hanger **40**. When the hanger **40** is in the open position, the pant loop **70** may be moved within the holder **73** to a central position, as shown in Fig. 7 and by the phantom lines of Fig. 5, where a portion of the loop **70** is subjacent to both the legs **50**, **51**. In the central position, the pant loop **70** is in a substantially symmetric position with respect to the balancing point of the hanger **40** which allows the hanger **40** to hang evenly from the rod **30** shown in Fig. 5. Thus, in the central position the pant loop **70** does not detract from the symmetry and balance of the hanger **40**, although the loop holder **73** is somewhat offset from the hanger's vertical axis of symmetry. Pants **33** or other garments may be placed through the loop **70** and hung upon the bottom rung thereof. The hanger **40** may be disposed upon a conventional clothes hanger rod **30** in a balanced position with the pad member **76** substantially horizontal. Because the pant loop **70** is laterally movable, its position can be adjusted to optimize the gravitational balance of the hanger **40** when a garment is upon the loop **70**. Indeed, if no garment is placed upon the shoulder members **46**, **47**, it is possible to use the hanger **40** in either an open or a closed position to hang only pants **33** or the like upon a conventional clothes hanger rod **30**.

[0034] When it is desired to fold the hanger **40** to the closed position, the loop **70** is shifted within the loop holder **73** until it is offset to the position shown in Fig. 5, where it is subjacent only to only one body portion **44** and its corresponding leg **50**. In this offset position, the pant loop **70** is eccentric with respect to the balance point of the hanger **40**, and does not interfere at all with the operation of the hinge **54**. The pant loop **70** has a lateral extent substantially corresponding to, or less than, the width of the larger body member **44**. With the pant loop in the offset position, the hanger **40** may freely be folded to the closed position, and the loop **70**, while wide enough to carry a pair of pants **33**, does not appreciably increase the overall width of the folded hanger **40**. The hanger **40**, carrying garments upon the pant loop

70, nevertheless may be used in its folded position and disposed within the narrow case **20** as shown in Figs. 3 and 4. In other, less expensive alternative embodiments, the pant loop may be immovably secured to one of the central bodies in a permanently offset position.

[0035] Fig. 13 shows that an advantage of the invention is that the hanger **40** may be adapted for use in alternative trolley embodiments. The hanger **40** is shown in the closed position with the hook **60** retracted in a position between the two central body members **44**, **45**, but without any garments disposed thereon. A planar panel **88** may be immovably mounted or, preferably, hinged for swinging motion within the interior of a luggage case. In this alternative embodiment, the panel **88** is provided with horizontally aligned loop brackets **89**, **89'** through which one or more support arms **65**, **66** may be frictionally inserted to secure the hanger **40** within the case.

[0036] The hanger **40** may be used in either the open unfolded position or the closed folded position. The user can use the hanger **40** to hang a garment upon a conventional rod **30** or within the luggage case **20**. A garment such as a sport coat is placed unfolded upon the hanger **40** in the open position as shown in Fig. 10, and the hanger hook **60** placed upon a conventional rod **30** (Fig. 5). If desired, the pant loop **70** may be shifted to the central position shown in Fig. 7, and a pair of pants or other garment may be suspended therefrom while the hanger **40** hangs in the balance from the rod **30**. Optionally, user instructions may be printed on either or both central body members **44**, **45** where the instructions remain visible in the space between the lapels of the hanging garment.

[0037] To transfer the hanger **40** and garment from, for a example a closet, the hanger **40** may be removed from the rod **30**, and the hook **60** pivoted to the retracted position shown in Fig. 11, in which position the outside surface **64** of the hook comes into contact with the garment. The pant loop **70** is slidably shifted to the offset position shown in Fig. 5 The hanger **40** with the garment **32** remaining thereon is then folded into the closed position as shown in Fig. 12. Notably, portions of the garment **32** are sandwiched between the respective central body portions **44**, **45** of the hanger **40**, and the hook **60** is sandwiched between layers of the garment **32**. The hook **60**, being attached to one of the central body portions **44**, prevents the garment from sliding under its weight down the sloping shoulders **46**, **47**. The knuckles of the main hinge **54** preferably extend somewhat away from the large central body member **44** to provide additional space between the central body members **44**, **45** in which the garment layers are disposed.

[0038] With the garment **32** and the hanger **40** both in a folded position as shown in Fig. 12, the hanger may be placed upon the trolley assembly **38** as shown in Fig. 4, or alternatively in accordance with Fig. 13. Also as depicted in Fig. 4, swing latches **86**, **86'** may be pivoted into the closed position (latch **86** in the figure) to prevent the hanger **40** from inadvertently sliding off the trolley rods **82**, **82'**. The garment **32** (and pants upon the pant loop **70** in embodiments incorporating the pant loop element) are thus securely but removably retained within the case **20** for transport.

Claims

1. A foldable hanger (40) for clothes and garments comprising first and second central body members (44, 45) pivotally connected to each other being pivotable between an open, generally coplanar, position and a closed, juxtaposed, position, shoulder members (46,47) respectively extending from the central body members (44,45), and a hook-shaped garment retainer member (60) pivotally connected to one of said central body members (44, 45) for pivotal movement between an extended position substantially coplanar with one of said central body members (44, 45) and a retracted position substantially parallel with said one central body members (44, 45), wherein said garment retainer member is disposable between said central body members (44, 45) in said juxtaposed position.

2. A hanger according to claim 1 wherein said body members are pivotable from the coplanar position to the juxtaposed position while said retainer is in the retracted position.

3. A hanger according to claim 1 further comprising means for releasably securing said two central body members in the substantially coplanar position.

4. A hanger according to claim 3 wherein when said central body members are in the coplanar position, said first central body member overlaps a portion of said second central body member, one of said central body members having at least one aperture therein, and wherein said means for releasably securing comprises at least one tab extending from the other central body member insertable through said at least one aperture.

5. A hanger according to claim 1 wherein
a garment may be place upon said shoulder members in an unfolded condition while said body members are in the open position.

6. A hanger according to claim 5 wherein said hook in the retracted position prevents said garment from slipping from said shoulder members when said body members are pivoted to the closed position.

7. A hanger according to claim 6 further comprising: a loop holder upon one of said body members; and
a pant loop slidably disposed in said loop

holder.

8. A hanger according to claim 7 further comprising two leg members, each of said leg members extending from a corresponding one of said central body members,wherein said pant loop is movable between a position substantially adjacent to one of said leg members and a position substantially adjacent to both said leg members.

9. A hanger according to claim 1 further including

first hinge for pivotally connecting said first central body member to said second central body member, whereby said hanger is foldable between an open position wherein said body members are substantially coplanar and a folded position wherein said central body members are substantially paralleled; and said hanger further including

second hinge for pivotally connecting said hook to one of said central body members, whereby said hook is pivotable between an extended position wherein said hook is substantially coplanar with said body members when said hanger is in the open position, and a retracted position wherein said hook is disposed between said central body members when said hanger is in the folded position.

10. A hanger according to claim 9 wherein when said central body members are in the coplanar position, said first central body member overlaps a portion of said second central body member, one of said body members having an aperture therein and the other one of said central body members comprising a tab extending therefrom insertable through said aperture.

11. A hanger according to claim 10, wherein said hook is movable from the extended position to the retracted position for engagement against the garment.

12. A hanger according to claim 11 wherein said hanger is foldable from the open position to the closed position while said hook is engaged against the garment.

13. A hanger according to claim 1 further comprising:

a first support arm extending from a respective one of said central body members.

14. A hanger according to claim 13 wherein said first support arm includes means for attaching the hanger when folded to a luggage case or the like.

15. A hanger according to claim 14 wherein said means for attaching the hanger to a luggage case or the like includes a pair of spaced-apart apertures passing through said first support arm whereby rods or the like arranged on the inside of a luggage case can pass through said spaced-apart apertures to attach the hanger to the luggage case.

16. A hanger according to claim 15 further comprising a second support arm extending from the other one of said central body members, said second support member having a pair of spaced-apart apertures therein, said apertures in said first support arm alignable with said apertures in said second support arm when said central body members are in the juxtaposed position.

17. A hanger according to claimed 9 further including a loop holder upon one of said central body members; and

a pant loop slidably disposed in said loop holder.

18. A hanger according to claim 17 wherein said pant loop is movable between a position substantially adjacent to one of said central body members and a position substantially adjacent to both of said central body members.

Patentansprüche

1. Faltbarer Kleiderbügel (40) für Wäsche und Kleidungsstücke mit einem ersten und einem zweiten Mittelkörperteil (44, 45), die schwenkbar miteinander verbundenen sind, die zwischen einer offenen, im Wesentlichen koplanaren Position, und einer geschlossenen, aneinandergelegten Position, schwenkbar sind, Schulterteilen (46, 47), die sich jeweils von den Mittelkörperteilen (44, 45) erstrekken, und einem hakenförmigen Kleidungsstückhalteteil (50), schwenkbar verbunden mit einem der Mittelkörperteile (44, 45) zur schwenkbaren Bewegung zwischen einer ausgestreckten Position, die im Wesentlichen koplanar mit einem der Mittelkörperteile (44, 45) ist, und einer zurückgezogen Position, im Wesentlichen parallel mit dem einen Mittelkörperteil (44, 45) ist, wobei das Kleidungsstückhalteteit zwischen den Mittelkörperteilen (44, 45) in der aneinandergelegten Position anordenbar ist.

2. Kleiderbügel nach Anspruch 1, wobei die Bügelteile von der koplanaren Position in die aneinandergelegte Position schwenkbar sind, während der Halter in der zurückgezogenen Position ist.

3. Kleiderbügel nach Anspruch 1, außerdem mit Mitteln zum lösbaren Befestigen der zwei Mittelkörperteile in der im Wesentlichen koplanaren Position.

4. Kleiderbügel nach Anspruch 3, wobei dann, wenn die Mittelkörperteile in der koplanaren Position sind,

das erste Mittelkörperteil einen Abschnitt des zweiten Mittelkörperteiles überlappt, wobei eines der Mittelkörperteile darin zumindest eine Öffnung hat, und wobei die Mittel zum lösbaren Befestigen zumindest einen Vorsprung aufweisen, der sich von dem anderen Mittelkörperteil erstreckt, einsetzbar durch zumindest eine Öffnung.

5. Kleiderbügel nach Anspruch 1, wobei das Kleidungsstück in einem ungefalteten Zustand auf dem Schulterteil platziert werden kann, während die Mittelkörperteile in der offenen Position sind.

6. Kleiderbügel nach Anspruch 5, wobei der Haken in der zurückgezogenen Position das Kleidungsstück am Abrutschen von den Schulterteilen hindert, wenn die Mittelkörperteile in die geschlossene Position geschwenkt werden.

7. Kleiderbügel nach Anspruch 6, außerdem mit: einem Schlaufenhalter an einem der zwei Mittelkörperteile; und einer Hosenschlaufe, die in dem Schlaufenhalter gleitbar angeordnet ist.

8. Kleiderbügel nach Anspruch 7, außerdem mit zwei Schenkelteilen, jedes der Schenkelteile erstreckt sich von einem entsprechenden der Mittelkörperteile, wobei die Hosenschlaufe zwischen einer Position im Wesentlichen benachbart zu einem der Schenkelteile und einer Position im Wesentlichen benachbart zu beiden Schenkelteilen bewegbar ist.

9. Kleiderbügel nach Anspruch 1, außerdem enthaltend,

ein erstes Gelenk, um das erste Mittelkörperteil mit dem zweiten Mittelkörperteil schwenkbar zu verbinden, wodurch der Kleiderbügel zwischen einer offenen Position, in der die Teile im Wesentlichen koplanar sind, und einer gefaltenen Position, in der die Mittelkörperteile im wesentlichen parallel sind, faltbar ist; und der Kleiderbügel außerdem enthält

ein zweites Gelenk, um den Haken mit einem der Mittelkörperteile schwenkbar zu verbinden, wodurch der Haken zwischen einer ausgestreckten Position, in der der Haken im Wesentlichen koplanar mit den Bügelteilen ist, wenn der Kleiderbügel in der offenen Position ist, und einer zurückgezogenen Position, in der der Haken zwischen den Mittelkörperteilen angeordnet ist, wenn der Kleiderbügel in der gefalteten Position ist, schwenkbar ist.

10. Kleiderbügel nach Anspruch 9, wobei dann, wenn die Mittelkörperteile in der koplanaren Position sind, das erste Mittelkörperteil einen Abschnitt des zweiten Mittelkörperteiles überlappt, eines der Mittelkörperteile darin eine Öffnung hat und das andere Mittelkörperteil einen Vorsprung aufweist, die sich von diesem einsetzbar durch die Öffnung erstreckt.

11. Kleiderbügel nach Anspruch 10, wobei der Haken von der ausgestreckten Position in die zurückgezogene Position bewegbar ist, um mit den Kleidungsstücken in Kontakt zu sein.

12. Kleiderbügel nach Anspruch 11, wobei der Kleiderbügel aus der offenen Position in die geschlossene Position faltbar ist, während der Haken mit den Kleidungsstücken in Kontakt ist.

13. Kleiderbügel nach Anspruch 1, außerdem mit:

einem ersten Tragarm, der sich von einem der Mittelkörperteile erstreckt

14. Kleiderbügel nach Anspruch 13, wobei der erste Tragarm Mittel für das Befestigen des Kleiderbügels enthält, wenn dieser in einen Gepäckkoffer oder dergleichen gefaltet ist.

15. Kleiderbügel nach Anspruch 14, wobei die Mittel für das Befestigen des Kleiderbügels in einem Gepäckkoffer oder dergleichen ein Paar von beabstandeten Öffnungen enthält, die durch den ersten Tragarm hindurchgehen, wodurch Stäbe oder dergleichen, die an der Innenseite des Gepäckkoffer angeordnet sind, durch die beabstandeten Öffnungen hindurchgehen können, um den Kleiderbügel in dem Gepäckkoffer zu befestigen.

16. Kleiderbügel nach Anspruch 15, mit außerdem einem zweiten Tragarm, der sich von dem anderen der Mittelkörperteile erstreckt, wobei das zweite Tragteil ein Paar von darin räumlich beabstandeten Öffnungen hat, die Öffnungen in dem ersten Arm mit den Öffnungen in dem zweiten Arm in Linie ausrichtbar sind, wenn die Mittelkörperteile in der aneinandergelegten Position sind.

17. Kleiderbügel nach Anspruch 9, außerdem einen Schlaufenhalter auf einem der zwei Mittelkörperteile enthaltend; und eine Hosenschlaufe, die in dem Schlaufenhalter gleitbar angeordnet ist.

18. Kleiderbügel nach Anspruch 17, wobei die Hosenschlaufe zwischen einer Position, die im Wesentlichen zu einem der Mittelkörperteile benachbart ist und einer Position, die im Wesentlichen zu beiden der Mittelkörperteile benachbart ist, bewegbar ist.

Revendications

1. Cintre pliable (40) pour vêtements et habits comprenant

des premier et deuxième éléments de corps

centraux (44, 45) reliés entre eux de façon à pouvoir pivoter entre une position ouverte, généralement coplanaire, et une position fermée, juxtaposée,

des éléments d'épaule (46, 47) s'étendant respectivement depuis les éléments de corps centraux (44, 45), et

un élément de retenue de vêtement (60), en forme de crochet, relié à pivotement à l'un desdits éléments de corps centraux (44, 45) en vue d'un mouvement de pivotement entre une position étendue sensiblement coplanaire à l'un desdits éléments de corps centraux (44, 45) et une position rétractée sensiblement parallèle à l'un desdits éléments de corps centraux (44, 45), ledit élément de retenue de vêtement pouvant être placé entre lesdits éléments de corps centraux (44, 45) dans ladite position juxtaposée.

2. Cintre selon la revendication 1, dans lequel lesdits éléments de corps sont aptes à pivoter de la position coplanaire dans la position juxtaposée tandis que ledit élément de retenue est dans la position rétractée.

3. Cintre selon la revendication 1 comprenant en outre des moyens pour fixer de façon amovible lesdits deux éléments de corps centraux dans la position sensiblement coplanaire.

4. Cintre selon la revendication 3, dans lequel, lorsque lesdits éléments de corps centraux sont dans la position coplanaire, ledit premier élément de corps central recouvre une portion dudit deuxième élément de corps central, l'un desdits éléments de corps centraux comportant au moins une ouverture, et lesdits moyens de fixation de façon libérable comprenant au moins une languette s'étendant depuis l'autre élément de corps central insérable dans ladite au moins une ouverture.

5. Cintre selon la revendication 1, dans lequel un vêtement peut être placé sur lesdits éléments d'épaule à l'état non plié tandis que lesdits éléments de corps sont dans la position ouverte.

6. Cintre selon la revendication 5, dans lequel ledit crochet dans la position rétractée empêche ledit vêtement de glisser desdits éléments d'épaule lorsque lesdits éléments de corps sont pivotés dans la position fermée.

7. Cintre selon la revendication 6 comprenant en outre

un support de boucle sur l'un desdits éléments de corps, et

une boucle pour pantalon placée de façon coulissante dans ledit support de boucle.

8. Cintre selon la revendication 7 comprenant en outre deux éléments formant jambe, chacun desdits éléments formant jambe s'étendant depuis un élément correspondant desdits éléments de corps centraux, ladite de boucle pour pantalon étant mobile entre une position sensiblement adjacente à l'un desdits éléments formant jambe et une position sensiblement adjacente auxdits deux éléments formant jambe.

9. Cintre selon la revendication 1 incluant en outre une première articulation destinée à raccorder à pivotement ledit premier élément de corps central audit deuxième élément de corps central, de sorte que ledit cintre est pliable entre une position ouverte dans laquelle lesdits éléments de corps sont sensiblement coplanaires et une position pliée dans laquelle lesdits éléments de corps centraux sont sensiblement parallèles ; et ledit cintre incluant en outre

une deuxième articulation destinée à raccorder à pivotement ledit crochet à l'un desdits éléments de corps centraux, de sorte que ledit crochet est apte à pivoter entre une position étendue dans laquelle ledit crochet est sensiblement coplanaire auxdits éléments de corps lorsque ledit cintre est dans la position ouverte, et une position rétractée dans laquelle ledit crochet est placé entre lesdits éléments de corps centraux lorsque ledit cintre est dans la position pliée.

10. Cintre selon la revendication 9, dans lequel, lorsque lesdits éléments de corps centraux sont dans la position coplanaire, ledit premier élément de corps central recouvre une portion dudit deuxième élément de corps central, l'un desdits éléments de corps comportant une ouverture et l'autre desdits éléments de corps centraux comprenant une languette s'étendant depuis celui-ci et insérable dans ladite ouverture.

11. Cintre selon la revendication 10, dans lequel ledit crochet est déplaçable de la position étendue dans la position rétractée en vue de l'engagement contre le vêtement.

12. Cintre selon la revendication 11, dans lequel ledit cintre est pliable de la position ouverte dans la position fermée tandis que ledit crochet est engagé contre le vêtement.

13. Cintre selon la revendication 1 comprenant en outre un premier bras de support s'étendant depuis un élément respectif desdits éléments de corps centraux.

14. Cintre selon la revendication 13, dans lequel ledit premier bras de support inclut des moyens pour fixer le cintre, lorsqu'il est plié, à un bagage ou analogue.

15. Cintre selon la revendication 14, dans lequel lesdits moyens de fixation du cintre à un bagage ou analogue incluent une paire d'ouvertures espacées ménagées dans ledit premier bras de support, des barres ou analogues placées à l'intérieur d'un bagage pouvant passer à travers lesdites ouvertures espacées pour fixer le cintre au bagage.

16. Cintre selon la revendication 15 comprenant en outre un deuxième bras de support s'étendant depuis l'autre élément desdits éléments de corps centraux, ledit deuxième élément de support comportant une paire d'ouvertures espacées, lesdites ouvertures ménagées dans ledit premier bras de support pouvant être alignées avec lesdites ouvertures ménagées dans ledit deuxième bras de support lorsque lesdits éléments de corps centraux sont dans la position juxtaposée.

17. Cintre selon la revendication 9 incluant en outre

un support de boucle sur l'un desdits éléments de corps centraux ; et

une boucle pour pantalon placée de façon à pouvoir coulisser dans ledit support de boucle.

18. Support selon la revendication 17, dans lequel ladite boucle pour pantalon est mobile entre une position sensiblement adjacente à l'un desdits éléments de corps centraux et une position sensiblement adjacente aux deux éléments de corps centraux.

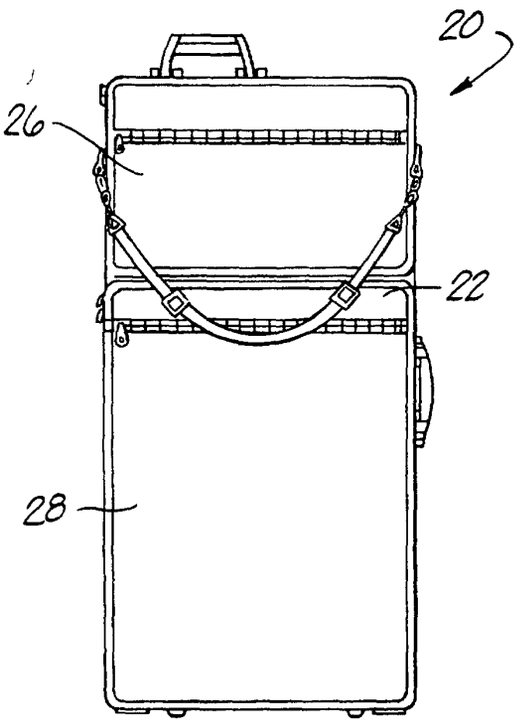


FIG.1

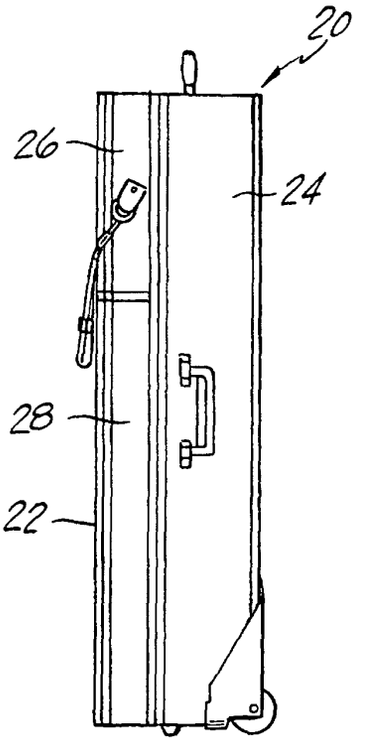


FIG.2

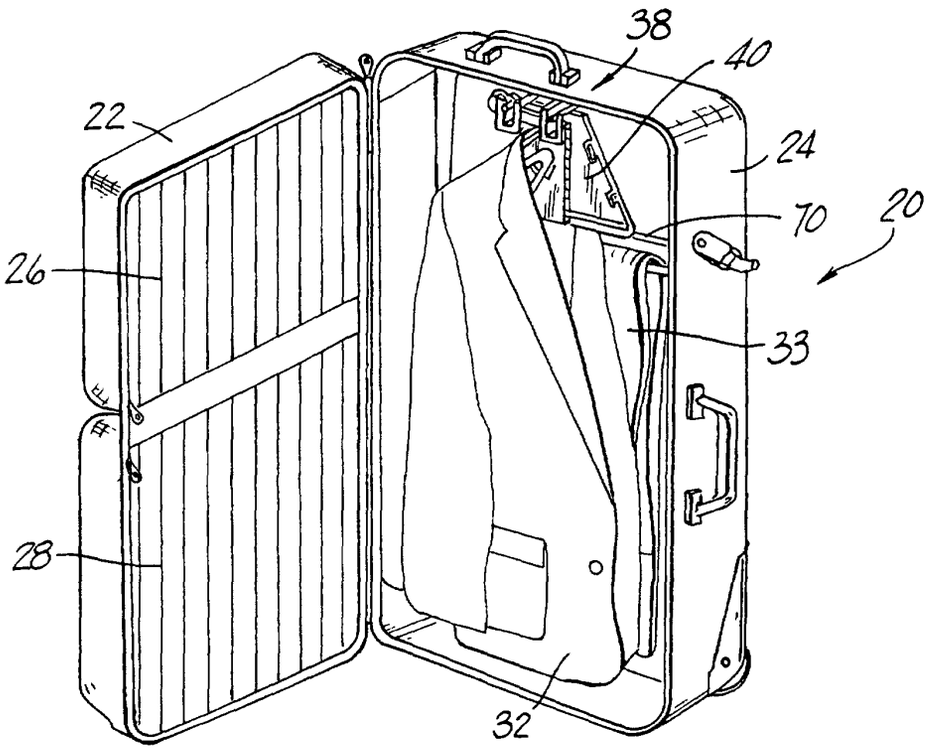


FIG.3

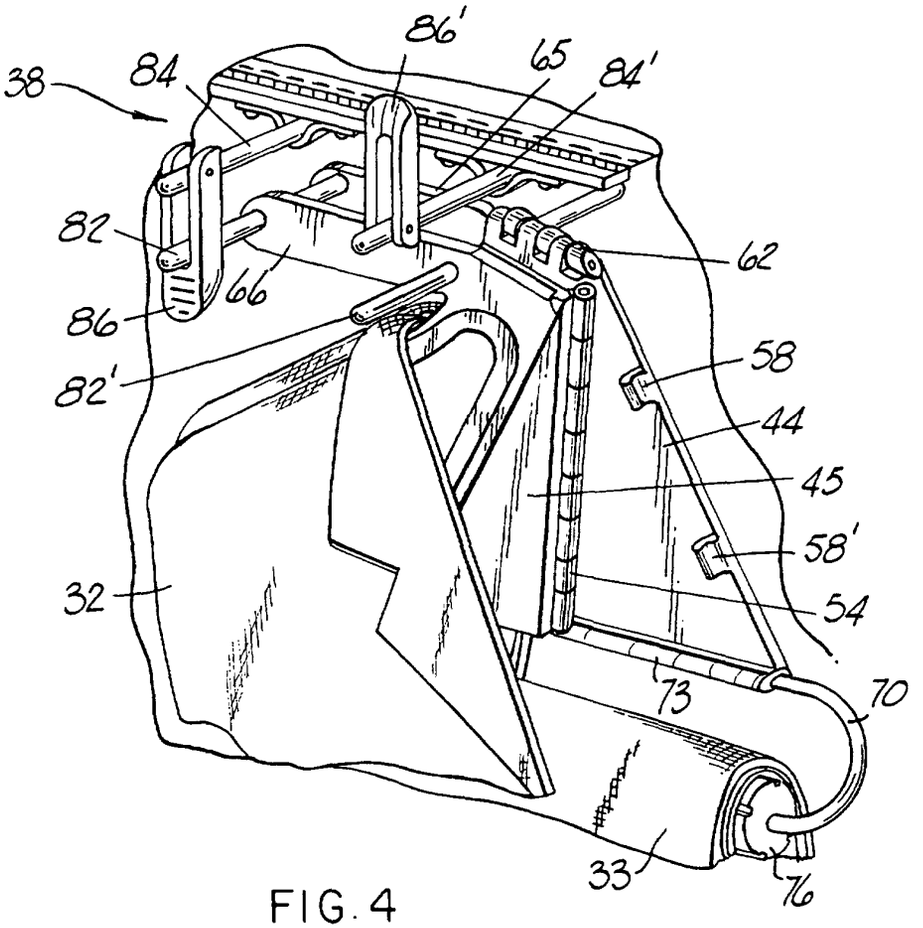


FIG. 4

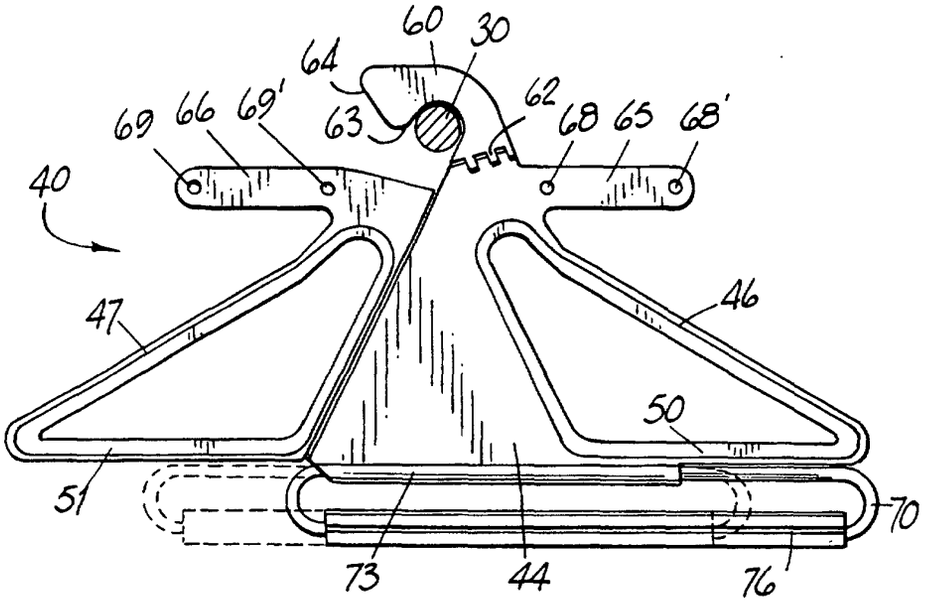


FIG. 5

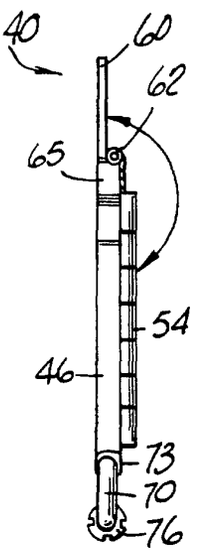


FIG. 6

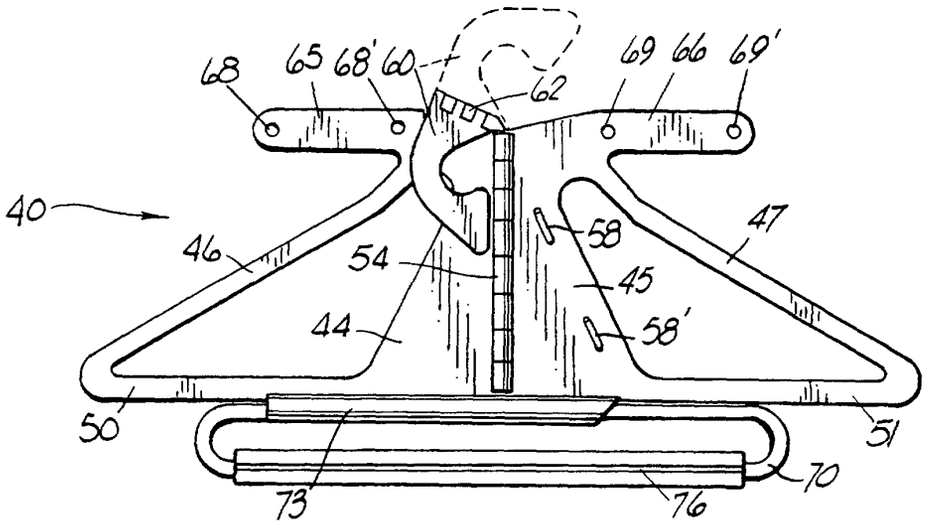


FIG.7

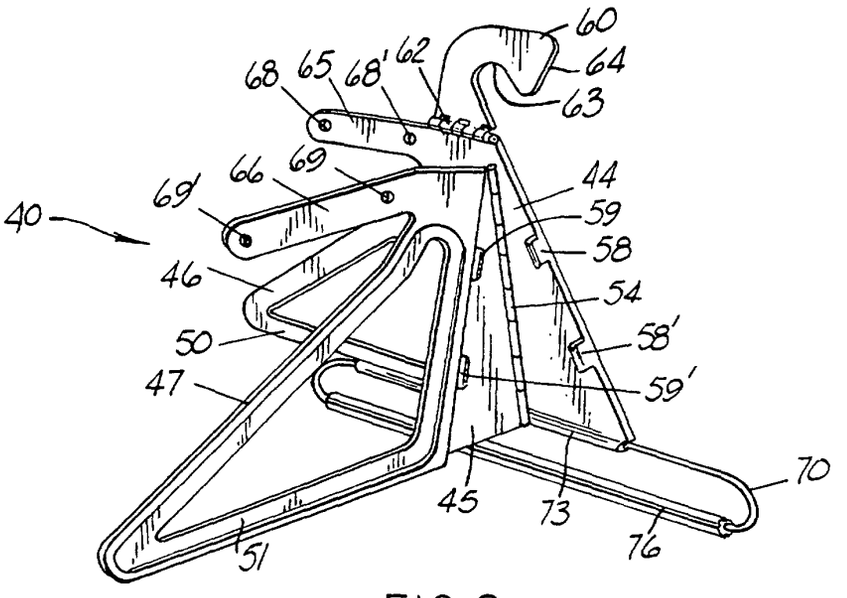


FIG.8

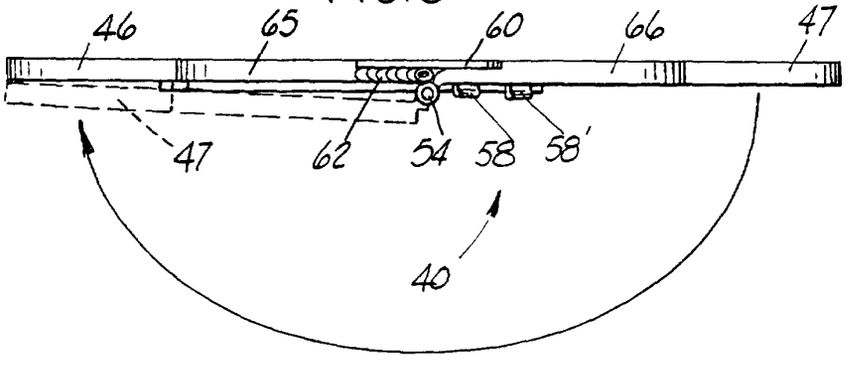


FIG.9

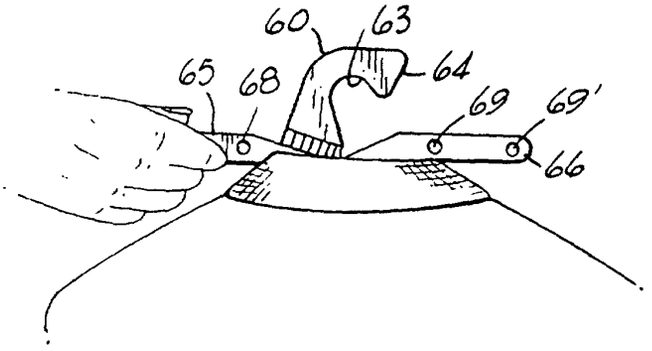


FIG.10

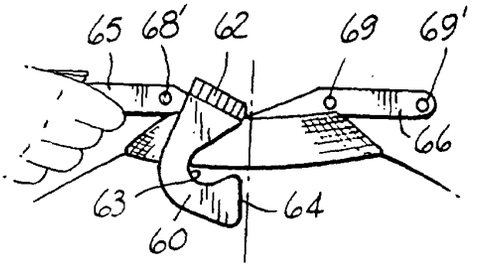


FIG.11

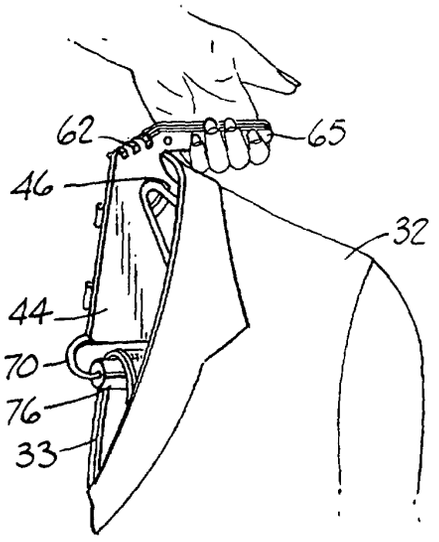


FIG.12

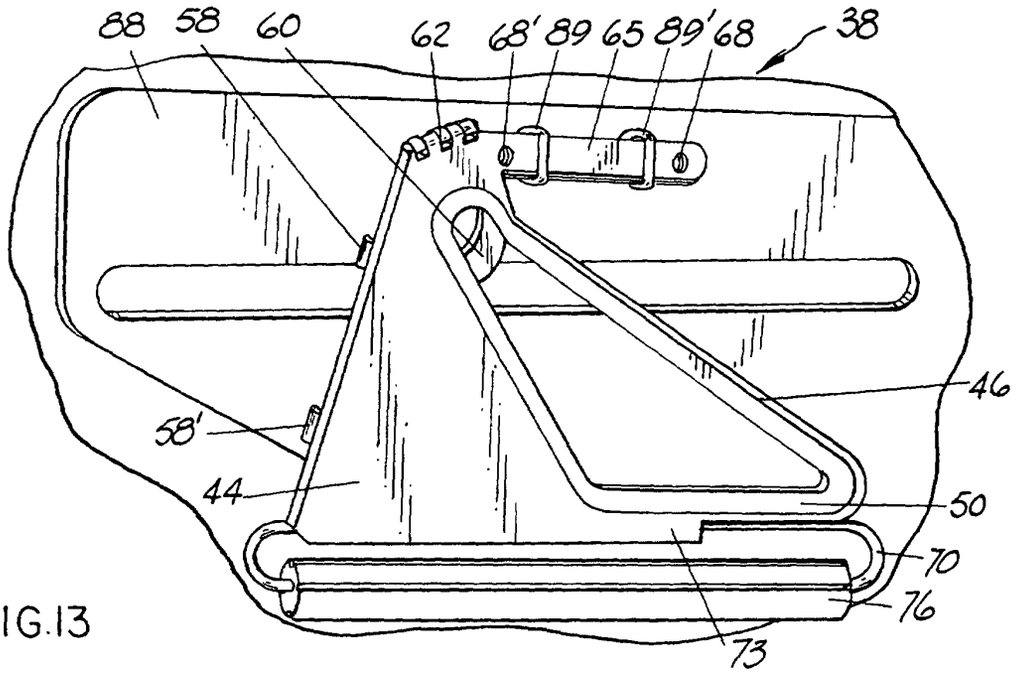


FIG.13