

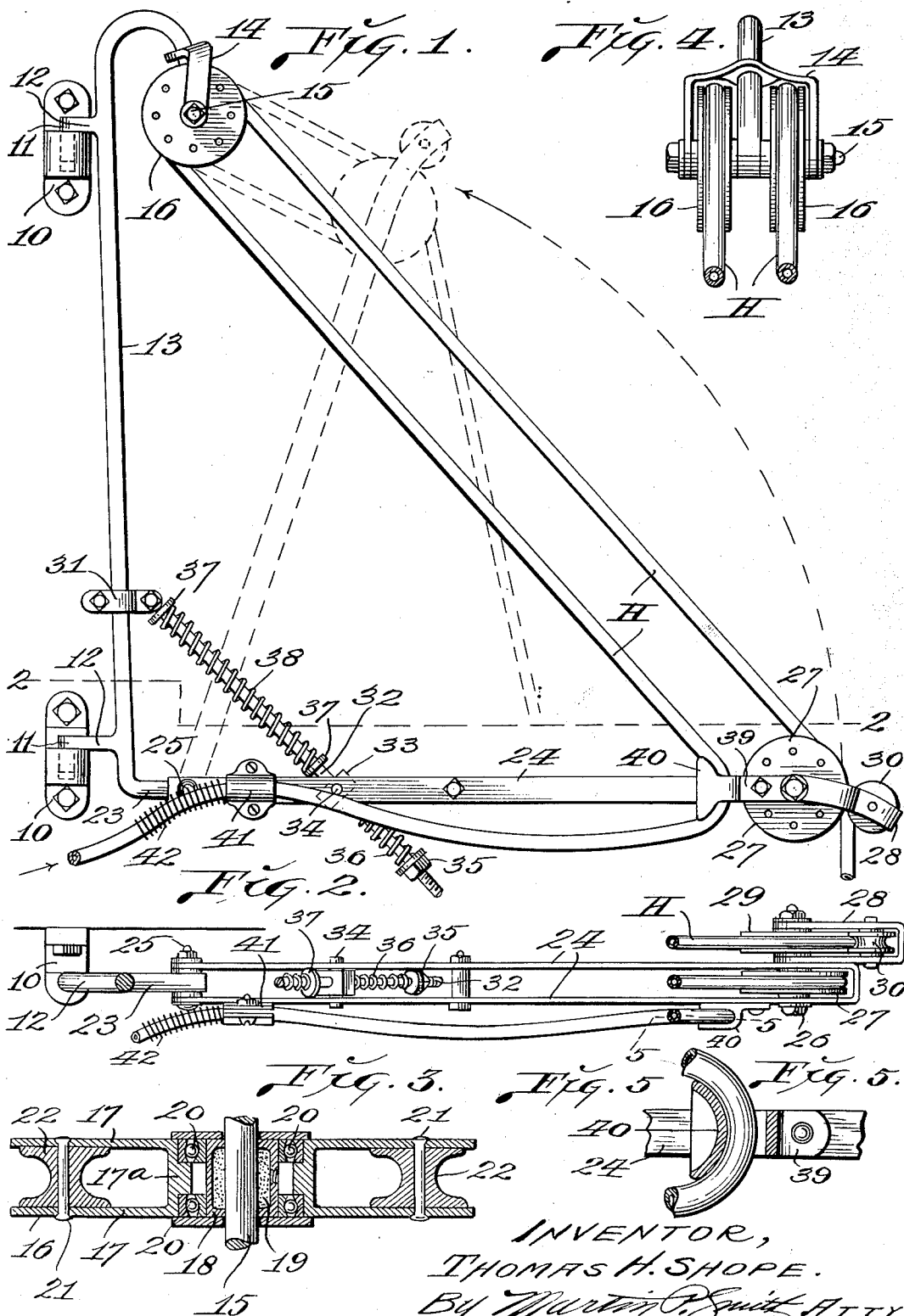
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AIR SERVICE HOSE RACK

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AIR SERVICE HOSE RACK

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9 Claims. (Cl. 299—77)

My invention relates to an air service hose rack and has for its principal object, the provision of a relatively simple, practical and inexpensive rack that may be conveniently employed in automobile service stations, garages and the like for supporting and manipulating the compressed air supply hose that is utilized for inflating pneumatic tires.

Further objects of my invention are, to generally improve upon and simplify the construction of the existing forms of air service hose racks and reels, to provide a hose supporting rack or reel that is mounted so that it may be conveniently swung through a horizontal arc of approximately 180° in order to enable the valve that is carried by the free end of the hose to be conveniently manipulated during the tire inflation operations, and further, to construct the rack or reel so that the supported hose may be readily withdrawn to enable the tire filling valve to be applied to the filling nipples or stems of tires and which rack or reel will act automatically after the tire filling operations, to rewind the withdrawn portion of the hose upon the swinging rack or reel.

With the foregoing and other objects in view, my invention consists in certain novel features of construction and arrangement of parts that will hereinafter be more fully described and claimed and illustrated in the accompanying drawing in which:

Fig. 1 is a side elevational view of an air service hose rack constructed in accordance with my invention.

Fig. 2 is a horizontal section taken approximately on the line 2—2 of Fig. 1.

Fig. 3 is a horizontal section taken through one of the hose supporting pulleys utilized in my improved rack.

Fig. 4 is an elevational view of the hose supporting pulleys that are positioned at the upper end of the rack.

Fig. 5 is an enlarged vertical section taken approximately on the line 5—5 of Fig. 2.

Referring by numerals to the accompanying drawing which illustrates a practical embodiment of my invention, 10, 10 designate brackets that are secured in any suitable manner, one directly above the other, to a suitable support, for instance, the face of a building wall or a post and journaled for rotation in said brackets are the vertically disposed pintles 11, of short horizontally disposed arms 12 and the latter being formed integral with or fixed to an upright bar or rod 13. The bearings in the brackets 10 are slightly longer

than the pintles 11, in order to provide chambers below said pintles and which chambers are filled with grease, thereby lubricating the pintles during their rotary movement.

Thus where the brackets 10 are secured to the face of a building wall or the like the rack or reel may be swung laterally or from one side to another throughout an arc of approximately 180° so that said rack while not in use, may occupy an out-of-the-way position directly adjacent to the face of the building wall.

The upper end of rod or bar 13 is bent outwardly and downwardly and secured thereto is a substantially inverted U-shaped bracket 14.

Passing through the lower portions of the vertical legs of the bracket 14 and through the lower end of the downwardly bent upper end portion of rod 13, is a pin or bolt 15 that serves as an axis for a pair of hose supporting pulleys 16 that are disposed between the end of the bar 13 and the vertical legs of bracket 14.

Each pulley illustrated in detail in Fig. 3 comprises a hub portion 17^a, having discs 17 formed integral with its end portions and extending through the hub is a bushing 18 provided with a grease receiving chamber 19 and interposed between this bushing and the hub are antifriction bearings 20.

Chamber 19 is packed with grease in order to effectively lubricate the anti-friction bearings of the pulley during its rotation on the axle 15.

During operation grease will gradually seep from chamber 19 outwardly through the ends of bushing 18 around pin or bolt 15 and this grease will seep or flow radially outward so as to lubricate the bearings 20.

Arranged between the outer portions of the discs 17 and mounted to rotate freely upon pins 21 having their ends seated in said discs, are small grooved pulleys 22 that provide a rolling support for the air hose.

By mounting the hose supporting pulleys 22 so as to freely rotate between the discs 17 and mounting the hubs 16 so as to freely rotate on the axles 15, the friction between the supported hose and the pulleys is reduced to a minimum and said hose will ride onto and from the pulleys with very little, if any, resistance.

The lower end of bar or rod 13 below the lower arm 12, is bent at right angles to form a short horizontally disposed arm 23 and the inner ends of a pair of spaced parallel bars 24 are hinged or pivotally connected to the end of said arm 23 by a horizontally disposed pin or bolt 25.

A horizontally disposed pin or bolt 26 passes

through the outer ends of the spaced bars 24 and mounted thereupon between said bars is a hose supporting pulley 27, the construction of which is practically identical with the construction of the hose supporting pulley heretofore described and illustrated in Fig. 3.

Secured to the side of the outer ends of the spaced bars 24, is a short horizontally disposed U-shaped frame 28, through which the pin or bolt 26 passes and mounted on said pin or bolt within said frame, is a hose supporting pulley 29.

Journalled on a transverse pin in the front portion of frame 28, is a relatively small pulley 30. This small pulley is positioned immediately in front of pulley 39, and the end portion of the hose H that carries the valve that is applied to the tire valve stems passes downwardly between the pulleys 29 and 30.

Adjustably mounted on the lower portion of rod 13, in a clamping bracket 31 and pivotally connected to the forward end thereof, is the upper end of an inclined rod 32. This rod is arranged to slide freely through a swivel block 33 that is positioned between the bars 24 and which has trunnions 34 that pass through suitably formed openings in said bars.

Screw-seated on the lower portion of rod 32, is a nut and washer 35 and arranged on said rod and interposed between said nut and washer and the swivel block 33, is an expansive cushioning spring 36.

Arranged on the upper portion of rod 32, between loosely mounted washers 37, is an expansive spring 38 which yieldingly resists the upward swinging movement of the bars 24.

Bracket 31 may be clamped to the bar or rod 13 at different elevations in order to adjust and control the tension of spring 38.

Secured to the forward portion of one of the bars 24 on the opposite side from frame 28 and slightly to the rear of the axis 26, is a bracket 39, having a vertically disposed half round portion 40 that serves as a support for the hose H and secured to the same one of the bars 24 adjacent to the bolt or axis 25, is a hose clamping bracket 41.

Secured to this bracket 41 is one end of a section of coiled wire 42 that surrounds the hose adjacent to the bracket 41 and prevents abrupt bending of said hose.

The hose that is supported by my improved rack or reel, leads from a suitable source of compressed air supply, either a tank or pump bracket 41, which clamps said hose to the side of the swinging frame and from said bracket the hose extends forwardly alongside the bars 24, thence upwardly around the support 40 and from thence upwardly to and over the lefthand one of the pulleys 16. From this pulley the hose extends downwardly to and beneath pulley 27, thence upwardly to and over the right hand one of the pulleys 16, thence downwardly to pulley 29 and from thence said hose extends downwardly between the pulleys 28 and 29 and the free end of said hose is provided with an air outlet valve that is adapted to be applied to the filling nipples of pneumatic tires.

For practical purposes I prefer to mount the swinging rack or reel in an elevated position so that it may swing from one side to the other in a plane above the tops of motor vehicles and the length of the depending portion of the hose is such that the end carrying the air control valve

may be readily reached by a person standing on the ground or pavement.

In the use of the rack or reel the operator manually engages the depending end portion of the hose and pulleys downwardly thereupon with the result that those portions of the hose between the pulleys 16, 27 and 29 will be shortened and which action will swing the free ends of the bars 24 upwardly and inwardly toward the pulleys 16 and during which swinging movement the bars will fulcrum on the axis 25.

Dotted lines in Fig. 1 show the bars 24 and the pulleys 27 and 29 swung upward to their approximate upward limit of movement.

That portion of the hose that is drawn from the rack or reel may be manipulated so as to permit the application of the air control valve on the end of the hose, to the filling nipples and in moving the end of the hose from one tire to another the rack or reel may be readily swung from one side to another upon the axis formed by the pintles 11.

During the upward swinging movement of the arms 24, spring 38 will be compressed so as to store power therein and which power is subsequently exerted to assist in causing the arms 24 to return to their normal horizontal position and which movement occurs when pulling strains on the withdrawn portion of the hose are relieved.

Spring 36 functions to cushion swivel block 33 and the bars 24 when the same return to their normal position after having been elevated or swung upwardly as just described.

After the tire inflating operations have been accomplished the operator relieves the pulling strains upon the withdrawn portion of the hose and under the influence of gravity and the power stored in spring 38, the bars 24 and the pulleys carried by the forward ends thereof will return to their normal positions, thereby rapidly taking up or rewinding upon the pulleys, that portion of the hose that was previously withdrawn for the purpose of applying the air valve on the end of the hose to the tire filling stems.

While not in use the rack may be swung to one side or the other against the wall or other support to one side of the axis of swinging movement and when so positioned the entire structure occupies an out-of-the-way position.

By mounting the rack or reel so that it will readily swing through an arc of approximately 180°, said rack may be swung into position so that the hose carrying pulleys are in direct alignment with the pulling strains imparted to that portion of the hose that is withdrawn from the rack or reel and such action greatly facilitates tire inflating operations.

Thus it will be seen that I have provided an air service hose rack that is relatively simple in construction, inexpensive of manufacture, capable of being easily and conveniently manipulated and very effective in performing the functions for which it is intended.

It will be understood that minor changes in the size, form and construction of the various parts of my air service hose rack may be made and substituted for those herein shown and described without departing from the spirit of my invention, the scope of which is set forth in the appended claims.

I claim as my invention:

1. In an air service hose rack, an upright member mounted to swing on a vertical axis, a horizontally disposed frame mounted to swing on a horizontal axis on the lower portion of said up-

right member, means for yieldingly resisting the vertical swinging movement of the horizontal frame in both directions, a plurality of pulleys journaled on the upper portion of said upright member, a plurality of pulleys journaled on the free end of said horizontally disposed frame and a hose supported by said pulleys.

2. In an air service hose rack, an upright member mounted to swing on a vertical axis, a horizontally disposed frame mounted to swing on a horizontal axis on the lower portion of said upright member, a plurality of pulleys journaled on the upper portion of said upright member, a plurality of pulleys journaled on the free end of said horizontally disposed frame, a hose supported by said pulleys and springs for yieldingly resisting the swinging movement of said horizontally disposed frame in both directions.

7. In an air service hose rack, an upright member mounted to swing on a vertical axis, said member being inclined with respect to its axis, a horizontally disposed frame mounted to swing on a horizontal axis on the lower portion of said member, hose supporting pulleys journaled on the upper portion of said upright member, hose supporting pulleys journaled on the free end of said horizontally disposed member, a hose supported by said pulleys, springs for yieldingly resisting the swinging movement of said horizontally disposed frame in both directions and hose clamping members arranged on the side of said horizontally disposed frame.

8. In an air service hose rack, a substantially L-shaped frame, the upright member of which is mounted to swing on a vertical axis, the horizontal member of which frame is connected to the lower portion of the vertical member by a hinge joint having a horizontal axis, means arranged between the upright and horizontal members of said frame for yieldingly resisting the vertical swinging movement of the horizontal member of said frame in both directions and for limiting the downward swinging movement of said horizontal member, and hose supporting pulleys mounted on the upper portion of the upright member and on the outer portion of the horizontal member of said L-shaped frame.

9. In an air service hose rack, a substantially L-shaped frame, the upright member of which is mounted to swing on a vertical axis, the horizontal member of which frame is connected to the lower portion of the vertical member by a hinge joint having a horizontal axis, hose supporting pulleys carried by said L-shaped frame and mounted on the upper portion of the upright leg of said frame and on the outer end of the horizontal arm of said frame and springs supported from the vertical member and arranged above and below the horizontally disposed member for yieldingly resisting the vertical swinging movement of said horizontally disposed member.

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3. In an air service hose rack, an upright member mounted to swing on a vertical axis, a horizontally disposed frame mounted to swing on a horizontal axis on the lower portion of said upright member, a plurality of pulleys journaled on the upper portion of said upright member, a plurality of pulleys journaled on the free end of said horizontally disposed frame, a hose supported by said pulleys, a spring for yieldingly resisting the upward swinging movement of said horizontally disposed frame and a spring for cushioning the downward swinging movement of said frame.

4. In an air service hose rack, an upright member mounted to swing on a vertical axis, a horizontally disposed frame mounted to swing on a horizontal axis on the lower portion of said member, hose supporting pulleys journaled on the upper portion of said upright member, hose supporting pulleys journaled on the free end of said horizontally disposed member, a hose supported by said pulleys, hose supporting brackets on the side of said horizontally disposed frame and means for limiting the downward swinging movement of said frame.

6. In an air service hose rack, an upright member mounted to swing on a vertical axis, said

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