

No. 641,457.

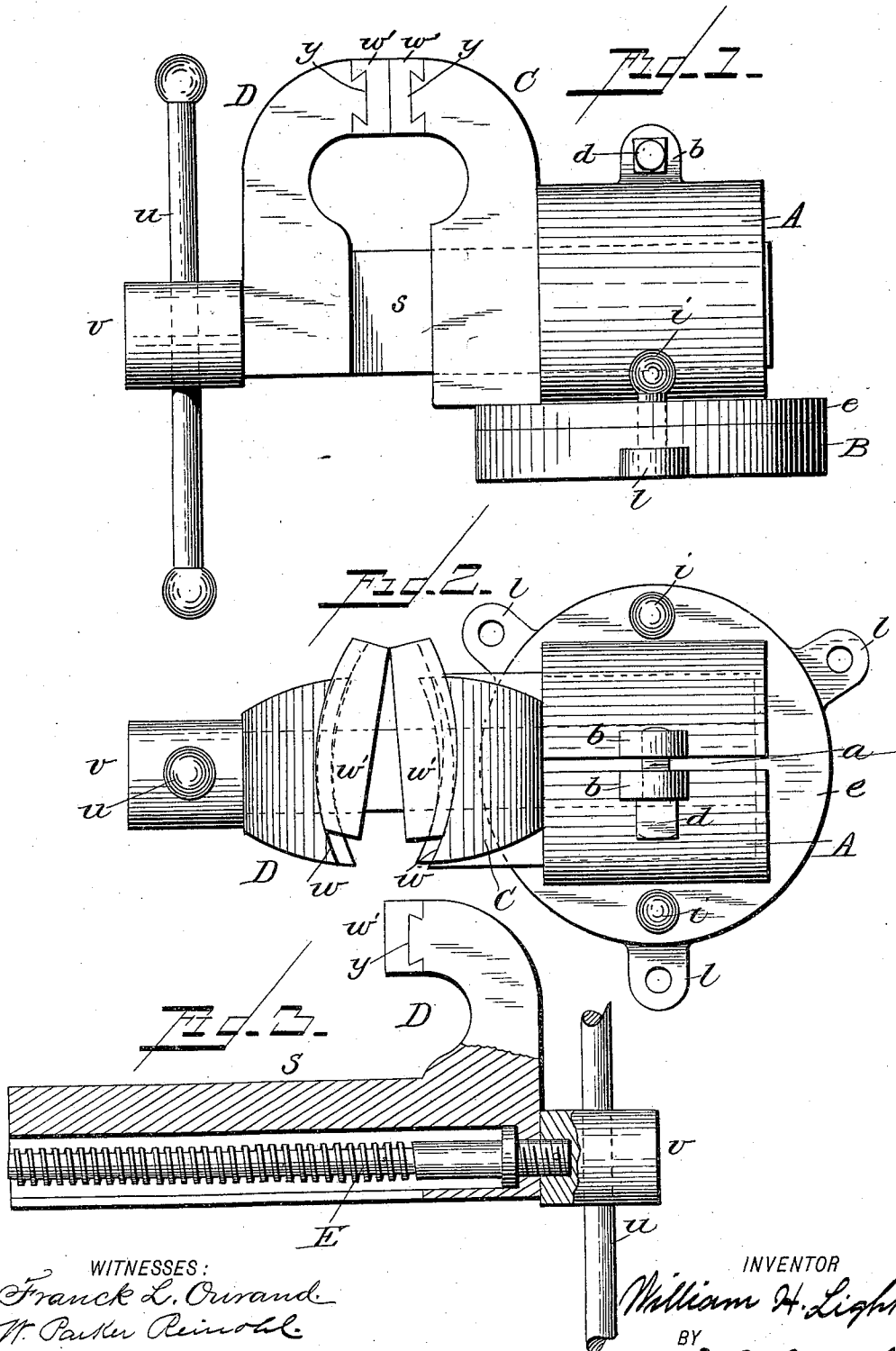
Patented Jan. 16, 1900.

W. H. LIGHT.
BENCH VISE.

(Application filed Oct. 16, 1899.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

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INVENTOR

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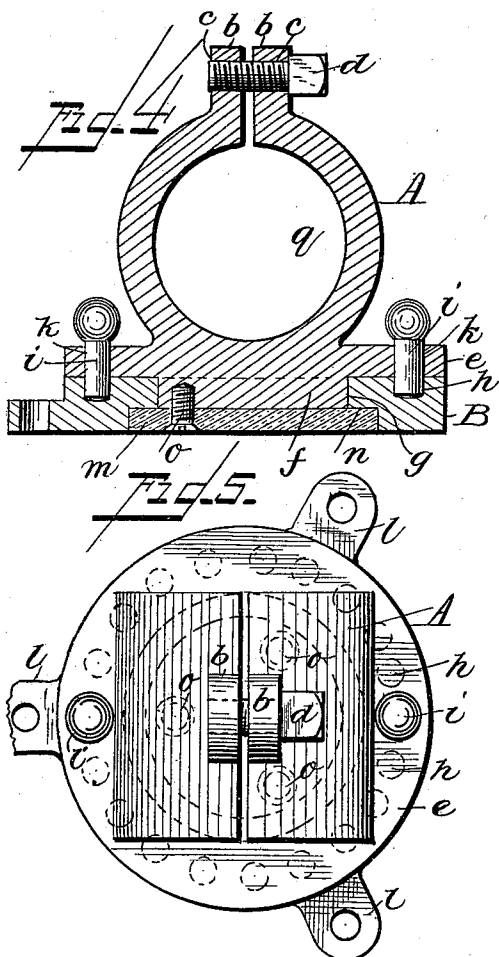
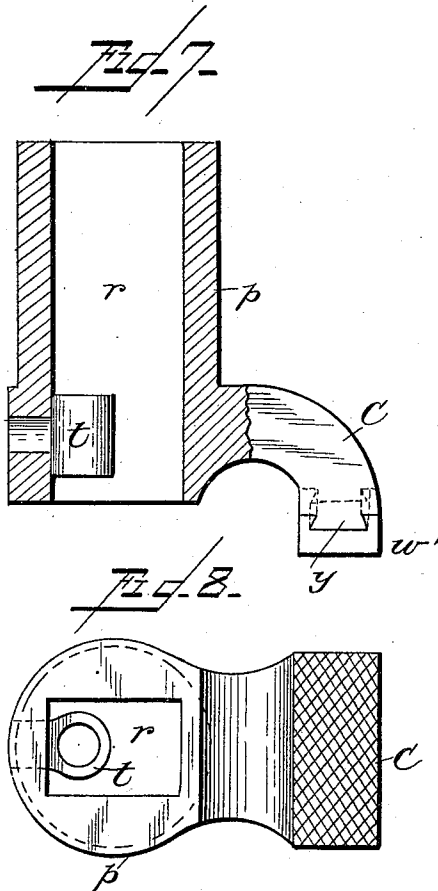
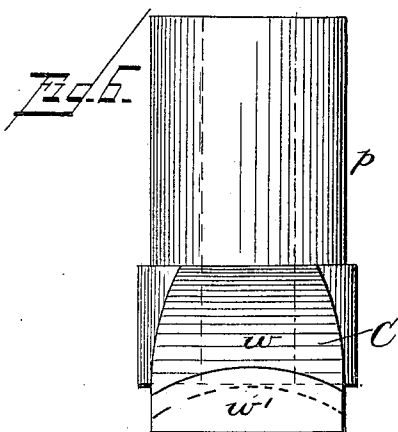
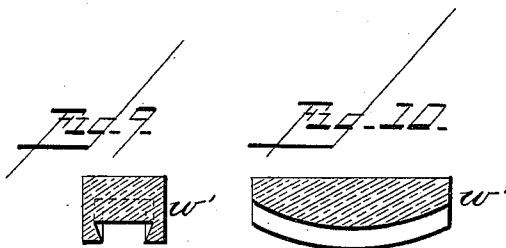
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UNITED STATES PATENT OFFICE.

WILLIAM H. LIGHT, OF LEBANON, PENNSYLVANIA.

BENCH-VISE.

SPECIFICATION forming part of Letters Patent No. 641,457, dated January 16, 1900.

Application filed October 16, 1899. Serial No. 733,747. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. LIGHT, a citizen of the United States, residing at Lebanon, in the county of Lebanon and State of Pennsylvania, have invented certain new and useful Improvements in Bench-Vises; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to vises, has especial reference to that class of vises known to the trade as "bench vises," designed to be secured to the top of work-benches, and has for its object a simple construction whereby the vise can be readily adjusted to different angles and rotated axially for the convenience of the workman; and it consists in certain improvements in construction, which will be fully disclosed in the following specification and claim.

In the accompanying drawings, which form part of this specification, Figure 1 represents a side elevation of my invention; Fig. 2, a top plan view of the same; Fig. 3, a side elevation, partly in section, of the outer jaw; Fig. 4, a transverse section of the body of the vise; Fig. 5, a top plan view of the same; Fig. 6, a top plan view of the inner jaw; Fig. 7, a side elevation, partly in section, of the same; Fig. 8, a front end view of the same; Fig. 9, a transverse section of one of the adjustable cheek's face-pieces, and Fig. 10 a vertical longitudinal section of the same.

Reference being had to the drawings and the letters thereon, A indicates the body of the vise, cylindrical in form and separated longitudinally at *a*, the two parts of the body being contractible and expansible to clamp the shank of the inner jaw in any position of adjustment on its axis, and is provided with lugs *b b*, having screw-threaded holes *c c* and a screw-threaded adjusting-bolt *d*. The body is also provided with a circular flange *e* and a circular projection *f*, which respectively rests upon the circular base B and enters the opening *g* in the base. The base is provided with a series of apertures *h*, arranged in a circle, which are engaged by pins *i i*, supported in apertures *k k* in the flanges *e*, which apertures register with the apertures *h* in the

base B and by which the body of the vise is secured in any desired position of rotary adjustment.

The base is provided with lugs *l*, by which the vise is permanently secured to the top of a work-bench by suitable screws or bolts, (not shown,) and the body A is secured to the base B by a disk *m*, which engages a recess or seat *n* in the lower side of the base and is secured to the projection *f* by screws *o* to allow the body A to rotate on the base.

The inner jaw C is provided with a cylindrical shank *p*, which engages the cylindrical passage or bore *q* of the body A to rotate thereon, and the shank *p* is provided with a passage *r*, non-cylindrical and preferably rectangular in cross-section to prevent rotation of the jaw D and its shank *s* within the shank *p*, and in the passage *r* is a fixed nut *t*, with which the screw E engages to adjust the outer jaw D with reference to the inner jaw C to secure articles between the jaws. The shank *s* of the outer jaw D is non-cylindrical and preferably rectangular in cross-section and fits and slides in the rectangular passage *r* of the shank *p* as it is moved in and out by revolving the adjusting-screw E through the medium of the bar *u*, which engages the head *v*, secured to the outer end of the screw.

The jaws C and D have concave or semi-circular faces *w* and are provided with cheeks or face-pieces *w'*, which are convex or semi-circular on their inner sides and are secured to the jaws by a dovetailed connection *y* to slide thereon for adjustment to different angles of inclination to secure articles of varied configurations between the adjustment-faces of the cheeks.

The vise may be adjusted to any angle desired throughout a complete circle by turning the shank *p* in the bore *q* of the body A and is then secured by contracting the body by means of the screw-bolt *d*, and the body of the vise may be rotated to any desired degree throughout a complete circle by removing the pins *i i* and then securing the body on the base by returning the pins to their normal position in the apertures *h*.

It will be observed that the apertures *h* in the base B are always covered by the flange *e*, except when the apertures *k* are passing

over them in the rotation of the body A, and thus prevent any foreign matter falling in the apertures.

5 Having thus fully described my invention, what I claim is—

10 A vise having an expansible and contractible body and provided with a circular flange, a projection below said flange, a base having an opening engaged by said projection and a seat below said opening, a disk engaging said seat and means for rotatably connecting said body to said base; in combination with suitable apertures in said flange, apertures in

said base arranged in a circle, pins for securing the two parts against rotation, a jaw having a cylindrical shank and a non-cylindrical passage therethrough, a jaw having a non-cylindrical shank engaging the passage in the former shank, and an adjusting-screw. 15

In testimony whereof I affix my signature 20 in presence of two witnesses.

WILLIAM H. LIGHT.

Witnesses:

HARRY A. MILLER,
JOHN W. ROBERTS.