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N. C. LOOS

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PIPE VISE SELECTIVELY SUPPORTABLE BY FLOOR
FRAME OR SUSPENDABLE FROM OVERHEAD JOISTS

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2 Sheets-Sheet 2

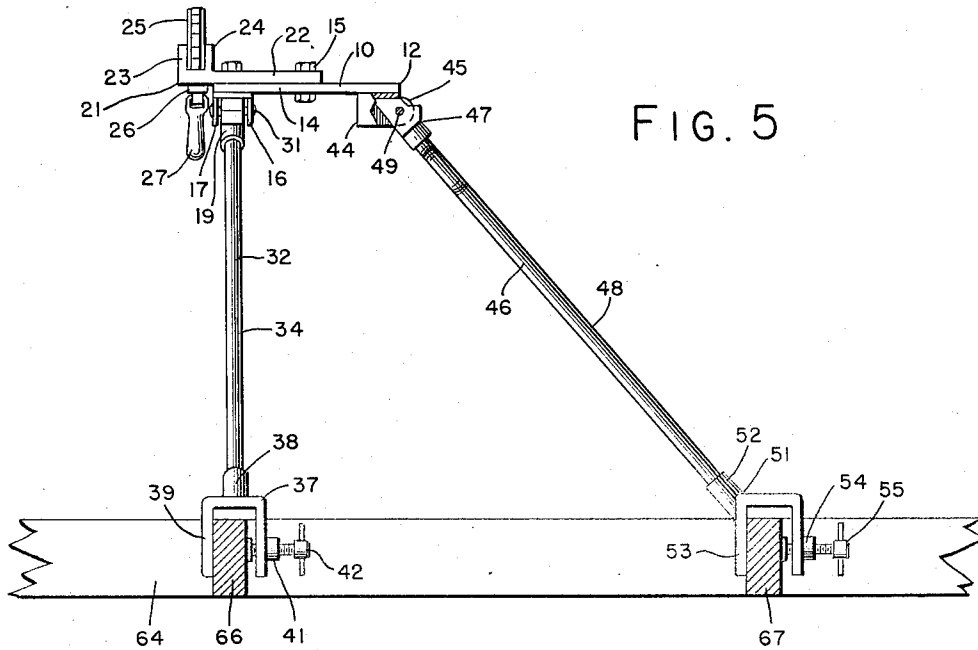


FIG. 5

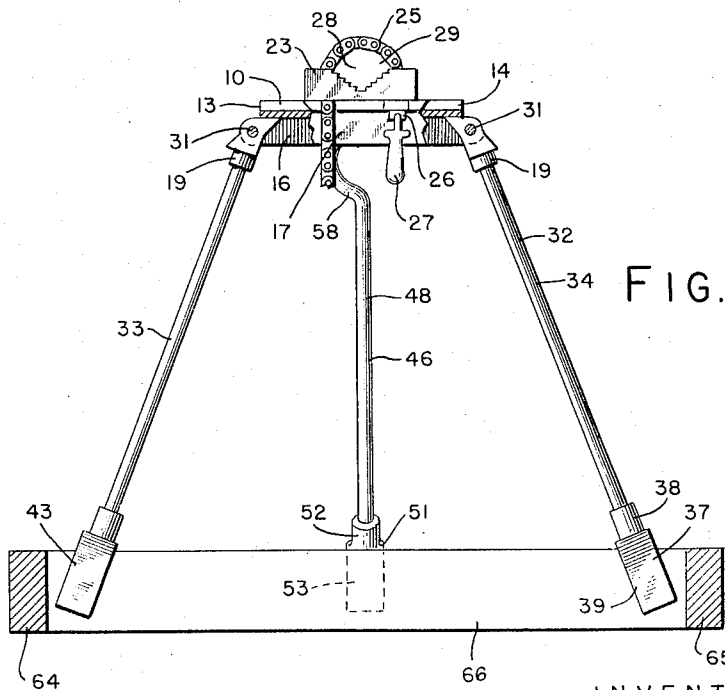


FIG. 4

INVENTOR
NORMAN C. LOOS

BY *Carwell & Lagaard*
ATTORNEYS

UNITED STATES PATENT OFFICE

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PIPE VISE SELECTIVELY SUPPORTABLE BY
FLOOR FRAME OR SUSPENDIBLE FROM
OVERHEAD JOISTS

Norman C. Loos, St. Paul, Minn.

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3 Claims. (Cl. 81—41)

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My invention relates to vise supports and particularly to a support for supporting a pipe vise for use in installing plumbing, heating and for similar purposes.

An object of the invention resides in providing a pipe vise support which may be attached either to the joists of a building or to a frame resting on the ground.

An object of the invention resides in providing a support or table to which the vise may be attached and in providing elongated supporting members pivoted to said table and adapted to swing from positions substantially in the plane of said table to positions extending either above or below the plane of the table.

A still further object of the invention resides in providing clamps at the ends of said supporting members for attachment to the joists of a building or the frame members of a frame.

Another object of the invention resides in providing stops for limiting the movement of the supporting members.

Other objects of the invention reside in the novel combination and arrangement of parts and in the details of construction hereinafter illustrated and/or described.

In the drawings:

Fig. 1 is a front elevational view of a pipe vise support attached to the joists of a building and illustrating an embodiment of my invention.

Fig. 2 is a side elevational view of the structure shown in Fig. 1.

Fig. 3 is an inverted plan view of the table and a portion of the supporting members.

Fig. 4 is a front elevational view of the pipe vise support mounted on a frame.

Fig. 5 is a side elevational view of the structure shown in Fig. 4.

For the purpose of illustrating the application of my invention, I have shown in the drawings, an ordinary pipe vise 21. This pipe vise has a base 22 on which are formed spaced jaws 23 and 24. Between these jaws is mounted a chain 25, one end of which has secured to it, a nut and screw slack take up means 26 and to which is attached a handle 27. The other end of this chain is secured to the jaws 23 and 24 by means of suitable construction such as is now well known in the art and which has not been illustrated in the drawings. The axis of the vise is indicated by the reference numeral 28. When a pipe is inserted in the space 29 formed by the chain 25 and the jaws 23 and 24, the same is disposed parallel to the axis of the vise and may be securely clamped by tightening the chain 25. This is effected by turn-

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ing the handle 27 to operate the slack take up means 26.

My improved pipe vise support comprises a mounting 10 which is in the form of a table and which is constructed from a metal plate having a forward edge 11, a rear edge 12 and lateral edges 13 and 14 connecting the same. The vise 21 is mounted at the forward portion of the table 10 with the base 22 resting thereon. The vise is so situated that the chain 25, the screw 26 and the handle 27 are forward of the forward edge 11 of said mounting. The base 22 is secured to the mounting 10 by means of bolts 15 which extend through said base and mounting.

At the forward portion of the mounting 10 and adjacent the forward edge 11 is disposed a channel member 16 which is riveted thereto and which is formed with flanges 17. This channel member extends outwardly beyond the edges 13 and 14 of the table 10 and the web of the channel member is cut back to form spaced ears 18 at the ends of the flanges 17. Pivoted to these ears are two elongated supporting members 33 and 34 which serve to support the table 10 in a manner to be presently described. Inasmuch as both of the supporting members 33 and 34 are identical in construction, only the supporting member 34 will be described in detail. This supporting member includes a short length of pipe 32 having a connector 19 secured to one end thereof. The spaced ears 18 of the channel member 16 receive therebetween the connector 19. The connector is pivoted to the channel member 16 by means of a detachable pintle 31 which extends jointly through the ears 18 and said connector. At the end of the pipe 32 is provided a clamp 37. This clamp has a tubular portion 38 which is threaded to receive the outermost end of the pipe 32. The clamp includes a jaw 39 which is formed with a boss 41 threaded to receive a clamp screw 42. The supporting member 33 is similarly constructed and is provided with a clamp 43 identical in design to the clamp 37.

At the rearward portion of the mounting 10 is provided another channel member 44 which is similar to the channel member 16 and which is formed with spaced ears 45. This channel member is riveted to the table 10. Channel member 44 has pivoted to it, another elongated supporting member 46 which consists of a connector 47 secured to the end of a short length of pipe 48 and which is disposed between the ears 45. The supporting member 46 is pivoted to the channel member 44 by means of a pintle 49 which extends jointly through the ears 45 and the connector

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47 and which is detachably mounted therein. The axis of this pintle is at right angles to the axis of the vise 21 and the axes of the pintles 31. The supporting member 46 also includes a clamp 51 similar to the clamps 37 and 43. This clamp has a tubular portion 52, which is threaded to receive the outermost end of the pipe 48, and has a jaw portion 53 which is angularly disposed relative to said tubular portion. Said jaw, similar to the jaw 39, is formed with a boss 54 which is threaded to receive a clamp screw 55. When the supporting members 33, 34 and 46 are in extended position as shown in Figs. 1 and 2, the two jaws 37 and 43 are in coplanar relation and the jaw 53 is parallel with the same.

The supporting members 33, 34 and 46 may be moved from the positions shown in Figs. 1 and 2 to positions in which the same are substantially in the plane of the mounting or table 10 or said supporting members may be moved to positions such as shown in Figs. 4 and 5. For the purpose of providing a rigid construction, two stops 56 and 57 are formed on each of the connectors 19 and 47 and are adapted to engage the table edges 12, 13 and 14 and the channel members 16 and 44 to prevent movement of the supporting members 33, 34 and 44 beyond either extreme operative position of the same. These stops are arranged so that said supporting members occupy angular positions with respect to the table 10 when in either of their extreme positions. Thus, said supporting members brace the table to permit of applying considerable force to a pipe held by the vise without shifting the table or the supporting structure therefor.

When the device is to be used as shown in Fig. 1, the pipe 48 which is situated in the middle of the table 10 would be in the way for long pieces of pipe which might be inserted into the vise 21. To permit of insertion of long pieces of pipe, an offset 52 is formed in the pipe 48 which clears any pipe which may be inserted in the vise 21.

My invention may be used in conjunction with the joists of a building as illustrated in Figs. 1 and 2. In these views, a number of joists 61, 62 and 63 are shown forming the supports for a floor 59. These joists are spaced apart the conventional distance. When the device is to be utilized with such construction, the clamps 37 and 43 are opened and applied to the joist 61. The supporting members 33 and 34 are swung into position until the stops 56 of the connectors 19 engage the edges 13 and 14 of table 10. The clamp screws 42 are then tightened down. The supporting member 46 is then swung upwardly and the clamp 51 applied to the joist 63. The device then becomes arranged as shown in Figs. 1 and 2 with the stop 56 of the supporting member 46 engaging the edge 12 of table 10. The vise 21 may now be used for the intended purpose and is rigidly held supported by the three supporting members 33, 34 and 46.

When there are no joists to which to attach the support and no posts available for securing a post vise, a frame as indicated in Figs. 4 and 5 may be built up. This frame consists of two longitudinal frame members 64 and 65 which may be of any desired length. Between these frame members are nailed two cross frame members 66 and 67. In using the device with such a frame, the supporting members 33, 34 and 46 are swung about the respective pintles which connect the same to the mounting 10 and until the same occupy the positions shown in Figs. 4 and 5. Clamps 37, 43 and 51 can then be applied to the

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frame members 66 and 67 in the same manner as to the joists 61 and 63. Such a frame as disclosed can be mounted upon the ground and when the frame members 64 and 65 are long enough, a platform may be built upon the protruding ends of the same and on which the user may stand. This would prevent movement of the frame when the pipe was being cut or threaded. If desired, however, said frame may be anchored to the ground in any other suitable manner.

The advantages of the invention are manifest. When the device is not desired for use, the same may be collapsed into planiform arrangement so that the same may be conveniently laid upon the floor of a truck and carried about. When not desired for immediate use, the pintles connecting the supporting members with the mounting may be removed and said supporting members disengaged from the mounting. When so dismantled, the parts occupy a relatively small amount of space. The device can be constructed at an economical cost. Since lengths of pipe are used in the supporting members, plumbers and other users employing the device can readily construct similar pipe sections of different lengths to permit use of the device at any desired height.

Changes in the specific form of my invention, as herein described, may be made within the scope of what is claimed without departing from the invention.

Having described my invention, what I claim as new and desire to protect by Letters Patent is:

1. In a vise support, a table having a forward portion to which a pipe-clamping vise may be attached so that the longitudinal axis of a clamped pipe would be disposed substantially parallel to a medial line of the table, a pair of elongated supporting members pivoted at one end to the forward portion of said table, one on each side of the vise, said members being movable about axes parallel to the medial line of the table, a third elongated supporting member pivoted at one end to a rearward portion of said table substantially at the medial line thereof and movable about an axis at right angles to said medial line, a supporting clamp secured to the other end of each supporting member, said supporting members being all movable from positions substantially coplanar with said table to angular positions above the plane of the table, and an offset formed in said third supporting member adjacent said pipe axis to provide clearance between said third supporting member and a clamped pipe, if the latter extends beyond the rearward portion of the table.

2. In a vise support, a table having a forward portion to which a pipe-clamping vise may be attached, a pair of ears secured to said table on each side of a vertical plane passing through a longitudinal axis of a pipe clamped by the vise, a pair of ears secured to a rearward portion of said table, said ears all projecting outwardly beyond edges of the table, elongated supporting members pivoted at one end to said ears and movable from positions extending below said table to positions extending above said table, a supporting clamp on the other end of each supporting member, and the supporting member at the rear of said table being provided with an offset portion, said offset portion, when said rear supporting member is disposed in its position above said table, being located adjacent said longitudinal pipe axis to provide clearance between said rear supporting member and a pipe disposed in the vise and extending past said supporting member.

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3. In a vise support, a mounting having a forward portion to which a pipe-clamping vise may be attached, a pair of elongated supporting members pivoted to the forward portion of the mounting, one on each side of the vise, and each one movable about an axis parallel to a longitudinal axis of a pipe clamped in the vise, a third elongated supporting member pivoted to said mounting at a rearward portion thereof and movable about an axis at right angles to said clamped-pipe axis, said third elongated supporting member, when in an operative position, being angularly disposed relative to said table, clamps on said first named members having jaw faces disposed in a common plane and attachable to a single structural member, and a clamp on said third elongated supporting member having jaw faces angularly disposed with reference to the axis of elongation of said third supporting member and attachable to a structural member spaced

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from and parallel to said first mentioned structural member.

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NORMAN C. LOOS.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
Re. 10,167	Barrie	July 25, 1882
1,216,610	Rosenbaum	Feb. 20, 1917
1,897,449	Trowbridge	Feb. 14, 1933
1,906,865	Knox	May 2, 1933
2,045,307	O'Connell	June 23, 1936

FOREIGN PATENTS

Number	Country	Date
395,269	France	Feb. 18, 1909