Nov. 21, 1950 S. M. SCHERSTUHL 2,530,632

FOLDABLE RACK

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FIG. 1.

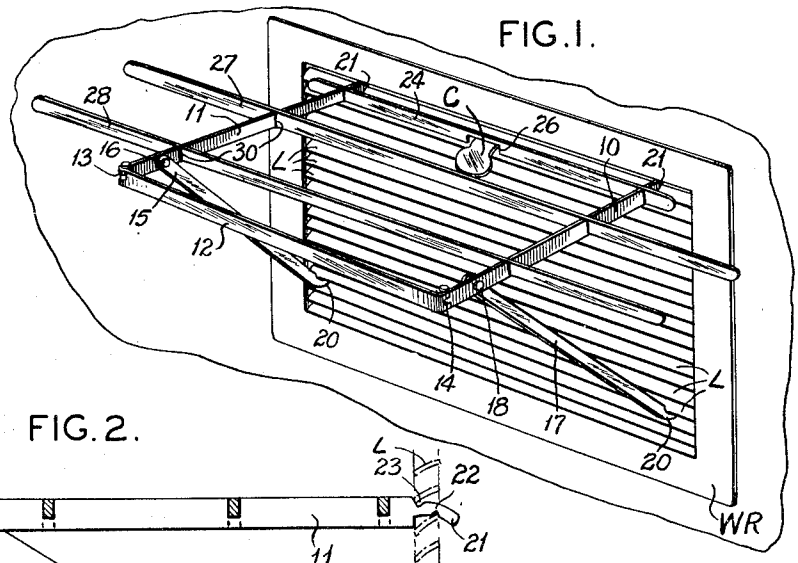


FIG. 2.

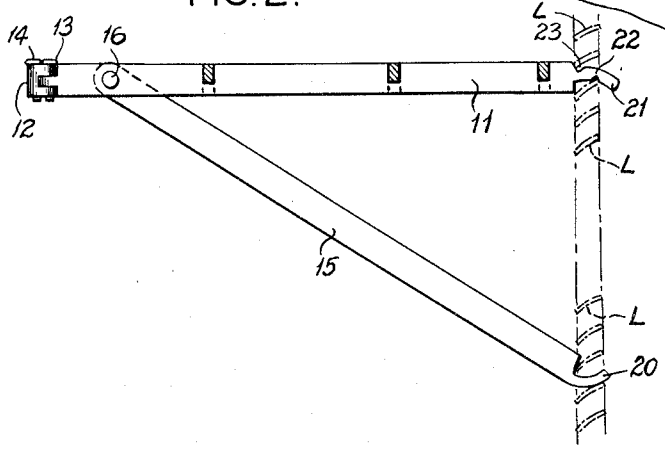


FIG. 3.

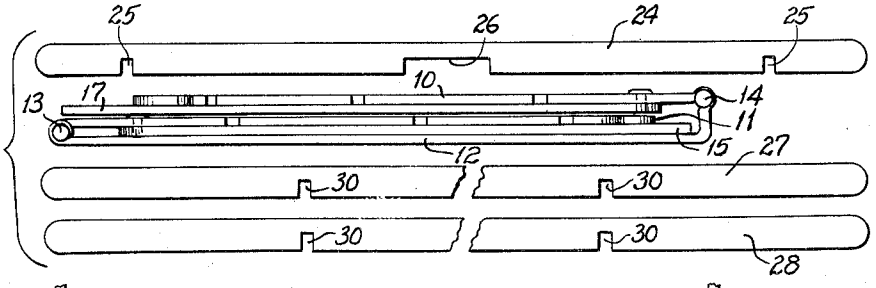


FIG. 4.

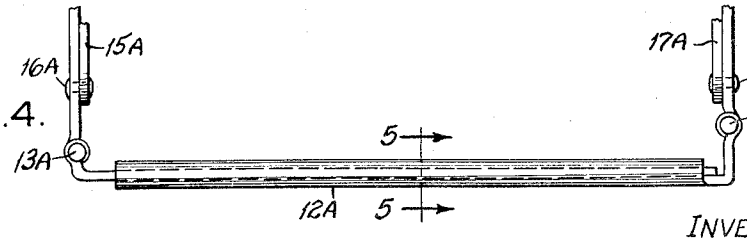


FIG. 5.



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FOLDABLE RACK

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3 Claims. (Cl. 211—104)

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This invention relates to improvements in foldable racks, and more particularly to an improved light weight rack structure of readily portable nature, the elements of which are so constructed and arranged as to enable folding of the major elements of the rack while in assembled relation, and providing for their assembly, when folded, into a unit of minimum dimensions.

It is appreciated that many rack structures for drying and various other purposes have heretofore been devised. However so far as is known to this applicant, all such structures are objectionably bulky, being of such weight and dimensions even when collapsed or knocked down, so as to preclude their inclusion in personal baggage in traveling. Also, many such devices require an inordinate time for erection and folding. It is accordingly a major object of the present invention to realize a light weight, extremely compact device for the general purpose noted, and which may be erected or disassembled in a few seconds, all without involving any special tools or skill.

Yet another object of the invention is attained in a foldable rack structure of such nature that the frame thereof may be readily supported from a wall register or other grille-like structure, preferably one normally presented in a vertical plane, and the rack being of wide adaptation as to nature of the support with which it may be utilized.

Yet another object is attained in a low cost, light weight rack, as for the drying of smaller garments, the structure requiring no screw, hooks, nor any separable fastening elements whatsoever, and which may be folded into a compact linear package which need be of no greater width than that of a flat strip stock of which the rack is preferably formed.

A still further and important objective of the invention is realized in a rack structure of the general type noted, and which is formed of a material which precludes any staining or rusting effects, with consequent damage to the articles of clothing supported thereon.

The foregoing and numerous other objects will more clearly appear from the following detailed description of a presently preferred embodiment of the invention, particularly when considered in connection with the accompanying drawing, in which:

Fig. 1 is a perspective elevational view of the assembled rack as erected for use, and as mounted on a wall register of prevalent type;

Fig. 2 is a side elevation of the rack of Fig. 1, in which certain elements are shown in section;

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Fig. 3 is a view of the several elements of the rack as disassembled, with some such elements in folded relation, to illustrate the compact package character of the device;

Fig. 4 is a top or plan view of the forward marginal extremity of the rack as erected, and showing a somewhat modified form, and

Fig. 5 is a transverse sectional view as taken along line 5—5 of Fig. 4.

Referring now by characters of reference to the drawing, and first to Fig. 1, there is indicated at WR, a prevalent type of register such as employed in duct outlets and provided with fixed or movable grille-forming elements or louvres L arranged in spaced superposed relation across the width of the register. A closure control C is conventionally provided in registers of this type, and is included merely for completeness, but with a later explanation of a relation of at least one of the rack elements thereto.

The major parts of the frame structure of the rack include a normally horizontal side member 10 at the right hand side, and a similar although slightly different such member 11 at the left side of the assembly. These side members are bridged in the regions of their forwardmost extremities by a front member 12. Connection is made between members 11 and 12 as by a hinge of vertical pin type indicated at 13. It should be noted as a preference that hinge 13 is located substantially at the forwardmost left hand corner of the frame 10, 11, 12, and that a similar, and virtually identical hinge 14 is located somewhat rearwardly of the right hand front frame corner member between members 10 and 12. This difference in hinge location will best appear from Fig. 3 and will be later referred to.

It is a preference for compactness, rigidity and light weight of the assembly to employ a flat strip metal stock, the proportions of which are about as shown in the drawing, it being understood however that many of the novel principles of construction of the rack may be embodied by utilizing stock of other than the section shown and referred to. Exact materials to be employed are, of course, partly a matter of choice, it being a present preference to utilize a metal of light weight non-corroding character, such as aluminum alloy strip. Other non-rusting materials of sufficient rigidity may obviously be employed, and these may consist of non-metallic stock, for example, certain of the laminate plastics.

Pivotally secured to the side members 10 and 11 are strut members respectively indicated at 15 and 17, the former being pivotally connected as

through a rivet 16 to the side member 11, and similarly the strut 17 is pivotally connected as at 18 through a suitable rivet, pin or the like, to the side member 10. Each of the strut members 15 and 17 is provided with a reentrant, normally upwardly curved arcuate terminal 20, these terminals being formed in such manner that the forward edge of one of the louvres L engages the notch or slot formed between the hook-like end 20, and the adjacent full-width body of the strut, the end of which is thus seated against one of the fixed louvres of the register or other selected support.

Each of the side members 10 and 11 is provided with a hook-like terminal 21 of a generally arcuate form in side elevation, and provided with a notch 22 intermediate its undersurface, and a notch 23 in its upper surface adjacent the full-width portion of the side member. As will best appear from Fig. 2, these notches engage opposite extremities of a pair of adjacent spaced louvre elements, thus providing a sturdy support for the inner or free ends of the side members.

To provide an augmented length of drying support, there are shown in the present example three bridging members or cross strips, these including a rearmost such member 24, the nature of which best appears in Fig. 3. This is provided with a pair of downwardly opening notches 25 and a widened center notch 26, the latter providing clearance for the register closure piece C above described. The notches 25 as will now readily appear, serve to receive therein the flat stock of the side members 10 and 11, these latter if desired, being also notched so as to provide for a flush interfitting relation between the bridge members and the side pieces. It will be noted that the member 24 serves as a rear structural counterpart of the forward member 12 so as to provide a fully rectangular frame forwardly of the hook members 21. Additional bridge members 27 and 28 are provided and are of somewhat greater length than the member 24 so as to provide extensions endwise of each of these members and laterally beyond the frame, for further augmented drying area as will readily appear from Fig. 1. Notches 30 are formed in each of members 27 and 28 for a purpose identical with the notches 25 above described. It is a distinct preference to space the notches 30 in at least one of the bridge members, say 27, just slightly greater than the normal inside spacing of side members 10 and 11. Due to this provision, when the parts are assembled as shown at Fig. 1, tightness of parts and rigidity of the frame are assured since the bridge pieces 24, 27 and 28 are thus kept under a very slight endwise compression.

The facilities of the present assembly for ready folding in a minimum of time and without tools, and similarly providing for a quick and easy reassembly, will best appear from the composite view of Fig. 3. Disassembly of the erected rack of Fig. 1 is accomplished by very slightly lifting the forward margin of the rack to enable withdrawal of the free ends 20 of struts 15 and 17. When this is done, the horizontal frame of the rack is tilted downwardly in front, and the hook terminals 21 withdrawn from their position between the supporting louvres L. The bridge elements 24, 27 and 28 are removed by lifting them vertically. The strut 15 is turned about the axis identified with pivot 16 to bring the elements 15 and 11 into register and in close parallel relation, the same action being given strut 17 to bring

it into overlying relation to side member 10. With the side members and struts thus related, the assembly 15—11 is folded about the hinge 13 to bring it into overlying register with the front element 12, followed by similar actuation of the now registering parts 17—10. It will now appear, particularly from Fig. 3, that the slightly more rearward location of hinge 14 enables the superposed members to lie in close adjacence and in compact assembly, exhibiting a width not appreciably exceeding that of the flat stock of which the frame is formed. The bridge pieces 24, 27 and 28 may for packaging either for shipment or portability, be brought into overlying relation to the assembly just described and may be disposed in a suitable fabric sheath or envelope (not shown), which being thus packaged, conduces to ease in carrying.

A somewhat modified form is shown by Fig. 4, in which there is provided a two-part front member generally indicated at 12A and consisting of companion elements variably telescoped, the outermost of which is indicated (Fig. 5) as 12A1, slidable within which is an elongate member 12A2. Similar telescoping bridge pieces (not shown) may be of a section identical with that of Fig. 5, thus providing for a width adjustment of the device made greater or diminished in width according to the different dimensions of grille structure WR from which it is to be supported. In the modification, hinge structures 13A are shown at the left, and 14A at the right of Fig. 4. The strut members 15A and 17A are or may be identical with the elements 15 and 17 heretofore described.

It will have appeared that the rack described, presents unusual facilities for folding into a compact unit or package; that it may be of light weight construction, is readily erected and as readily collapsed, all in full realization of the several objects hereinabove expressed as well as others implied from the description.

Although the improvements have been described by considerable detail of reference to a selected example and a modification thereof, numerous variants may be made in details of structure and arrangement of parts without departure from the full intended scope of the claims hereunto appended.

I claim as my invention:

1. A foldable rack adapted for the drying of garments and the like, and consisting of a plurality of elements, these including a pair of side members and a front member, said members being horizontal in their positions of use, a strut pivotally connected to each of the side members, a plurality of cross bars having means for interfitting engagement with the side members, a supporting terminal on each of the side members and each of the struts adapted to engage a register, and a hinged connection between each of the said side members and the front member, providing a normally vertical hinge axis, the hinge axes being respectively located in a more closely forward position on one side of the rack than on the other side thereof, whereby to permit one of the side members to be folded into overlying but spaced parallel relation to the front member, with the other side member therebetween.

2. A foldable rack adapted for the drying of garments and the like, and consisting of a plurality of substantially flat elements, these including a pair of side members and a front member, said members being horizontal in their po-

sitions of use, a strut pivotally connected to each of the side members, between its ends, a plurality of slotted cross bars interfitted with the side members, a supporting hook-like terminal on each of the said side members and on each of the struts, hinge means connecting the side members and the front member, and providing a normally vertical hinge axis between each side member and the front member, the hinge axes being respectively located in a more closely forward position on one side of the rack than on the other side thereof, whereby to permit one of the side members to be folded into overlying but spaced parallel relation to the front member, with the other side member therebetween.

3. The combination and arrangement of elements as described by claim 2, but further characterized in that one or more of said members is of two-part telescoping construction whereby,

through adjustment of the telescoping members, at least one dimension of said rack may be varied.

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