Nov. 18, 1930. W. G. BROWN 1,781,976

RACK

Filed Nov. 15, 1928

Fig. 1.

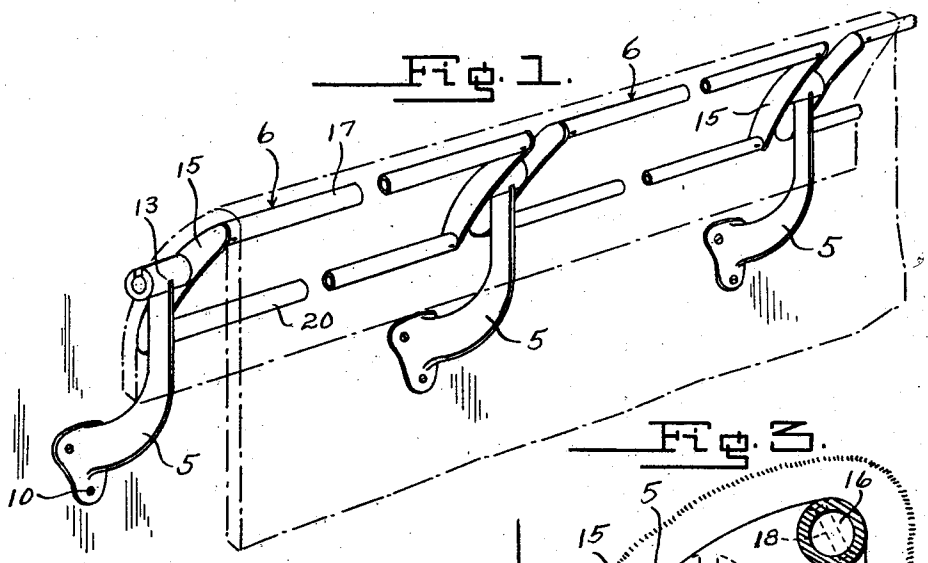


Fig. 2.

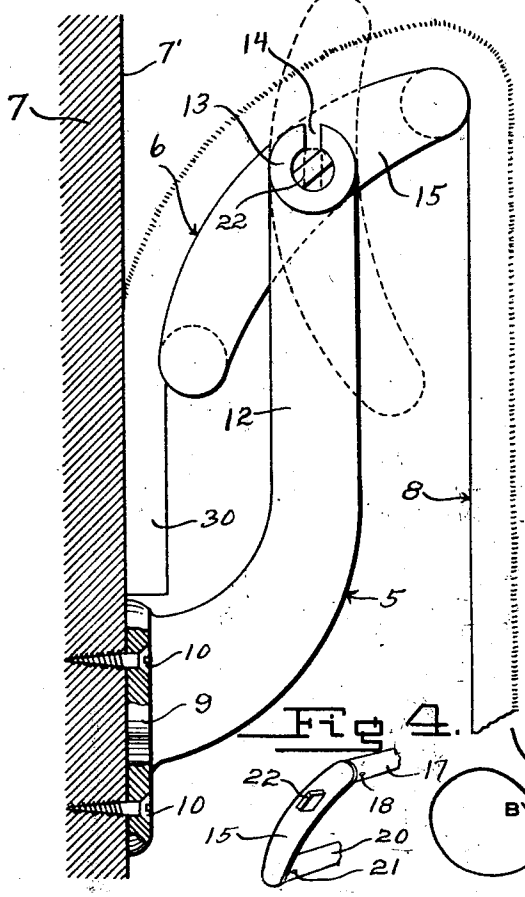


Fig. 3.

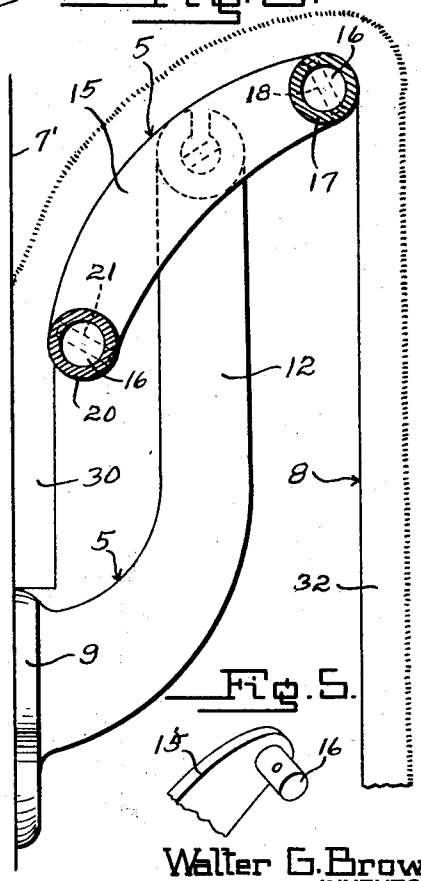


Fig. 5.

Fig. 4.

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UNITED STATES PATENT OFFICE

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RACK

Application filed November 15, 1928. Serial No. 319,680.

The present invention relates to improvements in racks, and embodies improved features of construction over the form of rack disclosed in Patent #1,506,335 granted to me on August 26, 1924.

The primary object of the present invention is to provide an improved rack for supporting flexible articles of various sizes in a pendent position against a wall surface or any other desired location.

A further object of the invention is to provide an improved construction for racks of this character which will permit of the displaying of flexible articles such as rugs, bed spreads and the like thru a clamping action created by the weight of the article being supported.

A further object of the invention is to provide an improved rack construction embodying an arrangement whereby any desired number of the rocking supports or clamping members may be disposed in longitudinal alignment so as to permit of small articles being suspended from one of the independent rocking supports or a relatively large article suspended from any number of the rocking members with each rocking member acting equally to support a portion of the weight of the article.

A still further object of the invention is to provide a rack of this character which is of extremely simple and durable construction, and embodying an arrangement whereby any desired number of the racks may be connected up in series to provide a rack of sufficient length to support and display heavy flexible articles of considerable length, with each independent rack acting to effectively grip a portion of the article being suspended.

A still further object of the invention is to provide a novel arrangement whereby the pivoted clamping members are readily detachable from the supporting bracket to permit ready and easy installation and replacing of the clamping members.

Other objects and advantages of the invention will be apparent during the course of the following detailed description, taken in connection with the accompanying drawing, forming a part of this specification, and in which drawing:

Figure 1 is a perspective view showing the manner in which a series of the racks may be mounted for pendently supporting a relatively large article such as a rug or the like.

Figure 2 is an enlarged end elevation of the rack and showing the manner in which an article is suspended from the rack.

Figure 3 is a vertical transverse section thru the rack.

Figure 4 is a fragmentary perspective view of one end of the rocking support or clamping member.

Figure 5 is a fragmentary perspective view of the inner side of one end of one of the end members of the rocking support.

Referring to the drawing in detail, and wherein similar reference characters designate corresponding parts thruout the several views, the rack structure has been shown as embodying supporting or mounting brackets 5 for pivotally supporting hangers 6 in set relation to the surface of a wall or other suitable form of support 7 and with which the hanger 6 cooperates for retaining a flexible article 8 suspended from the rack.

The mounting brackets 5 for supporting the hangers 6 in operative relation to the surface 7′ of the wall or other suitable supporting structure 7, are preferably formed of metal and each embodies an attaching plate or foot 9 adapted to be secured to the element 7 as by fastening elements 10. Each attaching plate carries an L-shaped bracket arm 12 providing an upstanding arm portion projecting well above the attaching plate 9 in spaced relation to the mounting surface 7′. Formed at the upper end of the upstanding bracket arms 12 is a horizontally disposed tubular bearing sleeve 13 which is preferably provided thruout its entire length and along its upper side with a slot 14 which opens into the bore of the tubular bearing sleeve. While it is preferred that the bearing sleeve 13 be slotted for facilitating placing and removal of the swinging hangers 6, the slot may be dispensed with if so desired.

Referring now to the hanger frame 6, the same is of open construction and includes a

pair of arcuate shaped end plates 15 which are provided at each end and at their inner sides with cylindrical projections 16. The projections 16 at the forward or upper ends of the end plates 15 receive the opposite ends of a tubular suspending rod 17 which may be secured to the projections by suitable rivets 18 passed thru the ends of the rod and an opening thru the cylindrical projections. The cylindrical projections at the lower or inner ends of the end plates 15 receive the opposite ends of a tubular grip or clamping rod 20 which preferably has its ends secured to the projections by suitable rivets 21. Thus the rods 17 and 20 are supported in parallel relation by the arcuate end plates 15. While the rods 17 and 20 have been shown of tubular formation for rendering the rack comparatively light, the same may be constructed from solid cylindrical material or of any other desired cross sectional configuration.

The arcuate end plates 15 are each provided at their outer sides with flattened trunnions or bearing pins 22 for mounting in the bore of the tubular bearing sleeve 13 in a manner to allow free swinging movement of the hanger frame 6. The smaller dimension of the flattened trunnions or bearing pins 22 is such as to allow for the pins to be slipped thru the slot 14 into the bore of the bearing sleeve and thus will allow for ready placing and removing of the hanger frame after the brackets 5 have been secured in position.

As will be observed in Figure 2, these bearing trunnions 22 are disposed nearer to the outer suspending rod 17 than to the lower or inner grip rod 20 with the distance between the outer edge of the grip rod and the axis of rotation of the hanger frame greater than the distance between the axis of rotation of the hanger frame and the supporting surface 7'. This offsetting of the bearing trunnions will cause the grip rod 20 to be moved toward and engage the surface 7' below the bearing sleeve 13 when a downward pull is exerted on the suspending rod 17. As the grip rod 20 is swung toward the surface 7' upon downward swinging of the rod 17 at the outer side of the bearings 13, the grip rod will engage and so bind the shorter end 30 of the article 8 against the surface 7' as to cause the article to be suspended by the hanger frame. The weight of the longer heavier end 32 of the article will cause a downward pull on the suspending rod 17 so that the shorter end 30 of the article is firmly clamped between the rod 20 and surface 7' at a location between the bracket attaching plates 9 and bearing sleeves 13. The greater the downward pull exerted by the longer end 32 of the article, the greater will be the binding action upon the shorter end 30 by the grip rod 20.

In placing an article to be suspended by the rack, it is merely necessary to bring the hanger frame 6 into a position substantially such as shown by dotted lines in Figure 2 and then place an edge of the article over the hanger frame so that one edge extends between the surface 7' and upstanding bracket arms below the path of swinging movement of the grip rod 20. The hanger frame is then released and the weight of the end 32 of the article will automatically swing the rack into position for gripping the article at the rod 20 and retaining the article in a suspended position and in slightly spaced relation from the wall 7.

The racks may either be used singly or in series such as shown in Figure 1 in accordance with the nature and size of the article to be suspended for display or other purposes. When one rack unit is used alone, the same will serve as a supporting means for articles such as towels or small rugs, and when a series of the racks are arranged in longitudinal alignment the series of racks will serve for hanging and displaying heavy and relatively large flexible articles such as bed spreads and relatively large rugs. When the racks are mounted in series, each hanger frame will operate independently of the adjacent hanger frame, and any desired number of the racks may be mounted end to end dependent upon the length of articles to be suspended or the space available for display of such articles. The specific manner of mounting the pivoted hanger frames upon the mounting brackets provided with the upstanding arms, will allow for any number of smaller articles to be displayed or the displaying of a relatively wide article to be supported by a number of the racks. The brackets are of such construction as to permit of the shorter or hanging edge of an article extending over a number of the racks to be disposed with its edge arranged below the longitudinally aligning grip rods 20 of the series of racks. The arrangement of L-shaped mounting brackets will also allow for an article of slightly greater length than the length of the hanger frame 6 to be pendently supported by the rack without the bracket arms interfering with the shorter end 30 of the article it is permitted to extend beyond the brackets above the attaching plate 9.

Thus it will be seen that a novel and improved construction for racks adapted to pendently support flexible articles of various sizes is provided. It will also be apparent that a novel construction has been provided wherein the racks when arranged in series will serve to properly support a relatively large article thruout the entire length of the article and permit of each independent rack to effectively grip the article for proper supporting thereof.

Changes in detail may be made to the form of invention herein shown and described,

without departing from the spirit of the invention or the scope of the following claims.

I claim:

1. A supporting rack for flexible articles, including mounting brackets for attachment upon a vertical surface, and a frame pivotally mounted at its ends between the brackets and having a grip rod engageable with the face of the vertical surface below the pivot axis of the frame and above the point of attachment of the brackets.

2. A supporting rack for flexible articles, including a pair of mounting brackets each embodying an attaching plate and an upstanding arm portion offset forwardly from the attaching plate, a bearing provided at the upper end of each arm portion, and a rectangular shaped hanger frame having trunnions provided at each end and offset to one side of the longitudinal center of the frame for mounting in said bearings, said frame providing a gripping edge along its rear side for swinging movement in an arc to traverse the plane of the bearing face of the attaching plate at a location between the attaching plate and pivotal mounting of the frame.

3. A supporting rack for flexible articles, comprising a pair of mounting brackets each including a foot plate for attachment upon a vertical mounting surface and upstanding arm portions offset forwardly from the foot plate in spaced relation to the mounting surface, tubular bearing sleeves provided at the upper ends of the arm portions and being in axial alignment, and a hanger frame including end plates provided intermediate their ends with trunnions for pivotal mounting in the bearing sleeves, and grip and suspending rods extending in parallel relation between the end plates at opposite sides of the trunnions, said grip rod being spaced a greater distance from the trunnions than the spacing of the suspending rod from the trunnions and a greater distance than the offset of the upstanding arms from the foot plates.

4. A supporting rack for flexible articles, comprising a pair of mounting brackets each including an attaching foot for mounting upon a vertical surface and an upstanding arm portion offset forwardly from the attaching foot, a tubular bearing sleeve provided at the upper end of each arm portion and being longitudinally slotted, and a hanger frame for pivotal mounting between the bearing sleeves including arcuate shaped end plates provided intermediate their ends with flat trunnions insertable thru the slots of the tubular bearing sleeves into the bores thereof, a suspending rod connecting the forward ends of the end plates, and a grip rod connecting the rear ends of the end plates and spaced a greater distance from the flat trunnions than the spacing of the suspending rods from the trunnions, said grip rods being spaced a distance from the trunnions greater than the spacing between the bearing sleeves and mounting surface.

WALTER G. BROWN.