July 4, 1939. F. A. RENTCHLER 2,164,941

GARMENT HANGER

Filed Sept. 10, 1936

Fig. 1.

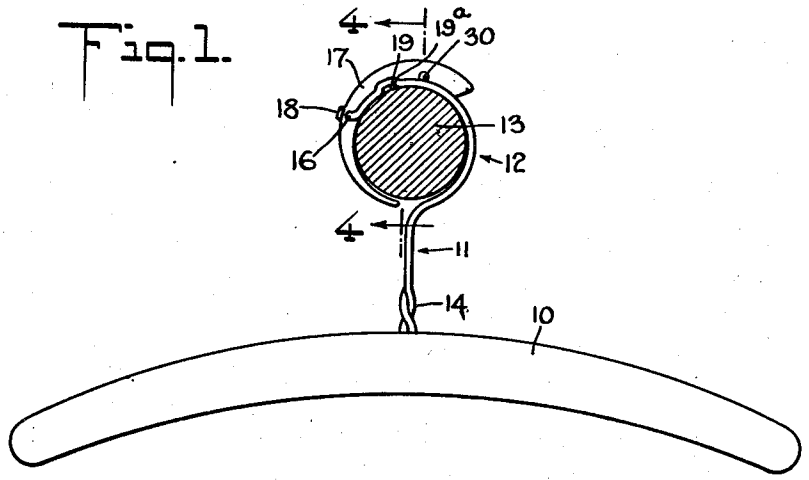


Fig. 2.

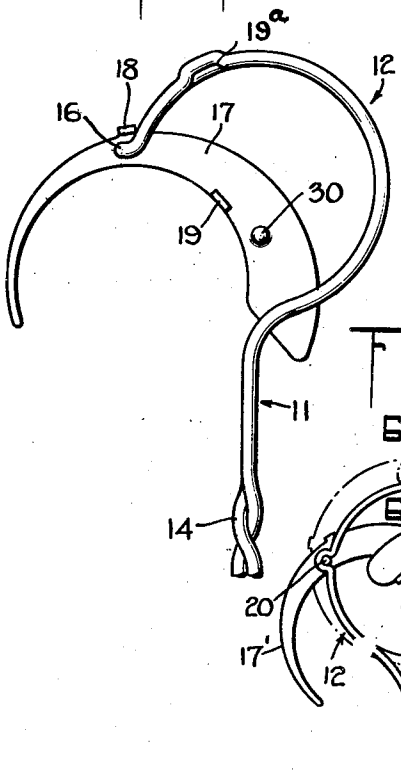


Fig. 3.

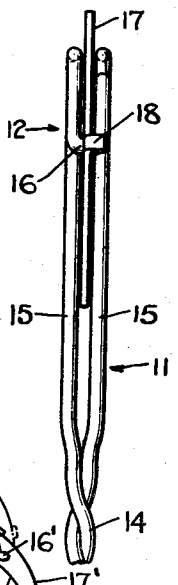


Fig. 4.

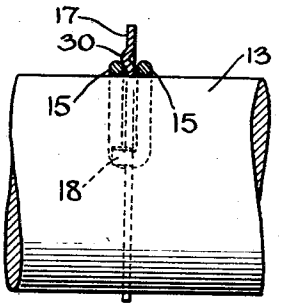
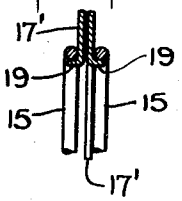


Fig. 5.

Fig. 6.



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GARMENT HANGER

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Application September 10, 1936, Serial No. 100,058

15 Claims. (Cl. 24—241)

This invention relates to hook structure, and more particularly to hook structure adapted for self-locking engagement with a hooked object. The invention has special, though by no means exclusive, application to garment hangers in which hook structure is associated with a garment receiving hanger for suspending the hanger from a suitable support.

In accomplishing the self-locking feature of the invention means are provided whereby pressure between the bed of the cradle of the hook and the object hooked will actuate a locking element into locking position across the hook opening. Maintenance of such pressure will effect maintenance of lock during use of the hook structure.

Provision for simple and economical manufacture, positivity of locking action in use proportionate to individual requirements, and ease of operation are among the primary objects of the invention.

In the accompanying drawing:

Fig. 1 is an elevation of a garment hanger embodying my invention and shown in position on a supporting rod or bar.

Fig. 2 is an elevation of the upper part of a hanger embodying my invention and showing the locking means in normal or nonoperative position preparatory to placing the hanger on a supporting bar.

Fig. 3 is an end elevation of the structure shown in Fig. 2.

Fig. 4 is an enlarged section on the line 4—4 of Fig. 1.

Fig. 5 is an elevation of another embodiment of my invention, and

Fig. 6 is a sectional elevation on the line 6—6 of Fig. 5.

Referring to the drawing in which preferred embodiments of hook structure are illustrated in connection with the garment hanger 10 designates a garment supporting spreader or bar usually and preferably made of wood or other light weight and relatively strong material. This spreader or bar 10 is supported at the lower end of a hook 11, the upper part 12 of which is formed to conform generally with the size and contour of a supporting bar or rod 13 forming part of the equipment of a wardrobe or other garment storage space. The hook portions 11 and 12 are made of wire, preferably of a single strand looped as shown specifically in Figs. 2 and 3, with its free ends twisted together, as indicated by the reference numeral 14, and parallelly arranged and mutually coextensive elements 15 extending from the twisted portion to integral joinder at the free end of the curved portion 12 forming a short-shaft 16.

It will be noted, see particularly Fig. 2, that the above described hook portions 11 and 12 form a hook having a hook-opening between the free end, 16, of the curved portion 12 and that end of curved portion 12 which merges into portion 11, the curved portion 12 providing a cradle for the hook having a bed formed along its inner face.

On the short-shaft 16 is rotatably mounted an angular member 17, as clearly shown in Figs. 1, 2, 3 and 4, which acts in conjunction with the elements 15 of the hook portion 12 as a means for locking the hanger elements 10, 11 and 12 on a rod or bar 13.

The member 17 is preferably made of sheet metal and the pivotal point thereof is adjacent to the smaller and the lower end thereof, as clearly shown in Figs. 2 and 3, this construction results in the member 17 tending always to assume the position shown in Fig. 2. This allows a free passage of the bar 13 through the hook-opening into the limits of the cradle of the hook member 12 to thereby engage with the upper end of the angular member 17 and rotate the same about its pivot on the short-shaft 16. Rotation of the angular member 17 will move the lower end thereof from the position shown in Fig. 2 to the position shown in Fig. 1, where it will be noted that the rod or bar 13 is substantially entirely enclosed by the hook 12 and the angular member 17, the hook-opening thus being substantially closed.

In the aforementioned position, the rod 13 is in place on the bed of the cradle of the hook. The weight of the hanger 10 and of garments supported thereby will create pressure between the bed of the cradle and rod 13, thus maintaining the long arm of the angular member 17 displaced outwardly from the bed of the cradle and the short arm in locked position across the hook-opening. Secured to or formed integral with the angular member 17, and in the wider portion thereof, is a projection 30 which, in the turning movement of the angular member 17 from the position shown in Fig. 2 to the position shown in Fig. 1, is forced past one of the parallelly arranged elements 15 and into the position shown in Fig. 4. Because of the resiliency of the material of the parallelly arranged elements 15 considerable force is required to force the projection 30 from its position shown in Fig. 4 and therefore, this construction constitutes an additional lock to hold the angular member 17 from accidental removal from the rod or bar 13.

In order to prevent too great a rotary movement of the angular member 17, I have provided on such angular member and as an integral part thereof, a projection 18 which will engage with the hook member 12 as shown in Figs. 2 and 3, so as to retain the angular member 17 in the position shown in Fig. 2. Also, I have provided the upper end of the angular member 17, as shown in Fig. 2, with a lateral projection 19 which will engage with a recess 19a formed in one of the members 15 and prevent the angular member 17 from rotating on the trunnion 16 in a counterclockwise direction any farther than the position shown in Fig. 1.

With a garment hanger constructed as above described, the same may be placed on the rod or bar 13, and when thus placed the angular member 17 will cooperate with the hook member 12 to prevent accidental displacement or removal of the garment hanger from the bar.

Referring now to Figs. 5 and 6, there is shown another embodiment of my invention as illustrated in the preceding figures and in such figures, while I maintain the parallel wire feature 15 of the hook 12, I arrange in that portion of the hook 12, remote from the end carrying the short-shaft 16, projections in which is securely fastened a short-shaft 20. On the short-shafts 16' and 20 respectively, I pivotally mount the angular members 17', the normal or ordinary position of such angular member being that shown in full lines in Fig. 5, where it will be apparent that the full opening of the hook 12 is available for positioning the hanger on a rod or bar 13. Also, that when such bar or rod 13 is engaged in the manner above described, the arms of the angular members 17', carrying the lateral projections 19, will be engaged by the rod or bar 13 and such angular members 17' will rotate about their respective short-shafts into the position shown in dot and dash lines in Fig. 5. There results therefore a construction in which the weight of the garment hanger and/or the garments carried thereby acts to position angular members 17' with respect to a rod or bar so as to prevent accidental displacement of the garment hanger on the bar or rod.

Whereas I have described my invention by reference to specific forms thereof, it will be understood that many changes and modifications may be made without departing from the spirit of the invention.

I claim:

1. In a hanger, a hook for suspending the hanger from a support, said hook having a hook-opening and a hook cradle and a rigid angular member pivotally mounted, intermediate its ends, on the hook for cooperation therewith substantially encircling the support when the hook is in position on the support, said angular member being adapted to lie outside the hook cradle and extend around the bed of said cradle and across the hook opening when the hook is in its said position on the support, that portion of said angular member which extends around the bed of said cradle being so arranged and disposed as to hold in closed position, that portion of said angular member which extends across the hook opening, when force is exerted on said hook.

2. Structure as recited in claim 1, wherein means are provided on the angular member for retaining such angular member in encircling relation to the support.

3. Stucture as recited in claim 1, wherein the portion of the angular member on one side of the pivot connection thereof to the hook is heavier than the portion on the other side of the pivotal support, whereby said angular support is normally maintained in position to permit the hook to be brought into hanging relation with the support.

4. Structure as recited in claim 1, wherein means are formed integral with the angular member for engaging with the hook when the hook is in support engaging relation to limit the rotative movement of the hook in one direction, and wherein additional means are formed integral with the angular member for retaining the angular member in operative relation with the hook.

5. Structure as recited in claim 1, wherein there is provided a plurality of angular members pivotally mounted on the hook for rotating, upon engagement of the hook with a support, to encircle the support and retain the hook in position thereon.

6. Hook structure comprising a hook element having a hook opening and a cradle; and locking means associated with said hook element, said locking means comprising movable actuating arm means normally positioned at a location intercepting repose in the bed of said cradle, and closure arm means mounted for movement across said hook opening in response to the movement of the actuating arm means, said actuating arm means being mounted for movement toward said bed and substantially into coincidence with the level of repose therein upon the reception of a hooked object by said cradle, mutually opposite pressure between said bed and said hooked object being effective to maintain said actuating arm means in moved position and, coincidentally, to maintain said closure arm means in closed position across said hook opening.

7. Hook structure as recited in claim 6 wherein means is provided on the closure arm means for engaging the hook element to aid the maintenance of the stated closure arm means in closed position.

8. Hook structure comprising a hook element having a hook opening and a cradle; and a lever means pivoted, intermediate the ends, to the hook element, the said lever means, respectively, having angularly related arms, one of said arms being normally positioned at a location intercepting repose in the bed of said cradle, and being adapted to swing toward said bed and substantially into coincidence with the level of repose therein upon the reception of a hooked object by said cradle, and the angular position of the other arm with respect to the first named arm being such that, upon said swinging of the first named arm, said other arm will swing into a position substantially closing the said hook opening, mutually opposite pressure between said bed and said hooked object being effective to maintain said first named arm in its swung position and, coincidentally, said other arm in its position substantially closing the said hook opening.

9. Hook stucture as recited in claim 8 wherein limit stop members are provided to limit the swinging motion of the arms of said lever within prescribed limits.

10. Hook structure as recited in claim 8 wherein locking means are provided for aiding the maintenance of the stated closure arm means in closed position.

11. Hook structure for a hanger, comprising a hook element having a hook opening and a cradle, said hook element including two mutually spaced, coextensive hook members having a member se-

cured therebetween adjacent the hook-ends thereof, said member serving as a short-shaft; and a lever journaled intermediate its ends on said short-shaft, said lever having angularly related arms, one of said arms being normally positioned at a location intercepting repose in the bed of said cradle, and being adapted to swing toward said bed and substantially into coincidence with the level of repose therein upon the reception of a hooked object by said cradle, and the angular position of the other arm with respect to the first named arm being such that, upon said swinging of the first named arm, said other arm will swing into a position closing the said hook opening, mutually opposite pressure between said bed and said hooked object being effective to maintain said first named arm in its swung position and, coincidentally, said other arm in its position closing the said hook opening.

12. Hook structure as recited in claim 11 wherein limit stop members are provided to limit the swinging motion of the arms of said lever means within prescribed limits.

13. Hook structure as recited in claim 11 wherein locking means are provided for aiding the maintenance of the stated closure arm means in closed position.

14. Hook structure as recited in claim 11 wherein a second lever, similar to the stated lever, is pivotally mounted between the stated hook members at a location removed from the stated short-shaft.

15. Hook structure for a hanger comprising a single length of wire in the form of a hook element having a hook opening and a cradle, said single length of wire having a looped end and two mutually spaced, coextensive hook members integrally joined at the hook-end by the said looped end of said length of wire, said looped end providing a short-shaft; and a lever journaled intermediate its ends on said short shaft, said lever having angularly related arms, one of said arms being normally positioned at a location intercepting repose in the bed of said cradle, and being adapted to swing toward said bed and substantially into coincidence with the level of repose therein upon the reception of a hooked object by said cradle, and the angular position of the other arm with respect to the first named arm being such that, upon said swinging of the first named arm, said other arm will swing into a position closing the said hook opening, mutually opposite pressure between said bed and said hooked object being effective to maintain said first named arm in its swung position and, coincidentally, said other arm in its position closing the said hook opening.

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