J. B. LOW.

Improvement in Lathe-Vises.

No. 128,641. Patented July 2, 1872.

Fig. 1.

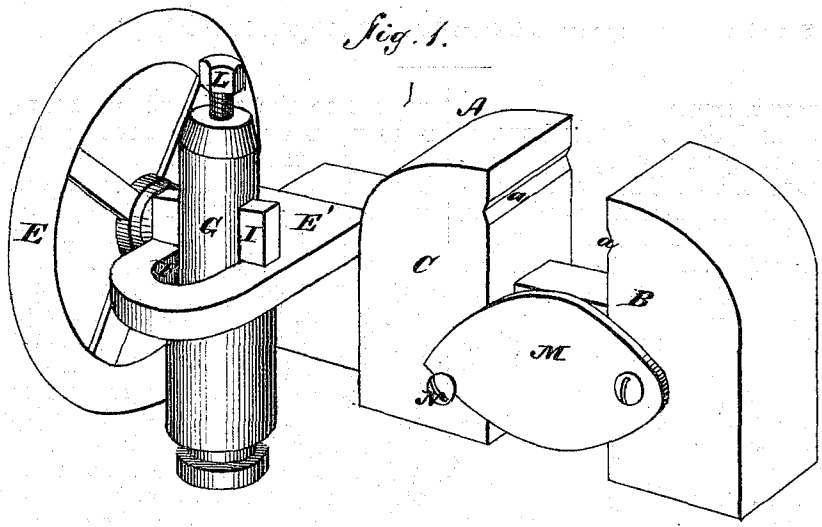
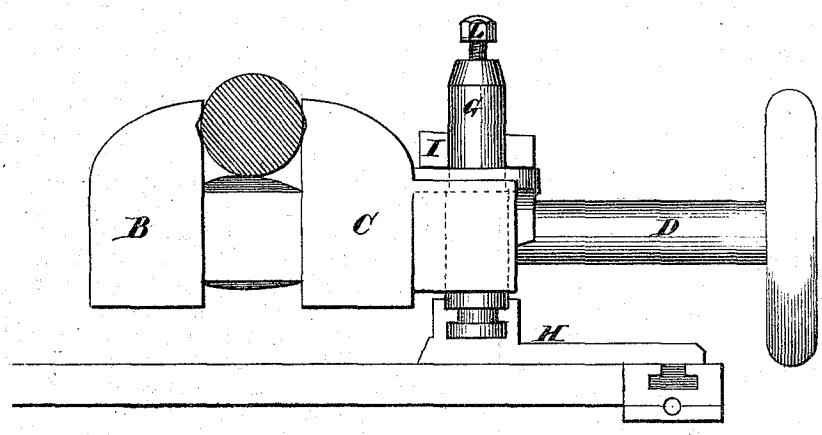


Fig. 2.



Witnesses.
C. F. Brown
N. W. Ellsworth.

Inventor.
Joel B. Low
By Hill & Ellsworth,
His Attorneys.

UNITED STATES PATENT OFFICE.

JOEL B. LOW, OF RAVENNA, OHIO.

IMPROVEMENT IN LATHE-VISES.

Specification forming part of Letters Patent No. 128,641, dated July 2, 1872.

To all whom it may concern:

Be it known that I, JOEL BACON LOW, of Ravenna, in the county of Portage and State of Ohio, have invented an Improved Lathe-Vise or Bolt-Holder; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a perspective view of my improved vise, showing the tool-post disconnected from its carriage; and Fig. 2, a side elevation of the same attached to the tool-carriage of a metal-lathe.

Similar letters of reference in the accompanying drawing denote the same parts.

In the operation of metal-working lathes the devices heretofore employed for holding bolts, while cutting threads upon them with a bolt-cutter, have usually been made to work on a carriage constructed and geared especially for the bolt-holder, and sliding on separate ways, the whole being a distinct machine from any part of the lathe, and requiring the removal of the lathe-tool carriage before it can be applied, thus involving labor, inconvenience, expense, and loss of time.

The object of this invention is, first, to provide for public use a cheap, simple, and convenient instrument which can be used in connection with the lathe-tool carriage either as a rest for bolts while cutting threads upon them, or as a holder for drills and other lathe-tools in ordinary use, and which can be readily and easily attached to or detached from the carriage; and, secondly, to provide a rest for the bolts while they are held by the instrument, which will adjust itself to their varying diameters; and my invention consists in the combination of means for accomplishing these ends, substantially as I will now proceed to describe.

In the accompanying drawing, A represents a vise, which is composed of the sliding jaw B, the stationary jaw C, the screw and nut barrel D, and the hand-wheel E, all being of common construction. The stationary jaw C is provided with a horizontal lug, E′, which projects from one side, and has a slot, F, of sufficient size to pass over the head of the tool-post G of an ordinary lathe-carriage, H. When applied to the tool-post, as above, the lug rests upon an enlargement or collar about midway of the post, and is confined by a key, I, which is driven through the mortise in which the tool is usually held, the lug being thus clamped between the collar and key, as shown in Fig. 1. The key is held by the ordinary set-screw L. The inner sides of the jaws B C are provided with transverse grooves *a a*, which act as holders to prevent the vertical displacement of the bolt or other article between said jaws. The grooves *a* are therefore the bearing-surfaces of the jaws, and a circular object held therein will have its center in line with said grooves. M is a plate, pivoted at one end to the side of the sliding jaw B, its opposite end resting on an offset, N, on the opposite jaw, as shown in Fig. 1. The curvature of the edges of the plate M is such that the highest point of its upper edge always touches the lowest radius of a circle whose center is midway between the grooves *a a;* or, in other words, a circular bolt held between said grooves will be supported at three points, viz: the grooves *a a* and the upper edge of the plate M. These parts maintain the same relative position to whatever extent the jaws are separted, the free end of the plate M dropping as the jaws recede, and vice versa, thus lowering or raising its upper edge in proportion to the separation of the jaws.

From this description of my invention it will be readily seen that it can be attached with the utmost facility to a tool-carriage in such manner as to cause the barrel D to extend transversely across the lathe-bed, as shown in Fig. 2, thus adapting the jaws to support a bolt longitudinally during the application of the bolt-cutter, and constituting an adjustable rest in line with the mandrels, the whole device operating with equal perfection, whether the bolt or the bolt-cutter be rotated.

The device can be adjusted with all the ease of the ordinary vise without interfering with the movement of the tool-carriage, the cam-rest or plate M always automatically regulating itself as above stated, so that the work cannot possibly fall below the horizontal line of the mandrels.

The vise may be attached to the tool-car-

riage by means of a bolt and nut, instead of the manner shown, when the construction of the lathe requires a different attachment.

Its uses in an ordinary machine-shop are varied and important, inasmuch as by its employment many useful tools can be grasped and held firmly in almost any position, which could not be made available by the ordinary appliances.

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

1. The vise A, provided with the grooved jaws *a*, and cam-shaped plate M, substantially as described, for the purpose specified.

2. The vise A, provided with the slotted lug E′, in combination with the tool-post G, and operated substantially as described.

JOEL B. LOW.

Witnesses:
M. STUART,
JOSEPH WAGGENER.