Oct. 7, 1947. H. J. FOWLER 2,428,454

TIE RACK

Filed May 6, 1944 2 Sheets-Sheet 1

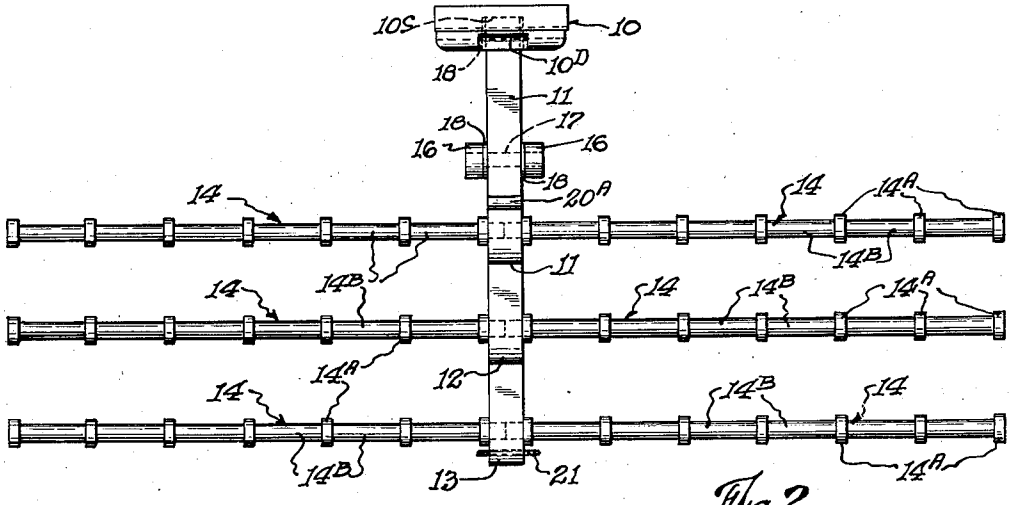


FIG. 2

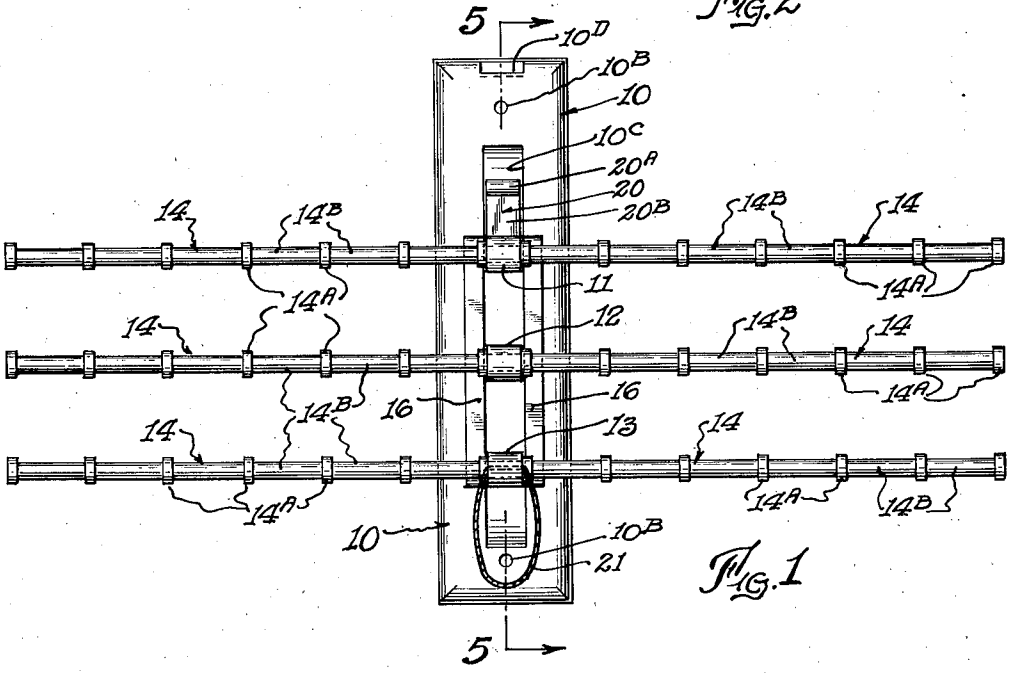


FIG. 1

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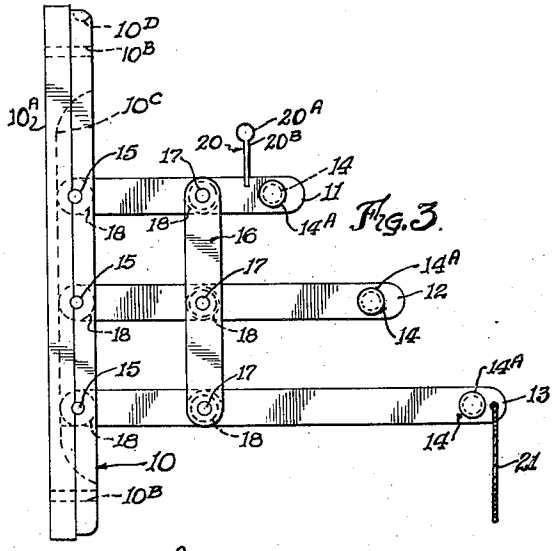


Fig. 3.

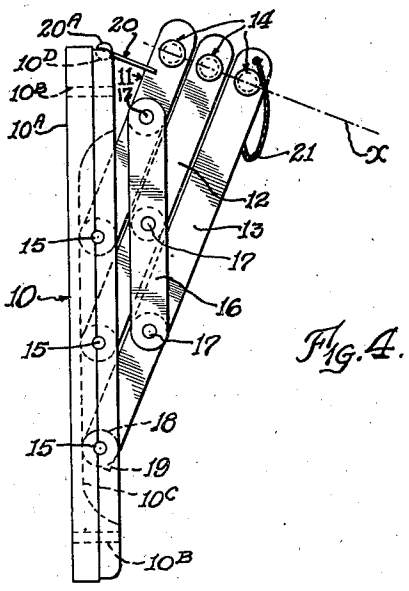


Fig. 4.

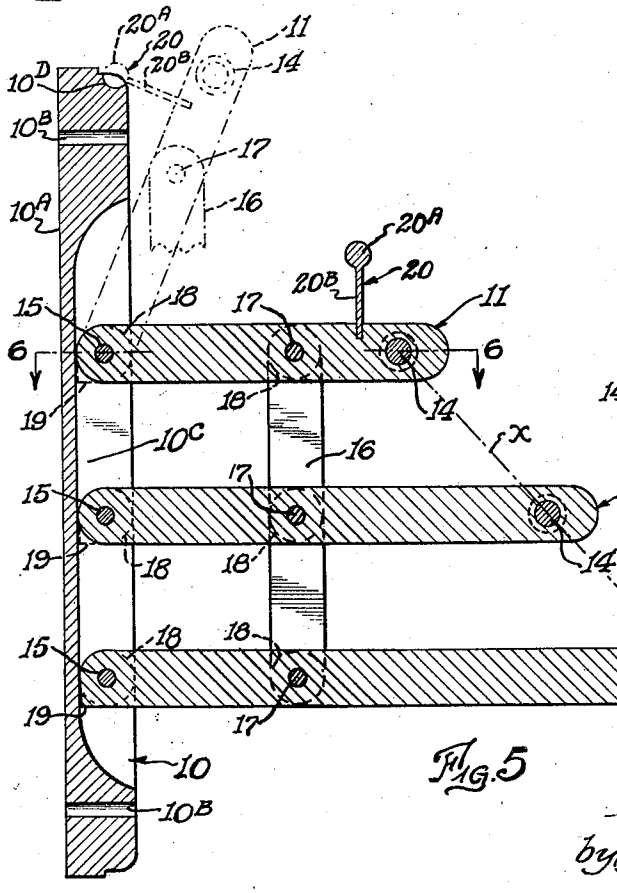


Fig. 5

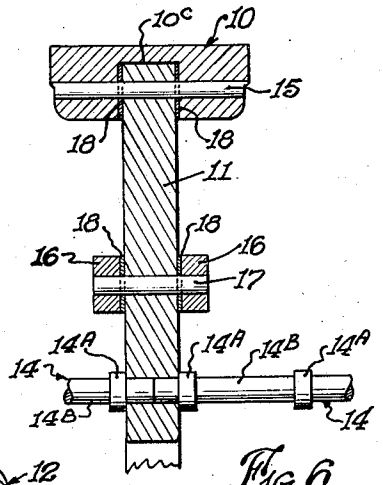


Fig. 6

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Patented Oct. 7, 1947 2,428,454

UNITED STATES PATENT OFFICE

2,428,454

TIE RACK

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Application May 6, 1944, Serial No. 534,480

4 Claims. (Cl. 211—104)

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This invention relates to new and useful improvements in tie racks and has among its objects to provide a novel device having a plurality of racks for supporting a multiplicity of elongated neck ties such as commonly worn by men; such device being characterized by novel features and advantages such as compact and durable construction, economy of space when not in use, a visible presentation of all ties by a simple simultaneous forward movement of all racks whereby all of the ties supported on the racks are simultaneously quickly brought to view for selective individual removal from any one of the racks.

Another object of my invention resides in the provision of a device comprising a plurality of elongated racks each having partitioned portions for retaining a plurality of ties in spaced positions on each rack and including pivotal means whereby the plurality of racks may readily be simultaneously moved into compact collapsed position or into open position to permit individual withdrawal of a selected tie from any of the racks.

Another object of my invention is to provide a tie rack which may readily be manufactured at comparatively low cost from various materials such as metal, plastics or wood.

Still another object of my invention resides in the provision of a device comprising a single stationary support and a plurality of laterally disposed racks centrally supported on pivotal means having pivotal connection with the stationary support and with the rack.

A still further object of my invention is found in the provision of a plurality of horizontally disposed tie racks supported on pivotal means so arranged that in all angular positions of the pivotal means the racks are always vertically and laterally relatively spaced, such relative vertical and lateral spacing being at a minimum when the device is in collapsed position and progressively increased during the movement of the parts of the device into open position.

With the above and other objects in view, my invention consists in the novel combination, construction and arrangement of the parts shown in preferred embodiment in the attached drawings, described in the following specifications, and particularly pointed out in the appended claims.

In the drawings:

Fig. 1 is a front elevation of a tie rack embodying my invention and showing the device in open position;

Fig. 2 is a plan view of the tie rack shown in Fig. 1;

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Fig. 3 is an end view of the tie rack shown in open position;

Fig. 4 is an end view similar to that shown in Fig. 3 but showing the device in closed position;

Fig. 5 is a vertical section taken on line 5—5 of Fig. 1; and

Fig. 6 is a horizontal section taken on line 6—6 of Fig. 5.

As preferably illustrated in the drawings, my improved tie-supporting device comprises a support 10 consisting of a preferably rectangular back plate having a flat rear face 10A, at least two openings 10B for screws or other securing means whereby the back plate may be secured to a flat wall or door face, and a recess 10C for receiving the inner ends of a plurality of arms 11, 12 and 13 for pivotal support therein.

The front or outer end of each arm 11, 12 and 13 carries a tie rack 14 consisting of an elongated bar-like member of preferably circular cross-section. Each tie rack 14 is preferably provided with spaced collar-like narrow circular partitions 14A and which partitions 14A are preferably formed integrally with the bar-like members 14 and are slightly greater in diameter than the portions 14B between the collar-like partitions 14A.

The collar-like partitions 14A are spaced apart to provide tie-supporting portions 14B of suitable length to receive, between each pair of the collar-like partitions 14A, a medial portion of a man's neck tie looped thereover.

The device could obviously be made with plain round rods each constituting a horizontal rack 14. The collar-like partitions 14A are preferable for retaining the ties in spaced-apart positions on the racks.

In the manufacture of the rack member 14 with the integral spaced partitions 14A, each rack member 14 is made in two sections having opposite ends inserted into a transverse opening in the supporting arm. The adjacent ends of the rack member 14 are in abutment with one another and are preferably secured within the transverse arm opening by friction fit or in wood construction by glue and such adjacent rack member ends are provided with the circular partitions 14A so spaced from each end of the rack member that the faces of the circular partitions securely engage opposite side faces of the pivoted arm as more clearly illustrated in Fig. 6 thus strengthening such connection.

The inner or rear ends of the arms 11, 12 and 13 are mounted for pivotal movement about pivot pins 15 frictionally or otherwise secured in the support 10.

To afford simultaneously movement of the arms and rack members into and out of closed position, the arms 11, 12 and 13 are pivotally interconnected preferably by a pair of vertically disposed links 16 having pivotal connection with and relative movement to the arms by means of pivot pins 17 which are securely fixed in the arms by friction fit or in wood construction glue-secured in the arms.

To facilitate pivotal movement of the arms 11, 12 and 13 about the pivot pins or dowels 15 and of the links 16 about the pins or dowels 17, I prefer to provide a washer 18 of metal or fiber on each side of each arm at such pivot points so that such washers 18 are positioned at opposite sides of each arm between the inner sides of the recess 10^C and the inner faces of the links 16.

To limit the lowermost position of the racks 14 and their supporting arms 11, 12 and 13, I provide at least the lower one 13 of said arms with a flattened seat portion 19 which, when the racks 14 and arms are swung downwardly into open position, will come into abutment with the inner face of the recess 10^C to thus prohibit further downward movement of the arms and racks.

It is obvious that all of the arms 11, 12 and 13 could be provided with such position-limiting abutment seat portions 19 as shown by the dotted lines in Fig. 5.

In order to retain the rack members 14 and their supporting arms 11, 12 and 13 in raised position when not in use, the upper arm 11 is provided with a retainer 20 having an enlarged head 20^A which is adapted, under a slight flexing of its stem portion 20^B which connects the retainer 20 with the arm 11, to frictionally engage with the groove or notch 10^D to thereby retain the arms and rack members 14 in raised position as shown in Figs. 4 and 5.

To facilitate lowering of the rack members 14 into the open position shown in Figs. 1, 2, 3 and 5, a looped string 21 or a wire ring may be secured to the outer end of the arm 13 as shown in the illustrations.

It is obvious that the principle of my invention may readily be embodied in a device consisting of only one rack member or a plurality of rack members as illustrated in the drawings.

It is also obvious that each centrally supported rack 14 may be made of wood in two sections which are secured at opposite ends in one of the supporting arms, however, in metal construction the rack bar could be made of one piece and circular or other shaped partitions 14^A could thereafter be spot welded or otherwise secured to the rack bar in selected spaced positions thereon. Furthermore, a continuous centrally supported wood bar could also be used and in such type the tie-supporting portions 14^B could consist of spaced elongated notches in a wood stick of round or rectangular cross-section.

It will be observed that the design and construction of my improved tie rack is such that in the movements of its parts into and out of collapsed or folded position, the links 16 always maintain a parallel relation to the support 10, likewise, during such movements, the three arms 11, 12 and 13 move in unison and are always in all angular positions thereof parallel one to the other and that in all such angular positions the centers of all rack members are intersected by a straight line X as indicated in Fig. 4, the maintenance of these structural relationships affords a preferable design and the inherent advantages thereof.

From the above description and attached drawings it will readily be apparent that my improved tie rack holds a comparatively great number of ties; that when not in use, it readily folds into compact form and occupies a comparatively small space; and when unfolded all ties are visible and any selected ties are readily accessible for withdrawal from the rack.

I claim:

1. A rack device comprising a single elongated vertically disposed support having a centrally longitudinally disposed recess therein, a plurality of laterally disposed racks, a single supporting arm for each of said racks, said arms being pivotally connected within said recess to said support at relatively vertically aligned spaced points and each of said arms below the uppermost one of said arms being longer than the arm disposed directly above it, link means pivotally connected to said arms whereby said arms and said racks move upwardly or downwardly in unison when either one of said arms is manually moved into respectively raised or lowered position, and retaining means releasably retaining said arms and racks in raised and lowered positions.

2. A tie rack device comprising a vertically elongated support having a flat rear face and openings for securing means whereby said support may be secured in stationary position upon a flat vertical wall, said support having a vertical recess in the front face thereof, a plurality of laterally disposed tie racks each of elongated bar form of circular cross-section having longitudinally spaced annular partitions thereon providing spaced tie-supporting portions therebetween, a supporting arm for each rack, each of said arms being connected near the outer free end thereof to an end portion of the rack and having the other end thereof disposed within said recess and pivotally connected to said support, said arms being vertically aligned and pivoted in said support at relatively vertically spaced points and the lengths of said arms increasing progressively downwardly whereby said racks supported on the free ends of said arms are disposed in relatively different vertical and horizontal planes in all angular positions of said arms, a pair of links, mounted adjacent to opposite sides of said arms, pivotally connected to said arms, whereby said arms and said racks move upwardly or downwardly in unison when the lowermost and longest of said arms is manually moved into respectively raised or lowered position, and means releasably retaining said arms and racks in raised position.

3. A rack comprising a unitary vertically elongated support having a vertical recess disposed centrally of and in the outer face thereof carrying a plurality of vertically aligned transverse pins extending transversely through said recess, a single arm pivotally mounted at one end thereof on each of said pins within said recess, said arms being vertically aligned and the lengths of said arms increasing progressively downwardly from the shortest uppermost arm to the longest lowermost arm, a horizontal rack bar carried on the free end of each of said arms, a vertically disposed link pivotally connected with each of said arms whereby said arms are caused to swing in unison about said transverse pins, means for retaining said arms in raised position when said arms and racks carried thereby are swung upwardly, and abutment means on at least one of said arms adapted to directly engage the inwardly disposed face of said recess in said support for retaining said arms in substantially horizontal po-

sition when said arms and racks carried thereby are swung downwardly to their lowermost position.

4. A rack comprising a vertically elongated support having a front face provided with a vertically disposed opening, a plurality of laterally disposed elongated racks, a single supporting arm for each rack which is carried on the outer free end of the arm, a pivot for each arm carried on said support and disposed between said front face and the rear side of said support, the inner end portion of each of said arms extending through said opening for pivotal support on one of said pivots, said arms being vertically aligned and pivoted within said support at relatively vertically spaced points and the lengths of said arms increasing progressively downwardly whereby said racks are disposed in relatively different vertical and horizontal planes in all angular positions of said arms, and link means pivotally connecting said arms whereby said racks and arms move upwardly or

downwardly in unison when the lowermost longest of said arms is manually moved into respectively raised or lowered position.

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