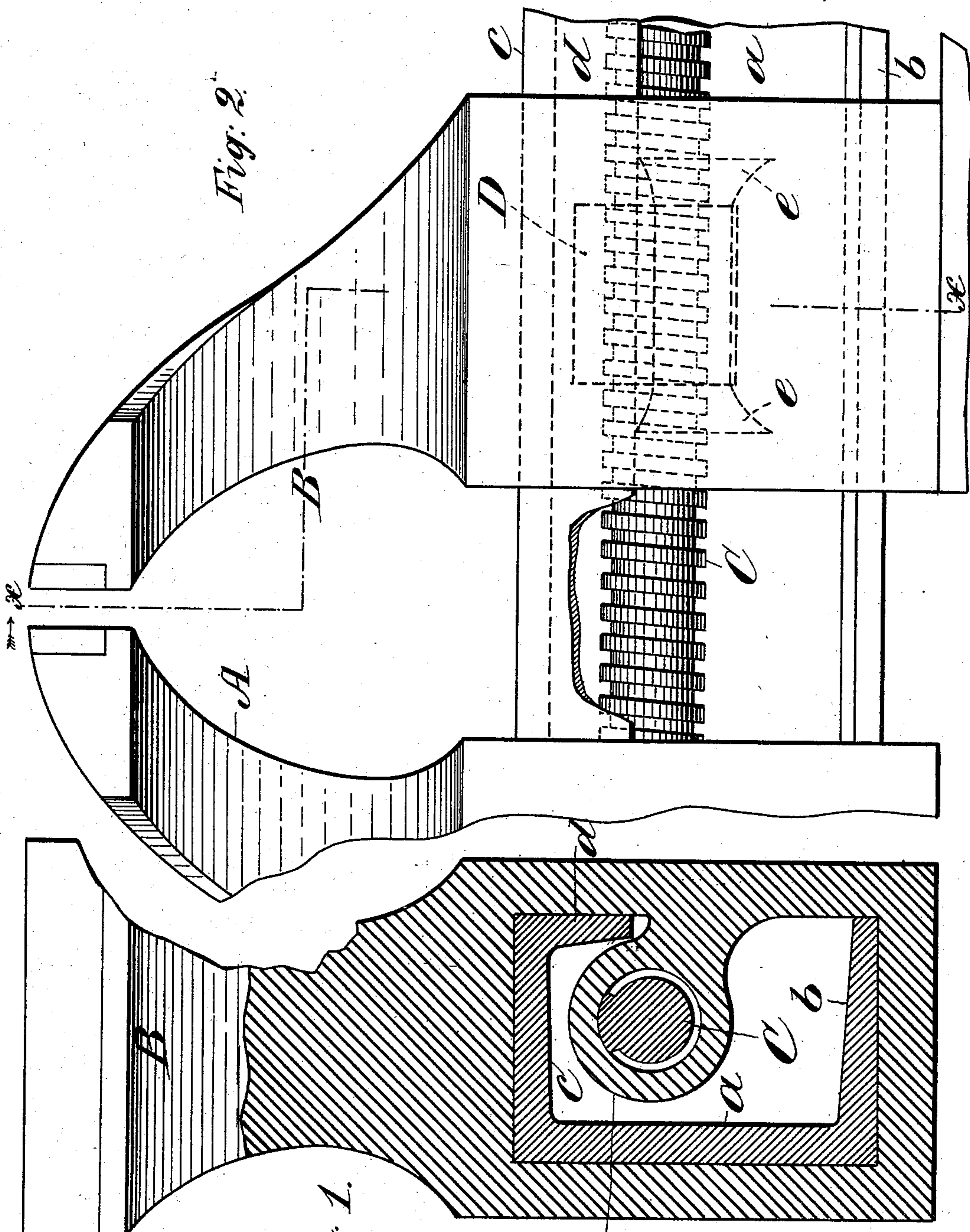


(No Model.)

M. G. LEWIS.
BENCH VISE.

No. 605,106.

Patented June 7, 1898.



WITNESSES :

J. H. Winman
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Fig. 1.

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MORTIMER G. LEWIS, OF NEW YORK, N. Y.

BENCH-VISE.

SPECIFICATION forming part of Letters Patent No. 605,106, dated June 7, 1898.

Application filed December 24, 1897. Serial No. 663,295. (No model.)

To all whom it may concern:

Be it known that I, MORTIMER G. LEWIS, a citizen of the United States, and a resident of New York, in the county and State of New York, have invented certain new and useful Improvements in Bench-Vises, of which the following is a specification.

My invention has relation to bench-vises, and especially to those portions thereof which are concerned with the movements of and the sustaining of the movable head with respect to the other or stationary head.

The principal object of my invention is to supply the vise with a sliding bar which shall be light and yet abundantly strong, which shall be capable of withstanding the injurious effects of hammering or pounding thereon, which shall afford peculiar conveniences in the matter of oiling the screw, and which shall protect the same against accumulation of foreign substances thereon; and a subordinate object is the simplification and improvement of the construction, whereby the nut may be easily formed or placed and afford ample strength and security at this part.

To accomplish all of the above and to secure other and further advantages in the matters of construction, operation, and use, my improvements involve certain novel and useful arrangements or combinations of parts and peculiarities of construction, as will be herein first fully described, and then pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a vertical section and elevation upon a plane through the stationary vise-head, as on line *xx* of Fig. 2 and looking in the direction of the arrow; and Fig. 2 is a side view of a vise, showing a fragment of the movable head and of the vise-bar for a portion of its length.

In both the figures like letters of reference wherever they occur indicate corresponding parts.

A represents the front jaw, and B the back or stationary jaw, which in themselves are of any of the ordinary patterns and which may be of any desired size.

C is the vise-screw, which passes through the front jaw and through a nut within the rear jaw.

The sliding bar according to my improve-

ments is preferably made of steel, and it is united with the front jaw in some substantial manner, as by casting the jaw upon it.

The sliding bar as heretofore constructed either protects the screw to such extent that it is impossible to oil the latter without removing the bar bodily from the stationary head or else it leaves the screw exposed to the collection thereon of clippings or filings which interfere with its proper working; and in such forms as sufficiently protect or cover the screw the projecting portion of the bar is commonly used for an anvil or support on which hammering is done, to the detriment of the bar. I therefore make the bar of substantially rectangular section on the exterior, as indicated, the upright side *a* being full, the base portion *b* extending across the slot through the head B, the top *c* flat, and I provide the flat top with a flange *d*, extending throughout the length of the top, but reaching down only below the upper surface of the screw. This flange strengthens the top to such extent that it may be hammered upon, same as in the ordinary forms, but without injury, and it enables me to make the bar of much lighter metal than the former constructions, while retaining all necessary strength to withstand the cross-strains consequent upon the clamping action or the hammering upon work which may be held by the vise-jaws.

As the vise-bar is moved back and forth the flange *d* bears against the side wall of the rectangular opening in the rear vise-head, and thus prevents wearing or cutting into that wall, as would occur without the flange, especially when the bar is made of thin and light parts, as it is my purpose to make it.

The greater portion of the screw being exposed on the side, as shown, the top of the screw may be easily reached with the nozzle of an oil-can and oil projected thereon without disturbing any of the parts. The upper part of the screw being entirely covered, it is protected against lodgment of any foreign substances upon it, as will be understood.

The nut D is affixed to or formed with the inner side of the stationary head after any approved manner of construction. It may be thus easily tapped or seated, being easily reached from the exterior and from either the back or front of the stationary head. The

lower portion *b* of the bar slides under the nut, and the flange *d* slides over it, so that the size of the nut is only limited in a vertical direction. The nut may be carried forward or backward as far as may be desired, or it may be braced forward or backward to any desirable extent, as indicated by the dotted lines at *e e* in Fig. 2.

The parts being constructed and arranged substantially in accordance with the foregoing explanations will be found to answer all the requirements in economy of metal, strength to resist hammering and strains, protection from obstructing the screw, and convenience in oiling, as above indicated.

Having now fully described my invention, what I claim as new herein, and desire to secure by Letters Patent, is—

1. In a bench-vise, the sliding bar having the flat top and bottom parts united on one

side by the upright piece, the top being provided with a flange extending down part way on the other side and bearing against the adjacent vertical wall of the opening in the rear vise-head, substantially as shown and described.

2. In a bench-vise, the combination of the screw, the sliding bar having a flange on one side, and the nut located within the stationary head and at the side thereof, said nut being braced or extended in the direction of the length of the bar, substantially as shown and described.

Signed at New York, in the county and State of New York, this 21st day of December, A. D. 1897.

MORTIMER G. LEWIS.

Witnesses:

RAYMOND I. BLAKESLEE,
WORTH OSGOOD.