RELEASABLE HANGER FOR HOISTING EQUIPMENT

Filed Aug. 15, 1967

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ABSTRACT OF THE DISCLOSURE

A releasable hanger for separable connection with ceiling-carried hanger rods from the lower ends of which a pipe or other member or equipment is suspended, and which serves as means from which a hand-operated hoist may be hung and which raises the pipe suspended therefrom to a position for facile connection to said lower ends of the rods.

Background of the invention

Conventional types of rigging for a pipe-raising operation, as at present known, usually causes the operation to be carried out from two separate points. The host is operated from one point and the hanger is secured from another point. The work is usually done from ladders and the hoist hanger must later be replaced with a permanent hanger and hanger rod. Thus such additional ladder moving, lost motion and prior rigging are frequently make-shift and their efficiency in use is entirely dependent on the skill of the men in devising suitable rigging.

An object of the present invention is to provide simple, inexpensive and easy-to-install hanger means having the characteristics above outlined and which obviates the above-mentioned faults of prior means for hoisting members into position for connection to a hanger rod.

The invention also has for its objects to provide such means that are positive in operation, convenient in use, easily installed in a working position and easily disconnected therefrom, economical of manufacture, relatively simple, and of general superiority and serviceability.

The invention also comprises novel details of construction and novel combinations and arrangements of parts, which will more fully appear in the course of the following description, which is based on the accompanying drawing. However, said drawing merely shows, and the following description merely describes, one embodiment of the present invention, which is given by way of illustration or example only.

Summary of the invention

The present improved hanger 5 is adapted for releasable connection with a hanger rod 6 conventionally installed in and hanging from the structure of a building, and having a saddle 7 on its lower end adapted to support a pipe 8 or other elongated member above the floor of said building. Usually, a series of said pipe-supporting rods, suitably spaced apart, engage spaced points of the pipe. A simple form of chain hoist 9 with one end of the chain 10 thereof wrapped about the pipe, is adapted to be hung from the hanger 5 and manually operated to raise the pipe into register with said saddle when in open condition. While so held by the hoist, the pipe is enclosed by closing the saddle to pipe-supporting condition.

Brief description of the drawing

In the drawing, like reference characters designate similar parts in the several views.

FIG. 1 is a side elevational view showing the present means in pipe-raised position and with the support saddle closed.

FIG. 2 is an enlarged plan view of the releasable hanger of said means, a portion being shown in cross-section.

FIG. 3 is a similarly enlarged front view, partly in vertical section, of said hanger.

FIG. 4, to a smaller scale, shows the saddle portion of the hanger rod 6, the parts being in separated position around the pipe.

Description of the preferred embodiment

The releasable hanger 5, preferably formed of steel or other strong metal, is shown as comprising two blocks 15 connected by a hinge 16 at one end with a threaded bore 17 centered on the parting line 18 of said blocks and located nearer to the hinged end of the hanger than to the opposite end 19; a groove 20 in each of the outer opposite faces of the blocks, and having bottom faces which converge from the lower toward the upper end of the blocks to impart a wedge-shaped cross-sectional form to the grooved portions of the blocks, as shown in FIG. 3. While the blocks are preferably connected, as by the hinge 16, they may be completely separable and retained in register by means of a dowel or dowels or in similar ways. Since the hanger rod 6 is ordinarily threaded, the bore 17 is threaded to fit around said rod, the hanger blocks 15, when abutted on the line 18, being thereby retained against longitudinal movement along the rod, especially downward. The threads of the rod 6 and bore 17 comprise connecting means which may take other forms than screw threads.

A loop or locking member 21 is provided for engaging over the grooved portions of the blocks to keep them from separating and, thereby, hold them in fixed position on the rod 6 until removed. In this instance, the member 21 comprises an end 22 having opposite converging inner edge faces 23 converging toward each other at the same angle of convergence as the bottoms of the grooves 20. An end edge 24 is provided at the narrower upper end of the tapered recess, the edges 23 and 24, thereby, forming a tapered recess in said loop end 22. The member 21 also comprises a hanger end 25, shown as a rounded portion having an opening 26 and sufficiently large to receive the ends 19 of the blocks 15 with ample clearance so said member 21 may be applied over said ends and moved or allowed to drop down to lock said blocks around the rod 6, as above described.

A chain 27 or the like may connect the blocks 15 and the member 21 to retain the same captive to each other.

The hoist 9 that is shown is intended as conventional of chain hoists, the same having a hanger hook 28 that may be engaged with the hanger end 25 of the member 21, an operating handle 29 that may be reciprocated, and the mentioned chain 10, one end 30 of which may be looped around the pipe 8 and the other end 31 hanging slack.

In operation, said chain end 30 is looped around the pipe 8 which may be on the floor or on horses and approximately beneath the upper section 32 of the saddle 7 and which is mounted on the lower end of the rod 6. The hanger 5 is then connected to said rod in suitably spaced relation to said saddle section 32. Now, with the chain end 31 slackened off, the hook 25 is connected with the member 21. The handle 29 of the hoist is reciprocated to first take the slack out of the chain 10 and then pull the pipe 8 upwardly until the same is about to enter the lower open end of said saddle section 32. Now, the lower section 33 of the saddle is applied from beneath, around the pipe 8, so its ends 34 extend upwardly beyond the pipe and between the arms 35 of the saddle section 32. The bolt 36 may then be extended through the aligned holes in said arms 34 and 35 are engaged in hooked ends in said arms to fasten the saddle sections in pipe-suspending relation.
The chain 10 may then be released from the pipe; the hoist removed from its suspended engagement with the hanger loop member 21; and said member slid upward to release the blocks 15, which may then be removed from the rod 6. The above operation may then be repeated using the same releasable hoist hanger to raise another piece of pipe or equipment, the hoisting all being done from the permanent hanger rods.

It will be understood that the terms "pipe" and "tubular member" may be used to include any member or equipment that may be raised by the hoist; that the hoist, as characterized, may be power operated and the type thereof may vary; and that the saddle is intended to include any means with which member or equipment, when hoisted, is connected.

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

1. A releasable hanger for connection to a rod having a member on its lower end which, when closed by a saddle from beneath, supports a horizontally disposed tubular member or the like, the chain of a hoist being removably connected to said tubular member and the hoist being provided with a hook on which it is adapted to be suspended, said hanger comprising:
   (a) a pair of blocks adapted to be engaged with said rod on opposite sides thereof,
   (b) the rod and the block being provided with interengageable means, and
   (c) a locking member having a first portion for engagement with said hoist-suspension hook and second portions to engage the opposite faces of the blocks to retain the same in locked engagement with the rod, thereby to suspend said hoist while the same is operated to raise the tubular member toward the member on the rod.

2. A releasable hanger according to claim 1 in which the engaging portions of the rod and the blocks comprise complementary interfitted threads on said rod and a bore partly in each block.

3. A releasable hanger according to claim 2 in which:
   (a) the blocks on opposite sides thereof are provided with converging grooves, and
   (b) the second portions of the locking member define a recess with converging side edges that fit into said grooves and, thereby, hold the blocks in rod-engaging position.

4. A releasable hanger according to claim 3 in which the first portion of the locking member has a clearance opening open to said recess and receptive of the hook of the hoist.

5. A releasable hanger according to claim 4 in which the grooves in the block are located between the threaded bore and one end of the blocks, and a hinge connects the opposed ends of the blocks.

References Cited

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U.S. Cl. X.R.