No. 812,396. PATENTED FEB. 13, 1906.

F. E. BEWYER.

DISPLAY RACK.

APPLICATION FILED JULY 19, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

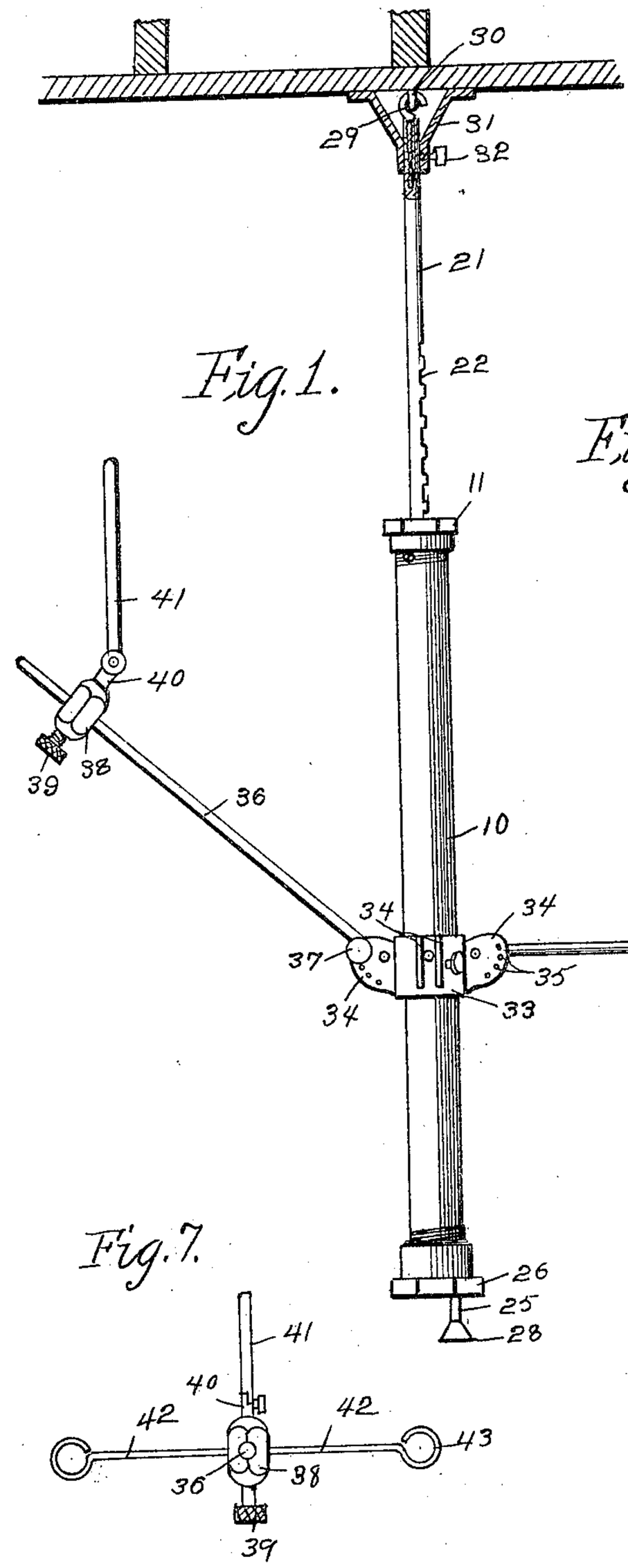

Fig. 2.

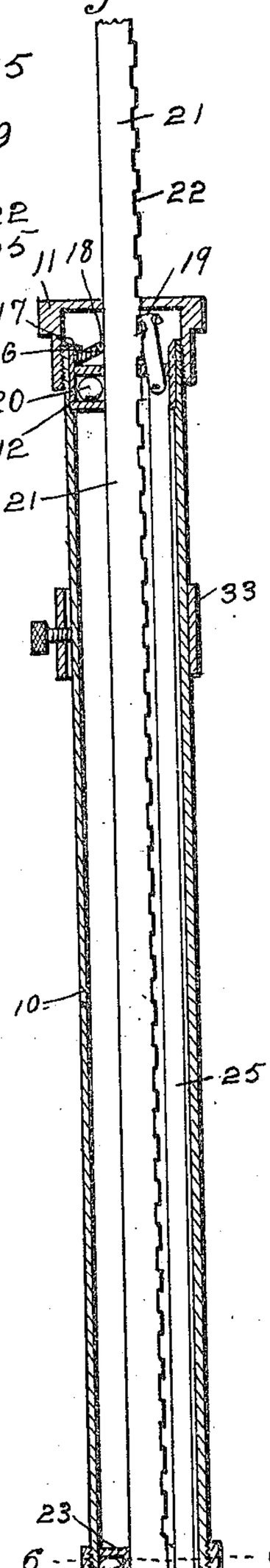

Fig. 3.

Fig. 4.

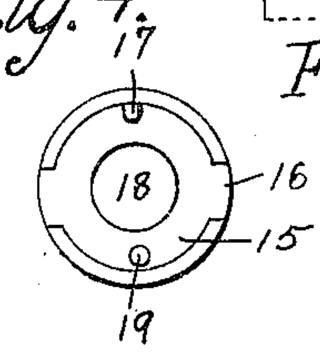

Fig. 5.

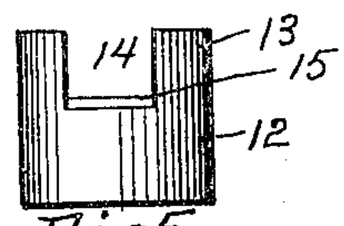

Fig. 6.

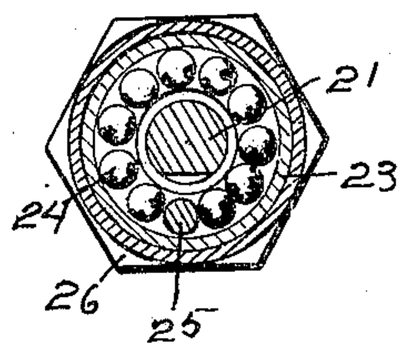

Fig. 7.

Witnesses

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F. E. BEWYER.

DISPLAY RACK.

APPLICATION FILED JULY 19, 1904.

2 SHEETS—SHEET 2.

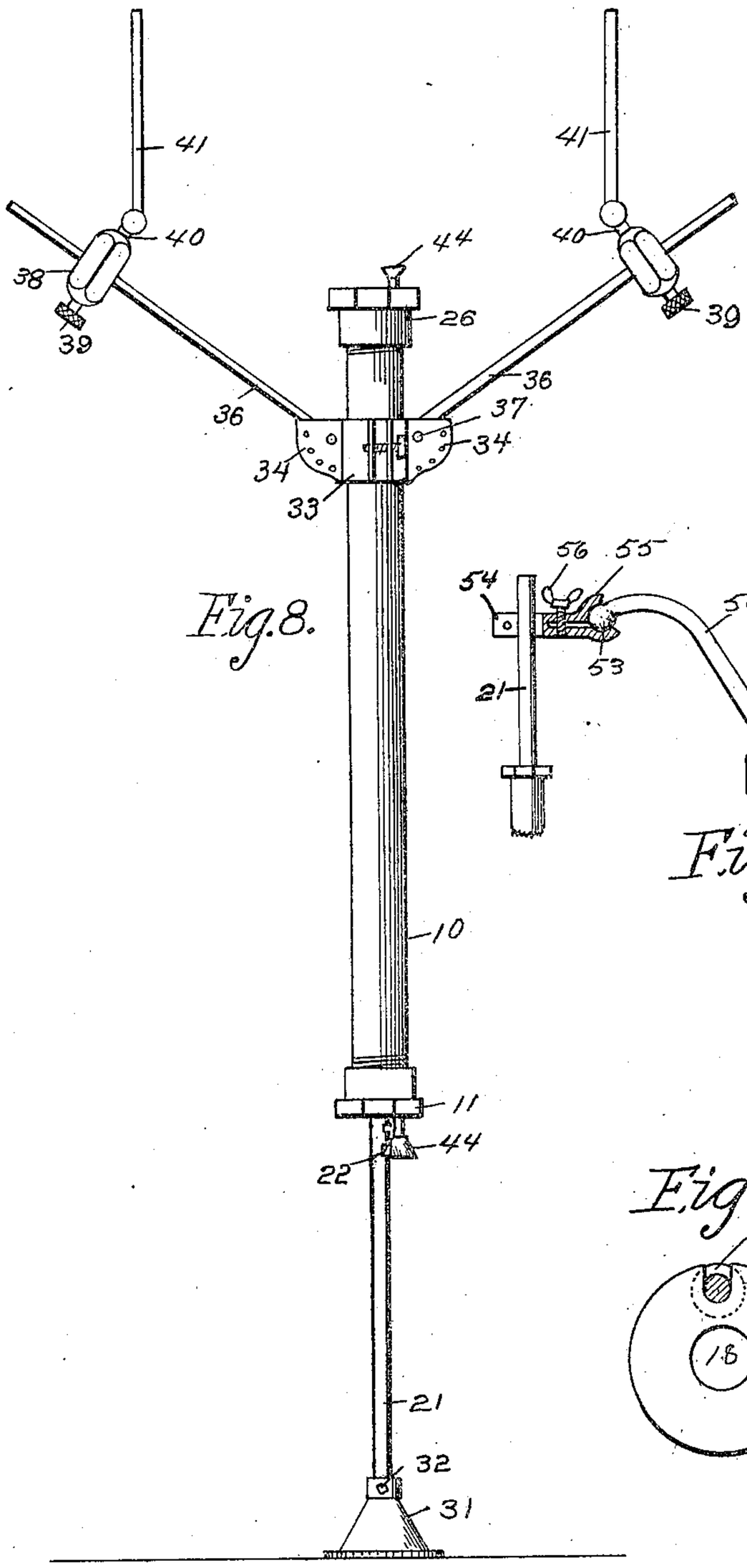

Fig. 8.

Fig. 11.

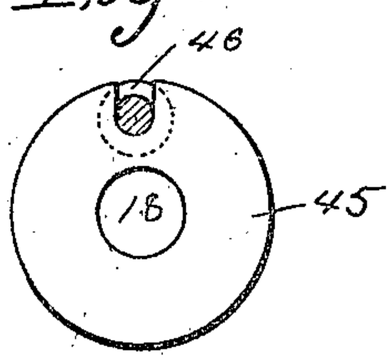

Fig. 10.

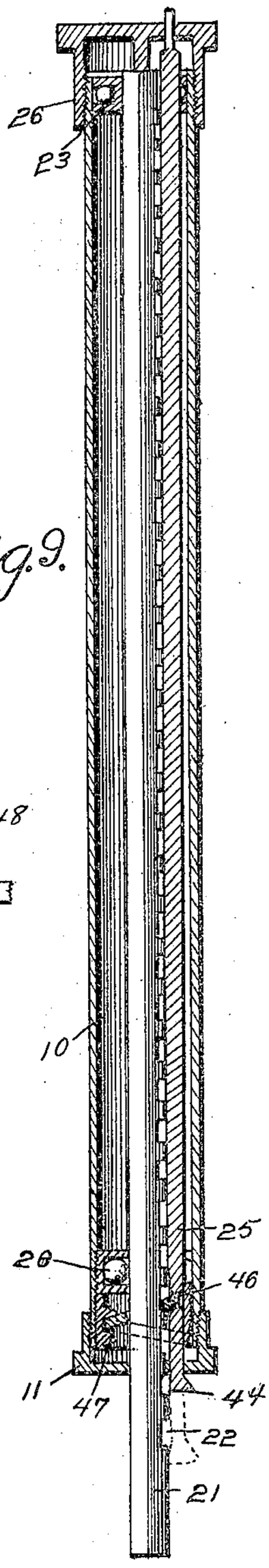

Fig. 9.

Witnesses

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UNITED STATES PATENT OFFICE.

FRANK E. BEWYER, OF NEWTON, IOWA.

DISPLAY-RACK.

No. 812,396. Specification of Letters Patent. Patented Feb. 13, 1906.

Application filed July 19, 1904. Serial No. 217,190.

To all whom it may concern:

Be it known that I, FRANK E. BEWYER, a citizen of the United States, residing at Newton, in the county of Jasper and State of Iowa, have invented a certain new and useful Display-Rack, of which the following is a specification.

The objects of my invention are to provide a display-rack of simple, durable, and inexpensive construction that may be readily, quickly, and easily adjusted to different positions to advantageously display goods supported thereon.

My invention consists in certain details in the construction, arrangement, and combination of the various parts of the device whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 shows a side elevation of the display-rack secured to an elevated support. The upper end of the supporting-rod and adjacent parts are shown in section to illustrate the construction thereof. Fig. 2 shows a vertical central sectional view of the adjustable standard. Fig. 3 shows a detail sectional view illustrating the means for gripping the supporting-rod. Fig. 4 shows a detail plan view of the upper ball-retainer and the gripping-plate. Fig. 5 shows a side elevation of same. Fig. 6 shows a transverse sectional view on the indicated line 6 6 of Fig. 2. Fig. 7 shows a detail view of one of the supporting-blocks provided with arms projecting from its sides. Fig. 8 shows a detail side view of a modified form of the display-rack designed to be supported from below. Fig. 9 shows a vertical central sectional view of the standard. Fig. 10 shows a detail plan view of the gripping-plate with the actuating-rod passed through it and shown in section, and Fig. 11 shows a detail view of a bracket for supporting the standard.

Referring to the accompanying drawings, I have used the reference-numeral 10 to indicate an open-ended tube, having at its top the cap 11, secured to the outer surface thereof and provided with a central opening. Mounted in the top of the standard 10 is a ball-retainer 12, having projecting above it a rim 13, provided with notches 14 at opposite sides. Mounted in the rim 13 is a gripping-plate 15, provided with projections 16 at its sides to enter the notches 14, which form guides for the projections. At one side of the rim 13 is an inwardly-projecting lug 17 to overlap the top of the gripping-plate to thereby pivotally connect the gripping-plate with the flange. In the center of the gripping-plate is an opening 18, and at the edge of the gripping-plate opposite from the point where it is pivoted is a link 19, pivotally connected therewith. This link projects downwardly through an opening in the top of the ball-retainer. On the interior of the ball-retainer are the bearing-balls 20 to engage a round supporting-rod 21, which passes through the ball-retainer, through the gripping-plate 15, and through the cap 11. One side of the supporting-rod 21 is provided with notches 22, designed to coact with the gripping-plate. When the gripping-plate is at its downward limit of movement, the rod 21 may freely slide through it, and when the gripping-plate is elevated it will enter one of the notches 22, and thus lock the cylindrical standard 10 to the supporting-rod 21. The said supporting-rod 21 is of a length materially greater than that of the cylindrical standard 10, and secured to the lower end of the rod 21 is a ball-retainer 23, having a series of balls 24 therein to engage the interior of the cylindrical standard 10.

The cylindrical standard 10 may be moved vertically relative to the supporting-rod 21, and at all times there will be two bearings between the standard and the rod to hold them in line with each other. The bearing-balls provide means whereby the cylindrical standard may be readily and easily moved upon the rod. I have provided means for normally holding the gripping-plate in its locked position, as follows: Pivoted to the link 19 is a rod 25, extended downwardly through the ball-retainer 23 and through a screw-cap 26, secured to the bottom of the standard 10. Mounted on the rod 25 is a spring 27, normally holding the rod to its upper limit, and on the lower end of the rod below the cap 26 is a handle 28. The said spring pushes the rod 25 upwardly, so that the locking-plate 15 enters one of the notches 22 in the supporting-rod 21, thus securing the standard 10 in position on the rod 21. The operator may by grasping the handle 28 move the rod 25 and the gripping-plate downwardly, thus leaving the standard 10 free to slide vertically. The operator then grasps the standard, moves it to the desired position, and then

when he releases the handle 28 the spring will cause the gripping-plate to move upwardly and enter one of the notches in the rod 21. In this way the standard 10 is automatically gripped and held in any position in which it may be placed. At the top of the supporting-rod 21 I have formed a hook 29, designed to enter an eye 30 in an elevated support, and slidingly mounted on the upper end of the rod 21 is a collar 31, arranged to cover the hook 29 and to engage the support in which the eye 30 is mounted. A set-screw 32 provides means by which this collar may be adjustably secured in position to conceal the hook 29 and to prevent the support 21 from swinging inward. To detach the support 21, the collar 31 is first lowered, whereupon the hook 29 may be readily removed from the eye 30.

Slidingly mounted upon the cylindrical standard 10 is a collar 33, provided with a number of pairs of lugs 34, spaced apart from each other and provided with a series of openings 35 near their outer edges. Pivoted between each pair of plates 34 near their inner ends is a display-rack 36, and this display-rack may be supported at various elevations by means of the screw 37, passed through the openings 35 and beneath the rod 36. As an additional means of displaying articles upon the display-rack 36 I have provided a supporting-block 38, slidingly mounted upon the rod 36 and adjustably secured thereto by means of a set-screw 39. On one end of the supporting-block 38 is an extension 40, to which an arm 41 is pivotally attached, and on opposite sides of the supporting-block 38 are the arms 42, provided with loops 43 at their ends.

In the modified form (shown in Figs. 8 and 9) the cylindrical standard 10 is inverted and the grip-adjusting rod is projected through both heads of the cylindrical support. The lower projecting end of the rod is integral with the body portion thereof and is indicated by the numeral 44. The gripping device comprises a disk 45, having at one edge a slot 46. The edge opposite from the slot is pivotally supported between the lugs 47 of the lower ball-retainer, and the rod itself is provided with an annular groove to receive the slotted portion of the gripping device. No spring for operating the gripping-rod is provided, as the gripping-rod is operated by hand to release or grip the notched supporting-rod no matter whether the upper or lower end of the gripping-rod is grasped by the operator. I have also provided a bracket by which the display-rack may be supported in different positions, as follows: The numeral 48 indicates a plate designed to be bolted to a support. This plate is provided with a screw-threaded projection 49. An arm 50 is provided with a sleeve 51, designed to receive the screw-threaded rod 49. A nut 52 is placed on the rod to hold the sleeve in position. On the other end of the arm 50 is a ball 53. The supporting-rod 21 is secured to a holder 54, which holder is provided with a slotted socket 55, designed to receive the ball 53. A set-screw 56 is passed through the slotted socket, whereby the parts of the socket may be made to firmly grip the ball 53 to secure the holder 54 in different positions.

In practical use and assuming that it is desired to use the display-rack by supporting it from a ceiling then the form shown on Sheet 1 is preferably used. The hook at the top of the supporting-rod is made to engage the eye 30, and then the sleeve 31 is adjusted in position to hold the rod 21 rigid. The operator may lower the cylindrical standard 10 to its lower limit of movement by pulling downwardly upon the handle 28, thus moving the gripping-plate to a horizontal position and permitting the cylindrical standard to descend. When the cylindrical standard is low enough, the operator releases the handle 28, and the gripping-plate is pushed upwardly by the spring 27. Then the collar 33 is moved to the desired position upon the cylindrical standard, and the arms 36, 41, and 42 are adjusted to conveniently support the articles to be displayed. The operator then grasps the handle 28 and draws it downwardly, and then he slides the cylindrical support 10 upwardly until at the desired elevation for displaying goods. The invention is particularly convenient and desirable, because the goods may be supported in position where they will not interfere with persons passing beneath them, and yet at any time desired the operator may reach up, grasp the handle 28, and lower the displayed articles to position, where they can be conveniently grasped and removed. When it is desired to provide a display-rack that may be used interchangeably either by being supported from the floor or the ceiling, then the form shown in Sheet 2 of the drawings is used, and the operator may release the gripping-plate or move it to position to engage the notched supporting-rod from either above or below the cylindrical standard.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States therefor, is—

1. The combination of a rod, a rack-holder slidingly mounted on the rod, a ball-retainer secured at one end of the rack-holder, balls therein engaging the rod, a ball-retainer secured at one end of the rod, and balls therein engaging the rack-holder.

2. The combination of a supporting-rod, a tubular standard having one end of the rod slidingly mounted therein, a ball-retainer secured at one end on the inside of the tubular standard, balls therein engaging the rod, a second ball-retainer slidingly mounted inside of the tubular standard and fixed to the rod,

balls therein engaging the tubular standard and a gripping device inside of the tubular standard engaging the rod.

3. The combination of a notched supporting-rod, a tubular standard slidingly mounted on the supporting-rod, a gripping-plate pivotally mounted within the tubular standard having an opening therein through which the supporting-rod is passed, said plate in one position engaging the notches of the supporting-rod and in another position permitting the supporting-rod to freely slide through the opening thereof, a grip-actuating rod within the tubular standard and projecting beyond it operatively connected with the gripping-plate and a spring normally holding the grip-actuating rod to position with the gripping-plate in engagement with one of the notches of the supporting-rod.

4. The combination of a notched supporting-rod, a tubular standard having the rod slidingly mounted therein, a ball-retainer secured to one end of the tubular standard, balls therein engaging the rod, a support connected with the ball-retainer, a gripping-plate, having a central opening to admit the rod, pivotally mounted at one edge in said support and a grip-actuating rod connected with the opposite edge of the gripping-plate and projected beyond the tubular standard.

5. The combination of a notched supporting-rod, a tubular standard encircling one end of the notched rod, screw-caps on the tubular standard, a ball-retainer secured to one end of the tubular standard, balls therein engaging the rod, a gripping-plate having an opening therein to receive the rod pivotally mounted at one edge on said ball-retainer, a link connected to the opposite edge of the gripping-plate, a grip-actuating rod slidingly mounted in the tubular standard pivoted to said link, a handle on the opposite end of said grip-actuating rod projected through the cap, a spring normally holding the grip-actuating rod in position with the gripping-plate engaging the notched supporting-rod.

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Witnesses:
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