



# UNITED STATES PATENT OFFICE.

PETER NELSON, OF CHICAGO, ILLINOIS.

## WISE.

SPECIFICATION forming part of Letters Patent No. 537,579, dated April 16, 1895.

Application filed February 13, 1895. Serial No. 538,234. (No model.)

*To all whom it may concern:*

Be it known that I, PETER NELSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Vises, of which the following is a specification, reference being had to the accompanying drawings, which are made part hereof, in which—

Figures 1 and 2 are side elevations of a vise, embodying the invention some of the parts being broken away in Fig. 2. Fig. 3 is a horizontal section thereof on the line 3—3, Fig. 1.

The present invention relates to that class of vises in which the jaws are closed by a treadle operating through the medium of suitably arranged levers, and the object of the invention is to provide an improved vise of this class.

To this end the invention consists in the features of novelty that are particularly pointed out in the claims.

In the drawings I have shown a base A from which rise two posts B, constituting a portable frame to which the vise is secured, but the invention is not limited thereto. This frame is shown simply as one means for supporting the vise, but in practice it may be secured to the floor and to some convenient object such as a bench.

C represents the stationary jaw which is secured between two heavy plates D that are fixed to the posts B and has an extension c that extends to and is secured to the floor.

E is the movable jaw which is fulcrumed at e to the plates D and has an extension e' that extends nearly to the floor and has its lower end pivotally connected to the forward end of a link F the rear end of which is pivotally connected to the treadle lever G. This lever is of the bell-crank variety. It is fulcrumed at g between the arms of a U-shaped bracket H that is secured to the posts B and it carries at its front end the treadle I. It is bifurcated so as to straddle the extensions of the jaws and the treadle connects the front extremities of its two branches. That portion of the extension c that is swept by the treadle in its movement is constructed upon the arc of a circle struck from the center of motion of said treadle, and this curved portion of the

extension is bifurcated. Between its branches is a ratchet J pivoted at j, and held normally in such position that its teeth project beyond the surface of the extension c in position to engage the back part of the treadle. It is held normally in this position by a spring K which is secured to the extension c by a clip L and has an upward extension K' that operates to open the jaws. To this end it has a loop k that surrounds the extension e' and it is so shaped that it tends constantly to draw said extension toward the extension c. It bears through the medium of an anti-friction roller M.

N is a bell crank lever terminating at one end in a treadle n and having its other end connected by a link O with the ratchet J, so that by pressing on the treadle n, the ratchet is moved from the position shown by full lines to the position shown by dotted lines in Fig. 2. This frees it from engagement with the treadle I and the spring K' opens the jaws and restores the treadle to its normal, elevated position.

What I claim as new is—

1. In a vise the combination of the two jaws, each having an extension, a ratchet pivoted to one of said extensions and a treadle lever operatively connected to the other of said extensions and engaged by said ratchet, substantially as set forth.

2. In a vise, the combination of the stationary jaw, having a downward extension secured at its lower end, a ratchet pivoted to said extension, a movable jaw having a downward extension, and a treadle lever operatively connected with the extension of the movable jaw and engaged by said ratchet, substantially as set forth.

3. In a vise, the combination of a stationary jaw having a downward extension, bifurcated, a ratchet pivoted between the branches of said extension, a spring engaging said ratchet and holding it normally in operative position, a movable jaw having a downward extension, and a treadle lever operatively connected to the extension of the movable jaw, said lever being bifurcated so as to straddle the extensions of the jaws and being engaged by the ratchet, substantially as set forth.

4. In a vise, the combination of the station-

ary jaw having a downward extension, a ratchet pivoted to said extension, a bell crank lever having at one end a treadle, a link connecting the other end of said lever with said  
5 ratchet, a movable jaw having a downward extension, a bell crank lever, having at one end a treadle, and a link connecting the other end of said lever with the extension of the movable jaw, substantially as set forth.  
10 5. In a vise, the combination of a fixed jaw, having an extension, a movable jaw having an extension, a spring secured to one of said extensions and engaging the other and operating to draw them together, treadle mechanism connected with the extension of the movable jaw, a ratchet pivoted to the other jaw and adapted to lock said treadle mechanism, and a spring holding said ratchet normally in engaging position, the two springs being integral, substantially as set forth.  
PETER NELSON.

Witnesses:

L. M. HOPKINS,

N. C. GRIDLEY.