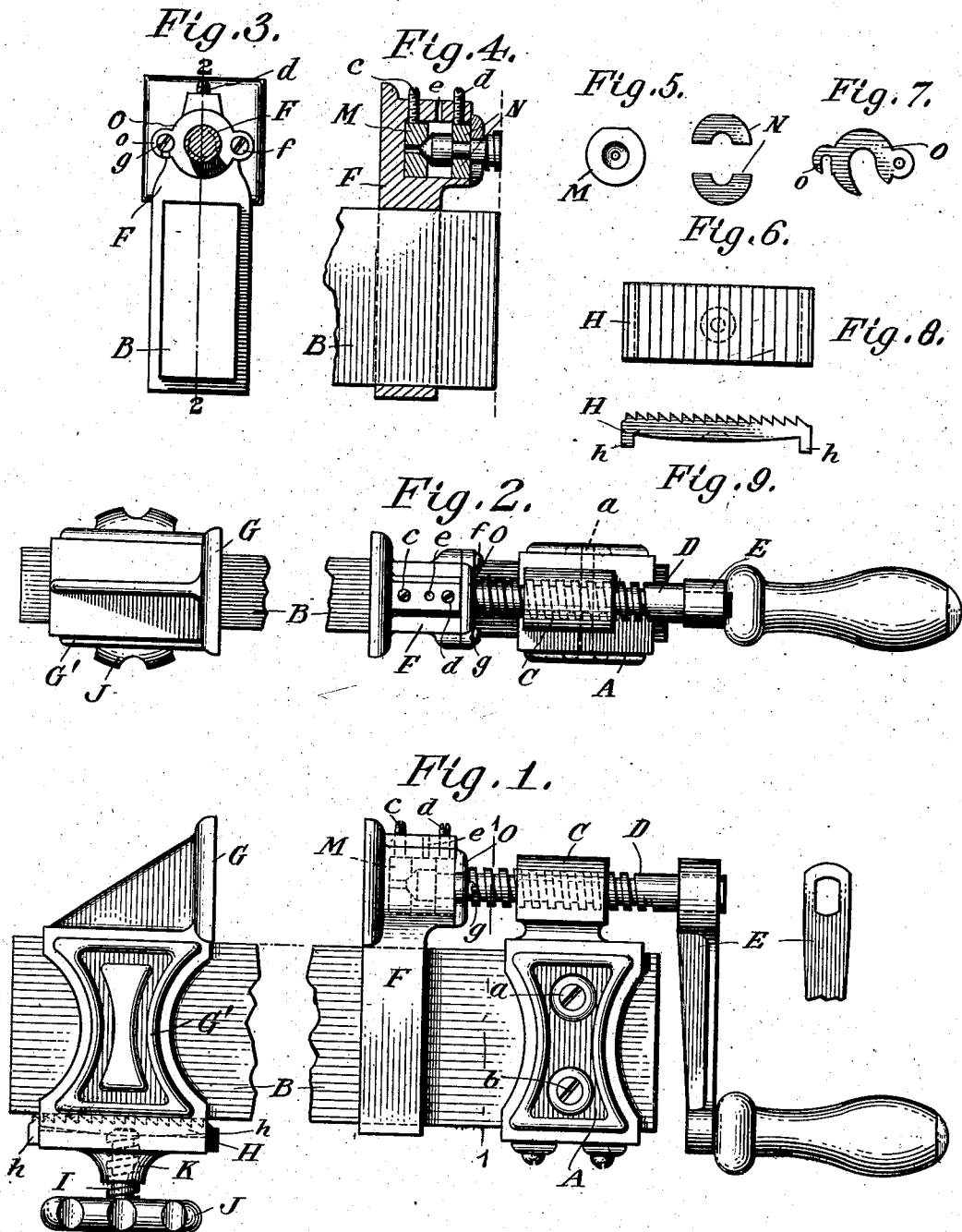


J. C. TODD.
CLAMP.

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Patented Aug. 31, 1909.



Witnesses:

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UNITED STATES PATENT OFFICE.

JAMES C. TODD, OF SIOUX CITY, IOWA.

CLAMP.

932,516.

Specification of Letters Patent.

Patented Aug. 31, 1909.

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To all whom it may concern:

Be it known that I, JAMES C. TODD, a citizen of the United States, residing at Sioux City, in the county of Woodbury and State of Iowa, have invented certain new and useful Improvements in Clamps, of which the following is a specification.

My invention relates to clamps and particularly to the kind known as gluing clamps.

The object of the invention is to provide a clamp which may be extended to embrace large objects and at the same time operated with sufficient delicacy to obtain the best results with the least expenditure of power.

The invention consists in the construction shown in the accompanying drawing in which—

Figure 1 is a view of my invention in side elevation. Fig. 2 is a plan view. Fig. 3 is a cross-section on line 1—1, Fig. 1, the bar of reach of the clamp being shown in full. Fig. 4 is a cross-section partly on line 2—2, Fig. 3, the lower part being in full. Fig. 5 is a plan view of the guide for the clamp screw. Fig. 6 is a plan view of the divided bushing for the clamp screw. Fig. 7 is a plan view of the dust plate to protect the bearing of the screw. Fig. 8 is a plan view of the adjustable teeth of one of the jaws. Fig. 9 is a side elevation of the same.

Referring to the illustration, A is the head or support of the clamp and is hollow and made preferably of metal, inclosing a bar or reach B of hard wood. The head is screwed to the bar by screw bolts *a* and *b*. Above the head and made integral with it is a threaded bearing C, in which the screw D operates. The screw is threaded in the usual manner and is turned by a crank arm E, operating against a movable jaw F, the lower part of which incloses the wooden bar, the jaw moving freely thereon. Opposed to this jaw is another jaw G, mounted on the movable head G' and integral with it, the head inclosing the bar and adapted to slide freely thereon. The movable head is large enough to permit the insertion of a toothed gib H underneath the wooden bar, the teeth being adapted to grip the wood and hold the head and jaw in place. A screw I turned by a wheel J operates in a threaded bearing K in the lower part of the jaw and projects upward against the gib, pressing it into the wooden bar. When the jaw is placed in the

proper position the screw I is turned and the jaw made fast. The teeth of the gib project in the opposite direction from the bearing surface of the jaw to give the gib a firmer grip. The gib is held in its position in the head by lugs *h* at each end resting against the ends of the head.

The screw D which operates the jaw F is cone-shaped at the operating end which presses against a disk or guide plate M in the hollow of the jaw. The disk is countersunk in the center to fit the end of the screw, the point of the latter being relieved from pressure by a small central hole in the disk. The upper edge of the disk is flattened to receive a set screw *c* which holds it in a fixed position in the jaw. Between the enlarged end of the screw and the threads is a bearing surface which is inclosed by a divided bushing N, the upper edge of which is flattened also to receive a similar set screw *d* adapted to prevent the bushing from turning. Between the set screw in the jaw is an oil aperture *e*.

The guide and the bushing give the screw a central bearing and not impeded as where the set screw passes directly upon the operating screw. The bushing also takes up the wear of the screw. A dust plate O pivotally secured to the jaw by the screw *f* is adapted to slip around the screw and keeps the dust from the bearing and aids to secure the bushing in place. The slide is held in position by a small hook *o* on one side engaging a screw *g* which enters the jaw.

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

1. In a clamp, the combination of a fixed head, a screw operated therein, a movable jaw operated by the screw, a disk or guide plate in the jaw against the center of which the screw operates, the point of the screw being relieved from pressure by a central hole in the disk, a set screw to hold the disk in place, a movable head and jaw opposed to the fixed head and movable jaw, a bar on which the movable head is adjustable connecting the heads, and means for securing the movable head to the bar in any desired position, substantially as described.

2. In a clamp, the combination of a fixed head, a screw operated therein, a movable jaw operated by the screw, a disk or guide plate in the jaw against the center of which

the screw operates, the screw having a bearing surface between the threads and the operating end thereof, a divided bushing inclosing the bearing surface, a set screw to hold the bushing in place, a movable head and jaw a bar connecting the heads and means for securing the movable head to the jaw, substantially as described.

3. In a clamp, the combination of a head, a bar to which the head is secured, a screw operating in the head, a movable jaw operated by the screw, a disk or guide plate in the jaw counter-sunk to receive the end of the screw and flattened on one side to receive the end of a set screw, a set screw to hold the disk in place, a divided bushing inclosing the screw and adapted to give the screw a central bearing, means for holding the bushing in place, and a movable head and jaw

adapted to be secured to the bar in any desired position, substantially as described.

4. In a clamp, the combination of a fixed head, a screw operated therein, a movable jaw operated by the screw, a disk or guide plate in the jaw forming a central bearing for the end of the screw, means for holding the disk in position, a divided bushing inclosing the screw, a set screw to hold the bushing in place, and a movable head and jaw adapted to be secured to a bar, and a bar connecting the heads, substantially as described.

In testimony whereof I hereunto subscribe my name in the presence of two witnesses.

JAMES C. TODD.

In the presence of—

H. C. GARDINER,
WINIFRED E. SLOAN.