

United States Patent Office.

THOMAS H. HUMPHREYS, OF TRENTON, NEW JERSEY.

Letters Patent No. 74,093, dated February 4, 1868.

IMPROVEMENT IN VISES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, THOMAS H. HUMPHREYS, of Trenton, in the county of Mercer, and State of New Jersey, have invented new and useful Improvements in Cast-Iron Vises; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, which form part of the same, and to the letters of reference marked thereon, in which—

Figure 1 represents a side view of the vise.

Figure 2 represents the inverted sword or bar, with protected screw, and an adjustable thimble, D.

Figure 3 represents the shape of the sword or bar as it passes through the scabbard B.

Figure 4 represents the mode of fastening and holding the nut E in its proper position in the scabbard B.

Similar letters of reference, where they occur in separate figures, denote like parts in all the drawings.

My invention consists of an inverted keystone-shaped sword or bar, with a protected screw operating within the sword or bar, with an adjustable thimble on the screw, and the mode of securing the nut within the scabbard.

In order to enable others skilled in the art to make use of my invention, I will proceed to describe the same with reference to the drawings.

A represents the sword or movable bar, B the stationary scabbard, and C the screw operating within the nut E, and shielded by the sword or bar A. The sword or bar A is made in an inverted keystone-shape for the purpose of making the bearings equal on all sides, thereby preventing any more wear on one side than on the other, and also preventing the sliding sword or bar A from having any swaying motion, because in opening or closing the vise the jaws move on a horizontal line. The adjustable thimble D on the screw C has an inside thread, about half an inch in length, at the end *c*, being the opposite end from the journal *a*, so that when the screw C, which, by constant wear, becomes loose in the journal *a*, it can be readily tightened by simply loosening the set-screw *b*, and holding the thimble D, then by turning the screw C until all the lost motion is taken up, and again tightening the set-screw *b*. The thimble is held stationary, and all lost motion is taken up. This thimble can be made of either brass or iron.

Vises not possessing this advantage soon become loose in the journal where there is constant wear, and thus create great annoyance.

In fig. 4, the stationary jaw or scabbard B, an inverted T-slot is made, into which the bottom part of the nut E is closely fitted or made to slide into, having a shoulder above the slot *d*, and the nut E is held firmly to its position by means of a set-screw, *e*, from the under side of the stationary jaw or scabbard B, making the nut perfectly tight and secure.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. I claim the combination of the dove-tail formed slide or sword A, nut E, and adjustable thimble D, as arranged, shown, and described.

2. I claim, in combination with screw C, the adjustable thimble D, operating as herein described.

THOMAS H. HUMPHREYS.

Witnesses:

THOS. LEONARD,

JAMES S. KIGER.