

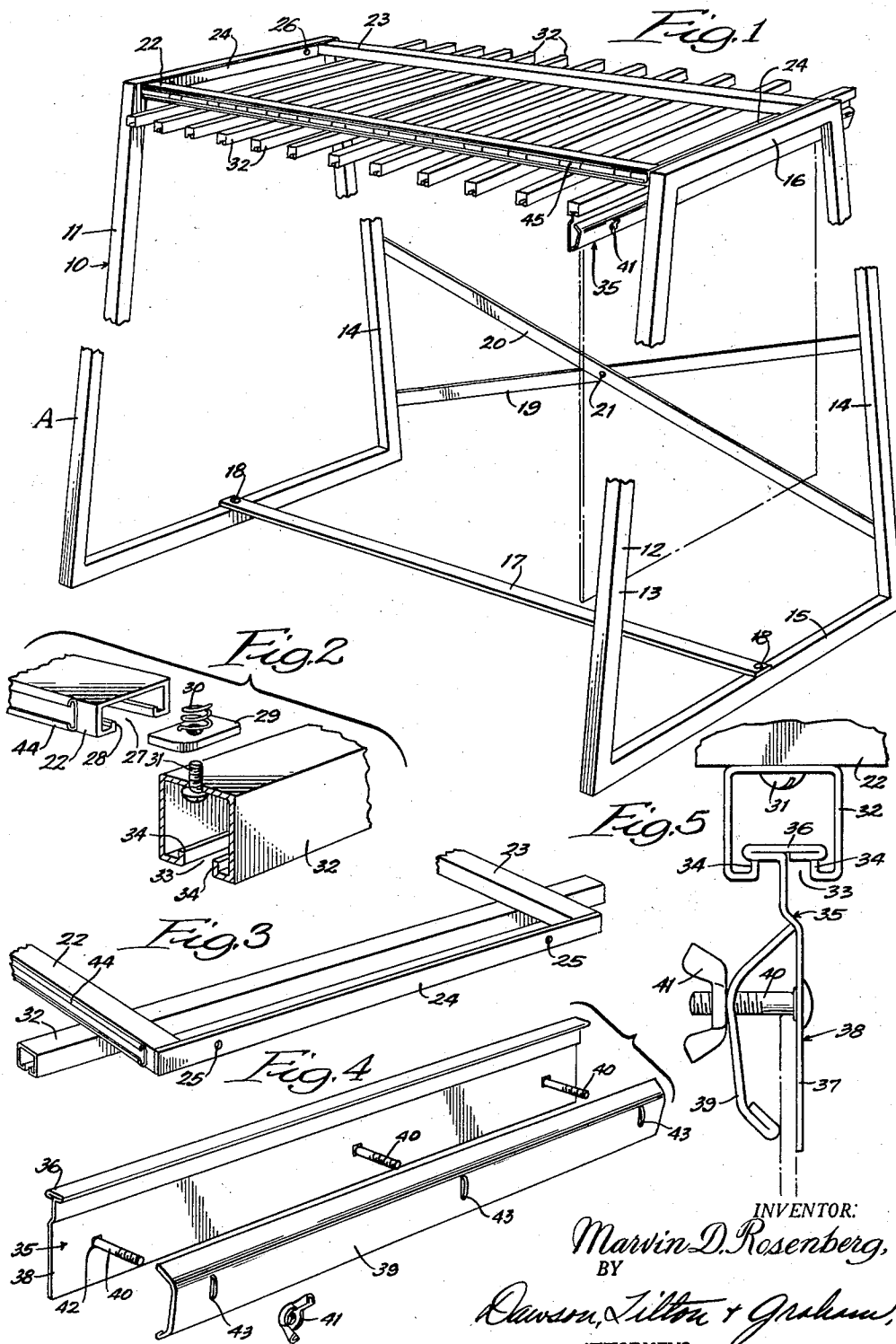
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RACK

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1

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This invention relates to a rack structure, and more particularly to a rack adapted to support articles in a hanging position. The rack structure is useful, for example, in storing blueprints in a flat, planar relation.

An object of this invention is to provide a rack structure adapted to support articles in a hanging position while providing means for making the articles accessible for removal and replacement thereof in the rack. Another object of the invention is in the provision of a rack adapted for the storage of blueprints and like articles, and which is equipped with a movable hanger whereby the hanger and articles secured thereto can be withdrawn from the rack structure. Still another object is in the provision of a blueprint rack in which a frame is equipped with a plurality of spaced-apart channel members each slidably carrying a hanger thereon, the hanger being movable longitudinally relative to the channel members and being equipped with clamps for securing relatively large sheets to the hanger. A further object is to provide a rack structure especially suitable for storing blueprints, and in which the length of the rack can be readily increased so that it can be made to accommodate large numbers of articles. Additional objects and advantages will appear as the specification proceeds.

An embodiment of the invention is illustrated in the accompanying drawing, in which—

Figure 1 is a broken perspective view of a rack structure embodying the invention; Figure 2 is a broken exploded view in perspective of portions of the structure; Figure 3 is a broken perspective view of a channel member and support structure therefor; Figure 4 is a perspective view of the hanger and clamp with the jaws of the clamp in spaced-apart relation; and Figure 5 is an end view in elevation of a hanger and channel support therefor.

The rack structure illustrated in its entirety in Figure 1 is designated generally with the letter A and comprises a frame 10 having end frame members 11 and 12, each of which is provided with upwardly and inwardly extending standards 13 and 14 secured together at their lower ends with a bottom transverse support 15 and at their tops with a transversely extending support beam 16. The end frames 11 and 12 are spaced apart, and extending therebetween and secured to the bottom support members 15 is a reinforcing strap 17 which, if desired, may be releasably secured to the members 15 by cap screws 18. Also extending between the end frames and secured to the uprights or standards 14 by means of cap screws are the diagonal tie members 19 and 20, which are preferably secured together at their points of intersection by a rivet 21 or by other suitable means.

A pair of spaced-apart, longitudinally extending beams or support members 22 and 23 and rigidly secured at their ends, as is shown best in Figure 3, to the end pieces 24, each of which is provided with spaced-apart threaded apertures 25 therethrough. The end pieces 24 are anchored to the upper beams 16 by means of cap screws

2

26 which extend through openings in the members 16 and are threadedly received within the threaded openings 25.

The longitudinally extending support members 22, as is best shown in Figure 2, is equipped with an elongated channel or recess extending from one end to the other end. The recess or groove is designated with the numeral 27. Extending upwardly and into the recess 27 are a pair of spaced-apart rails 28 which are to support thereon the nuts 29 which are biased downwardly and onto the rails by the helical spring 30. Any type of nut may be employed, but preferably the nut 29 is equipped along its lower surface with a plurality of notches that are adapted to provide considerable frictional resistance to the free movement thereof along the rails 28. The nuts 29 are adapted to threadedly receive cap screws 31 therein which are employed in securing the channel members 32 to the members 22. It will be apparent that each of the members 32 is secured to each of the support members 22. Because of the character of the support members 22 and the spring biased nut 29 which rests therein upon the rails 28, the channel members 32 can be shifted longitudinally along the support members 22 so that the spacing between the channel members can be selectively adjusted.

As is clear from Figure 1, the channel members extend transversely of the rack A and any number of channel members may be carried by the support members 22. The specific number will depend upon the length of the members 22 and upon the quantity of blueprints or other articles which are to be accommodated by the rack. Each of the channel members 32 is provided with a longitudinally extending channel 33 therethrough and, as is seen most clearly in Figure 2, the side walls of the channel members are turned inwardly and upwardly to form the spaced-apart rails or tracks 34. Supported upon the tracks 34 for longitudinal movement within the channels 33 are hanger members 35 which at their upper ends are folded over and upon themselves to form the heads 36. The heads 36 are slightly wider than the spacing between the rails 34 and the hanger members, and then can be freely hung from these rails.

The lower end of each of the hanger-members is offset slightly to provide one jaw 37 of a clamp member 38. The other jaw 39 can be closed upon the jaw 37 by the stud 40 and wing nut 41 which is threadedly received thereon. Preferably, the stud 40 is provided adjacent the head thereof with a square or a rectangular shank portion that is received within a complementary opening 42 in the jaw 37. This arrangement prevents rotation of the stud when the wing nut 41 is tightened thereon. Preferably, the jaw 39 is equipped with spaced-apart elongated openings 43 therethrough that receive the studs and permit some shifting of the jaw relative to the hanger so that articles, whether relatively thin as a single blueprint, or articles that are quite thick as, for example, a number of blueprints stacked one upon another, can be accommodated equally well by the clamp member.

In use of the structure, the hanger members 35 are slidably received within the channel members 32 and are free to move longitudinally therein. When it is desired to remove or replace blueprints or other similar articles in the rack, the hanger 35 which carries the article is withdrawn completely from the channel member 32 and can be placed upon a table or other relatively flat surface. The wing nuts 41 can then be released and the desired blueprint withdrawn from between the jaws 37 and 39 of the clamp. The clamp is then tightened and the hanger member inserted in the channel 33, and is moved longitudinally therein until the articles carried by the hanger are interposed between the end frames 11 and 12. Preferably the channels 33 at their rear ends are crimped to

3

prevent the hangers from sliding outwardly through those ends.

It is frequently convenient to index or catalogue the particular articles carried by each hanger and supported by the channel members 32. This is accomplished by equipping at least one (generally only one) of the longitudinally extending support members 22 with a C-shaped guide 44 adapted to slidably receive therein the indicia or index cards 45. It is apparent that the cards 45 may be moved axially along the C-shaped member 44 so that each card may be positioned in alignment with one of the channel members 32.

To initially position or to reposition the channel members 32 at desired points along the support members 22, it is only necessary to loosen slightly the cap screws 31 and thereafter move the channel member bodily to the selected position. Thereafter, the cap screws can be tightened to rigidly anchor the channel members in the positions selected.

The size of the rack A can be increased readily to any desired length. Increasing the length can be accomplished by simply securing an end piece 24 to the end piece which is provided at one end of a complete rack. The attached end piece 24 will have secured thereto the support members 22 and 23 which will carry the members 32 and a frame member 10 will be provided at the end of the added section which is opposite to that of the end piece 24 which is secured to the end piece of the rack A. Thus, whenever sections are added, only one additional end frame member 10 will be required. The attachment of the two contiguous end pieces 24 is accomplished by extending bolts through the apertures 25 which will be aligned, or if desired, the apertures 25 in one of the end pieces will be threaded and the apertures through the other end piece can be slightly enlarged and free of threads so that bolts can be extended therethrough readily. An additional support strap 17 and additional tie members 19 and 20 may be employed between the end frame 10 and an additional end frame, and such members may be secured at the same points of connection and by the same cap screws to the frame 10.

While in the foregoing specification an embodiment of the invention has been set out in considerable detail for purposes of illustration, it will be apparent to those skilled in the art that numerous changes may be made without departing from the spirit and principles of the invention.

I claim:

1. In a rack structure adapted for use in the storage of blueprints and the like, a frame provided with a pair of uniformly spaced support members each having a track extending longitudinally therein, a plurality of

4

parallel channel members traversing said support members, said channel members being equipped with hangers movable longitudinally with reference thereto and being adapted to have articles clamped thereto, each of said channel members having a pair of fasteners mounted thereon and fixed against longitudinal movement with reference thereto, said fasteners being supported by and movable along the tracks of said support members to provide selective adjustment of the spacing between said parallel channel members, and locking means for locking said fasteners in tight frictional engagement with said tracks, said locking means being releasable for adjustment of the spacing between said parallel channel members.

2. The rack structure of claim 1 in which said means comprises a pair of threaded bolts each secured at one end to one of said channel members and being secured at the opposite end thereof to one of said fasteners, and spring means extending between each of said fasteners and said support members for urging said fasteners into tight frictional contact with said tracks, said fasteners being released from frictional engagement with said tracks for adjustment of said channel members by movement of the channel members in the direction of said tracks against the force of said spring means.

3. In a rack structure of the character described, a frame provided with a pair of uniformly spaced support members each having a track extending longitudinally therein, a plurality of parallel and transversely extending channel members, each of said channel members having fixed thereon a pair of fasteners supported by and movable along said tracks to provide selective adjustment of the spacing between the parallel channel members, each of the channel members being equipped with a pair of spaced rails defining a track extending longitudinally there-through, a hanger for each of said channel members comprising an integral strap depending therefrom, said strap having its upper end portion folded upon itself to provide a head having at each side thereof a flange extending laterally and riding on one of said rails to accommodate longitudinal movement of the hanger with respect to its channel member, and means cooperative with said strap for clamping articles thereto.

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