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Hershey

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[54] HANDY MAN'S TOOL BOX AND LADDER ACCESSORY

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[52] **U.S. Cl.** **248/210,** 211/71, 248/311

[51] **Int. Cl.** **E06c 7/14**

[58] **Field of Search** 248/210, 211, 238, 311; 15/257.06; 182/116, 120, 121, 122; 211/88, 72, 75, 71

[56] **References Cited**

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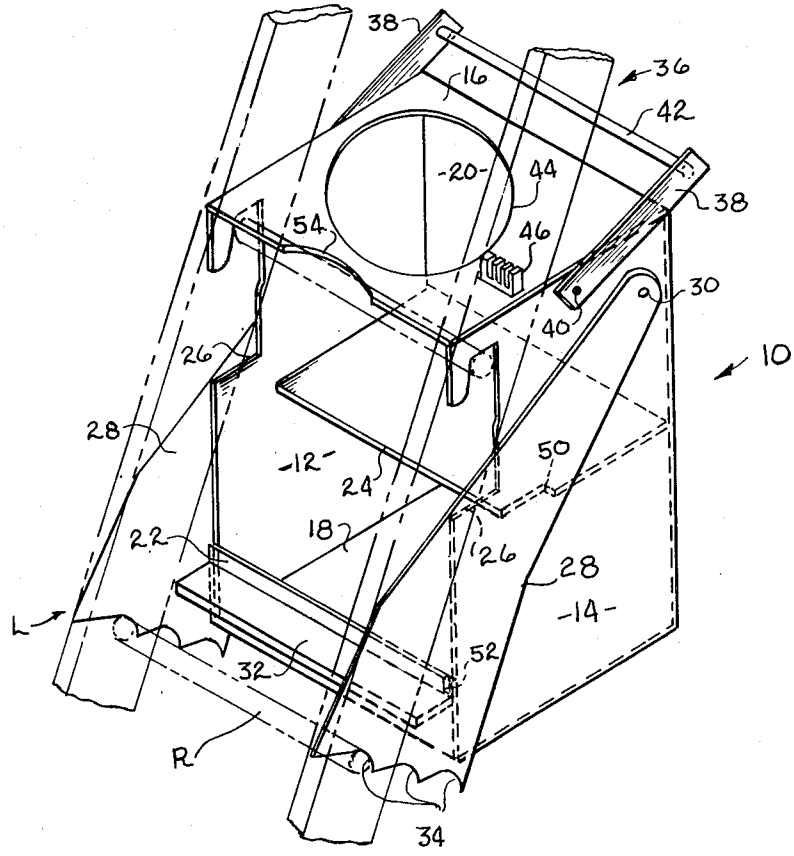
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[57] **ABSTRACT**

A handy man's toolbox and ladder accessory designed for use in conjunction with a rung-type ladder having a pair of arms pivotally mounted on spaced vertical sidewalls of the box structure and a handle structure for carrying the structure and for removably mounting the structure on the ladder.

7 Claims, 3 Drawing Figures



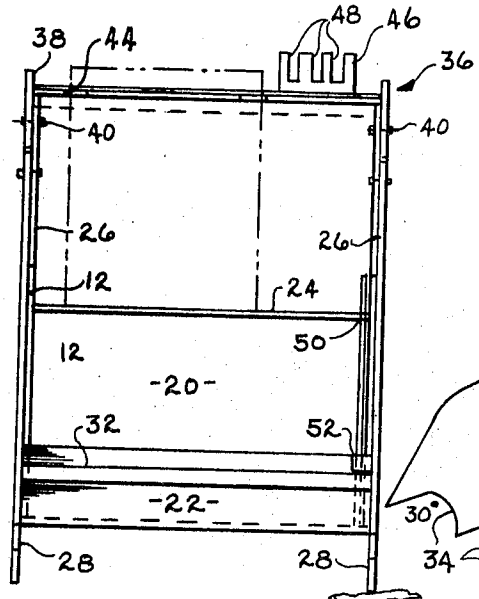


Fig 2

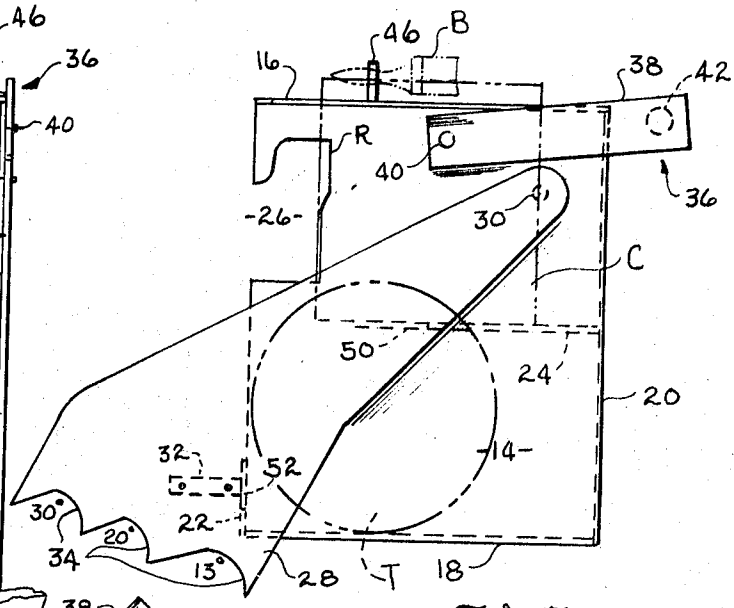


Fig 3

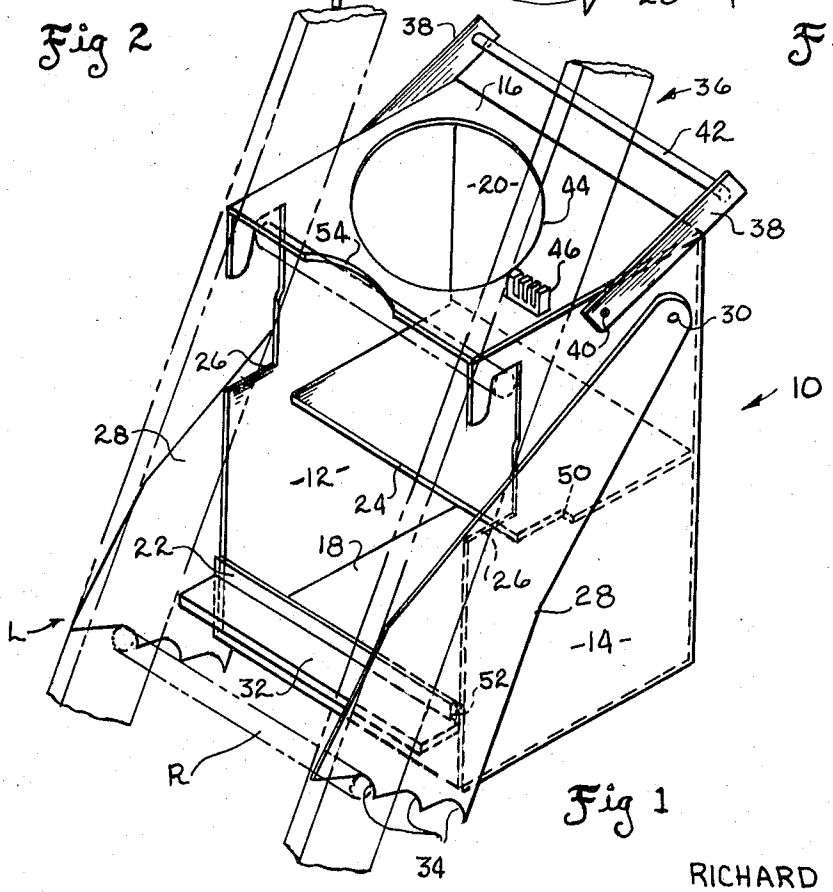


Fig 1

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HANDY MAN'S TOOL BOX AND LADDER ACCESSORY

BACKGROUND OF THE INVENTION

The present invention relates generally to attachments for rung-type ladders and specifically to a portable storage box capable of being attached and detached to the rungs of a ladder while the ladder is positioned in different angular positions. The construction of the boxlike structure is such that the upper surface and the storage surfaces of the structure remain generally parallel to the ground when the structure is attached to the ladder.

As professionals and handy men alike readily understand, it is extremely difficult, and generally unsafe to ascend and descend a ladder while carrying a number of different tools and cans and the like, each of various sizes and shapes, in one's hand or on one's person.

To overcome some of the logistical problems involved, many methods have been employed to help raise the workman and his tools and materials. In some cases a block and tackle or pulley arrangement is rigged up to lift the tools and materials. In other cases several trips may be necessary to accomplish a desired task. Each of these described methods of lifting the tools and materials as well as others not described have their drawbacks. No one simple means has been available until the present invention was developed.

The primary object of the present invention is to improve the efficiency of a house painter, window washer or any other person who has need or occasion to put a ladder against a building and intends to climb the ladder with tools and materials with the intent of making repairs or adjustments.

Another object of the present invention is to provide a simple, easily handled storage box which serves both as a carrying case and a storage platform for tools and materials which can be mounted on a rung-type ladder.

Another object of the invention is to permit a workman to descend the ladder without removing the box, tools or materials, but still permitting the ladder to be moved.

Another object of the present invention is to eliminate the necessity for carrying needed tools and materials on the person, thus allowing more freedom and safety of movement.

A further object of the invention is to provide a handle structure which permits carrying of the box structure and pivots back out of the way once the structure is mounted on the ladder.

A still further object of the invention is to provide for tool holders on the structure for securing tools and materials on the structure.

Another object of the invention is to provide pivotal mounting arms having one end engageable with the ladder rung and adapted to be mounted in a number of different angular positions corresponding generally to the angular position of the ladder.

Other objects and advantages of the present invention will become apparent from the following description, and the appended claims and the accompanying drawing, wherein:

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a prospective view showing a fragmentary portion of a conventional extension rung-type ladder with the portable storage box constructed in accordance with the present invention attached thereto;

FIG. **2** is a front view of the storage box structure; and

FIG. **3** is a side view of the storage box constructed in accordance with the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Turning now to the drawing and particularly FIGS. **2** and **3**, the portable storage box **10** of the present invention is comprised of a generally boxlike structure which includes a pair of spaced-apart vertical sidewalls **12** and **14**, a top portion **16**, a bottom portion **18**, a rear wall **20** and a front wall portion **22**. Because the front wall **22** does not extend from the top to the bottom portions **16** and **18**, respectively, the front portion of the structure is generally open permitting easy access to the interior portion of the structure.

Within the structure two principle storage areas are defined by a shelf **24** disposed in spaced relation between the top and bottom portions **16** and **18**, respectively, of the structure. It will be understood by those skilled in the art that such a device is not limited to a two compartment storage area, nor is it intended to be. The storage area within the structure may be of a size and shape as desired by the user.

The shelf **24** extends forwardly from the rear wall **20**, but terminates short of the front wall as can be seen in FIGS. **1** and **3**.

Slots, notches or recesses **26** are formed in the sidewalls **12** and **14**. Each slot is provided with a forwardly opening portion adjacent the upper edge of the sidewalls. From the open portion the recesses **26** extend inwardly and upwardly to form an area which will engage a rung R of a ladder L.

A pair of identical arms **28** are pivotally mounted on the structure, one on each sidewall, as shown in the drawing. The arms **28** are pivotally connected by bolts or screws **30**, or any other suitable means, adjacent the upper ends of the arms and they extend downwardly and forwardly of the structure **10**. A brace **32** extends between the arms **28** adjacent the lower end thereof and provides a stop means which prevents the arms **28** from rotating completely rearwardly and downwardly when the structure is out of engagement with the ladder rungs R. As will later be described in detail, this permits the structure to be easily attached and detached from the ladder L. Grooves **34**, provided at the lower ends of arms **28** to receive rung R of ladder L, are of such a configuration to adapt them to receive round or "D" rung ladders. As can be seen in the drawing, a plurality of grooves **34** are provided in the lower arm ends and these grooves are so arranged to keep the top and bottom portions **16** and **18**, respectively, and shelf **24** generally level or parallel with the ground when the ladder is in any one of a number of angular positions. Three of the most common angular positions are 13, 20 and 30° of inclination. The notches or grooves **34** are illustrated as being adaptable to those positions, but it is understood there is no intention to limit the use of the device to these angles.

A handle structure **36** is pivotally mounted to the structure **10** as shown in FIGS. **1** and **3**. Handle structure **37** is comprised or a pair of arms **38** each pivotally connected by the lower ends thereof to sidewalls **12** and **14** by means of screws, bolts or other suitable means **40**. A handle rung **42** interconnects the outer ends of arms **38**. Each of the arms **38** are of a length great enough to permit the rung **42** to pass by or clear the upper rearward edge of structure **10** and a paint can or bucket supported by the box so that the handle structure may be pivoted or rotated rearwardly and downwardly out of the way when the structure **10** is attached to a ladder. Because the arms **28** and **38** are in the same plane, they contact each other when the handle structure **36** is rotated to a stored position. This engagement provides a stop means for the handle so that the rung **42** remains out of the way, but within easy reach when the structure **10** is to be moved.

To permit easy accessibility to tools and materials used in conjunction with the storage box, a generally round opening **44** is provided in top portion **16**, as shown in FIG. **1**, to receive a can of paint or a bucket or other similarly shaped container. The container C (shown in FIG. **3**) fits in opening **44** and extends inwardly into the box and rests on shelf **24**. A tool holder **46** of any suitable material is fastened to the top portion **16** as shown in the drawing. The holder **46** is provided with a plurality of slots **48** of different sizes and shapes which are adapted to engage and hold a tool such as brush B. It will be understood by those skilled in the art that top portion **16** may have any one of a number of openings or tool holders attached thereto. The hole **44** and holder **46** are merely illustrative of such items. It may even be advantageous in some situations to remove the top portion **16** completely.

A slot **50** is provided in shelf **24** adjacent wall **14** and a second slot **52** is provided in front wall **20** also adjacent wall

14. These two slots 50 and 52 cooperate to receive and hold a can top T as shown in FIG. 3. A half moon recess 54 is provided in top portion 16 to permit easy clearance for the extension ladder ropes.

When the storage box 10 is to be used, it is filled with the required tools and materials. By placing the box on the ground or on a bench, the arms 28 rotate upwardly out of the way so that the box sits on bottom portion 18. Once the ladder L has been set in place the box is grasped by the workman by handle rung 42, pivoting the handle structure 36 upwardly lifting the box. The structure 10 is easily handled as the workman ascends the ladder. Once the desired position is reached, the box is moved from behind the ladder toward the front so that a first rung R is received in slots or recesses 26 and the grooves 34 are positioned on a second ladder rung R. Because the weight of the items of the box are all positioned near the vertical center line of the box, the top and bottom portions 16 and 18, respectively, and shelf 24 are generally parallel to the ground when the box is attached to the ladder. The position of the rung R may be changed to any one of the grooves 34 merely by lifting on handle structure 36. Because the arms 28 are stopped from rotating too far rearwardly by brace 32, the notches 34 are always in close proximity to the ladder rung.

The total weight of the loaded or empty box is distributed between notches 26 and arms 28 so that the more weight the box carries, the tighter the engagement with the ladder. Once the box is in place, the handle structure 36 is allowed to rotate downwardly out of the way. Tools and materials are easily accessible within the box from the ladder. To detach the box 10 from the ladder, the box is lifted by the handle to free the notches 26 and grooves 34 from engagement from the ladder rungs. Since the box structure is mounted and depends to the rear of the ladder, the box is always out of the way of the workman on the ladder.

While this invention has been described in connection with a single embodiment thereof, it will be understood that the embodiment is capable of modification and that this application is intended to cover any variation, use, or adaptation following, in general, the principles of the invention and including such departures from the present disclosure as come within the known or customary practice in the art to which the invention pertains and as fall within the scope of the invention or the limits of the appended claims.

What I claim is:

1. A portable storage box for attachment to a rung-type ladder comprising, in combination, a boxlike structure having a generally open front portion, a top and a bottom portion, a pair of vertical sidewalls, each of said sidewalls having a notched portion therein for receiving a ladder rung therein, and a pair of parallel arms pivotally mounted on said structure to swing relative to said structure and adjustably engageable with another ladder rung whereby said structure is removably attached to said ladder and said structure assumes a position in which the top and bottom portions thereof are generally parallel to the ground in varying angular positions of the ladder.

2. A portable storage box structure, as recited in claim 1, wherein said pair of parallel arms are pivotally mounted on said respective vertical sidewalls of said structure adjacent the upper ends of said arms and depend generally downwardly and outwardly from said structure.

3. A portable storage box, as recited in claim 2, wherein a stop means extends between said arms adjacent the lower ends thereof and is engageable with said structure to limit the downward and rearward swinging movement of said arms relative to said structure.

4. A portable storage box, as recited in claim 2, wherein said arms are provided with a plurality of notched portions adjacent one end thereof for adjustably receiving another of the ladder rungs.

5. A portable storage box structure, as recited in claim 1, wherein handle means is pivotally mounted on said structure, said handle means comprising a pair of arms pivotally mounted on respective vertical sidewalls and a rung extending between said arms, said handle arms being so mounted with respect to said ladder engaging arms that said handle arms engage said ladder engaging arms to limit downward and rearward travel of said handle means with respect to said structure.

6. A portable storage box for attachment to a rung-type ladder comprising, in combination, a boxlike structure having a generally open front portion, a pair of vertical sidewalls, each of said sidewalls having recesses therein for receiving a ladder rung therein, a pair of parallel arms pivotally mounted adjacent the upper ends of said arms on respective vertical sidewalls for swinging movement with respect to said structure, said arms extending generally downwardly and outwardly of said structure for adjustable engagement with another ladder rung and a handle means pivotally mounted on said structure and engageable with said ladder engaging arms to limit rearward and downward travel of said handle means with respect to said structure.

7. A portable storage box, as recited in claim 6, wherein said ladder engaging arms are provided with a plurality of notches at the other ends thereof for selective engagement with another ladder rung and stop means extending between said arms, said stop means being engageable with said structure to limit downward and rearward travel of said arms relative to said structure when said structure is out of attachment with a ladder.

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