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PAINT BUCKET HOLDER FOR EXTENSION LADDERS

Filed Nov. 9, 1964

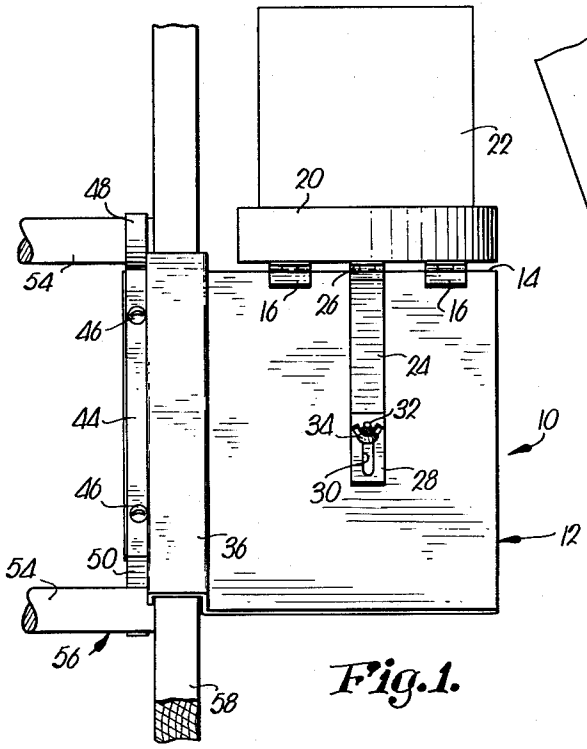


Fig.1.

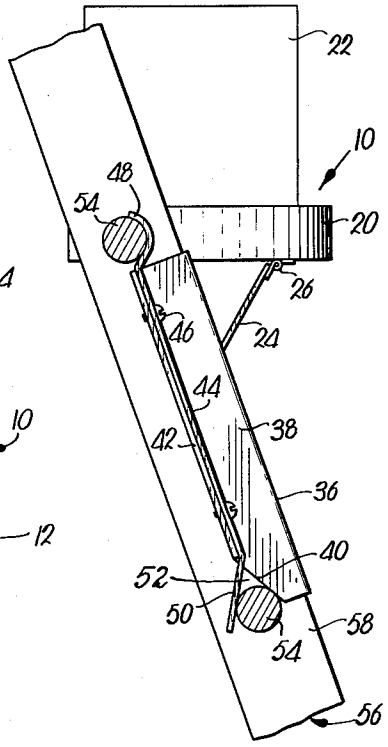


Fig.2.

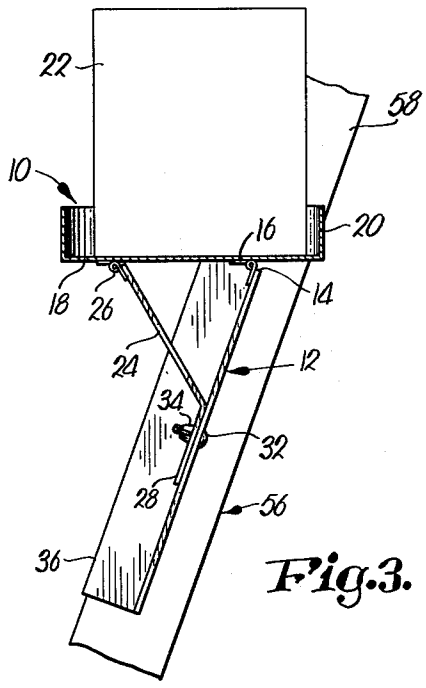


Fig.3.

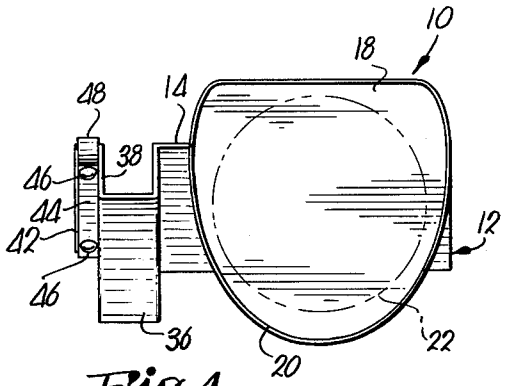


Fig.4.

INVENTOR.
Lawrence H. Olson

BY

Hovey, Schmidt, Johnson & Hovey
ATTORNEYS.

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PAINT BUCKET HOLDER FOR EXTENSION LADDERS

Lawrence H. Olson, Silver Lake, Kans.

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This invention relates to bucket retaining and supporting structure, and more particularly, to a holder for a paint bucket for use with a generally upright, inclined extension ladder.

It is the primary object of the present invention to provide a paint bucket holder for use with an extension ladder wherein the holder is rugged in construction, economical to produce, can be positioned on a ladder at a location convenient to the user without interfering with the stance of the user on the ladder, and which is capable of being readily moved into any one of a number of operative positions along the ladder, all to the end that the bucket holder provides an improved structure for eliminating the cumbersome means which have heretofore been used to accomplish this purpose.

Another object of this invention is the provision of a bucket holder of the type described which utilizes the weight of a bucket thereon to hold the same in place on a ladder, whereby the construction of the holder is simplified inasmuch as additional fastening devices are not required to maintain the same in place on a ladder.

A further object of the instant invention is the provision of a bucket holder of the aforesaid character having a bucket-supporting platform which can be pivoted through a relatively wide range of angles, whereby the platform can be adjusted as the inclination of a ladder associated therewith is changed so as to prevent the tipping of a bucket on the platform.

In the drawing:

FIGURE 1 is a front elevational view of the bucket holder in an operative position on an extension ladder;

FIG. 2 is a side elevational view of the bucket holder on the ladder;

FIG. 3 is a view similar to FIG. 2 but looking in the opposite direction, parts of the holder being broken away to illustrate details of construction; and

FIG. 4 is a top plan view of the holder removed from the ladder.

The present invention provides a paint bucket holder for an extension ladder and includes a rigid panel secured at the normally uppermost edge thereof by a pair of hinges to the underside of a bucket-supporting platform to permit movement of the ladder about a generally horizontal axis when the panel is in an operative position on the side of an extension ladder. A link pivotally secured at one end thereof to the underside of the platform in spaced relationship to the hinges extends downwardly from the platform and is disposed adjacent to the proximal face of the panel. A screw carried by the panel extends through an elongated slot in the lower end of the link and a nut releasably secures the link to the screw, and thereby the panel to maintain the platform horizontal.

A channel at one side of the panel is normally fitted over a side rail of an extension ladder, and a strap having projections at the ends thereof is secured to and extends along the outer longitudinal edge of the channel. The lower projection on the strap cooperates with a lower, inclined edge of the channel to present a rung-receiving notch. The upper projection merely engages a rung when the adjacent lower rung is received within the notch. The platform is disposed with respect to the notch such that the weight of the bucket on the platform biases the upper projection against the proximal rung and maintains the bucket holder in place. This feature of the bucket holder eliminates the need for additional fastening structure.

Bucket holder **10** includes a generally rigid support member or panel **12** having a normally uppermost edge **14** to which a pair of spaced hinges **16** are secured. The underside of a bucket-supporting platform **18** is also secured to hinges **16** to permit pivotal movement of platform **18** about a generally horizontal axis when panel **12** is in an inclined, operative position described hereinafter.

The configuration of platform **18** is shown in FIG. 4; however, it is to be understood that platform **18** may be of any configuration. However, it is to be preferred that hinges **16** engage the underside of platform **18** within the periphery thereof so that the major portion of platform **18** overlies at least the central area of panel **12** when the latter is in the inclined, operative position thereof shown in FIG. 3. A continuous rim **20** is secured to and extends upwardly from the periphery of platform **18** to prevent the lateral movement of a bucket **22** off platform **18**.

A link **24** is pivotally secured by a hinge **26** to the underside of platform **18** in spaced relationship to hinges **16**. Link **24** extends downwardly and has a section **28** angularly disposed relative to the major portion thereof which extends downwardly from platform **18**. Section **28** is normally in juxtaposition with the proximal face of panel **12** and has a longitudinally extending slot **30** therein which receives a screw **32** carried by and extending outwardly from panel **12**. A wing nut **34** carried on the outer end of screw **32** is engageable with section **28** to clamp the latter against panel **12** to releasably maintain platform **18** in a fixed disposition relative to panel **12**.

An elongated, transversely C-shaped channel **36** is rigid to and extends along one side of panel **12** as shown in FIGS. 1 and 4. For purposes of illustration, channel **36** is shown as being integral with panel **12**, but it is to be understood that these two components could initially be separate and subsequently rigidly interconnected in any suitable manner. Channel **36** is substantially equal to the length of the corresponding side of panel **12** and has an outer, longitudinally extending side wall **38** provided with a lower, outer edge segment **40** which is inclined with respect to the major portion of the outer, longitudinal edge of side wall **38**.

A longitudinally extending flange **42** is integral with the aforesaid major portion of the outer, longitudinal edge of side wall **38** to which a strap **44** is secured by bolt means **46**. Strap **44** extends longitudinally with flange **42** and has a normally upper, arcuate projection **48** extending outwardly from the proximal extremity of channel **36** as shown in FIGS. 1 and 2. Strap **44** also has a lower, straight projection **50** which is disposed at an angle with respect to the longitudinal axis of strap **44** and is adjacent to segment **40**. Projection **50** converges with respect to segment **40** as flange **42** is approached to present, with segment **40**, a notch **52** at the lower extremity of channel **36**. It is to be noted that the distance between projection **48** and notch **52** is substantially equal to the distance between a pair of adjacent rungs **54** on a ladder **56** having a pair of generally parallel, upright side rails **58**, only one of which is shown in FIGS. 1–3 to which the rungs **54** are secured in parallel relationship thereto. Also, channel **36** is of a size and configuration to be disposed over one of the rails **58** and is movable therealong when channel **36** is tilted slightly so that flange **42** does not engage a rung **54** so as to prevent movement of channel **36** with respect to ladder **56**.

In use, ladder **56** is initially placed in its operative, nor-

mally inclined disposition such that rungs **54** are vertically spaced and rails **58** are inclined with respect to the vertical. Holder **10** is mounted on ladder **56** by first carrying holder **10** to the proper height on ladder **56** and lowering holder **10** so that the proximal runk **54** is received within notch **52**, and the lower portion of channel **36** is disposed over the proximal rail **58**.

The rung **54** in notch **52** engages segment **40** and projection **50** to permit forward pivotal movement of channel **36** and thereby panel **12**, until projection **48** engages rungs **54**. For purposes of illustration, projection **48** complementally engages the proximal rung **54**, although it is understood that this construction of projection **48** is unnecessary. As projection **48** moves toward the proximal rung **54** the remaining portion of channel **36** moves onto rail **58** so that, when projection **48** engages the proximal rung **54**, channel **36** is disposed on rail **58** in the manner illustrated in FIGS. 2 and 3.

Thus, platform **18** can be adjusted so that it is horizontal. To accomplish this, wing nut **34** is moved away from section **28** to permit the latter to move with respect to panel **12** until platform **18** has assumed a horizontal disposition. Thereupon, wing nut **34** is moved toward and in frictional engagement with section **28** to clamp the latter to panel **12** thus releasably mantaining platform **18** in a fixed position with respect thereto. Holder **10** is then ready to support bucket **22**.

The angular disposition of platform **18** with respect to panel **12** can be changed by manipulating wing nut **34** and moving section **28** until platform **18** is once again horizontal. This can be accomplished while a bucket **22** is on platform **18** if the change in the inclination of ladder **56** is small and there would be no tipping of the contents of bucket **22** as a result.

When bucket **22** is on platform **18**, the line of action of the weight of the bucket and its contents will, by virtue of the specific placement of platform **18** on panel **12**, extend downwardly at least between the pair of adjacent rungs **54** to which holder **10** is coupled. The weight of bucket **22** and its contents will, therefore, bias holder **10** in a counterclockwise direction when viewing FIG. 2 so that projection **48** will be biased toward the proximal rung **54**. This feature of holder **10** obviates additional structure for fastening holder **10** to ladder **56**. Moreover, holder **10** is constructed so that the weight of a bucket and its contents on platform **18** will always be forwardly of the lower rung **54** for all normal operative positions of ladder **56**.

Holder **10** can be used to support any kind of object which can be placed on platform **18** and is not to be limited to the use of paint buckets alone. Platform **18** could conceivably be used to support tools, cleaning materials, brushes, and other articles which are presently carried on the person or which must be supported by conventional methods on an extension ladder.

Channel **36** mounts panel **12** so that the latter projects to the side of the corresponding rail **58**. In this location, panel **12** supports platform **18** so that a workman on ladder **56** may conveniently use bucket **22** or other articles on platform **18** without having to move his body in order to have access to the materials on platform **18**.

As illustrated, holder **10** is constructed for use by a right-handed workman; however, it is understood that holder **10** could also be constructed so that the same is disposed on the left-hand side of ladder **56**. In this respect, channel **36** would be secured to the opposite side of panel **12** and the outer side wall of channel **36** would have flange **42** and strap **44** thereon. Means could be provided to change channel **36** from one side of the panel to the other, and strap **44** could be constructed to provide securing means for holder **10** regardless of which side channel **36** was on.

The width of channel **36** can be different from that shown to accommodate holder **10** for ladders having rails

of another thickness, such as aluminum ladders now available.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. A bucket holder for use with an extension ladder having a pair of spaced rails and a number of spaced rungs interconnecting the rails, said holder comprising:

a rigid panel having a normally upper edge and a side edge extending from said upper edge;

a bucket-supporting platform;

hinge means interconnecting the upper edge of said panel with the underside of said platform to permit pivotal movement of the latter about a generally horizontal axis when said panel is in an operative position;

structure releasably interconnecting said underside of the platform and said panel at respective locations thereon spaced from said hinge means;

means coupled to and extending along said side edge of the panel and adapted to be carried by one of the rails of said ladder for mounting the panel in an operative position on said one rail; and

means at each end of said mounting means respectively for coupling the same to a proximal rung when the mounting means is carried by said one rail to thereby prevent movement of said panel relative to said ladder.

2. A bucket holder as set forth in claim **1**, wherein said structure includes a link pivotally coupled at one end thereof to said underside of the platform and a fastener releasably securing the opposite end of the link to said panel.

3. A bucket holder as set forth in claim **2**, wherein said link is provided with a slot therein adjacent to said opposite end thereof, said fastener including a screw carried by said panel and extending into said slot, and a nut carried on said screw and engageable with said link.

4. A bucket holder as set forth in claim **1**, wherein said mounting means includes a channel adapted for receiving said one rail and being movable therealong.

5. A bucket holder as set forth in claim **4**, wherein said channel is normally disposed in an inclined disposition when said panel is in said operative position and being provided with a lower side edge segment angularly disposed relative to the longitudinal axis of the channel, the coupling means corresponding to the lower end of the channel including a first projection secured to and extending outwardly from said channel and defining with said lower edge segment thereof a rung-receiving notch, the coupling means corresponding to the upper end of the channel including a second projection normally engaging the proximal rung when the adjacent lower rung is received within said notch.

6. A bucket holder as set forth in claim **5**, wherein said lower end of said channel is adjacent to the lower extremity of said panel, the major portion of said platform being in overlying relationship to said panel, whereby the weight of a bucket supported by said platform will bias the second projection toward its proximal rung to maintain said panel in its operative position.

7. A bucket holder as set forth in claim **1**, wherein said platform is provided with a continuous, peripheral rim extending upwardly therefrom.

8. A bucket holder for use with a normally inclined ladder having a pair of spaced rails and a number of spaced rungs interconnecting the rails, said holder comprising:

a rigid panel having an upper edge, a lower edge, a pair of opposed side edges, and a pair of opposed faces;

a bucket-supporting platform having a continuous rim extending upwardly from the periphery thereof;

hinge means interconnecting the underside of the platform to the upper edge of the panel for pivotal movement relative thereto about a generally horizontal

axis when the panel is in an inclined, operative position;

a link pivotally secured at one end to said underside in spaced relationship to said hinge means and extending downwardly from the platform, the opposite end of the link having a section in juxtaposition to the proximal face of the panel, said section having a longitudinally extending slot therein;

a screw carried by said panel and extending outwardly therefrom and through the slot in said section, whereby said section may be moved relative to said panel through a distance defined by the extremities of said slot to permit pivotal movement of said platform relative to said panel;

a nut threadably mounted on said screw and being engageable with said section to releasably clamp the latter to said panel and thereby releasably maintain said platform in a fixed disposition relative to said panel;

a channel rigidly secured to and extending along one of the sides of said panel and adapted to be disposed on one of the rails of said ladder, said channel having an outer side wall provided with an outer, longitudinal edge, there being an edge segment at the lower extremity of said outer, longitudinal edge, said edge segment being angularly disposed relative to the major portion of said outer, longitudinal edge;

a flange rigid to, projecting laterally from and extending along said outer, longitudinal edge; and

a strap releasably secured to said flange and having an upper, rung-engaging projection and a lower, rung-engaging projection thereon, said lower run-engaging projection being angularly disposed relative to and extending outwardly from the lower end of said flange, said lower projection and said segment being convergent as said lower end of the flange is approached to present a rung-receiving notch.

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FRANK B. SHERRY, *Primary Examiner.*

J. T. McCALL, *Assistant Examiner.*