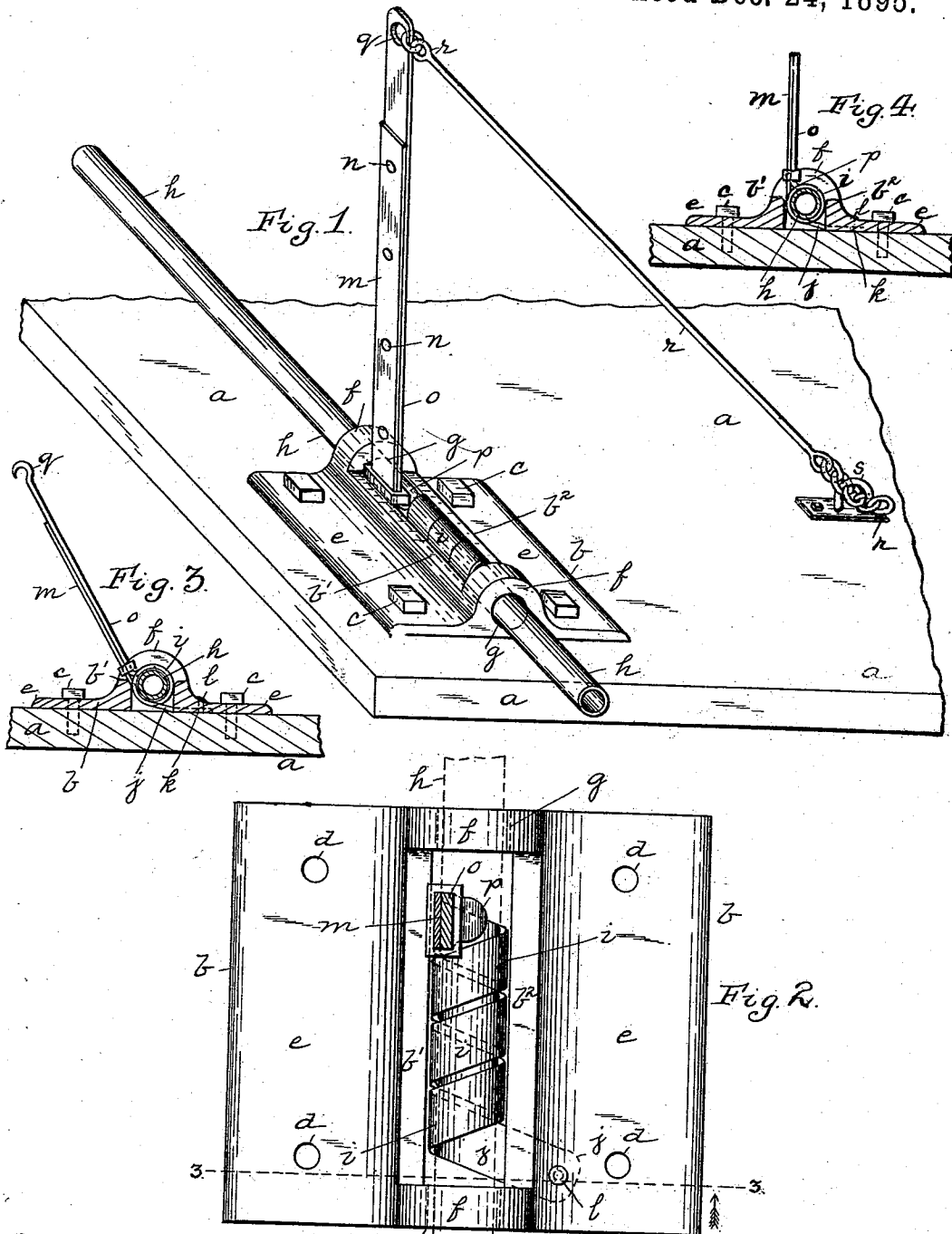


(No Model.)

R. J. LOCKHART.
VISE OR CLAMP FOR RODS OR PIPES.

No. 551,976.

Patented Dec. 24, 1895.



Witnesses:

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RICHARD JAMES LOCKHART, OF PITTSBURG, PENNSYLVANIA.

WISE OR CLAMP FOR RODS OR PIPES.

SPECIFICATION forming part of Letters Patent No. 551,976, dated December 24, 1895.

Application filed May 3, 1895. Serial No. 548,002. (No model.)

To all whom it may concern:

Be it known that I, RICHARD JAMES LOCKHART, a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Vises or Clamps for Rods or Pipes; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to a vise or clamp for pipes and rods, and has special reference to such as are used on polished tubular surfaces during the cutting or tapping thereof.

Heretofore in the common form of a vise or clamp most generally used for holding brass or other polished pipe or rods the jaws of the vise or clamp bit into the highly-polished surfaces held therein during tapping or cutting and nicked or scratched the pipe or rod so greatly that the appearance of the finished work was marred and unsightly. The nicks or scratches generally extended into the outside polished surface of the pipe or rod to the depth of from about one thirty-second to the one-sixteenth part of an inch, and it was found simply impossible to remove the same without turning down the whole exterior surface of the pipe or rod in a lathe, which of course would then reduce in diameter and greatly weaken the pipe or rod. Other devices required the use of separate mechanism for insertion in the jaws of a vise or wrench which were very expensive and complicated, as well as inconvenient and took up a great deal of time and trouble.

The object of my invention is to overcome the above objection and to provide a vise or clamp in which all danger of nicking or scratching the pipe or rod is prevented and all liability of spoiling or marring the appearance of the exterior polished surface of the pipe or rod in the finished work is overcome, as well as to simplify the construction of such vises and wrenches.

My invention consists, generally stated, in a vise or clamp for tubes and rods, and a spring-clamp adapted to engage with the tube or rod, having one end rigidly secured and its opposite end provided with connections for securing the same around the pipe or rod.

It also consists in certain other details of construction and combination of parts, all

of which will be more fully hereinafter set forth and claimed.

To enable others skilled in the art to make and use my invention I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a perspective view of my improved vise or clamp, showing it closed and holding a section of tubing therein. Fig. 2 is a top or plan view of the same, showing the same open. Fig. 3 is a cross-section on the line 3 3, Fig. 2, showing the same open; and Fig. 4 is a like view showing the clamp closed.

Like letters indicate like parts in each of the figures of the drawings.

Mounted upon the bench *a* is the body portion *b*, which is secured to said bench *b* by means of the bolts *c* passing through holes *d* in the flanges *e* thereof. The body portion *b* of the vise or clamp is provided with the side supports *b'* *b*² and with the bearings *f*, having the openings or holes *g* therein for the passage of the tube or rod *h* through the same, said bearings *f* acting to assist in supporting the tube or rod *h* during tapping or cutting. Secured within the body portion *b* and between the bearings *f* and side supports *b'* *b*² is the spiral-spring clamp *i*, said clamp *i* being preferably formed of spring-steel and having one of its ends *j* secured within or under the support *b*, as at *k*, by means of the bolt *l* passing through the end *j* and the body portion *b*. The spiral-spring clamp *i* is adapted to encircle the tube or rod *h*, and its opposite end *m* is preferably straight and secured by means of rivets or bolts *n* to a lever *o* extending up from the spiral-spring clamp *i*, said lever *o* having a lip *p* formed at its lower end adapted to engage with the tube or rod *h* during clamping. The upper end of the lever *o* is provided with a hook or an opening *q* to which is connected the adjusting-chain *r*, the opposite end of which is adapted to be connected to and held by a hook *s* on the bench *a* or any suitable or convenient place.

The operation of my improved vise or clamp for tubes and rods is as follows: The tube or rod *h* after being passed through the openings *g* in the bearings *f* of the body portion *b* and spiral-spring clamp *i* to the most conven-

ient position desired for cutting or tapping the end thereof, the operator grasps the lever *o* with one hand and throws the lever *o* forward to the position shown in Fig. 1, and while holding the same in this position with the other hand adjusts the chain *r* connected to the lever *o* around the hook *s*, so contracting the opening in the spiral-spring clamp *i* and clamping the same around the tube or rod *h*, the lip *p* on the lever *o* engaging with the exterior surface of the tube or rod *h* and acting to assist the spiral-spring clamp *i* to hold the tube or rod *h* firmly within the clamp *i* and body portion *b* and prevent the same from turning. The side supports *b'* *b''* hold the spiral-spring clamp *i* in position and prevent any lateral movement thereof. After the tube or rod *h* has been cut or tapped and it is desired to release the same from the vise or clamp in order to remove the tube or rod therefrom all that is necessary is to move the lever *o* slightly forward and release the adjusting-chain *r* from engagement with the hook *s*, which allows the lever *o* to move back to the position shown in Fig. 3 and opens the spiral-spring clamp *i* and releases the tube or rod *h*, so that it can be removed.

It will be seen that in the use of my improved vise or clamp for tubes and rods all liability of the polished surface of the tube or rod becoming nicked or scratched is entirely overcome, as there are no sharp teeth or jaws to come in contact therewith. The polished surface of the tube or rod after being cut or tapped does not appear to have been handled by a vise when it is set in the finished work, and the appearance thereof is not marred or unsightly to the eye, as is the case with use of the ordinary vises on such work.

The device is exceedingly simple and performs its work without any liability of breakage or danger to the pipe or rod. It can be operated by any unskilled workman and is not liable to get out of order, as the parts are strong and durable.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A vise or clamp for tubes and rods, comprising a spring clamp adapted to engage with the tube or rod having one end rigidly secured and its opposite end provided with connections for securing the same around the tube or rod, substantially as and for the purposes set forth.

2. A vise or clamp for tubes and rods, comprising a spiral spring clamp adapted to engage with the tube or rod having one end rigidly secured and its opposite end provided with connections for securing the same around the tube or rod, substantially as and for the purposes set forth.

3. A vise or clamp for tubes and rods, comprising a body portion for supporting the tube or rod, and a spring clamp adapted to engage with the tube or rod having one end rigidly secured and its opposite end provided with

connections for securing the same around the tube or rod, substantially as and for the purposes set forth.

4. A vise or clamp for tubes and rods, comprising a body portion for supporting the tube or rod, and a spiral spring clamp adapted to engage with the tube or rod having one end rigidly secured and its opposite end provided with connections for securing the same around the tube or rod, substantially as and for the purposes set forth.

5. A vise or clamp for tubes and rods, comprising a body portion for supporting the tube or rod, and a spring clamp adapted to engage with the tube or rod having one end rigidly secured to said body portion and its opposite end provided with connections for securing the same around the tube or rod, substantially as and for the purposes set forth.

6. A vise or clamp for tubes and rods, comprising a body portion for supporting the tube or rod, and a spiral spring clamp adapted to engage with the tube or rod having one end rigidly secured to said body portion and its opposite end provided with connections for securing the same around the tube or rod, substantially as and for the purposes set forth.

7. A vise or clamp for tubes and rods, comprising a body portion for supporting the pipe or rod, a spring clamp adapted to engage with the tube or rod having one end rigidly secured and its opposite end provided with a lever, and connections from said lever to hold the clamp in position, substantially as and for the purposes set forth.

8. A vise or clamp for tubes and rods, comprising a body portion for supporting the rod or pipe, a spiral spring clamp adapted to engage with the tube or rod having one end rigidly secured and its opposite provided with a lever, and connections from said lever to hold the clamp in position around the tube or rod, substantially as and for the purposes set forth.

9. A vise or clamp for tubes and rods, comprising a body portion for supporting the tube or rod, a spring clamp adapted to engage with the tube or rod and held by side supports around the tube or rod, one end of said clamp being rigidly secured and its opposite end provided with a lever, and connections from said lever to hold the clamp in position around the tube or rod, substantially as and for the purposes set forth.

10. A vise or clamp for tubes and rods, comprising a body portion for supporting the tube or rod, a spiral spring clamp adapted to engage with the tube or rod and held by side supports around the tube or rod, one end of said clamp being rigidly secured and its opposite end provided with a lever, and connections on said lever to hold the clamp in position around the tube or rod, substantially as and for the purposes set forth.

11. A vise or clamp for tubes and rods, comprising a body portion for supporting the tube or rod, a spiral spring clamp adapted to en-

gage with the tube or rod and held by side supports therein, one end of said clamp being rigidly secured and its opposite provided with a lip for engaging with the tube or rod, a lever on said opposite end above said lip, and connections from said lever to hold the clamp in position around the tube or rod, substantially as and for the purposes set forth.

12. A vise or clamp for tubes and rods, comprising a body portion adapted to engage with the tube or rod, a spiral spring clamp in said body portion encircling said tube or rod and held in side supports therein, one end of said

spiral clamp being held stationary in said body portion, a lever on the opposite end having a lip thereon engaging with the tube or rod, and connections from said lever to hold the same in position, substantially as and for the purposes set forth.

In testimony whereof I, the said RICHARD JAMES LOCKHART, have hereunto set my hand.

RICHARD JAMES LOCKHART.

Witnesses:

J. N. COOKE,
A. BLAKELEY.