B. B. BOSWORTH.

SUSPENDED CLOTHES RACK.

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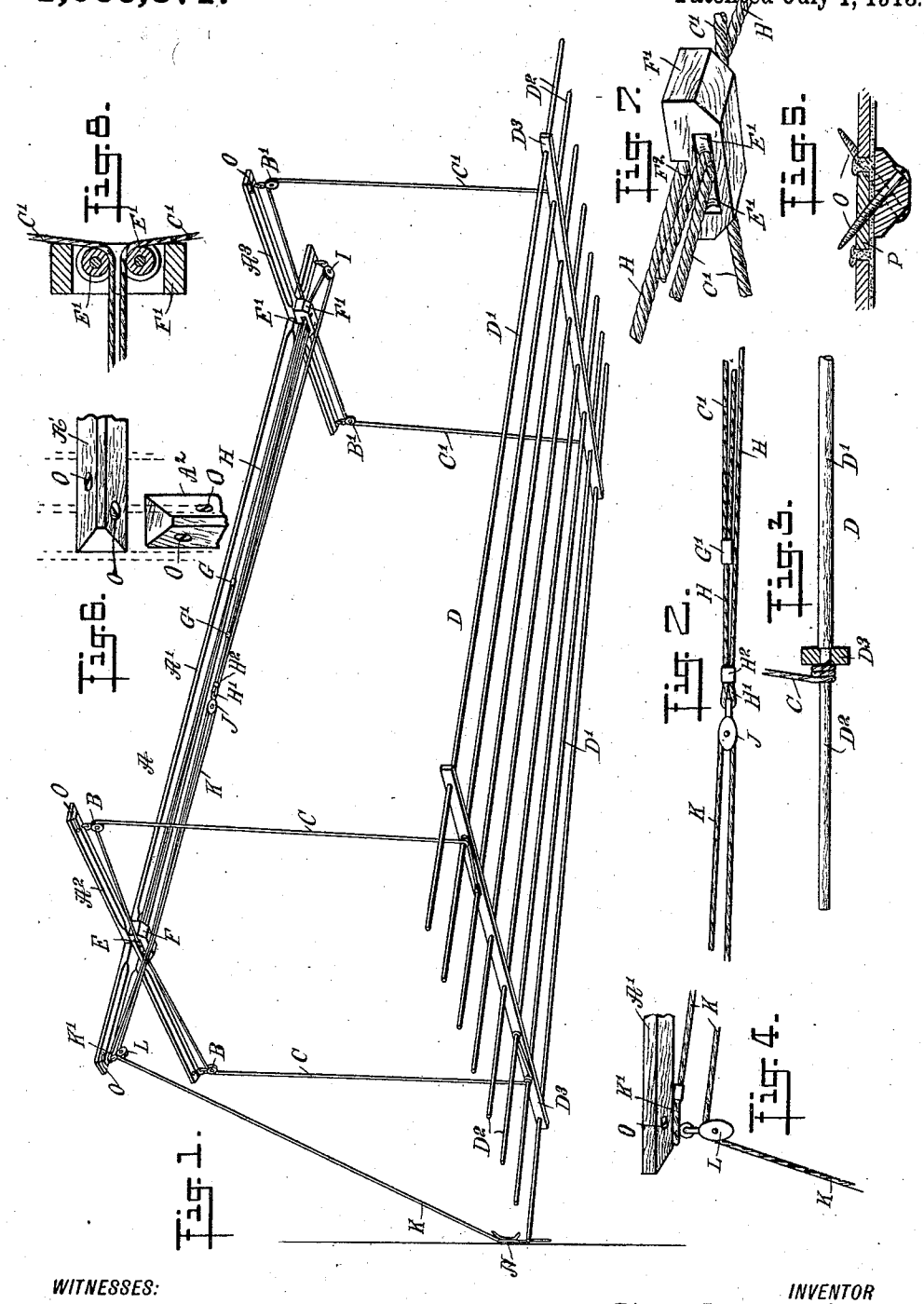
1,066,371.

Patented July 1, 1913.



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SUSPENDED CLOTHES-RACK.

1,066,371. Specification of Letters Patent. Patented July 1, 1913.

Application filed December 20, 1909. Serial No. 534,062.

To all whom it may concern:

Be it known that I, BIRNEY BOARDMAN BOSWORTH, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Suspended Clothes-Rack, of which the following is a full, clear, and exact description.

The invention relates to suspended clothes racks such as shown and described in the Letters Patent of the United States, No. 941,909, granted to me November 30, 1909.

The object of the present invention is to provide a new and improved suspended clothes rack capable of reliable direct attachment to a lath and plaster ceiling without reference to the invisible beams or joists to which the said ceiling is affixed, capable of retaining the parts of this collapsible rack in proper conjunction with each other by automatic constraint of the suspended harness and without other fastenings, and capable of being easily adjusted and retained at any desired height and in a horizontal position. For the purpose mentioned, use is made of an attaching frame capable of being secured to a lath and plaster ceiling, a clothes rack and manually-controlled suspension means carried by the said attaching frame and connected with the said clothes rack, for raising and lowering the latter.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the suspended clothes rack as applied and with the clothes supporting frame or rack in position; Fig. 2 is an enlarged plan view of the connection between the equalizing rope or cord and the hoisting and lowering rope; Fig. 3 is an enlarged sectional side elevation of the clothes supporting frame or rack; Fig. 4 is an enlarged side elevation of the front end of the longitudinal bar forming part of the attaching frame, also showing the hoisting and lowering rope and its connection with the said end; Fig. 5 is an enlarged cross section of one end of one of the bars of the attaching frame showing its relation to the plaster covered lath of the ceiling and the arrangement of the screw holes in pairs, such that if one screw misses the lath the other is bound to find lodgment and support in it. Fig. 6 is a plan view of what is shown in cross section in Fig. 5, two positions of the ceiling bar end, relative to the lath, being shown in this figure, in order to make clear that in either position the screw hole arrangement is effective. Fig. 7 is a perspective view of one of the pulley boxes, guide pulleys and ropes passing over the same; and Fig. 8 is a sectional plan view of the same.

The attaching frame of the suspended clothes rack consists of a longitudinal bar A′ and cross bars or cleats A^2, A^3 connected with the longitudinal bar A′ at points inward from the ends of the longitudinal bar A′, as plainly indicated in Fig. 1. The bars A′ and A^2, A^3 are joined by halving the same at the junction, so as to bring the upper surfaces of the bars A′, A^2, A^3 into the same horizontal plane, to allow convenient attachment of the frame to the ceiling or other support by the use of screws, nails and like fastening devices. On the ends of the cross bars A^2, A^3 are hung pulleys B, B and B′, B′, over which pass the pairs of ropes or cords C, C, C′, C′, attached at their lower ends to the clothes supporting frame or rack D for carrying the clothes. The ropes C, C, C′, C′ extend from the pulleys B, B, B′, B′ inwardly, to pass over horizontally-disposed pulleys E, E′ mounted in pulley boxes F, F′, screwed or otherwise secured to the attaching frame A at the junction of the longitudinal bar A′ and the cross bars A^2, A^3, as plainly indicated in Fig. 1. The ropes C, C, after leaving the pulleys E extend in a longitudinal direction and toward the cross bar A^3, and the ropes C are united by a clip G and also connected by the said clip with one end of an equalizing rope or cord H, extending rearwardly and through a guideway F^2 formed in the top of the pulley box F′, to then pass over a pulley I hung on the rear end of the longitudinal bar A′. The equalizing rope H then extends forward under the pulley box F′, to connect by a clip G′ with the ends of the other pair of ropes or cords C′, C′ previously mentioned, and which ropes C′, C′ extend from the pulleys E′ in a forward direction. The equalizing rope H is formed a short distance from the clip G′ into an eye or loop H′ by the use of a clip H^2 or a similar means, and on this eye H′ is hung a tackle block and pulley J, over the pulley of which

passes the hoisting and lowering rope K, having one end K′ attached to the forward end of the longitudinal bar A′. The hoisting and lowering rope K after leaving the pulley and the tackle block J passes over a pulley L held on the front end of the horizontal bar A′, the hoisting and lowering rope then extending downward, to be attached to a cleat N or other fastening means secured to the wall of the room in which the device is located, so that the operator can conveniently take hold of the hoisting and lowering rope K for raising and lowering the rack D, as hereinafter more fully explained.

The rack D is formed of spaced longitudinal rods D′ having reduced ends D^2 and cross bars D^3 fitted onto the said reduced ends D^2, to abut on the shoulders formed at the junction of the reduced ends D^2 with the rods D′, as plainly indicated in Fig. 3. Each of the ropes C, C, C′, C′ is passed around one of the reduced ends D^2 adjacent to the corresponding cross bar D^3, and the rope then extends to one of the next adjacent rods D′, to be attached thereto, preferably by a loop, which may be slipped on and off the rod at will. It will be seen that such an arrangement effects two desirable ends, viz., the ropes C, C and C′, C′ constrain the cross bars D^3 in position against the aforesaid shoulders on the rods D′, thus holding the parts of the rack D together without other fastening, and the ropes C, C and C′, C′ may be of sufficient length to permit of any reasonable adjustment of the rack D to suit the varying heights of different rooms and different operators, or to correct variations of the rack D from the horizontal, such, for example, as is occasioned by the stretching of the equalizing rope H, all superfluous rope being readily taken up by winding, as shown in Figs. 1 and 3, or by moving the loops to remoter rods, or by both.

The operator standing at the front end or head of the apparatus and having hold of the hoisting and lowering rope K, can readily raise the clothes supporting frame or rack D by pulling on the hoisting and lowering rope K, to draw the frame or rack D up close to the ceiling. When it is desired to lower the clothes supporting frame or rack D, the operator gradually releases the hoisting and lowering rope K, so that the clothes supporting frame or rack D moves downward by its own weight and by that of the clothes hung on the rack.

It is understood that when a pull is exerted on the hoisting and lowering rope K, the latter, by the tackle block and pulley J, pulls upon the equalizing rope H, causing said equalizing rope H in its turn to exert pulls, at its ends, on the two pairs of ropes C, C and C′, C′ such that they will move in opposite directions to raise the rack D. If, however, the tackle block and pulley J is attached loosely to the equalizing rope H, at or near the clip G′, and the load on the rack D is so placed as to make the strain on the ropes C′, C′ greater than the strain on the ropes C, C, then a pull on the hoisting and lowering rope K will cause that end of the rack D which is supported by the ropes C, C to rise, the other end of the rack D meanwhile remaining depressed: at the same time the tackle block and pulley J will slide upon the equalizing rope H away from the clip G′ in the direction of the clip G, and thus the rack D will be thrown out of the horizontal. To correct this tendency and maintain the rack D in a horizontal plane, as regards its lateral axis, it is only necessary to fix the tackle block and pulley J irremovably at or near the clip G′ in such a manner that the said tackle block and pulley J, in operation, shall move at a fixed distance in advance of each of the clips G′ and G. This has been done by forming an eye or loop H′ in the equalized rope H, said eye embracing the tackle block and pulley J, as shown in Fig. 2.

It will be observed that by providing an attaching frame such as has been described several important results are achieved, namely, (1) The pulley L is given solid support and is also fixed in its proper relation to the rest of the mechanism. (2) The cross bars A^2, A^3 are secured in a position parallel to each other, which is essential to a horizontal position of the depending rack D. (3) The said cross bars A^2, A^3 are also fixed at a standard distance apart corresponding to the distance apart at which the cross bars D^3 of the depending rack are fixed, thus bringing said cross bars A^2, A^3 slightly inward from a position vertically over the said cross bars D^3 as is essential to the proper working of the apparatus, and, finally, (4) the several loosely coördinated parts being thus combined into the fixed relation of a complete working mechanism, said mechanism, by means of its attaching frame, may be installed directly on a ceiling, as such, without reference or restriction to the location or course of the beams or joists to which said ceiling is affixed.

In order to secure the attaching frame A to the ceiling, use is preferably made of screws O (see Fig. 5), which pass through the bevel sides of the bars A′, A^2, A^3 in an oblique direction into the ceiling and through the laths P. In order that the screw O may screw into a lath, use is made of screw holes, arranged in pairs, at each end of the bars A′, A^2 and A^3, the two holes of each pair being so disposed with reference to each other that if, on the ceiling surface of said bars, a line be drawn through the center of each hole parallel to the sides of

the bar, then these lines will be separated by approximately half the width of a lath, and if a line be drawn through the center of each of the said two holes parallel to the ends of the bar, then these latter lines will also be separated by approximately half the width of a lath. It will also thus be seen that in case a screw O in one of the holes misses a lath then the screw in the other hole is sure to screw into the lath, and hence a reliable and very firm attachment of the frame A to the ceiling is had, without hunting for hidden ceiling beams, especially as the screws pass obliquely into the lath and thus are not easily pulled out, as the weight on the frame A is in a downward direction.

The apparatus shown and described is very simple and durable in construction, can be cheaply manufactured and easily and securely fastened in place on the ceiling of a kitchen or other room.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:—

1. A suspended clothes rack, comprising a rack formed of oppositely-disposed bars having openings and rods passing through said openings with stops or shoulders on said rods to abut against said bars, pendent ropes so attached to said rack and so operated in connection with said rack as to constrain said bars against the stops or shoulders of said rods, guide pulleys about which said ropes pass respectively, said ropes above said pulleys being joined in pairs, and means for attaching said pulleys to the ceiling and for drawing said pairs of ropes simultaneously through said pulleys in such a manner as both to raise said rack and to retain its parts in their proper conjunction.

2. A suspended clothes rack, comprising a rack having oppositely-disposed bars with openings and a plurality of rods passing through said openings to stops or shoulders on said rods, a plurality of pendent ropes, loops on the ends of said ropes for passing over the ends of said rods to support said rack, guide pulleys about which said ropes pass respectively, said ropes above said pulleys being joined in pairs, an attaching frame having a longitudinal bar and cross bars attached to the longitudinal bar at right angles thereto and near the ends thereof and projecting an equal distance on each of the opposite sides of said longitudinal bar, for supporting said pulleys and said pendent ropes and for attaching same to a ceiling, said cross bars with their respective pulleys and pendent ropes being so spaced on said longitudinal bar that said pendent ropes shall draw against the said bars of said rack to hold said bars in position against the stops or shoulders of said rods, and means for drawing said pairs of ropes simultaneously through said pulleys to raise said rack.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

BIRNEY BOARDMAN BOSWORTH.

Witnesses:
THEO. G. HOSTER,
PHILIP D. ROLLHAUS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."