

O. M. EAGER.
BENCH VISE.

APPLICATION FILED MAY 15, 1907.

Patented Jan. 25, 1910.

2 SHEETS—SHEET 1.

947,573.

Fig. 1

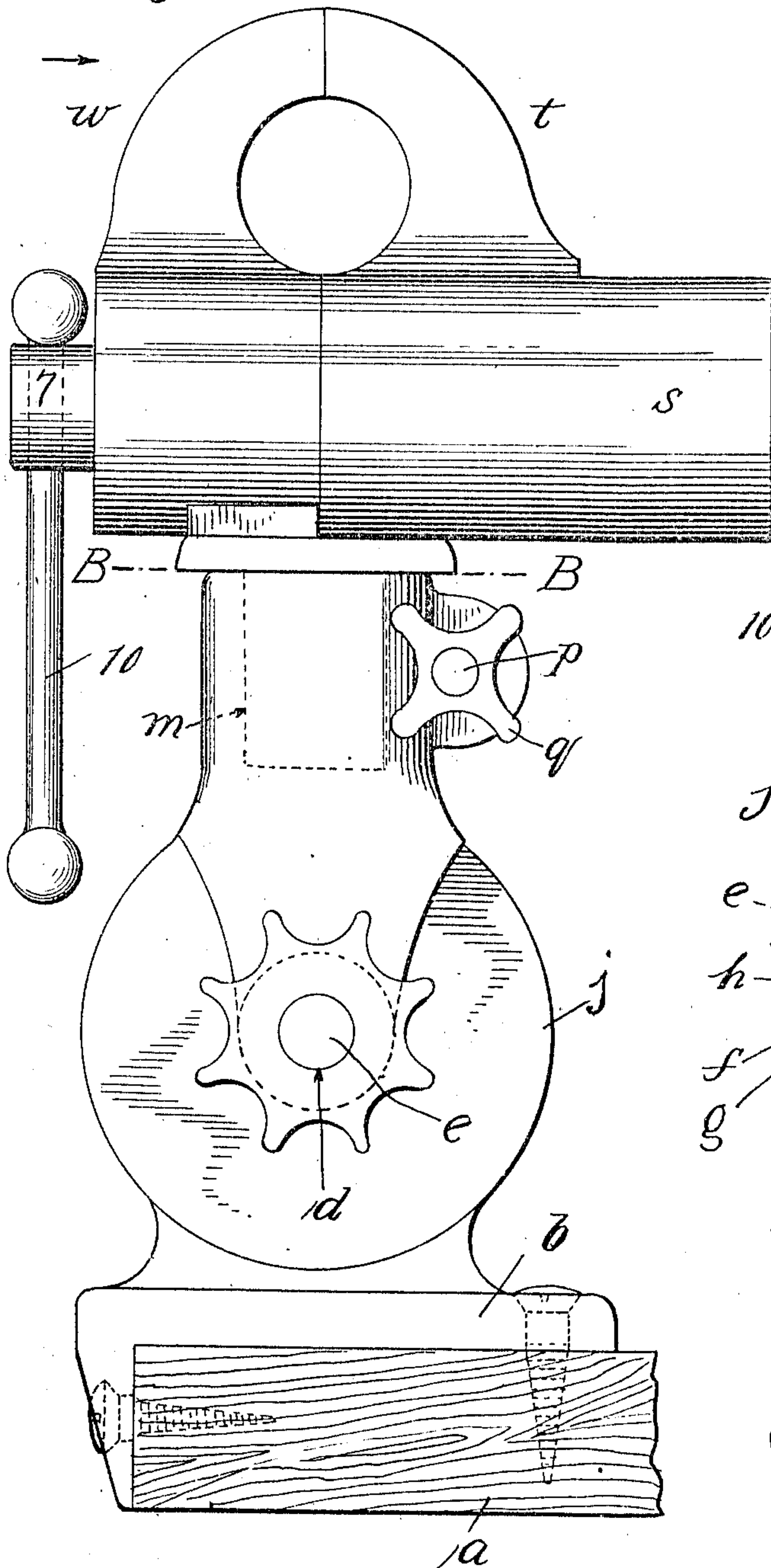
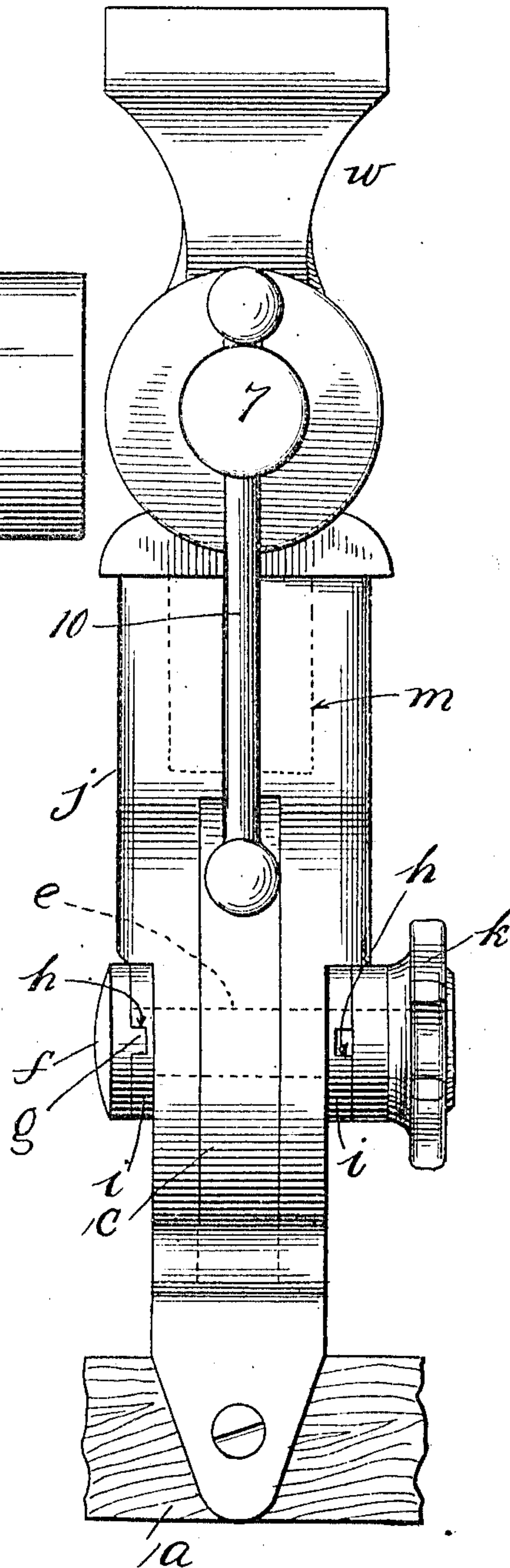


Fig. 2.



Witnesses:
Harry C. Hebig
Lillian Hanson

Oliver M. Eager Inventor
By his Attorney
James Hamilton

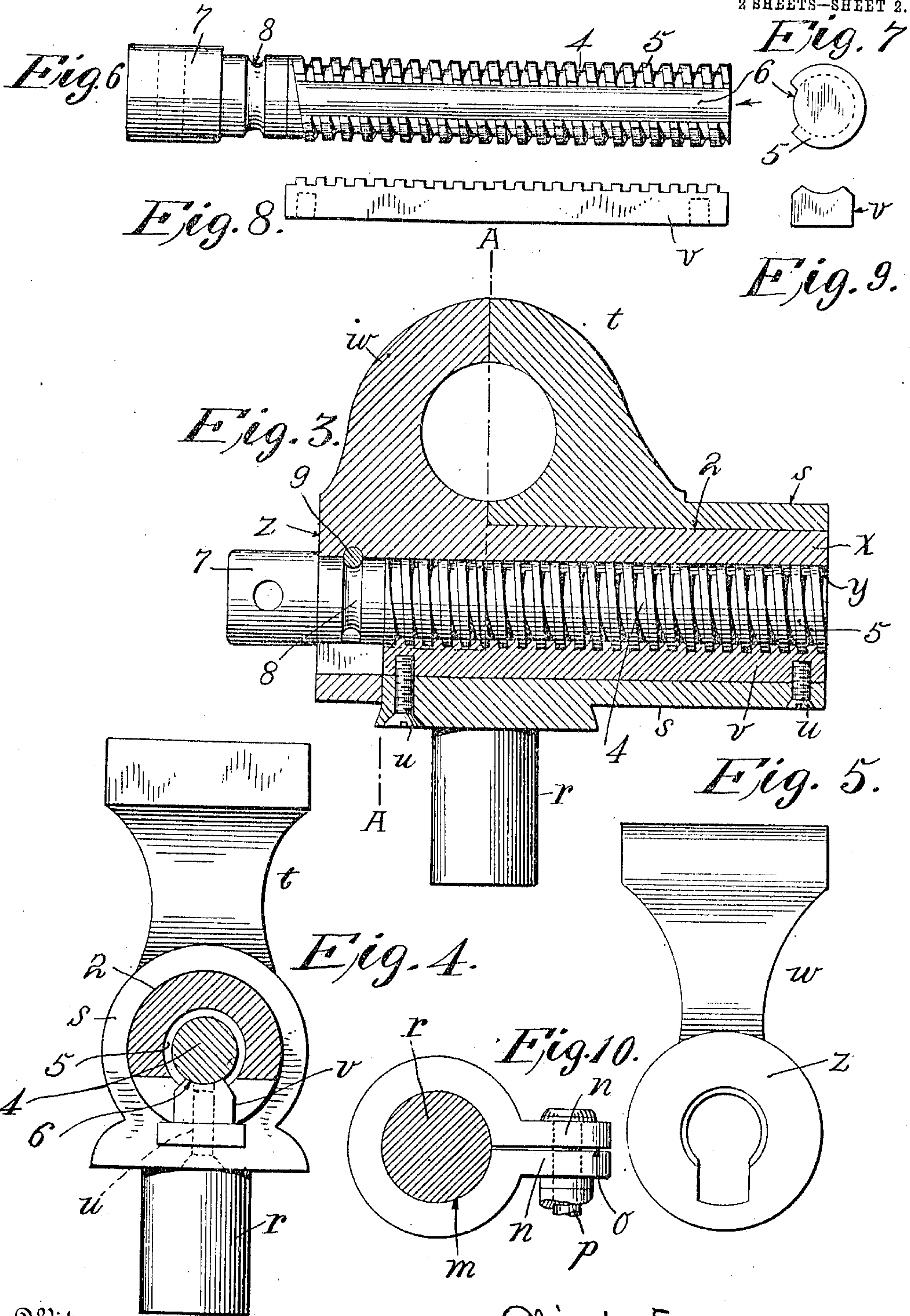
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UNITED STATES PATENT OFFICE

OLIVER M. EAGER, OF SOMERVILLE, MASSACHUSETTS.

BENCH-VISE.

947,573.

Specification of Letters Patent. Patented Jan. 25, 1910.

Application filed May 15, 1907. Serial No. 373,784.

To all whom it may concern:

Be it known that I, OLIVER M. EAGER, a citizen of the United States, residing at Somerville, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Bench-Vises, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in vises and particularly to that class of vises known as bench vises.

One object of my invention is to provide a vise of this class which will be readily adjustable in planes at right angles to each other, such as in a horizontal plane and in a vertical plane.

Another object of my invention is to provide a vise of this class in which the movable jaw may be readily adjusted to grip articles of different sizes.

A third object of my invention is to provide a bench vise which will be simple in construction, comparatively cheap in manufacture, and efficient in operation.

In the drawings illustrating the principle of my invention and the best mode now known to me of applying that principle, Figure 1 is an elevation of my new bench vise; Fig. 2 is a view looking in the direction of the arrow in Fig. 1; Fig. 3 is a central longitudinal section of the jaw members of my new vise; Fig. 4 is a section on the line A—A of Fig. 3; Fig. 5 is an end view of the stationary jaw; Fig. 6 is a detail of the mutilated screw; Fig. 7 is an end view of the mutilated screw looking in the direction of the arrow of Fig. 6; Fig. 8 is a side view of the mutilated nut; Fig. 9 is an end view of the mutilated nut and Fig. 10 is a section on the line B—B of Fig. 1.

To the bench *a* is suitably secured the base *b* of my new vise. (Figs. 1 and 2.) The base *b* carries a disk *c* formed with a central aperture *d*, through which passes the pivot-bolt *e*, the head *f* of which is formed with a lug *g* that engages a notch or recess *h* in the boss *i* formed upon the standard *j*. The threaded end of the pivot-bolt *e* is engaged by the nut *k*. The standard *j* is bifurcated and its lower portion straddles the disk *c*. Its upper portion is formed with a socket *m*, the wall of which is split or slotted, (Fig. 10), and is formed with an ear *n* on each side of the slot *o*. Each ear *n* is formed with a central aperture through which

passes the shank of a bolt *p*, the threaded end of which is engaged by a nut *q*. By turning the latter the size of the socket *m* may be varied so as to loosen or tighten the hold of its walls upon the pivot *r*, (Figs. 3 and 4), which projects downwardly from the chambered body-portion or base *s* of the stationary jaw *t*. In the base *s* is secured by screw *u* the mutilated nut *v*. The movable jaw *w* is provided with a shank *x* in which is formed a central opening *y* which extends through the base *z* of the jaw *w*. This hollow shank *x* enters an opening *2*, in the base *s* of the stationary jaw *t* and guides the movable jaw *w* in its movement toward and from the stationary jaw *t*.

Mounted in the base *z* of the movable jaw *w* is a mutilated screw *4* the threads *5* of which are cut away as shown at *6* in Figs. 6 and 7. Near the head *7* of the mutilated screw *4* there is formed a circumferential groove *8* in which fits a pin *9* that secures the mutilated screw *4* in the base *z*, while permitting the screw *4* to rotate. In the head *7* is mounted the usual slidable handle-bar *10*. The male threads of the mutilated screw *4* are adapted to engage with the female threads of the mutilated nut *v* to force the jaws *w* and *t* toward each other. In the normal or idle position of the handle-bar *10*, the mutilated portion *6* of the screw *4* will be opposed to the threaded face of the nut *v* so that the screw *4* may be readily moved lengthwise over this threaded face. Thus, the movable jaw *w* may be readily adjusted for different sizes of articles; and when the article has been placed between the jaws *w* and *t* and in contact therewith, a partial turn of the handle-bar *10* suffices to engage the threads of the screw *4* and nut *v* and forces the jaws toward each other to grip the article.

I claim:

1. A vise consisting of a movable jaw formed with a chambered shank; a screw mounted in the chamber of said shank; a stationary jaw formed with a chambered body portion in which slidably fits the chambered shank of said movable jaw and from the bottom of which projects downwardly a shank at right angles to the shank of said movable jaw and to the line of movement thereof, when said jaws are opened and closed; a nut secured in the chamber of said body portion and adapted to receive said screw; a standard the upper end of

which is formed with a socket having a split wall and adapted to receive the shank of said stationary jaw, the latter being thereby mounted free to rotate on said upper end; means for closing the split in said wall; and a base to which the lower end of said standard is pivotally connected and upon which said standard is free to rotate in a plane at right angles to the plane of rotation of said stationary jaw upon the upper end of said standard.

2. In a vise, the combination of a stationary jaw; a movable jaw carried thereby; a standard by the upper end of which said stationary jaw is carried and the lower end of which is formed on each of two opposed

sides with a boss formed with a notch; a base; a bolt which is formed with a lug adapted to engage in one of said notches and which serves to connect said standard and base together pivotally; and a nut adapted to engage the threaded end of said bolt to hold said standard in adjusted position.

In testimony whereof I have hereunto set my hand at Boston in the county of Suffolk and State of Massachusetts this sixth day of May, A. D. 1907, in the presence of the two undersigned witnesses.

OLIVER M. EAGER.

Witnesses:

EDWARD N. CARPENTER,
B. J. SMITH.