United States Patent

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[72] Inventor **Kurt Fussel**
Afferde, Germany

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[73] Assignee **Sinram & Wendt**
Hameln-Afferde, Germany
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[33] **Germany**
[31] **P 19 09 354.0**

[54] **HANGER FOR ARTICLES OF CLOTHING OR THE LIKE**
16 Claims, 8 Drawing Figs.

[52] **U.S. Cl.** **223/95**
[51] **Int. Cl.** **A47j 51/12**
[50] **Field of Search** 223/89, 95, 77, 94, 85, 87; 211/113

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Primary Examiner—Jordan Franklin
Assistant Examiner—George H. Krizmanich
Attorney—Michael S. Striker

ABSTRACT: A hanger for trousers, slacks, skirts or like articles of clothing wherein two plastic arms are movable in parallelism with each other between article-engaging and article-releasing positions. Each arm has an elongated slot which receives the stem of a guide pin provided on the other arm. An elastic band or a helical spring is connected to the pins and biases the arms to their article-engaging positions. A deformable suspending member is separably connected to coupling elements provided at the upper sides of the arms and enables the user to suspend the hanger on a nail or the like. The suspending member may carry a hook to permit suspension of the hanger on a rod.

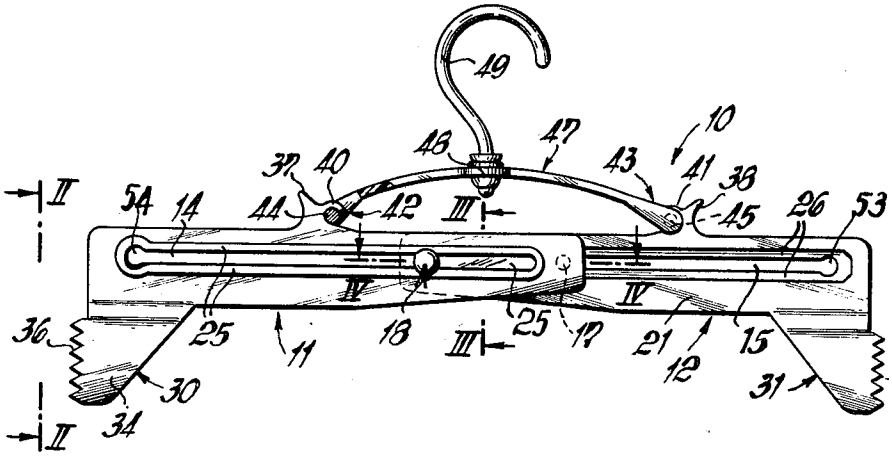


FIG. 2

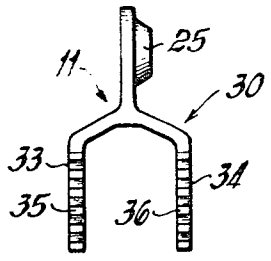


FIG. 1

FIG. 3

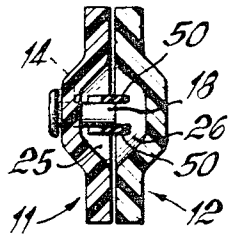


FIG. 4

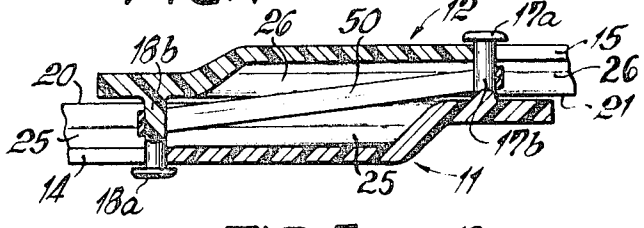


FIG. 5

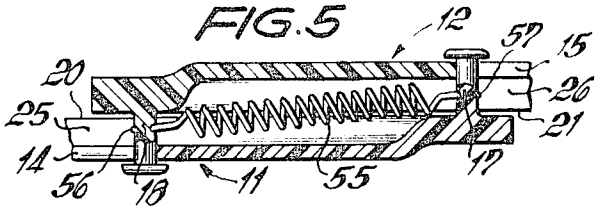


FIG. 6

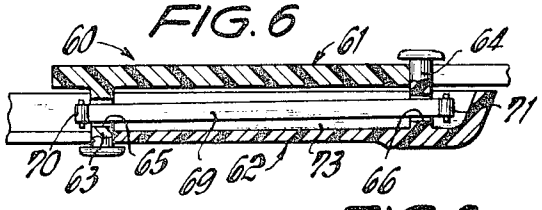


FIG. 7

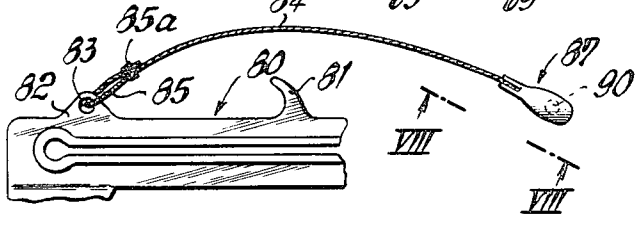
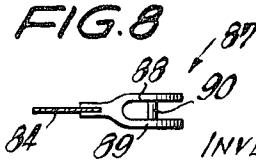


FIG. 8



INVENTOR
Kurt FÜSSEL
BY

Paul S. Sterler

his ATTORNEY

HANGER FOR ARTICLES OF CLOTHING OR THE LIKE

BACKGROUND OF THE INVENTION

The present invention relates to improvements in hangers for articles of clothing or the like, particularly to hangers which can be used to suspend trousers, slacks, skirts or like articles of clothing, wherein two relatively movable parts can be introduced into an opening of the article to thereupon engage from within the waistband or the cuff and to maintain the thus engaged part under at least some tension.

It is already known to provide a hanger for slacks or skirts with a pair of arms which are movable relative to each other and are biased to their article-engaging positions by a helical spring which is outwardly adjacent to the arms. As a rule, the arms are provided with projections each of which is attached to one end convolution of the spring. A drawback of such hangers is that the metallic spring can come into contact with the articles of clothing so that the articles are likely to be soiled if the spring becomes rusty when the hanger is used in moist climates. Moreover, the spring is rather large and thus contributes to the bulk of the hanger; this is undesirable when the hanger is intended to be taken along on trips and must be stored in a small area when not in use. Furthermore, since the spring is located externally of the arms, it is likely to be damaged by a clumsy user. Finally, the mounting of the spring also presents certain problems.

SUMMARY OF THE INVENTION

An object of the invention is to provide a simple, compact and versatile hanger for articles of clothing or the like.

Another object of the invention is to provide an improved hanger of the type wherein two relatively movable article-engaging arms are connected to each other by resilient means and to construct the hanger in such a way that the resilient means is held out of contact with articles of clothing and is therefore less likely to soil the clothing or to be damaged during storage.

A further object of the invention is to provide a collapsible or contractable clothes hanger which can be manipulated by one hand and which can be used for proper suspension of a variety of articles of clothing, particularly skirts and trousers.

An additional object of the invention is to provide a hanger wherein the biasing means for the relatively movable parts can be readily removed, inspected or replaced.

Still another object of the invention is to provide a hanger which can be used to suspend articles of clothing on nails, hooks or rods and which can support garments without slippage.

The hanger of my invention comprises a pair of arms which are movable lengthwise in substantial parallelism with each other between article-engaging and article-releasing positions and are provided with elongated slots and guide pins each extending into and slidable in the slot of the other arm to guide the arms during movement between the two positions, and biasing means for urging the arms to their article-engaging positions. Such biasing means includes a springy element (e.g., an elastic band of finite length, an endless elastic band or a helical spring) which is connected to the guide pins. At least one of the arms defines a chamber which accommodates the springy element to further reduce the likelihood of contact between such element and the suspended article.

The novel features which are considered as characteristic of the invention are set forth in particular in the appended claims. The improved hanger itself, however, both as to its construction and the mode of utilizing the same, together with additional features and advantages thereof, will be best understood upon perusal of the following detailed description of certain specific embodiments with reference to the accompanying drawing.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a side elevational view of a clothes hanger which embodies one form of the invention and whose arms are shown in fully extended positions;

FIG. 2 is an end elevational view of the hanger as seen in the direction of arrows from the line II—II of FIG. 1;

FIG. 3 is an enlarged transverse vertical sectional view as seen in the direction of arrows from the line III—III of FIG. 1;

FIG. 4 is an enlarged fragmentary horizontal sectional view as seen in the direction of arrows from the line IV—IV of FIG. 1;

FIG. 5 is a similar fragmentary horizontal sectional view of a second hanger;

FIG. 6 is a similar fragmentary horizontal sectional view of a third hanger;

FIG. 7 is a fragmentary side elevational view of a fourth hanger; and

FIG. 8 is an end elevational view of a detail as seen in the direction of arrows from the line VIII—VIII of FIG. 7.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring first to FIGS. 1 to 4, there is shown a garment hanger **10** which comprises two elongated mirror symmetrical arms **11, 12** which are respectively provided with elongated slots **14, 15** and guide pins **17, 18**. As best shown in FIG. 4, each of the guide pins **17, 18** comprises an end portion or head **17*a*, 18*a*** which is preferably round and whose diameter exceeds the width of the respective slot **14, 15** and a stem **17*b*, 18*b*** which is integral with the respective arm **11, 12** and extends through the slot **15, 14** of the other arm. The inner side surfaces **20, 21** of the arms **11, 12** abut against and are slidable along each other so that the hanger **10** is held against buckling by such side surfaces and the heads **17, 18*a*** to permit controlled movements of arms **11, 12** between their fully extended (article-engaging) positions (shown in FIG. 4 wherein each of the stems **17*a*, 18*a*** is received in the inner end portion of the respective slot) and fully collapsed (article-releasing) positions in which the heads **17*a*, 18*a*** respectively register with the enlarged outer end portions **53, 54** of the slots **15, 14**. The end portions **53, 54** are large enough to permit passage of the heads **17*a*, 18*a*** and to thus permit rapid assembly or dismantling of the hanger **10**.

The intermediate positions of the arms **11, 12** are also article-engaging positions if the size of the cuffs on a pair of slacks (or the size of the waistband on a skirt) is such that the cuffs do not permit movement of arms **11, 12** to their fully extended positions.

An intermediate portion of each of the arms **11, 12** defines a substantially trough-shaped chamber **25, 26** (best shown in FIGS. 3 and 4). These chambers are in at least partial registry with each other in each position of the arms (i.e., the open side of the chamber **25** always overlies at least a portion of the open side of the chamber **26**) and the registering portions of the chambers **25, 26** are disposed between the guide pins **17, 18**. The chambers **25, 26** accommodate a biasing means including a springy element **50** which operates between the stems **17*b*, 18*b*** of the guide pins and tends to move the guide pins toward each other, i.e., to move the arms **11, 12** to their fully extended positions shown in FIG. 4. In the embodiment of FIGS. 1 to 4, the springy element **50** is an endless band of natural or synthetic rubber which is simply trained over the stems **17*b*, 18*b*** and whose length is selected in such a way that it is at least slightly stressed in fully extended positions of the arms. The band **50** is placed around the stems **17*b*, 18*b*** before the arms are assembled, i.e., before the heads **17*a*, 18*a*** are respectively caused to pass through the enlarged end portions **53, 54** of the slots **15, 14**. The band **50** thereupon automatically moves the guide pins **17, 18** toward the positions shown in FIG. 4. When the arms **11, 12** are assembled, the band **50** extends at an angle from the chamber **25** into the chamber **26** as shown in FIG. 4. In this way, the band is held away from contact with suspended articles of clothing and is less likely to be damaged when the hanger **10** is not in use. The band **50** never leaves the chambers **25, 26** but portions thereof can be observed through the slots **14, 15** if the arms **11, 12** are moved away from their fully extended positions. Thus, and referring to FIG. 1, portions of the band **50** will be seen through those

portions of the slots **14, 15** which will be located between the guide pins **17, 18**. The slots **14, 15** are provided in those portions of the arms **11, 12** which define the chambers **25, 26**.

The outer ends of the arms **11, 12** carry downwardly extending forked article-engaging portions **30, 31** (see FIGS. **1** and **2**) each having two preferably parallel prongs **33, 34** whose outer faces are knurled, serrated or otherwise roughened, as at **35, 36**, to prevent slippage of suspended articles. It is clear that one of the prongs **33, 34** can be omitted, for example, if the hanger is used to engage from within the waistband of a skirt or the waistband of a pair of slacks. The distance between the profiled faces **35, 36** on the portion **30** and the profiled faces on the portion **31** in fully extended positions of the arms **11, 12** determines the number of uses to which the hanger **10** can be put. If the maximum distance is about 10 inches, the hanger will be used mainly for engagement with the cuffs of legs on trousers or the like. If the maximum distance is greater, the hanger can be used to engage from within the waistbands of slacks or skirts. Since each of the portions **30, 31** comprises two prongs **33, 34**, one prong of each of these portions can be introduced into the open lower end of one leg of a pair of slacks so that the hanger can properly engage and stretch both legs.

The upper sides of the arms **11, 12** are respectively provided with upwardly extending hook-shaped projections **37, 38** which can be engaged by two fingers (e.g., with the thumb and middle finger) of a single hand to facilitate movement of arms **11, 12** to their retracted or article-releasing positions while the other hand manipulates the legs of a pair of slacks which are to be suspended on the end portions **30, 31**.

Furthermore, the arms **11, 12** are provided with female coupling portions **40, 41** which are preferably (but not necessarily) integral with the projections **37, 38** and serve to permit attachment of the end portions **42, 43** of a deformable suspending member **47** carrying in its central portion a bearing eye **48** for a turnable hook **49**. The end portions **42, 43** comprise pairs of spaced flanges connected by transversely extending shafts **44, 45** which can be separably engaged with the female coupling portions **40, 41**, preferably by snap action. The major part of the suspending member **47** is a rod of transparent or opaque synthetic plastic material which is deformable and can be at least slightly elastic to enhance the action of the springy band **50**, i.e., to assist the latter in biasing the arms **11, 12** to their fully extended positions. When the projections **37, 38** are moved by hand toward each other to stress the band **50**, the rod of the suspending member **47** buckles and moves the hook **49** upwardly and away from the arms.

All components of the hanger **10** preferably consist of lightweight synthetic plastic material which can be washed in water and which can be furnished in one or more colors.

FIG. **5** illustrates a portion of a second hanger whose arms **11, 12** are identical with the arms of the hanger **10**. However, the springy band **50** is replaced with a helical spring **55** of steel or other suitable metallic material. The end convolutions **56, 57** of the spring **55** are suitably deformed to form hooks or eyelets which are coupled to the stems of the adjacent guide pins. Since the spring **55** is fully accommodated in the chambers **25,26** of the arms **11, 12**, it cannot contact the suspended articles of clothing so that the hanger can be used in climates where the spring is likely to become corroded on prolonged contact with moist air. Also, the spring **55** need not be made of high-quality metallic material because it is invariably held away from contact with suspended articles.

Referring to FIG. **6**, there is shown a portion of a hanger **60** having arms **61, 62** which are not mirror symmetrical to each other. The arm **61** is substantially flat and a portion thereof constitutes a cover for the open side of a chamber **73** which is defined by a portion of the arm **62**. The guide pins of the arms **61, 62** are respectively shown at **63, 64**; the stems of these pins have diametral slots **65, 66** for the end portions of an elastic band **69** of finite length. The outer ends of the band **69** are provided with knots or other enlargements, as at **70, 71**, to prevent separation from the respective stems. Of course, the band **69** can be replaced with an endless band which is flattened and whose ends are thereupon caused to pass through the slots **65, 66** to receive rivets, short studs or the like which prevent withdrawal from the respective slots. The entire band **69** is fully accommodated in the chamber **73** in each position of the arms **61, 62**. It is further clear that the band **69** can be replaced with a helical spring or with an endless band which is mounted on the stems of guide pins **63, 64** in the same way as shown for the band **50** of FIG. **4**. The hanger **10** of FIGS. **1–4** is preferred at this time because its arms **11, 12** can be produced in a single mold.

An important advantage of such mounting of the springy elements **50, 55, 69** that they are disposed between the arms and are received in the chamber or chambers defined by one or both arms is that the overall dimensions of the hanger can be reduced well below the dimensions of hangers with externally mounted springy elements, and also that such elements cannot contact the suspended articles of clothing. The force with which the arms are biased toward their fully extended positions depends on the dimensions and other characteristics of the respective springy element and, if desired, such force can be changed by the user who can readily replace the endless band **50** of FIG. **4** with a stronger or weaker band or the helical spring **55** of FIG. **5** with a stronger or weaker spring. An advantage of bands **50, 69** is that they can be produced at a minimal cost. The spring **55** of FIG. **5** is normally capable of furnishing a stronger force.

It is also within the purview of my invention to mount the springy element, particularly the band **50** or **69**, externally of the arms, for example, at the outer side of the arm **61** shown in FIG. **5**. The guide pin **163** is then provided with an extension which projects beyond the outer side of the arm **61** and the guide pin **64** is made longer so that the band **50** or **69** can be attached to the pin **64** and to the extension of pin **63** at the outer side of the arm **61**. However, the hangers shown in FIGS. **1** to **6** are preferred at this time because the springy elements are properly protected and are held out of contact with the suspended articles. Also, the illustrated constructions are more compact.

FIGS. **7** and **8** illustrate a portion of a further hanger having two arms one of which is shown at **80** and comprises a coupling portion or eye **82** having a hole **83** for one end portion **85** of a flexible suspending member **84**, e.g., a cord, a piece of wire, a length of cable or the like. The end portion **85** is looped and secured at **85*a*** to prevent detachment from the coupling portion **82**. In this embodiment of my invention, the coupling portion **82** is remote from the projection **81** which corresponds to one of the projections **37, 38** shown in FIG. **1**. The other end portion **87** of the suspending member **84** is similar to the end portion **42** or **43** shown in FIG. **1**; it comprises two substantially parallel disk-shaped flanges **88, 89** (FIG. **8**) connected by a shaft **90** which can enter a notch of the coupling portion on the other arm of the hanger substantially in the same way as shown for the end portion for the end portion **42** or **43** and coupling portion **40** or **41** of FIG. **1**. The suspending member **84** of FIG. **7** can be used to facilitate suspension of the hanger on a hook, nail, bolt or a like projection. Of course, the central portion of the suspending member **84** may also carry a hook, such as the hook **49** of FIG. **1**. It is further clear that the suspending member **47** or **84** can be replaced with a rigid member one end of which is fixed to one of the arms and the other end of which is slidably guided in or on the other arm of the hanger. Moreover, the end portion **87** shown in FIGS. **7** and **8** can be omitted if the other end of the suspending member **84** is also provided with a loop **85** which is secured to an eye on the other arm of the hanger.

An advantage of the flanger **88, 89** shown in FIG. **8** is that they can flank the complementary coupling portion of the adjacent arm (such as the coupling portion **40** or **41** of FIG) and thus stabilize the connection between the arm and the suspending member. This is more important when the suspending member is relatively stiff. The cord **84** is collapsible, on purpose, i.e., it is made of readily deformable material

so that it occupies little room in storage and is capable of being properly suspended on a hook, nail or the like. Thus, the suspending member **84** is normally not intended to assist the springy element to move the arms of the hanger to their fully extended positions. The hanger which embodies the features shown in FIGS. **7** and **8** is particularly suited for use by tourists or other persons who must store their belongings in a suitcase or the like. The coupling portions are preferably located in the general planes of the respective arms to further enhance the compactness of the hanger.

Without further analysis, the foregoing will so fully reveal the gist of the present invention that others can, by applying current knowledge, readily adapt it for various applications without omitting features which fairly constitute essential characteristics of the generic and specific aspects of my contribution to the art and, therefore, such adaptations should and are intended to be comprehended within the meaning and range of equivalence of the claims.

What is claimed as new and desired to be protected by Letters Patent is set forth in the appended claims:

1. A hanger for articles of clothing or the like comprising a pair of arms movable lengthwise in substantial parallelism with each other between article-engaging and article-releasing positions, each of said arms having an elongated slot extending in longitudinal direction of the arm and having at the outer end thereof a width greater than the remainder of said slot, and a guide pine integral with respective arm, each of said guide pins having a stem extending through the slot of the other arm and being slidably guided therein and an outer end portion of a dimension greater than the width of the remainder of the slot of the other arm but smaller than that of the end portion thereof so that the pin of one arm may be introduced into and removed from the slot in the other arm when the pin of one arm is aligned with said outer end portion of the slot in the other arm; biasing means for urging said arms to said article-engaging position and including a springy element having portions attached to said pins; an elongated deformable suspension member attached at opposite ends thereof to said arms; cooperating coupling means on at least one arm and on one of said ends of said suspension member for releasably coupling said one end to said one arm; and a hook attached to said suspension member intermediate the ends of the latter.

2. A hanger as defined in claim **1** wherein said springy element consists of rubber.

3. A hanger as defined in claim **2**, wherein said springy element is a band.

4. A hanger as defined in claim **2**, wherein said springy element is an endless band.

5. A hanger as defined in claim **1**, wherein said springy element is a helical spring.

6. A hanger as defined in claim **1**, wherein said springy element is disposed between said arms.

7. A hanger as defined in claim **6**, wherein one of said arms include a chamber formed therein which accommodates said springy element.

8. A hanger as defined in claim **6**, wherein said arms together define chamber means which accommodates said springy element.

9. A hanger as defined in claim **1**, wherein at least one of said arms includes a first portion which includes an open-sided chamber formed therein and the other of said arms includes a second portion overlying the open side of said chamber, said springy element being accommodated in said chamber and said slots being provided in said portions of the respective arms.

10. A hanger as defined in claim **1**, wherein each of said arms comprises a projection and wherein said projections are engageable by the fingers of one hand to facilitate movement of said arms to said article-releasing positions against the opposition of said springy element.

11. A hanger as defined in claim **10**, wherein said arms have upper sides and said projections extend upwardly from said upper sides thereof.

12. A hanger as defined in claim **1**, said coupling means being provided on each of said arms and said deformable suspending member having end portions attached to said coupling means.

13. A hanger as defined in claim **12**, wherein each of said arms further comprises a projection which is integral with the respective coupling means, said projections being engageable by the fingers of one hand to facilitate movement of said arms to said article-releasing positions against the opposition of said springy element.

14. A hanger as defined in claim **12**, wherein said suspending member is a cord.

15. A hanger as defined in claim **12**, wherein said suspending member comprises a rod consisting of synthetic plastic material.

16. A hanger as defined in claim **12**, further comprising a hook connected to said suspending member.

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