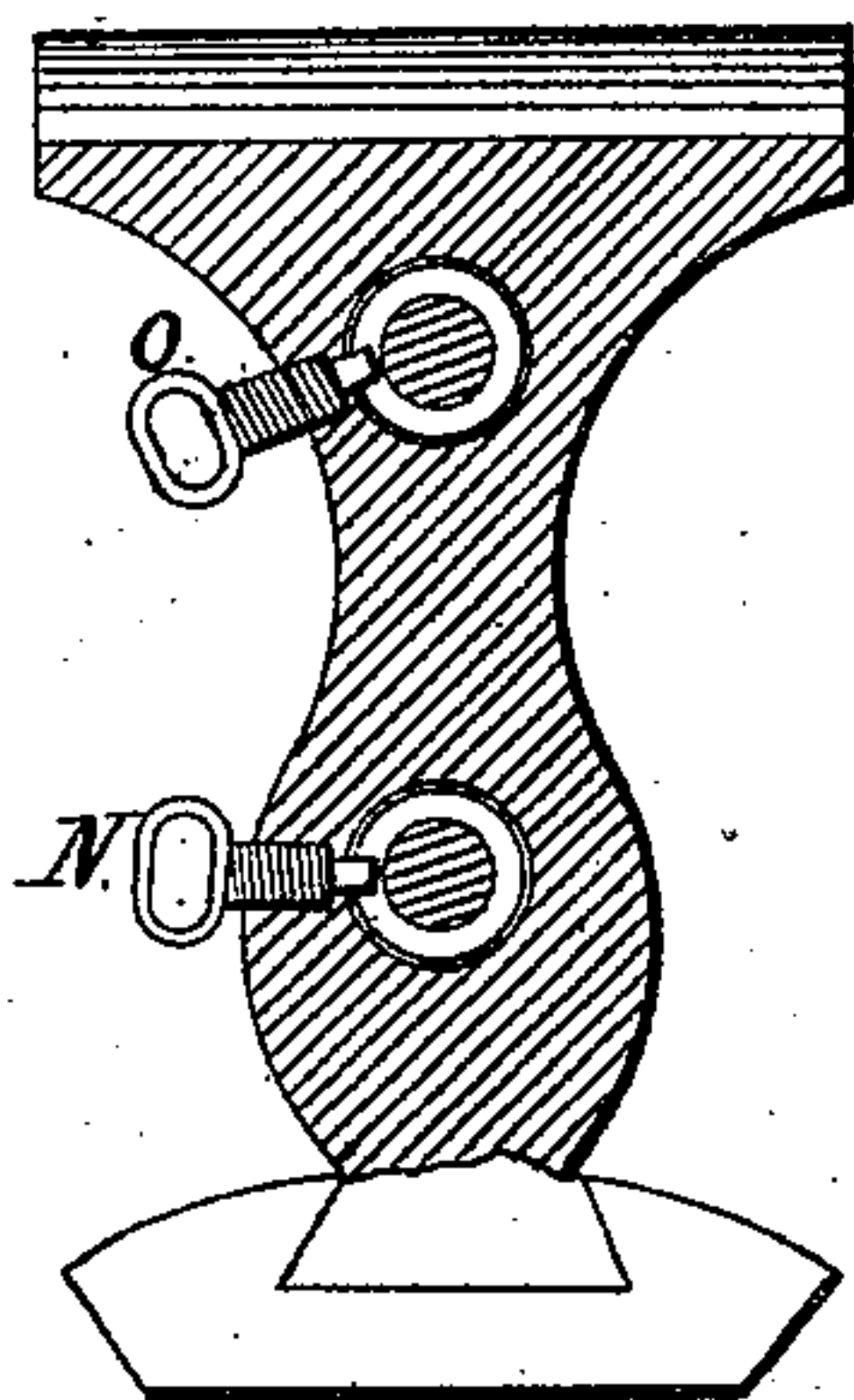
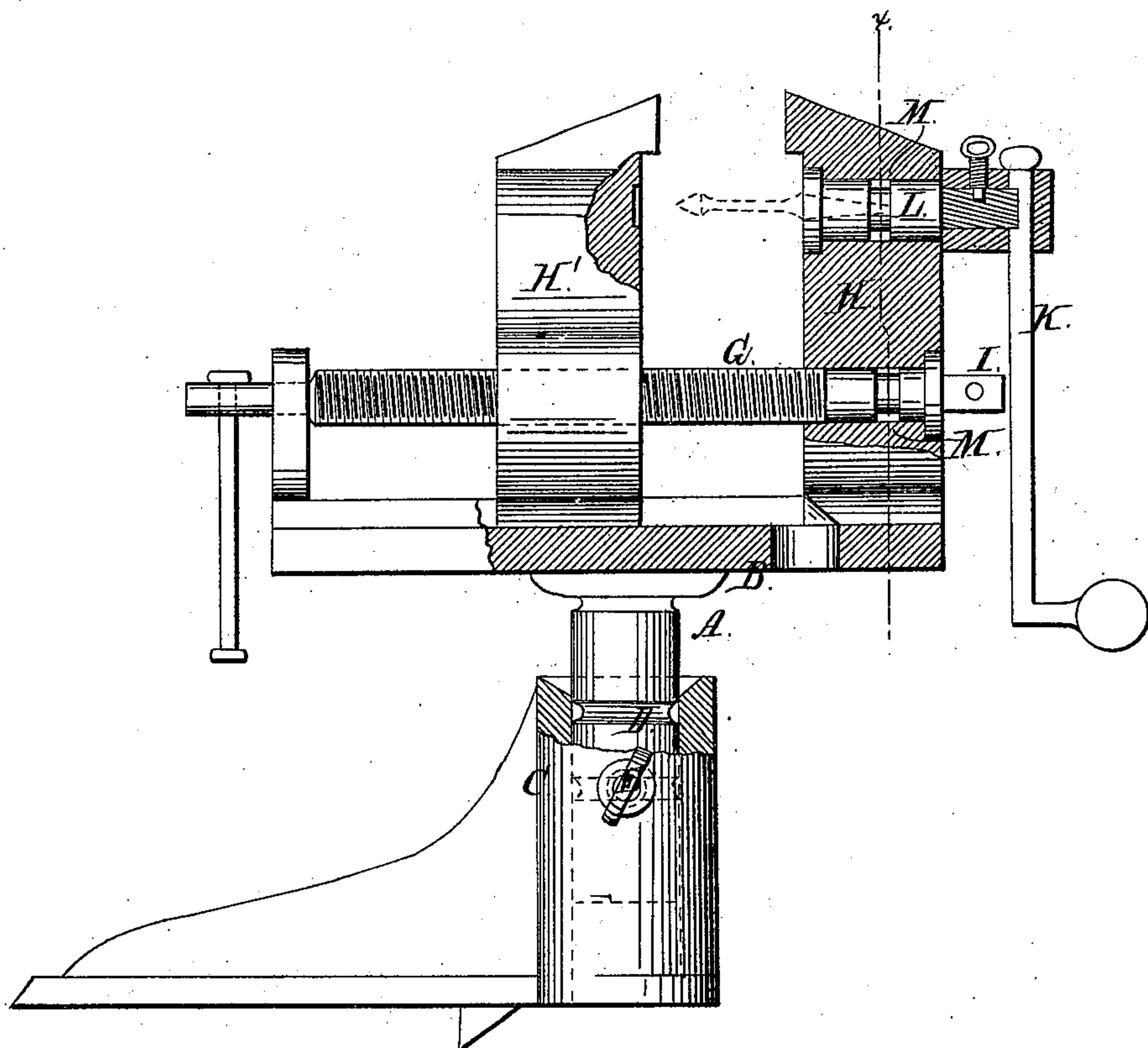


*O. Dean,*

*Vise.*

*No. 95,663.*

*Patented Oct. 12. 1869.*



*Witnesses.*

*Wm. F. Clark*  
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*PER*

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# United States Patent Office.

OTIS DEAN, OF RICHMOND, VIRGINIA.

Letters Patent No. 95,663, dated October 12, 1869.

## IMPROVED VISE.

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, OTIS DEAN, of Richmond, in the county of Henrico, and State of Virginia, have invented a new and useful Improvement in Vises and Drills; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to improvements in the construction of the vise and drill recently patented to me, in which improved device the fixed jaw is made use of as the stock of the drill-spindle, the movable jaw as the table and support of the articles to be drilled, and the vise-screw as the feed-screw.

The present invention comprises an improved arrangement of the vertical adjusting-spindle of the support for the jaw, and the adaptation of the feeding or vise-screw, for operation either by the ordinary vise-lever or by the crank used for turning the drill-spindle; also certain improvements in the construction of the vise-screw and the drill-spindle with the fixed jaw.

Figure 1 represents a side elevation of my improved vise, partly sectioned, and

Figure 2 represents a section taken on the line *x x* of fig. 1.

Similar letters of reference indicate corresponding parts.

Instead of the ball-and-socket connection of the shank A with the bracket B, as in the case above referred to, I propose to connect the cylindrical shank A directly to the bed B or support for the jaws, and arrange it for working vertically in the socket of the bracket C, and I turn annular grooves D in the said shank, at suitable distances, into which the point of the set-screw E may be forced to hold the vise at the required height, no matter what may be the direction of the support A.

I propose to extend the vise-screw G beyond the

fixed jaw H sufficiently to form a shank, I, for the reception of the crank K used for turning the drill-spindle L.

The continuous motion required for rotating the drills, makes it necessary that the jaw supporting the drill-spindle stand fronting the operator when drilling.

It is also necessary, for obvious reasons, that the drill-spindle be fixed in the permanent jaw, and when used as a vise, this jaw should stand the same way, and the lever for turning the feed-screw when used for drilling must be at the opposite end, or behind the movable jaw; consequently if only one such lever is employed, it must be on the wrong end of the screw when used as a vise, and it would be objectionable to have one in each end. Moreover, it would be difficult to use one in the end H, as it would interfere with the projecting shank of the drill-spindle. Hence the importance of the arrangement of the crank used for turning the drill-spindle, to operate the screw when used as a vise.

I make, in both the screw and the drill-spindle, annular grooves M, for holding them against end movement in the fixed jaw by the set-screws N O.

Having thus described my invention,

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

1. Forming a hole for the handle in the but ends of the screw, and extending said ends beyond the jaws, so as to apply the lever to either end, substantially as described.

2. The combination, with the vise-jaws, of the socketed bracket C, grooved shank A, and set-screw E, as and for the purpose set forth.

The above specification of my invention signed by me, this 15th day of July, 1869.

OTIS DEAN.

Witnesses:

S. W. FARRAR,  
W. G. ALLEN.