Nov. 17, 1925. 1,561,850

L. GUTTMAN

PIPE HANGER

Filed Feb. 23, 1923

Fig. 1

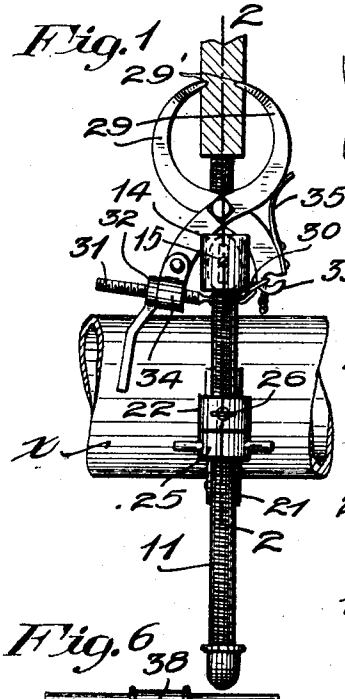


Fig. 2

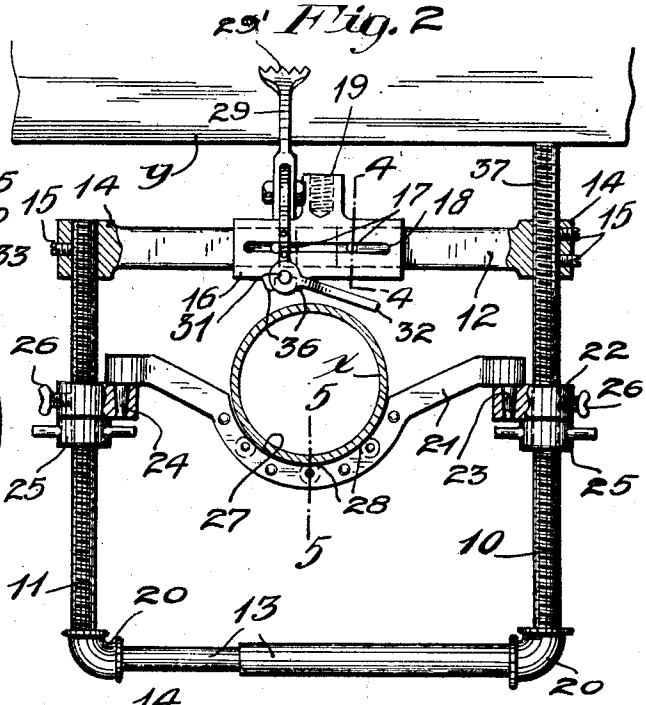


Fig. 6

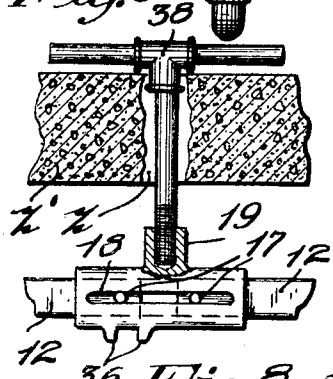


Fig. 3

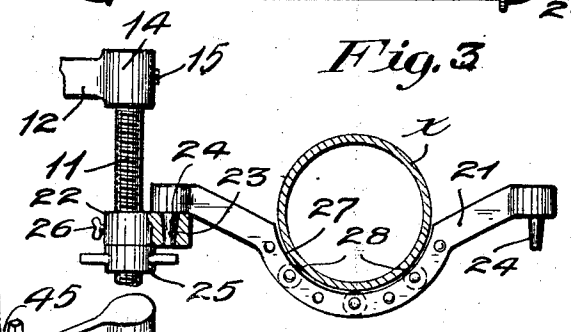


Fig. 8

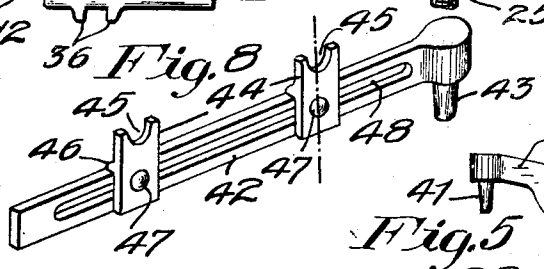


Fig. 7

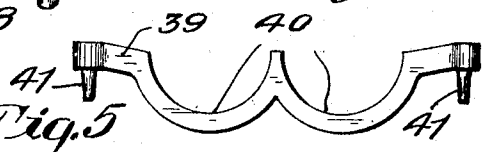


Fig. 5

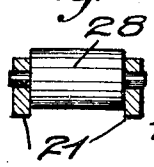


Fig. 9

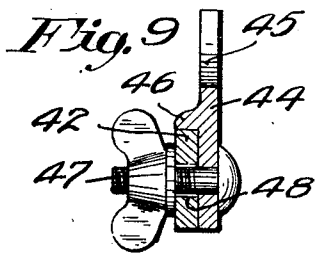
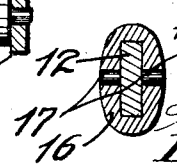


Fig. 4



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UNITED STATES PATENT OFFICE.

LOUIS GUTTMAN, OF MINNEAPOLIS, MINNESOTA.

PIPE HANGER.

Application filed February 23, 1923. Serial No. 620,627.

To all whom it may concern:

Be it known that I, LOUIS GUTTMAN, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Pipe Hangers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide extremely simple and highly efficient means for temporarily supporting, at the desired elevation and grade, steam, vapor, water, gas, and other pipes, during the installation of various different kinds of systems, such as heating and lighting, while the sections of the pipe are being coupled and the permanent hangers or supports applied thereto.

It is now necessary while installing such systems to make wooden frames or brackets and attach the same to overhead supports, or build a staging from the ground up on which the pipe sections may be supported while they are being coupled and the permanent hangers or supports attached thereto. These temporary supports require considerable time and expense in putting up the same and in taking the same down. Furthermore, it is quite difficult to attach a frame or build a staging so as to support the pipe sections at the required elevation and at the exact grade.

Generally stated, the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

In the accompanying drawings, which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings:

Fig. 1 is a view of the improved pipe hanger attached to an overhead support and on which hanger is supported a section of a pipe;

Fig. 2 is a view in elevation of the parts shown in Fig. 1, with some parts sectioned on the line 2—2 of Fig. 1;

Fig. 3 is a fragmentary view showing the saddle bar released from one of the saddle bearings and swung outside of the frame;

Fig. 4 is a detail view principally in section taken on the line 4—4 of Fig. 2, on an enlarged scale;

Fig. 5 is a detail view partly in elevation and partly in section taken on the line 5—5 of Fig. 2, on an enlarged scale;

Fig. 6 is a fragmentary view showing another form of the suspending anchor;

Figs. 7 and 8 are views showing different forms of a saddle bar; and

Fig. 9 is a detail view with some parts sectioned on the line 9—9 of Fig. 8.

Referring first to the invention as illustrated in Figs. 1 to 5, inclusive, the same includes a rectangular frame comprising a pair of screw-threaded uprights 10 and 11 connected at their extremities by upper and lower cross tie bars 12 and 13, respectively. The upper tie bar 12 has, at its outer ends, hubs 14 in which the upper ends of the uprights 10 and 11 are screwed and secured by set screws 15. This tie bar 12 is transversely divided at its longitudinal center and the members thereof connected by telescoping the same into a sleeve-like intermediate member 16. Pins 17, secured to the members of the tie bar 12, work in a longitudinal slot 18 in the intermediate member 16 and afford stops to limit the separating movement of the members of the tie bar 12. Formed with the longitudinal center of the intermediate member 16 is an upstanding recess lug 19 that is internally screw-threaded for a purpose that will presently appear. The lower cross tie bar 13 comprises two telescopically connected pipe sections rigidly secured by elbows 20 to the lower ends of the uprights 10 and 11. By making the top and bottom cross tie bars 12 and 13 longitudinally adjustable, it is possible to vary the width of the frame.

A saddle bar 21 comprising rigidly connected laterally spaced members is removably supported from the uprights 10 and 11 by a pair of saddle bearings 22 loosely mounted on said uprights for independent compound vertical sliding and complete rotary movements. Each saddle bearing 22 is provided with a tapered radially offset seat 23 adapted to receive a correspondingly formed depending trunnion 24 on the respective end of the saddle bar 21. The saddle bearings 22 loosely rest on hand piece-

equipped nuts 25 on the uprights 10 and 11, and by adjusting said nuts, the saddle bearings 22 may be raised or lowered to support the saddle bar 21 at different elevations. Wing-equipped set screws 26 have screw-threaded engagement with the saddle bearings 22 and may be caused to impinge against uprights 10 and 11 and thereby hold the saddle bearings 22 in different independent rotative positions. At its longitudinal center, the saddle bar 21 is depressed to form a segmental pipe seat 27 equipped with an anti-friction roller bearing 28 supporting a pipe section x with freedom for rotation while turning the same into a coupling.

To attach the improved pipe hanger to an overhead beam, joint or other support y. I provide a grapple 29 comprising a pair of intermediately pivoted levers, the long ends of which are curved and their free ends serrated at 29′ to engage opposite sides of said support, as best shown in Fig. 1.

To close the grapple 29 onto the support y and positively hold the same, the short ends of said grapple are connected by a chain 30 attached to an eye-bolt 31 with which a hand piece-equipped nut 32 has screw-threaded engagement. Any one of the links of the chain 30 may be interlocked with a hook 33 formed with one of the levers of the grapple 29, and the eye-bolt 31 is loosely mounted in a sleeve 34 pivoted to the other lever of said grapple. A leaf spring 35, secured to the short end of one of the levers of the grapple 29, bears against the long end of the other levers and is under strain to close said grapple. The chain 30 extends under the intermediate member 16 and supports the improved pipe hanger, as shown in Figs. 1 and 2. A pair of laterally spaced depending lugs 36, on the intermediate member 16 between which said chain extends, holds the frame against edgewise movement in respect to the grapple 29. The upper end of the upright 10 is extended above the tie bar 12 to afford a stop 37 arranged to engage the support y. It will be noted that the grapple 29 is located considerably nearer the upright 11 than the upright 10 for a purpose that will presently appear.

In attaching the pipe hanger to an overhead support, prior to the supporting of a pipe section thereon, the nut 32 is adjusted to permit the grapple to be opened up against the tension of the spring 35 to receive said support. As soon as the grapple is released, said spring will close the same onto the support and temporarily hold the hanger while the nut 32 is being adjusted to positively lock the grapple closed. The saddle bearings 22 are then lowered by adjusting the nuts 25 to afford sufficient head room to easily insert a pipe section into the frame.

In inserting a pipe endwise into the frame, the same may be either inserted over the lowered saddle bar 21, or said saddle bar may be first removed and then replaced on the saddle bearings 22 while the pipe section is held thereabove. After the pipe section has been placed on the saddle bar 21, said saddle bar is raised by adjusting the nuts 25 to cause said saddle bar to support the pipe section at the desired elevation and proper grade.

In case it is necessary to place the pipe section closer to the overhead support than can be done by inserting the pipe sections under the tie bar 12, one end of the saddle bar 21 may be detached from the saddle bearing on the upright 10, and said saddle bar and the connected saddle bearing on the upright 11 swung into a position as indicated in Fig. 3, and in which position of the saddle bar, the pipe section can be raised closely under or in contact with the support y. When the saddle bar is thus adjusted, the stop 37 prevents the frame from swinging on the grapple.

When suspending pipes under a concrete floor or ceiling, the grapple 29 is removed and a suspending anchor 38 in the form of a T is inserted through a hole z in a concrete slab z^1 and then screwed into the lug 19, as shown in Fig. 6. To support pipe sections different elevations below the slab z^1, the vertical length of the anchor 38 may be varied, at will.

The saddle bar 39 shown in Fig. 7 is provided with two longitudinally spaced seats 40 for supporting a pair of parallel pipe sections. This saddle bar 39 is provided with a tapered trunnion 41 of the same shape as the trunnion 24 so as to fit in the seats 23 in the saddle bearings 22. The seats 40 are not provided with anti-friction devices as such devices are only necessary when pipes of large diameter are being supported. By forming the tie bars 12 and 13 of telescopically connected members, it is possible to set the uprights 10 and 11 various different distances apart to permit the use of different length saddle bars.

In Fig. 8 is shown a saddle bar 42 especially adapted for use in supporting relatively small water and gas pipes such as used for domestic purposes. This saddle bar 42 is provided with only a single tapered trunnion 43 and can be attached to either of the saddle bearings 22 and turned either between the upright 11 or swung outward thereof. Carried by the saddle bar 42 are two brackets 44 having in their upper ends open pipe seats 45, and which brackets are provided with laterally offset shoulders 46 which rest on the upper edge of the saddle bar 42 with freedom for longitudinal sliding movement thereof. Thumb nut-equipped bolts 47 extend through bores in

the brackets 44, and a longitudinal slot 48 in the saddle bar 42 permits said brackets to be set different distances apart and different distances from the trunnion 43. The saddle bar 42, as well as the saddle bars 21 and 39 when supported by only one of their trunnions, may be caused to swing in a horizontal plane completely around the upright from which they are supported and thereby support a pipe section in various different positions.

What I claim is:

1. In a pipe hanger the combination with a frame having an upright, of a suspending anchor for the frame, a saddle bearing turnably mounted on the upright with freedom for vertical adjustment, and a saddle bar secured to the saddle bearing for independent swinging movement in a horizontal plane.

2. The structure defined in claim 1 in further combination with means for securing the saddle bearing against turning movement.

3. The structure defined in claim 1 in which the upright is horizontally adjustable toward and from the suspending anchor.

4. In a pipe hanger the combination with a frame including a pair of uprights and a cross tie bar connecting the same, of a suspending anchor attached to the cross tie bar, a saddle bar carried by the uprights, and means on each upright for vertically adjusting the saddle bar.

5. The structure defined in claim 4 in which the cross tie bar is transversely divided, and an intermediate member telescopically connecting the members of the cross tie bar.

6. In a pipe hanger the combination with a frame including a pair of uprights and a cross tie bar connecting the same, said cross tie bar being transversely divided, and an intermediate member telescopically connecting the members thereof, of a suspending anchor attached to said intermediate member, and a vertically adjustable saddle bar carried by the uprights, and holding the cross-tie bar and intermediate member against telescopic movement.

7. The structure defined in claim 6 in which the frame is provided with an upright stop at one of its uprights.

8. In a pipe hanger the combination with a rectangular frame comprising screw-threaded uprights connected by longitudinally adjustable cross tie bars, a suspending anchor for the frame, a pair of saddle bearings slidably mounted on the uprights, nuts on the uprights for vertically adjusting and supporting the saddle bearings, a saddle bar, and trunnions detachably securing the saddle bar to the saddle bearings.

9. In a pipe hanger the combination with a frame having a cross member, of a suspending anchor for the frame comprising a pair of intermediately pivoted tongs, and means including a cable and a nut-equipped bolt for closing the tongs and attaching the same to the cross member.

In testimony whereof I affix my signature.

LOUIS GUTTMAN.