

(No Model.)

J. LANE.
PIPE VISE.

No. 524,330.

Patented Aug. 14, 1894.

Fig. 1.

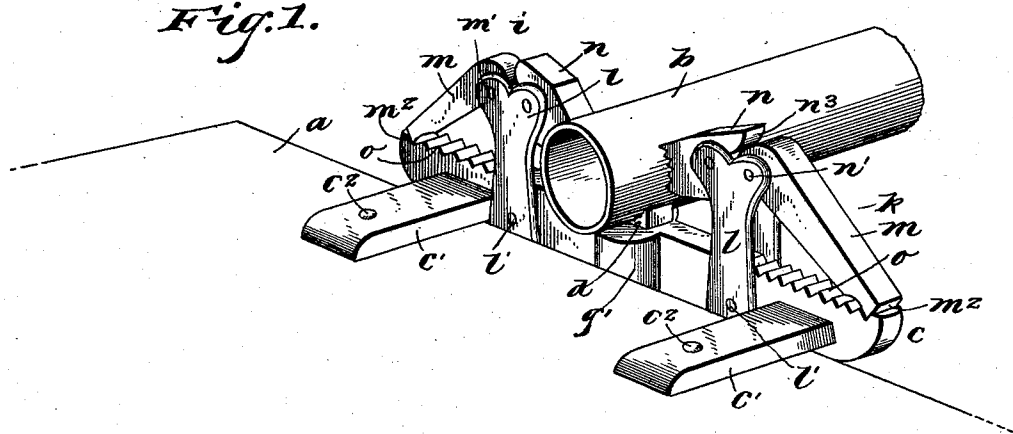


Fig. 2.

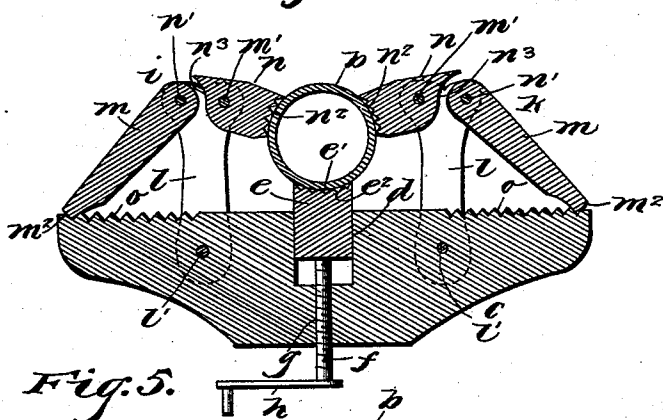


Fig. 3.

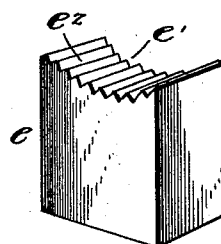


Fig. 5.

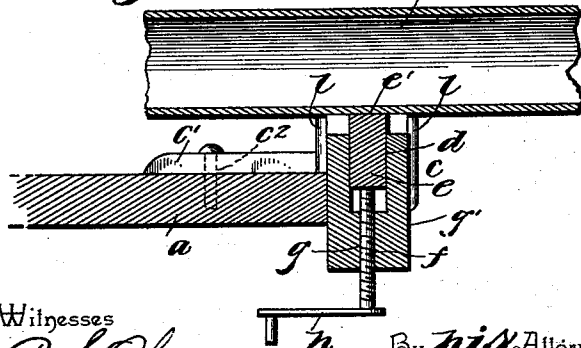
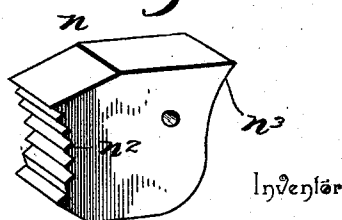


Fig. 4.



Witnesses

B. B. Ober,

[Signature]

By *his* Attorneys.

Joseph Lane,

[Signature]

UNITED STATES PATENT OFFICE.

JOSEPH LANE, OF LEWISTOWN, ILLINOIS.

PIPE-VISE.

SPECIFICATION forming part of Letters Patent No. 524,330, dated August 14, 1894.

Application filed February 21, 1894. Serial No. 501,032. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH LANE, a citizen of the United States, residing at Lewistown, in the county of Fulton and State of Illinois, have invented a new and useful Pipe-Vise, of which the following is a specification.

My invention relates to that class of pipe grips or vises which are adapted to hold the pipe rigid on a bench or other stationary object while the pipe is being tapped or otherwise operated on; and the primary object of the invention is to so improve the construction of these devices that a more convenient and generally desirable tool will be provided, one which can be used with greater ease and speed and one which will be more effective in the performance of its function of holding the pipe immovable.

To these various ends my invention consists of certain improved features of construction and combination and arrangement of parts, that will be more fully described hereinafter and finally embodied in the claims.

In the accompanying drawings:—Figure 1 represents a perspective view of my appliance showing a pipe grasped thereby; Fig. 2 a longitudinal section of the same and under similar conditions; Fig. 3 a detailed perspective of one of the binding or gripping blocks; Fig. 4 a similar view of a second binding or gripping block; Fig. 5 a cross section taken longitudinally through the pipe.

The reference letter *a* indicates the bench or table to which I prefer to apply my improvements when in use, and *b* the pipe, which I have shown as gripped.

The invention is constructed of a longitudinal frame *c*, formed by preference of malleable iron and with its center heavier than the ends. Formed integral with or rigidly secured to the left hand side of the body *c*, and projecting out laterally therefrom, are the arms or studs *c'*, which are provided with the clamps or bolts *c''*, by which they may be bolted to the table *a*, and in consequence thereof, the body rigidly secured.

d indicates a notch or recess, which is formed in the upper edge of the body and midway its ends and which extends down into the body for a distance equal to about one-half its depth. In this recess the grip block *e* is adapted to fit, and to have a vertical move-

ment therein. This block, *e*, is shown in detail in Fig. 3, and has the transversely extending depression or groove *e'* therein, which is provided on its face with the teeth *e''* adapted to engage and grip the pipe, as will be seen hereinafter. The block *e* is formed preferably of steel, and is adapted to be actuated by the threaded spindle *f*. This latter device operates in the internally threaded opening *g* of enlarged portion *g'* of the body *c*, and consists of a threaded spindle having its lower end projecting down from the body portion of the device, and provided with a crank arm *h*, by which it may be operated. Upon screwing the spindle *f* up into the opening *h*, its upper end will be made to forcibly engage the lower portion of the block *e*, and force it upwardly.

i and *k* indicate the additional and remaining grippers, which are duplicates of each other, and each of which consists of the bars *l*, arranged one on each side of the body *c* and pivotally connected thereto and to each other by means of the spindle *l'*. These bars are two for each gripper, and have their upper ends enlarged for the reception of the spindles *m'* and *n'* upon which the gripper blocks *n* and the pawls *m* are respectively mounted. The gripper blocks *n* are each provided at their outer ends with the toothed concave face *n''*, and at their inner or rear ends with the detent *n'''*, which latter device is adapted to engage the rounded upper end of the pawls *m*, while the faces *n''* are designed to bind against the pipe. By means of the detents *n'''* the blocks *n* are prevented from moving too far upwardly, and thus becoming disarranged to an extent which will tend to make it hard to readjust them quickly.

The pawls *m* are adapted to extend downwardly and outwardly, and are formed with the points or studs *m''* on their lower ends. These points, *m''*, are adapted to engage the ratchet teeth *o* of each end of the body *c*, and such teeth are formed in two sets, one for each pawl and on the upper edge of the body. Thus it will be seen that the bars *l*, comprising the body portion of the grippers *i* and *k*, are rigidly secured to each other and made to operate in unison by means of the pins or spindles *l'*, *m'*, and *n'*, and that these latter devices perform, in addition, the func-

tion of pivotally mounting the grippers, the gripper-blocks and pawls respectively.

To use my appliance, the spindle *f* is screwed down as far as possible, so as to allow block *e* to retreat into its recess, whereupon the pipe is placed upon the said block, *e*, and the grippers *i* and *k* swung toward it, so that the faces *n*² of their blocks *n*, will engage the pipe. The pawls *m* are then swung inwardly, and made to engage the notch nearest the pipe, which their length will permit, after which spindle *f* is operated to raise block *e*, which will force the pipe upwardly and into engagement with the blocks *n* of grippers *i* and *k*. As this movement continues, the grippers tend to move out laterally, and are prevented from so doing by means of their pawls, which hold them incapable of such movement. Thus the pipe is forced upwardly against the then immovable grippers, and wedged between them so securely as to prevent its removal without relaxing the pressure on block *e*. By this latter operation, relaxing the pressure on block *e*, the pipe may be removed.

It will be seen that, owing to the play allowed blocks *n*, and the pivotal mounting of grippers *i* and *k*, the device may be quickly and readily adjusted to any size pipe.

Having described my invention, what I claim is—

1. In a pipe grip, the combination of a body, two gripping blocks pivotally connected thereto so as to swing toward and from each other, pawls pivotally connected to said blocks

whereby they may be locked against the pipe, a third gripping block adapted to move toward the adjacent ends of the first two, and a screw spindle operating with the last named block, whereby it may be so moved, and whereby the pipe may be wedged between the said blocks, substantially as described.

2. In a pipe grip, the combination of a body, two pairs of bars pivoted thereto and adapted to move toward and from each other, gripping blocks pivoted to the bars and adapted to engage the pipe, pawls pivoted to the bars and operating, with ratchet teeth on the body, to keep the heads so engaged, a third block arranged to move toward the adjacent ends of the first blocks and means for so moving the said third block, whereby the pipe may be gripped between the several blocks, substantially as described.

3. In a pipe grip, the combination of a body, two gripping blocks pivotally connected thereto and capable of independent adjustment toward and from each other and of being secured at such adjustment, and a third gripping block capable of moving toward and from the adjacent ends of the first blocks and adapted to clamp the pipe between the several blocks, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOSEPH LANE.

Witnesses:

W. B. BABCOCK,
D. T. HENDERSON.