July 8, 1952 M. P. SMITH 2,602,622

RETRACTING HANGER

Filed Feb. 6, 1950

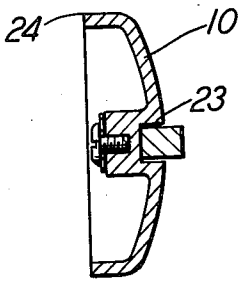


Fig. 2.

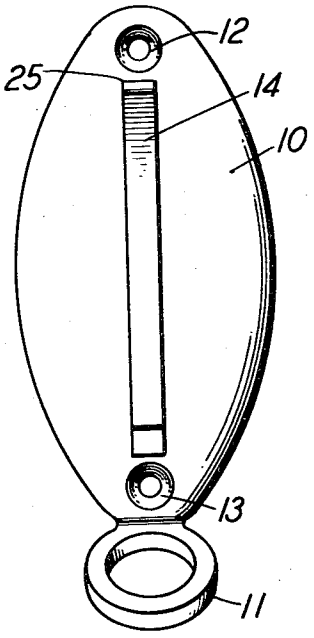


Fig. 1.

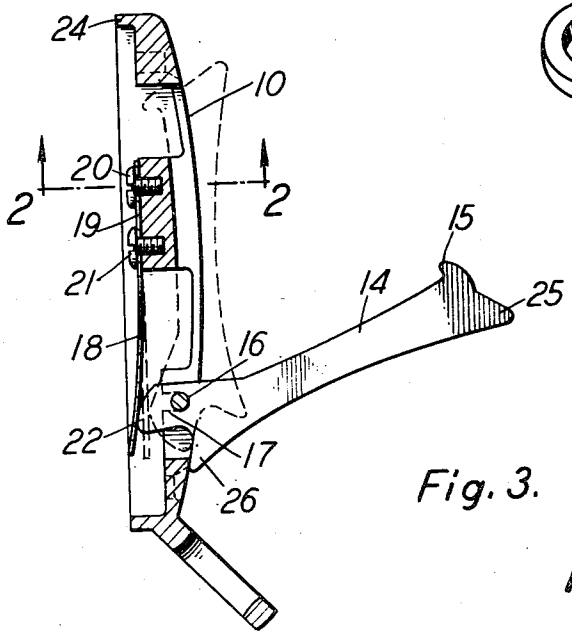


Fig. 3.

Inventor

Marie Parker Smith

By Glenn B. Woods

Attorney

Patented July 8, 1952 2,602,622

UNITED STATES PATENT OFFICE

2,602,622

RETRACTING HANGER

Marie Parker Smith, Grand Rapids, Mich.

Application February 6, 1950, Serial No. 165,064

2 Claims. (Cl. 248—293)

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The present invention provides a hanger intended primarily to accommodate wearing apparel in vehicles and in other locations in which space is very often limited. When the functions of a hanger are desired in such locations, a person is frequently willing to sacrifice a considerable amount of space to such a device, but when it functions are no longer needed, the space occupied by it seems far out of proportion to its value. Projecting hooks and other pieces of equipment also form distinct hazards in the ordinary use of the vehicle, and for safety reasons alone it is desirable that such members be reduced to an absolute minimum. It is the purpose of the present invention to provide a hanger which will adequately serve the purpose of supporting a considerable amount of wearing apparel or other articles as may be required, and which will occupy a very minimum of space when not in use. The accomplishment of this broad objective is rendered possible by the retracting feature of the present invention in which the projecting hook or supporting arm is retracted against and preferably within a housing attached directly to an appropriate wall surface.

The preferred form of this invention provides a housing having an aperture of sufficient size to accommodate a pivotally-mounted supporting arm. An inwardly-opening recess associated with the aperture and disposed transversely with respect thereto is adapted to receive a pin carried by the arm, and the cooperation between this pin and the bearing provided by the recess gives the pivotal support to the arm. An inner projection on the arm is formed as a cam surface, and a leaf spring based at a considerable distance from the pivot point urges the arm outwardly and forces the pivot pin securely into engagement with the bearing recess. The effect of the spring in this preferred form of the invention is to hold the arm and the housing in firmly assembled position. The support of the arm is completed by the provision of a rotation-limiting stop which prevents rotation beyond a point where the function of a hanger can be performed. It is preferable that the aperture of the housing be of such a length as to accommodate the arm in the retracted position. In this manner the arm will fold to a position substantially beyond any point where it would generate a danger of injuring anyone. The upper portion of the arm is preferably provided with a small projection affording a gripping point so that a user of the device may readily pull it into supporting position.

The several features of the present invention

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will be analyzed in detail by a discussion of the particular embodiments which appear in the accompanying drawings. In these drawings:

Figure 1 is a view in elevation showing the device with the supporting arm in the retracted position.

Figure 2 is a section taken on the plane 2—2 of Figure 3 with the arm in retracted position.

Figure 3 is a section taken on a vertical plane through the center of the device with the full lines showing supporting arm in the open or "active" position and dotted lines indicating the retracted position.

Referring to the drawings, the device shown comprises a housing 10 having an integrally formed ring 11 at the lower portion to accommodate a strap or loop as is conventionally provided in automobiles to aid passengers in pulling themselves into position to emerge from the vehicle. The housing is also provided with the mounting holes 12 and 13 for the passage of conventional fastenings.

The arm 14 extends outwardly in a cantilever fashion in the open position as indicated in full lines in Figure 3, and is provided with the hook 15 to retain articles of apparel or similar items in position. The arm 14 is provided with the transverse pin 16 which cooperates with the inwardly-opening recess 17 formed in the housing 10. The leaf spring 18 is firmly secured in position upon the supporting base or platform 19 by the action of the screws 20 and 21, and bears at its outer end upon the cam surface 22 formed on the inner end of the arm 14. The action of the spring 18 serves to urge the pin 16 securely into engagement with the bearing recess 17, and thereby hold the arm and housing in assembled position. The configuration of the cam projection 22 is such that the force of the spring 18 creates a torque tending to rotate the arm 14 in a counter-clockwise direction about the pin 16 and to thereby urge the arm 14 into fully retracted position as shown in dotted lines in Figure 3. When in the retracted position, arm 14 lies partially within the confines of the elongated aperture 23 in the housing 10. It will be noted that the supporting platform 19 is formed actually as a bridge across the aperture 23. It will also be noted that the mounting surface 24 which forms the contact area between the wall and the housing 10 supports the housing in such a position that the spring 18, the screws 20 and 21, and the other components are given freedom to perform their functions. It is of course obvious that a recessed wall would permit the illustrated

mechanism to be mounted in different relationship with the mounting surface.

The arm 14 is provided wtih the projection 25 at its outer end which at all times projects above the surface of the housing 10 sufficient to form a gripping point such that the user may pull the arm into the position shown in Figure 3 when it is desired to hang a garment. Several other systems may be used to form such gripping points such as an indentation in the side of the arm or any one of a series of equivalent arrangements. When an article having substantial weight is placed upon the arm 15, the natural tendency of the arm to rotate in the clockwise direction (against the action of the spring 18 and cam surface 22) is restrained by the cooperation of the stop 26 and the housing 10. When the engagement of the stop has taken place, a moment created by the forces generated at the stop and the forces generated at the pin 16 resists the effects of the weight of the suspended articles. When the weight of the articles has been removed, the torque generated by the action of the spring 18 operating upon the cam surface 22 serves to snap the arm gently into the retracted position.

The particular embodiments of the present invention which have been illustrated in the accompanying drawings and described herein are for illustrative purposes only and are not to be considered as a limitation upon the scope of the appended claims. In these claims it is the intent of the inventor to claim the entire invention to which she is entitled in view of the prior art.

I claim:

1. A hanger comprising a base containing an aperture and having mounting surface means, pivot bearing means disposed transversely with respect to said aperture, means forming a spring support, said base containing a groove extending radially from said pivot bearing means through a wall of said base, a hanger arm adapted to pass substantially through said aperture and having transversely disposed journal means laterally movable into engagement with said bearing means through said groove for cooperation with said pivot bearing means, spring means acting between said hanger arm and said spring support means to urge said journal means into engagement with said pivot bearing means and position said arm about the axis of said journal means, and stop means limiting the amount of rotation of said arm with respect to said base.

2. A hanger comprising a base containing an elongated aperture and having mounting surface means, pivot bearing means disposed transversely with respect to said aperture, means forming a spring support, said pivot bearing means and spring support means being on the same side of and spaced from the plane of said mounting surface means, said base containing a groove extending radially from said pivot bearing means towards the plane of said mounting surface means, a hanger arm adapted to pass substantially through and fit within said aperture and having transversely disposed journal means laterally movable into engagement with said bearing means through said groove for cooperation with said pivot bearing means, said arm having a cam surface adjacent to said journal means, spring means acting between said cam surface and said spring support means to urge said journal means into engagement with said pivot bearing means and urge said arm about the axis of said journal means towards said aperture, and stop means limiting the amount of rotation of said arm with respect to said base.

MARIE PARKER SMITH.

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