Oct. 12, 1948. A. E. NEWMAN 2,451,110

SUSPENSION RACK

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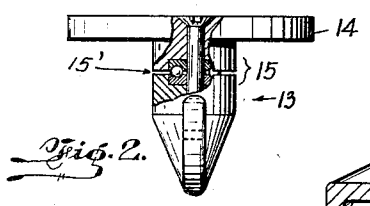


Fig. 2.

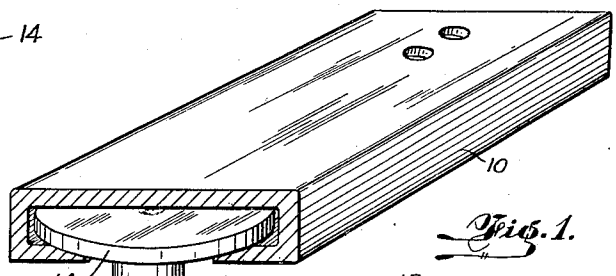
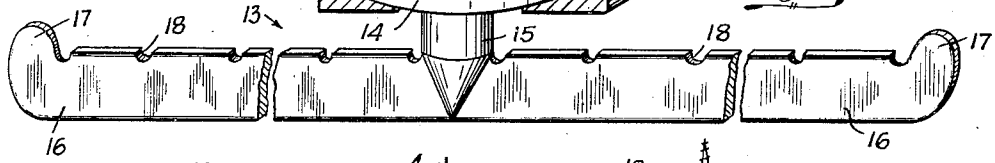


Fig. 1.



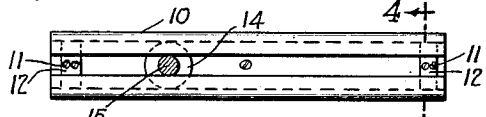


Fig. 3.

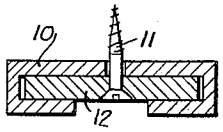


Fig. 4.

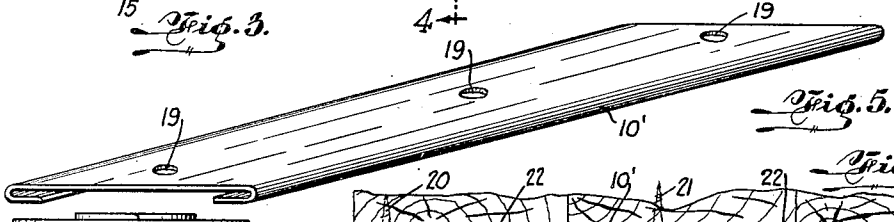


Fig. 5.

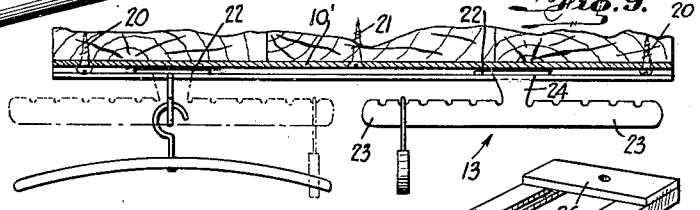


Fig. 9.

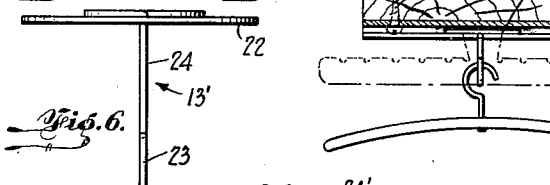


Fig. 6.

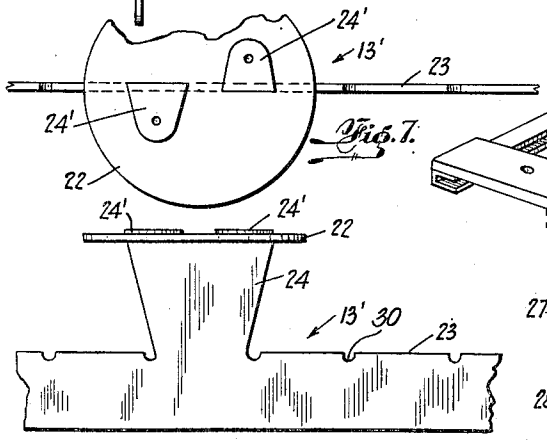


Fig. 7.

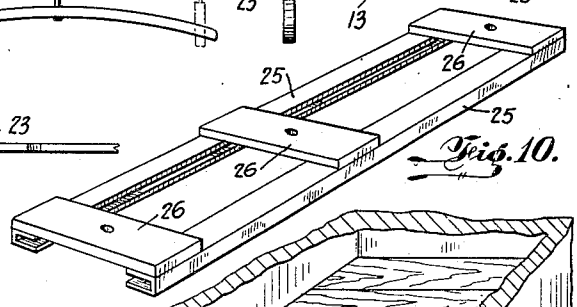


Fig. 10.

Fig. 8.

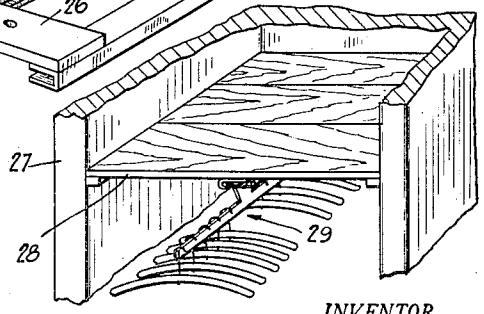


Fig. 11.

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SUSPENSION RACK

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1 Claim. (Cl. 211—94)

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This invention relates to mobile suspension racks adapted for use in closets, show-cases and the like, for accommodating a plurality of clothes hangers or similar articles within such closet or show-case.

One of the prime objects of the present invention is to provide a simple, inexpensive and readily operative fixture, adapted to be secured to the bottom surface of a support, such as the bottom face of a closet shelf, and which fixture comprises a fixed guide rail or track within which operates a movable and rotatable rack member from which clothes hangers or similar articles may be suspended, whereby apparels suspended from the hangers may be readily made available by swinging or shifting the rack member to any desired position.

Another object of this invention is to provide a mobile closet fixture in place of a fixed clothes hanger support, such as a pole commonly used for that purpose, with end stops for the movable rack member thereof.

The foregoing and numerous other objects of the present invention will become more fully apparent from the ensuing description of the accompanying drawings, showing the presently preferred forms of my invention, but which drawings are by no means intended to limit the latter to the actual disclosures.

In the drawing:

Fig. 1 is a fragmental perspective view of one form of my closet fixture or suspension rack made from plastic material;

Fig. 2 is the rider or movable portion of the rack;

Fig. 3 is a bottom view of the guide channel in which the rider operates;

Fig. 4 is an enlarged section through an end stop taken on line 4—4 of Fig. 3;

Fig. 5 is a guide channel for the suspension member employed in a modified form of my device;

Fig. 6 is an end view of the suspension member;

Fig. 7 is a partial top view thereof;

Fig. 8 is a partial elevation thereof;

Fig. 9 is a longitudinal cross section through the modified form of my suspension rack, including the guide channel and the suspension member or rider;

Fig. 10 is another embodiment of my guide channel; and

Fig. 11 illustrates a portion of a closet equipped with my device.

Referring now specifically to Figs. 1 to 4, inclusive, numeral 10 denotes a substantially channel-shaped guide member adapted to be secured to the bottom of a shelf or the like in the manner indicated in Fig. 9. Channel 10 in this embodiment is made from plastic material and is provided with a plurality of apertures for the reception of attaching screws. The arrangement of the apertures is such that both ends and the center of the channel may be firmly secured to a shelf. End screws 11, shown in Figs. 3 and 4, are employed to not only secure the channel to its support, but also to hold in place end stops 12 which limit the movement of rack member 13 movable longitudinally within the channel. Rack member or rider 13 is composed of a disc-like enlargement 14 adapted to slide within the grooves of channel 10, and from which enlargement depends a stem 15. Extending sidewise from the stem are two rack arms 16 preferably terminating in upwardly swung end enlargements 17. The upper edges of rack arms 16 are notched at 18 for accommodating and preventing shifting of the hooks of the clothes hangers, which are adapted to be suspended from the arms.

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Rack arms 16 and their central suspension element or stem 15 terminating in disc enlargement 14 preferably comprise an integral rider structure, all parts of which are immovable relative to each other, however the body of stem 15 of rider 13 may be split as at 15' and provided with a bearing and central connection, as indicated in Fig. 2, so that the two rider portions may rotate in respect to one another. Such arrangement may be provided for either of the two modifications illustrated in the drawings.

The modified form of my device, shown in Figs. 5 to 8, inclusive, consists again of a double channel shaped guide member 10' which is provided with at least three apertures 19 for the reception of attaching screws, of which the end screws 20, shown in Fig. 9, have protruding heads, such as those of round head screws, while the head of the center attaching screw 21 is preferably flat and countersunk, being imbedded within the web material of guide member 10' so that it does not extend beyond the bottom face of the web. Guide member 10' comprises an elongated, relatively flat structure open at both ends and having a substantially broad web portion and two relatively deep and narrow, rather flat parallel guide grooves or guide channels disposed along its longitudinal edges. These channels are formed by bending the two edge portions of the web material upon themselves and toward one another

so that the open ends of the channel face each other. Cooperating with channel member **10'** is a rack member **13'**, comprising a double-armed, substantially one-piece, rigid structure similar to that of rack member **13** shown in Fig. 1. The guided part of the rack member is a relatively flat metal disc **22** operatively engaging, and being movable within and guided by the opposite grooves of channel member **10'**. Depending from disc **22** is a double-armed rack **23**, the arms of which are preferably of equal length, and from the center portion of which rack extends a connecting element **24** provided with attaching ears **24'**, which latter pass through suitable openings in disc **22** and are bent over into the plane of, and are securely fastened to the disc body to prevent relative movement of these two connected parts.

Double-armed rack **23** and its connecting element **24** are preferably made from one piece of sheet material, and since they are rigidly connected with disc **22**, the entire rack member virtually forms a one-piece, integral and rigid structure. At the upper edge of the rack arms are provided suitably spaced notches **30** for the reception of clothes hanger hooks.

When channel member **10'** is correctly mounted against the lower face of a support, a flat head countersunk screw secures the middle portion of member **10** in place, while screws with protruding heads, such as round head screws, attach the ends of the channel member. Obviously disc **22** is first slipped into the grooves before the last end screw is fastened in place so that the heads of both end screws form stops for disc **22**. When thus mounted rack member **13'** is bodily movable throughout the entire length of guide member **10'** and therefore may be shifted either towards one or the other end together with any load suspended from hangers the rack may carry. Obviously, due to the roundness of disc **22** the rack member may be also turned bodily in any direction through a complete circle. When stating that the rack member may be shifted or turned bodily, it is meant that its structure in its entirety, including disc **22**, connecting element **24** and rack **23** is thus movable.

In Fig. 9 it will be observed that two rack members are disposed in the channel to indicate that more than one of the rack members may be employed with one channel member, depending upon the length of the latter. It will be also observed that the round heads of screws **20** at the end of the channel extend into the path of disc **22** and serve as end stops for the rack members. In Fig. 9 the rack member at the left is shown with its arms at right angles to the channel, whereas the right-hand rack member is disposed parallel thereto. It will be clear from that figure that the rack members may not only slide within the channel, but may rotate bodily therewithin.

Fig. 10 illustrates a modified construction of my channel member, which is composed of two channel pieces **25** connected by transverse bars **26**, the latter having apertures for the reception of attaching screws.

In Fig. 11 a portion of a closet **27** is shown, provided with a shelf **28** at the bottom face of which is attached my suspension rack, indicated at **29**, accommodating a number of clothes hangers.

In each of the constructions illustrated, the channel member consists of a relatively broad

central web, the edges of which are turned towards each other to form two relatively narrow, parallel grooves in which operates the disc-shaped enlargement forming the supporting end of the rack member. The latter is preferably of a two arm construction, which is suspended centrally from the disc-like member travelling in the channel. It will be also observed that the arms are preferably provided with notches for the purpose explained above.

In each of the constructions the disc-like enlargement of the rack member is limited in its movement within the channel by end stops which prevent its disengaging the channel. These end stops incidentally serve also for the attachment of the channel. The grooves in which the disc-shaped enlargement of the rack member operates are sufficiently narrow to prevent undue tilting or other undesirable movements of the rack member, whereby a possible wedging or sticking thereof is prevented.

In both modified forms of my device it will be observed that I so space the inner edges of the narrow grooves of the channel that they form a guide for the depending portion connecting the disc member with the rack arms. In the plastic construction the inner groove edges practically contact with the stem **15** of the rack member. Similarly in the metal construction the broadened upper end of depending portion **24** of the rack member is approximately as wide as the distance between the grooves of channel **10'** so that when the rack member is in the position shown on the left-hand end of Fig. 9 there can be very little undesirable tilting movement of the rack member within the channel.

The double-bar rack member resembles an inverted T, with the stem depending from the disc forming the central leg thereof.

While in the foregoing only two modified forms of my device are described, be it understood that changes and improvements may be incorporated therein, without departing from the scope and the purpose of my invention, for which I claim:

In a mobile suspension rack for clothes hangers or the like, a relatively wide, horizontal channel plate having relatively narrow inwardly extending flanges placed closely to the channel web, a rack member having an upper, horizontal, relatively thin circular plate slidable and closely fitting in said channel, a relatively broad stem extending downwardly and centrally from said circular plate and being rigidly connected therewith, said stem having integrally formed at its lower end a horizontally extending flat bar provided with notches at its upper edge to support garment hangers.

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