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STRUCTURE CLOTHESHORSE

Field of the Invention

This invention is a division of Patent Application No: SG 200100074-4, filed 29/01/2001, title: Clothes-Drying Structure Rack And Method Thereof (original title: Clothes-Drying Pole, Structure Rack, Device and Method Thereof).

The present invention relates more particularly to a structure clotheshorse attached to an external wall surface of a building. Ideally it should be permanently installed directly below copping of the parapet wall or below a window sash, which extends horizontally and outwardly in a distance for suspending wet clothes being carried out by an occupant for outdoor drying.

The clotheshorse further enhance safety measure to accommodated inadvertent fall of at least one human being normal action-reaction force when standing inside a building separated by the parapet wall during execution of outdoor clothes drying.

Description of Related Art

Clothes-drying devices are in general known. For example, various types of these devices are described in JP 04368527 A, JP 10286397 A and US 4846356

In general, clothes drying depend solely on each individual occupant practices, the physical height of the carrier, and the weight of wet wash it has to maneuver, the height or weight of the apparatus to allow suspension for drying.

Summary of Invention

It is an object of the present invention to provide a structure clotheshorse with convenience and functionality for the occupants, further enhances safety standards and do not consume valuable living space. Ideally it should achieve capacious convenience to suspend wet clothes or sheet-like clothes with a relatively wide surface such as curtains, bed sheets and etc.

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The clotheshorse should further restrains, obstruct, fall arresting any inadvertent fall for suspending or retrieving laundries when standing inside a building separated by the parapet wall during execution of outdoor clothes drying.

It should be attractive in appearance, desirable to current manufacturing process and able to be manufacturability from various materials. Ideally it should provide an attachment plane that permits various sizes, shapes and be made of a mixture configuration of materials: metals, reinforced concrete, woods and plastics together with its individual anti-corrosion protection coatings and its final finishing coatings.

Further, the clotheshorse members may be provided with an aesthetic structure design so that all members are integral or separate mixture configurations of shapes and sizes: round, square, bar, open section, semi-open section, tubes and flat shapes which are connected or associated with its adjacent elements in different manner.

The clotheshorse, generally in U-shaped is secured to the wall by embedding one end portion of a plurality of supporting arm directly below copping of the external wall or below bottom portion of external window sash and opposite end portions attach to a rail, whereby the rail extends horizontally and at least substantially parallel in a distance from the wall to suspend wet wash for outdoor drying being carried out by an occupant in a building.

Depending on the shape configurations of the arms different approach of permanently securing of the arm should be adapted. These clotheshorses are to be design intergraded, economically feasible, long lasting, and structurally strong with relatively trouble free in operation with various types of permanent anchoring methods for different structure as encountered in the building industries.

The rails according to the present invention provides during the executing process a support for fall arresting the occupant during suspension of wet clothes, spaced conveniences apart within allowable space of the wall, positioning conveniently to minimize the angles of the occupant's torso in bending to retrieve or suspend wet clothes, thus also reduce user fatigue for outdoor clothes drying

According to the invention, the inner rails may be provided with a multiple of V-shaped rings that are conveniently used to increase clothes drying capacities by suspending clothes-drying hangers for long and oversize laundries.

The clotheshorse according to the invention may be installed externally below the copping of the parapet wall, across the parapet wall, from above the wall ceiling, from adjacent walls and even internal wall facing outwardly for speedily and easily drying of wet clothes.

Briefly, the clotheshorse that are constructed in accordance with the principles of the present invention are essential for the effective use and admit the advantages that are not available with the prior devices. These together with other objects and advantages, which will become subsequently apparent, are treated in the detailed description, reference to the drawings throughout forming the important part of this invention.

In order to understand the object of the present invention, the detailed description of the invention set forth below is to be read in conjunction with the following drawings.

Brief Description of the Drawings

Fig. 1:	an isometric view of a final designated completed assembly and partial section detail of a parapet wall;
Fig. 2:	a plan view of fig. 1;
Fig. 3:	a cross sectional view of fig. 1;
Fig. 4:	an elevation detail of the V-shaped ring; and
Fig. 4a:	an enlarged cross-sectional detail of fig. 4.

Detailed Description of Preferred Embodiment

As illustrated in figs. 1 to 3, a generally U-shaped structure clotheshorse of the invention is shown which comprises two main parts: a rail **31**, a plurality of supporting arm **32** in a form of L-shaped and further including a plurality of inner rails **33**. These final assembled members; generally designated **30** are made of stainless steel. The broadest end portion of the arm **32** for embedment is vertically orientated and protruding externally.

The embedded portion of the arm **32** is further inserted with top and bottom horizontal orientated mild-steel bars **37**, welded joint **54** together and lapped into an adjacent concrete wall for structural strength if required. External wall fascia and the arm **32** are caulk by perimeter-sealant **43** to absorb any thermal movements.

The arms **32** projecting horizontally outward and inclining upward are welded to the bottom portion of the rail **31** which extends horizontally and parallel to the concrete wall in a distance. The top ends of arms **32** are further chamfered inward perpendicularly to the lower half of the rail **31** and joint-welded **52** together.

Inner rails **33** are situated at clothes drying hanger hooked distances from the wall and to the rail **31** in parallelism to the wall and perpendicularly welded to the arms **32**. The rail **31** and inner rails **33** are sealed on its both ends, therein inner rails **33** is inserted into the arm-openings **32a** and joint-welded **52** together to further stiffen the overall structure.

As illustrated in fig. 2, the relationship of the final assembled members **30** is perpendicular and substantially parallelism with the wall. The distance from the inner surface wall to the rail **31** is provided like an over-stretched arm standing from inside the building for carried out outdoor clothes drying and to diminish any inadvertent fall.

Regarding the above-mentioned welding joints it should be noted that these joints can be made by longitudinal-fillet welding **51**, square welding **52** or spot-welding **54**. All types of welding joints are grinded and finally polished.

As illustrated in figs. 4 and 4a, the lower end part of the inner rails **33** has parallel grooves **44** cut for the positioning fitting for a multiple closed ends V-shaped rings **35**, which are joint-welded **51** together. The rings **35** are made of stainless steel cylindrical rods, forcedly bent to a V-shape and slots fitted into the grooves **44** that are conveniently spaced. The lowest convoluted portions of ring **35** are narrower to allow tighter containment for cloth hanger's hook and top upper portion wide space as provided for convenience the hooking process.

It will thus be seen that the objects set forth above, among those made apparent from the preceding description, are efficiently attained and, since certain changes may be made in the above construction without departing from the scope of the invention, it is intended that all matter contained in the above description or shown on the accompanying drawings figures shall be interpreted as illustrative only and not in a limiting sense.

It is also to be understood that the following claims are intended to cover all of the generic and specific features of the invention herein described and all statements of the scope of the invention, which as a matter of language, might be said to fall there between.

CLAIMS

1. A structure clotheshorse for using on an external wall surface of a building being attached beneath a copping of a parapet wall or a window wall so as to project outwardly to accommodated washed clothes for outdoor drying being carried out by an occupant, said clotheshorse comprising:

(a) a plurality of supporting arm which is intended to provide attachment for a rail at one end portion and to accommodate attachment to the external wall at opposite end portion, and

(b) said rail which is intended to provide suspending of wet clothes, wherein said rail extends at least substantially parallel and horizontally orientated to the wall in a distance.

2. The clotheshorse as according to claim 1, wherein said clotheshorse comprising:

(a) said arms is of rigid materials, of sufficient size to support said rail at one end portion and accommodate attachment to the wall at opposite end portion, and

(b) said rail is of rigid materials and of sufficient size.

3. The clotheshorse according to claim 2, wherein said clotheshorse comprising:

(a) said arms is made of metal, of an elongated plate shape, has a further increasing in its spatial complexity, of sufficient size and includes means for joining comprises ends, wherein each end comprises joins means attachment to the wall and said rail, and

(b) said rail is made of metal, of an elongated cylindrical shape, has a further increasing in its spatial complexity, of sufficient size, includes means for joining said arms at respective portion and able to accommodate at least one human being normal action-reaction force when standing inside a building separate by the wall.

4. The clotheshorse according to claim 3, further including a plurality of inner rail for suspending clothes or likes, comprising:

(a) said inner rail is made of metal, of an elongated cylindrical shape, has a further increasing in its spatial complexity, of sufficient size, includes means for joining said arm at respective portion and to accommodate at least one human being normal action-reaction force when standing inside a building separate by the wall, and

(b) means for attaching said inner rail to said arms at least substantially perpendicular and horizontally orientated to said rail.

5. The clotheshorse according to claim 4, wherein said clotheshorse comprising:

(a) said arm (32), wherein said metal is steel plate, of L- shaped, vertically and

perpendicularly orientated to the wall, one of its end portion of said arms (32) being broadest so as to enable to attach below copping of the parapet wall, beyond mounting end portion of said arms (32) which project outwardly, inclining upward to top ends of said arms (32) and chamfered inward perpendicularly to lower half portion of said rail (31) for attachment, the bottom mounting end portion of said arms (32) is acclivity upwards, agonic turn and chamfered inward towards lower half portion of said rail (31), wherein said arms (32) including a plurality of extends through arm-openings (32a) position below edge of horizontal outward vertical surface of said arms (32) for insertion of said inner rails (33), within said inner rails (33) being parallel and horizontally orientated to said rail (31) and perpendicularly to said arms (32), further said inner rails (33) being place in-between the wall and said rail (31), and

(b) said rails (31,33), wherein said metal is steel, of cylindrical uniform cross-section pipe, having both ends sealed, horizontally and being substantially parallel orientated to said rail (31), said inner rails (33) inserted perpendicularly into vertical surface of said arms (32) with a short protrusion and form to said arms (32), further said arm-openings (32a) is for insertion of said inner rails (33), thereof said inner rails (33) is being situated conveniently for suspending clothes or hangers from inside the building.

6. The clotheshorse according to claim 5, further including a multiple of V–shaped rings (35) incorporated into said inner rails (33) for suspending clothes hangers being carried out by an occupant in a building for outdoor clothes drying comprising:

(a) said rings (35) is of agonic bent core-elements of rigid material of sufficient size to accommodate hooking of clothes hanger and conveniently spaced apart, and

(b) means for attaching one portion of the core-element to said inner rails (33) outer surface.

7. The clotheshorse according to claim 6, wherein said V-shaped rings (35) is made of metal, of cylindrical uniform shape, has a further increasing in its spatial complexity and of sufficient size, wherein said rings (35) is form to a V-shaped, both closed ends portion bent so as to enable to attach to said inner rails (33), attach mean slot fitted into a grooves (44) and form together with lower half portion of said inner rails (33).