A. E. MILLER.

DISPLAY RACK.

APPLICATION FILED APR. 17, 1911.

1,032,341.

Patented July 9, 1912.

3 SHEETS—SHEET 1.

FIG. 1.

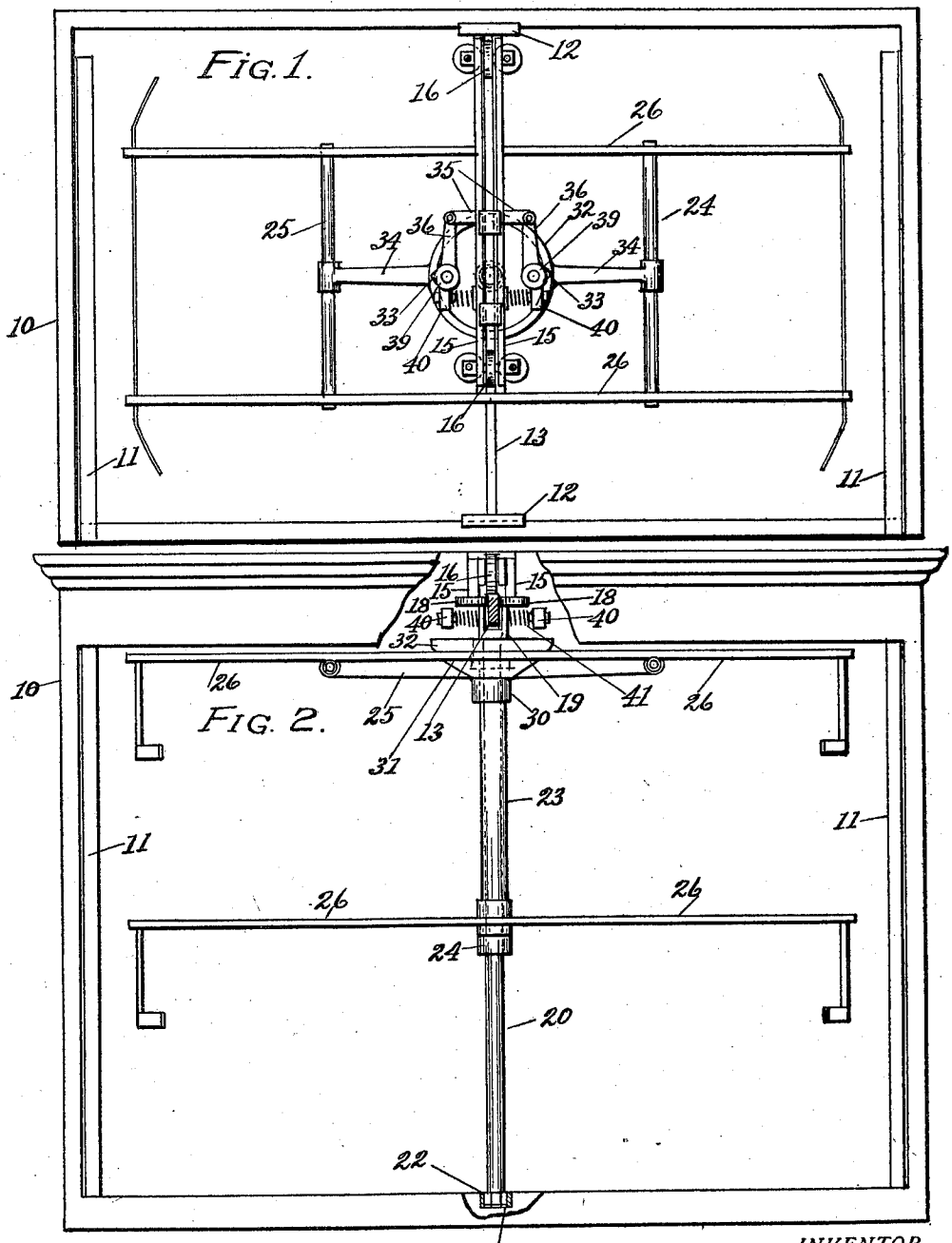

FIG. 2.

WITNESSES:

A. W. McElhaney Jr.

J. F. Reymann

INVENTOR.

Andrew E. Miller

BY

Hodges & Hodges

ATTORNEY.

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3 SHEETS—SHEET 2.

FIG. 3.

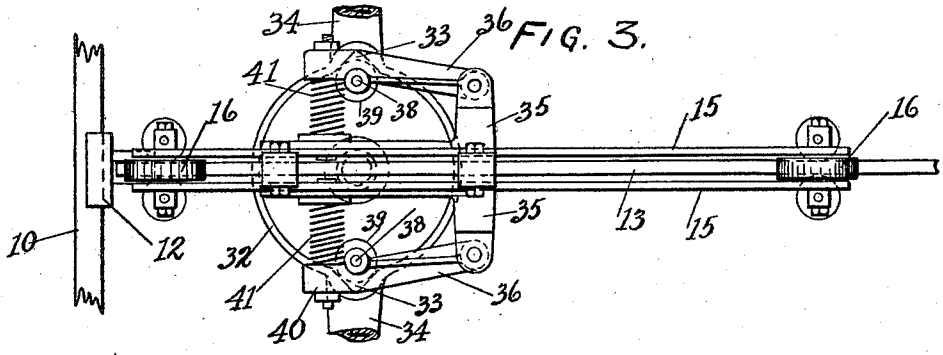

FIG. 4.

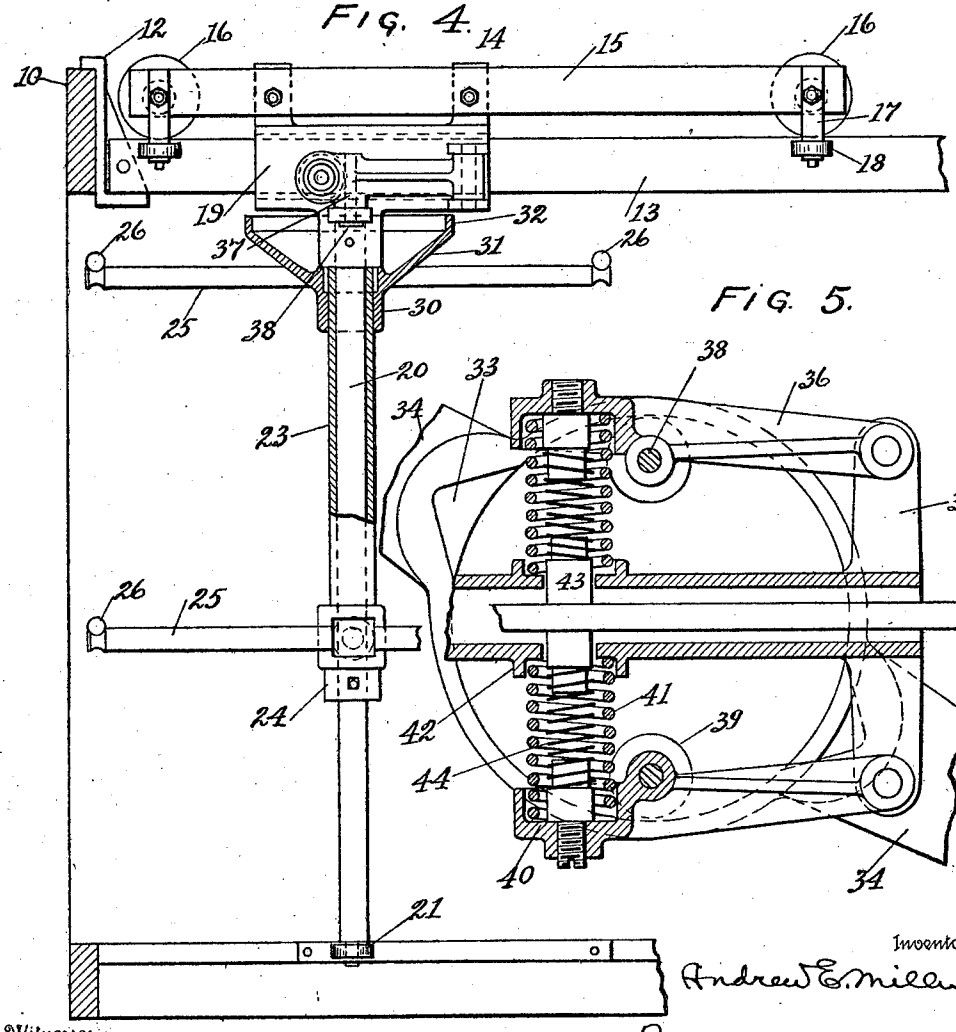

FIG. 5.

Witnesses:
A. W. C. Whitesides
J. F. Reymann

Inventor
Andrew E. Miller
By Hodges & Hodges
Attorneys

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

A. E. MILLER.

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3 SHEETS—SHEET 3.

FIG. 6.

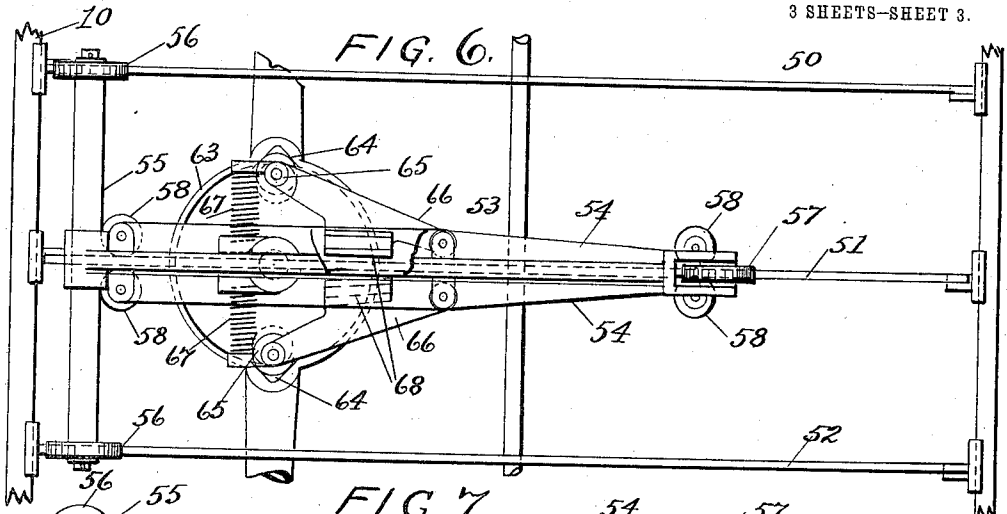


FIG. 7.

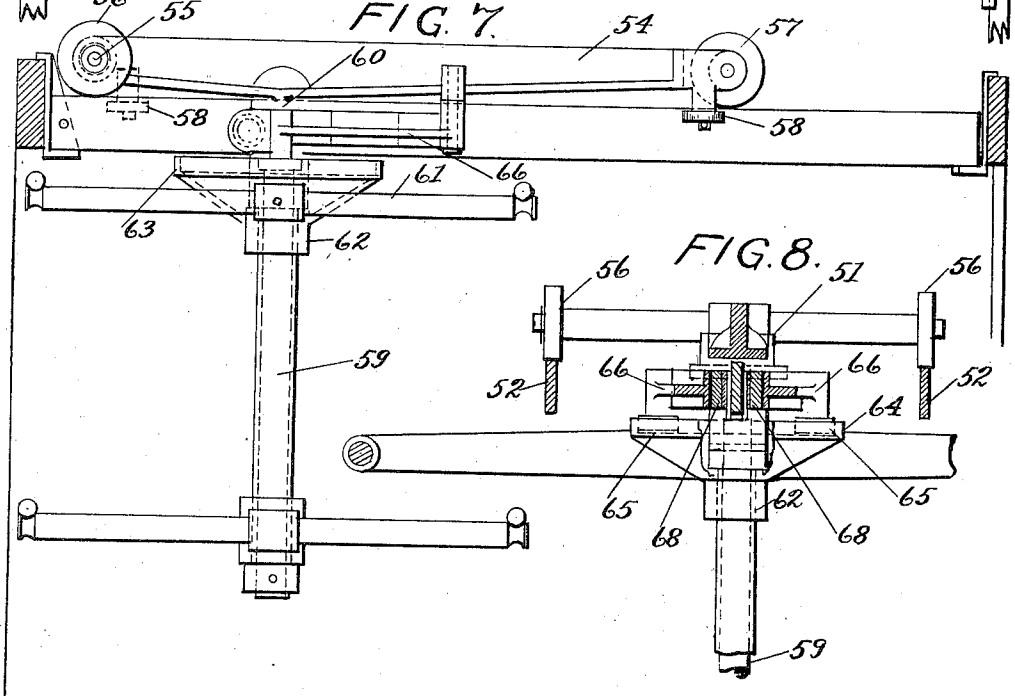
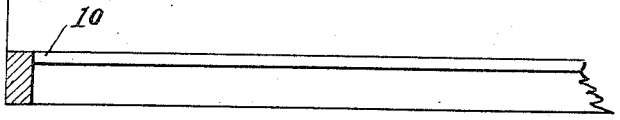


FIG. 8.



Witnesses

A. W. McCluskey.

J. F. Reymann.

Inventor

Andrew E. Miller

By Hodges & Hodges

Attorneys

UNITED STATES PATENT OFFICE.

ANDREW E. MILLER, OF BALTIMORE, MARYLAND, ASSIGNOR TO SOLOMON HIMMEL, OF BALTIMORE, MARYLAND.

DISPLAY-RACK.

1,032,341. Specification of Letters Patent. Patented July 9, 1912.

Application filed April 17, 1911. Serial No. 621,646.

To all whom it may concern:

Be it known that I, ANDREW E. MILLER, a subject of the King of Great Britain, residing in the city of Baltimore and State of Maryland, have invented new and useful Improvements in Display-Racks, of which the following is a specification.

This invention relates to certain new and useful improvements in display racks for garments and the like.

One of the objects of the invention is to provide improved means whereby the garments may be conveniently and compactly stored in dust proof cases, and yet be readily accessible for exhibiting to a customer by a salesman.

A further object is to provide improved means for guiding the rack so that the same may be readily drawn to the forward portion of the case when it is desired to display the goods supported thereby.

A further object is to provide a brake continuously acting to retard rotation thereof, whereby the danger of accidentally bringing the rack into contact with the glass sides of the case is prevented.

A further object is to provide means for retaining the rack in its forward position when it is desired to exhibit the goods.

The invention will be hereinafter fully set forth and particularly pointed out in the claims.

In the accompanying drawings:—Figure 1 is a plan view of a case with my improved display rack applied thereto, the top of the case being removed. Fig. 2 is a front view with portions of the case broken away and parts shown in section. Fig. 3 is an enlarged detail top plan view of the rack supporting carriage and its adjuncts. Fig. 4 is a detail side view of the same. Fig. 5 is a horizontal section of Fig. 3 showing the positions assumed by the parts when the rack is turned. Fig. 6 is a top plan view of a slight modification. Fig. 7 is a side view thereof. Fig. 8 is a detail sectional view illustrating the same.

Referring to the drawings, 10 designates a case of any suitable or preferred construction, that shown being provided with the front sections 11 capable of being removed or turned into the end of the case to permit withdrawal of the display rack. Suspended from brackets 12 secured adjacent the top of the case is a rail 13 adapted to support a carriage 14, said carriage comprising side bars 15 between which are mounted traction rollers 16, one at each end. The ends of the bars 15 are also provided with depending brackets 17 which support guide rollers 18 adapted to embrace the sides of the bar 15 to hold the carriage in proper vertical position thereon. Depending from the carriage 14 is a hanger 19 to which is secured a depending rod 20, the lower end of said rod being provided with a roller 21 adapted to run in a groove or guide-way 22 in the bottom of the case. By this arrangement the rod 20 is maintained in an upright position and yet by reason of its being supported by the carriage 14, may be moved back and forth within the case. The display rack comprises a sleeve 23 fitting over the rod 20 and free to rotate thereon, said sleeve being supported by a collar 24 rigidly secured to the rod 20 by means of a set screw or other suitable device. To the sleeve 23 are secured arms 25 which in turn support the longitudinal bars 26 upon which the garments are hung in any preferred manner.

To the upper end of the sleeve 23 is secured a collar 30 provided with a flaring body portion 31 terminating in a vertical flange 32, said flange being provided with recesses 33 arranged opposite the inner ends of longitudinal arms 34 extending outwardly from said flange and engaging the arms 24. Extending laterally from opposite sides of the hanger 19 are arms or lugs 35 to which are pivotally connected levers 36 provided with depending bosses 37 through which are extended journal studs 38 which support rollers 39 arranged to engage the inner face of the flange 32. The free end of each lever 36 is provided with a cup like portion 40 to receive one end of a spring 41, the other end of the spring being seated in a suitable recess 42 in the side of the hanger. Said springs are so arranged that their action tends to keep the rollers 39 in engagement with the inner face of the flange 32 with sufficient pressure to act as a brake, and also to force said rollers into the recesses 33 when they come opposite the latter. This arrangement is such that should the rack be carelessly rotated the rotation will be interrupted and yet the tension be slight enough to permit the rack to be turned when such movement is desired.

In order to prevent accidental return of

the carriage into the case while the rack is being rotated I have provided brake shoes 43 extending through suitable openings in the side of the hanger 19 and held normally in engagement with the track 13 by means of springs 44 located within the convolutions of springs 41.

In operation, the carriage 15 is moved back and forth manually, on track 13, the springs 41 normally holding the rollers 39 in engagement with the recesses 33 of the flange 32. The friction upon the track 13, rollers 16 and 18 is so very light that the carriage may be moved back and forth without forcing the rollers 39 out of engagement with said notches 33. After the carriage has been drawn forward however, but little force exerted on the arms of the rack is necessary to cause the rollers 39 to move out of engagement with the notches 33, said movement being effected as the rack is turned. This movement brings the rollers 38 into engagement with the inner face of the flange 32 causing the socket ends of the levers 36 to move inwardly toward the track 13. This movement increases the tension upon the springs 44 and forces the brake shoes 43 into frictional engagement with the track 13. Thus it will be seen that sufficient pressure is exerted upon said track to hold the carriage in its forward position and to resist accidental return, and yet the tension is such that the carriage can yield to a sudden movement which would otherwise tend to injure the rack and case if the former were positively locked. The same is true with regard to the braking action tending to control the rotation of the rack. The latter is held with sufficient force to control the freedom of rotation and yet will yield to any force that would tend to bring a strain upon the parts if they were positively locked. In other words, practice has demonstrated that when a rack is positively locked against rotation or against any movement with respect to the case, it frequently happens that an attendant in a moment of forgetfulness will attempt to impart movement without releasing the locking devices or without bringing the parts in proper position where automatic devices are employed. These movements tend to strain the parts and in the course of a short time will derange the entire mechanism. By my arrangement, as herein described these strains are entirely obviated and yet the rack is held in any desired position with sufficient force for all purposes.

In Figs. 6, 7 and 8 I have shown a slight modification in which the rack is entirely suspended from the top of the case and the lower guide omitted. In this form of my invention I employ three tracks 50, 51 and 52 upon which is mounted a carriage 53. Said carriage is formed with the side bars 54 and the transverse bar 55. Said transverse bar is provided with traction rollers 56 resting on the tracks 50 and 52 respectively, and at the other end of the carriage the side bars 54 are provided with the traction roller 57 resting upon the track 51. The carriage is further guided and maintained by means of rollers 58 which depend from the side bars 54 and engage the sides of the track 51. A vertical rod 59 is suspended from a hanger 60 carried by the carriage 53, and said rod supports the rack 61 in the same manner as described in the preferred form of my invention. Said sleeve is provided with the collar 62 provided with a flange 63 having opposite notches 64 engaged by rollers 65 mounted in the free ends of arms 66 pivoted to the carriage. Said arms are held separated by suitable springs 67. The arms 66 are each provided with a recess in which is mounted an antifriction pad 68, preferably of rubber having an outer facing of leather to increase the friction. When the arms 66 are moved inward during the rotation of the rack the pads 68 are brought into frictional engagement with the track 51 and the carriage is held in the same manner as by the brake shoes 43.

Having thus explained the nature of my invention, and described an operative manner of constructing and using the same, although without attempting to set forth all of the forms in which it may be made, or all of the forms of its use, what I claim is:—

1. A display rack of the character described comprising a reciprocable carriage, a depending hanger supported thereby, a supporting arm extending laterally from said hanger, a brake arm having one end pivotally supported by said supporting arm and provided with a brake roller, a rotatable sleeve carried by said hanger and provided with a notch to receive said roller, a garment supporting device carried by said sleeve, and a spring interposed between said arm and said hanger and acting to hold the brake roller normally in engagement with said sleeve.

2. A display rack of the character described comprising a carriage, a laterally extended supporting arm secured thereto, a brake arm having one end pivoted to said supporting arm and provided with a depending boss, a rotatable brake member mounted in said boss, a rotatable sleeve supported by said carriage and provided with a notch to receive said brake member, a garment supporting device supported by said sleeve, and a spring acting to hold said brake member normally in engagement with said sleeve.

3. A display rack of the character described comprising a carriage, a laterally extended supporting arm secured thereto, a brake arm having one end pivoted to said

supporting arm, and having a socket at its free end, a brake roller carried by said brake arm, a rotatable sleeve supported by said carriage and provided with a notch to receive said brake roller, a garment supporting device carried by said sleeve, and a spring having one end seated in said socket and having its other end bearing against said carriage.

4. A display rack of the character described comprising a carriage, a laterally extended supporting arm secured thereto, a brake arm having one end pivoted to said supporting arm and having a socket at its free end, said arm being also provided with a depending boss, a rotatable brake member mounted in said boss, a rotatable sleeve supported by said carriage and provided with a notch to receive said brake member, a garment supporting device carried by said sleeve, and a spring bearing against said carriage and having one end extending into said socket.

5. A display rack of the character described comprising a reciprocable carriage, a depending hanger supported thereby, a supporting arm extending laterally from said hanger, a brake arm having one end pivotally supported by said supporting arm and provided with a brake roller the free end of said arm being provided with a socket, a rotatable sleeve carried by said hanger and provided with a notch to receive said roller, a garment supporting device carried by said sleeve, and a spring interposed between said arm and said hanger and having one end inserted in said socket.

6. A display rack of the character described comprising a reciprocable carriage, a depending hanger supported thereby, a supporting arm extending laterally from said hanger, a brake arm having one end pivotally supported by said supporting arm and provided with a depending boss, a rotatable brake member mounted in said boss, a rotatable sleeve supported by said carriage and provided with a notch to receive said brake member, a garment supporting device supported by said sleeve, and a spring acting to hold said brake member normally in engagement with said sleeve.

7. In a display rack, a reciprocable carriage, a rack supported by said carriage and free to rotate irrespective of the position of said carriage, a frictional brake continuously acting on said rack to retard rotation thereof, said rack being provided with means for periodically engaging said brake and adapted to permit rotation of the rack when an increased rotating power is applied thereto, and means for frictionally holding said carriage against movement when the rack is being rotated.

8. In a display rack, a reciprocable carriage, a rotatable rack supported thereby, a friction brake for retarding rotation of said rack, and frictional means controlled by said brake for retarding movement of the carriage during the rotation of said rack.

9. In a display rack, a rotatable rack member, means for moving said member bodily back and forth, said member being free to rotate irrespective of said bodily movement, a friction brake continuously acting on said rack member to retard rotation thereof, and means controlled by said brake for yieldingly holding said rack member against bodily movement during rotation thereof.

10. In a display rack, a rotatable rack member, means for supporting the same and moving it bodily back and forth, a notched flange connected with said rack member, braking means engaging the inner face of said flange, and means controlled by said braking means for yieldingly holding said rack member against bodily movement during its rotation.

11. In a display rack, a carriage, a hanger secured thereto, a rotatable member supported below said hanger and provided with garment supporting means, said rotatable member being provided with a notched flange, a spring pressed lever pivotally supported by one end of said hanger and provided with a roller engaging the inner wall of said flange, and means controlled by said lever for yieldingly holding said carriage against bodily movement during the rotation of said sleeve.

12. In a display rack, a reciprocable carriage, a rotatable rack supported thereby, a notched flange connected with said rack member, a spring pressed lever supported by said carriage and provided with means for engaging the inner face of said flange, and frictional means controlled by said lever for yieldingly holding said rack member against bodily movement during its rotation.

13. In a display rack, a carriage provided with a depending member, a rack member rotatably mounted on said depending member, a notched flange secured to said rack member, spring pressed levers engaging the inner face of said flange, the distance between the center of said flange and the pivots of said levers being the same irrespective of the position of said rack member, and braking means controlled by said levers to yieldingly hold said rack against bodily movement during its rotation.

14. In a display rack, the combination with a track of a reciprocable carriage, a rack rotatably supported by said carriage, a brake continuously acting on said rack member, and a second brake controlled by the first brake and adapted to frictionally engage in said track through movement of the first brake.

15. In a display rack, the combination

with a track, of a reciprocable carriage, a rack rotatably supported by said carriage, a notched member secured to said rack member, spring pressed levers engaging said notched member, and brake members controlled by said levers and adapted to engage said track.

16. In a display rack, the combination with a track, of a reciprocable carriage, a rack member rotatably supported by said carriage, a notched flange secured to said rack member, spring pressed levers engaging the inner face of said flange, and brake members controlled by said levers and adapted to engage said track.

17. In a display rack, the combination with a track, of a reciprocable carriage, a rack member rotatably supported by said carriage, a notched member secured to said rack member, spring pressed levers engaging said notched member, and spring pressed brake members engaging said track.

18. In a display rack, the combination with a track, of a reciprocable carriage, a rack member rotatably supported by the carriage, a notched member secured to said rack member, spring pressed levers engaging said notched member, and spring pressed brake members engaging said track, the springs of said brake members being located within the convolutions of the springs acting on said levers.

19. In a display rack, a reciprocable carriage provided with a depending member, means for guiding the lower end of said member, a rack member rotatably mounted on said depending member, a brake supported by said carriage and continuously acting on said rack member, and a second brake for frictionally holding said carriage against movement during rotation of said rack.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ANDREW E. MILLER.

Witnesses:
LEE S. HECHT,
EMAN. E. OTTENHEIMER.