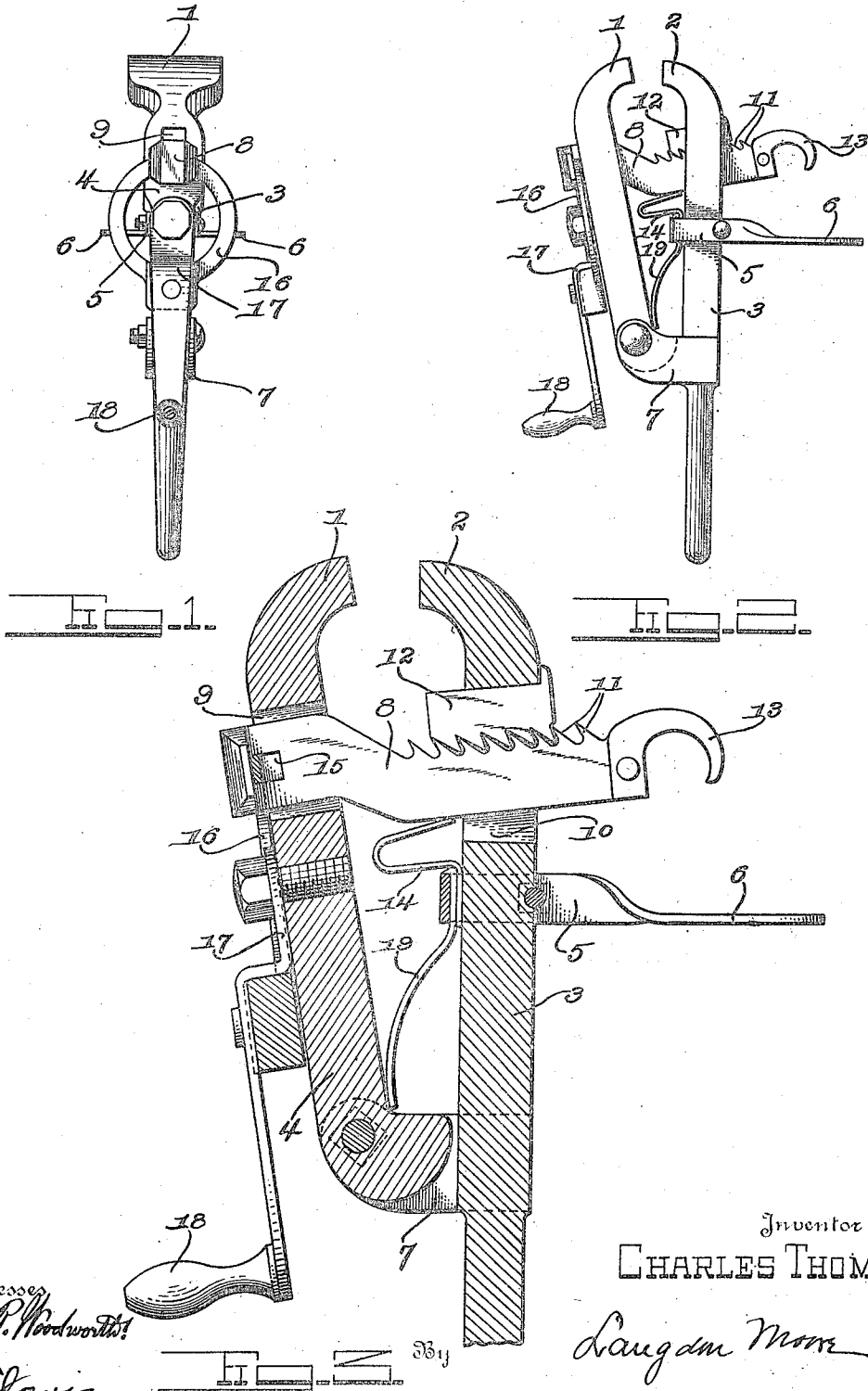


C. THOM.
TOOL.

APPLICATION FILED JUNE 18, 1915.

1,152,239.

Patented Aug. 31, 1915.



Witnesses
Jno. P. Woodworth
H. C. Davis

Inventor
CHARLES THOM.
Langdon M. Munn
Attorney

UNITED STATES PATENT OFFICE.

CHARLES THOM, OF WASHOE, MONTANA.

TOOL.

1,152,239.

Specification of Letters Patent. Patented Aug. 31, 1915.

Application filed June 18, 1915. Serial No. 34,868.

To all whom it may concern:

Be it known that I, CHARLES THOM, a citizen of the United States, residing at Washoe, in the county of Carbon and State of Montana, have invented new and useful Improvements in Tools, of which the following is a specification.

This invention relates to improvements in tools and more particularly to a quickly adjustable vise.

It is the object of this invention to provide a vise that may be quickly adjusted to engage the work, readily clamped to firmly hold the work, and capable of a quick release. The advantages of such a construction are obvious.

While the preferred form of this invention is illustrated upon the accompanying sheet of drawing, yet it is to be understood that minor detail changes may be made without departing from the scope thereof.

Figure 1 is a view in side elevation of this improved vise. Fig. 2 is a view in end elevation of the same. Fig. 3 is a longitudinal, vertical, central, sectional view, with parts shown in side elevation.

In carrying out this invention the jaws 1 and 2 of the vise are provided with depending arms 3 and 4 of which one arm, 3, is relatively stationary, being provided with a bracket 5 having members 6 adapted to be secured to a work bench or other stationary support. The other arm, 4, is pivoted at its lower end to an extension 7 carried on the stationary arm 3, whereby jaw 1 may be moved toward and from the stationary jaw 2.

A cross bar 8 is provided passing through apertures 9 and 10 through the arms 3 and 4. The upper side of the cross bar traveling through the aperture 10 in the stationary arm 3 is provided with teeth 11 adapted to engage a similarly toothed block 12 formed integrally or secured to the upper side of the aperture 10 in the stationary arm 3 which, when the bar has been engaged therewith, will prevent movement away from the stationary arm but will allow the teeth to ride over each other upon movement in the opposite direction. The end of the bar passing through the aperture 10 in the stationary arm is provided with a handle 13 for manually operating the bar, and the teeth are normally held in contact with the toothed block 12 by a leaf spring 14,

preferably anchored by the bracket 5 with its free end bearing upon the under side of the bar. The end of the bar passing through the aperture 9 in the pivoted arm 4 is provided with a transverse slot 15 through which passes an annular cam 16 having a radial arm 17 secured thereto, pivoted at the center of the cam to the outer side of the arm 4 and extending beyond the periphery of the cam with its extremity provided with an angular operating handle 18, with the low point of the cam on one side of the arm 17 and the high point on the other side, while the flat surface of the cam bears upon the surface of the arm 4. The pivoted jaw 1 is normally held away from the stationary jaw 2 by a leaf spring 19, preferably anchored by the bracket 5 to the stationary arm 3 with its free end bearing upon the adjacent surface of the pivoted arm 4.

To engage a piece of work, the jaws of the vise are opened by depressing the handle 13 of the cross bar and moving it toward the stationary jaw arm, the work placed against the stationary jaw 3, the pivoted jaw moved in the direction of the work either by a manual pressure upon the exterior of the pivoted jaw 1 or by a manual drawing of the bar 8. The work is then engaged loosely. The annular cam, normally being with its low point adjacent to the cross bar, is then rotated about its center and its inclined surface will cause the pivoted arm and jaw to press against and firmly grip the work. A rotation of the cam in the opposite direction will release the work sufficiently for a change in position in the vise and a depression of the cross bar handle 13 will allow of a quick removal of the work.

What I claim is:—

In a vise, a jaw and a stationary arm depending therefrom, a projection upon the lower end of said arm, a second jaw and an arm depending therefrom pivoted at its lower end to said projection, a cross bar mounted for movement through apertures provided therefor through both arms adjacent to the jaws, a bracket upon the stationary arm between the cross bar and projection for attachment to a fixed support, a toothed block in the aperture of the stationary arm above the cross bar, the upper surface of the cross bar provided with teeth to engage the toothed block, a spring anchored by the bracket to the stationary arm nor-

5 mally holding the toothed surface of the cross bar in engagement with the toothed block, a spring anchored by the bracket to the stationary arm bearing upon the pivoted arm to normally maintain the jaw thereon away from the stationary jaw, and an annular cam mounted for rotation upon the outer side of the pivoted arm through an aperture provided therefor in the end of the cross bar. 10 projecting beyond the outer side of the pivoted arm, said cam having a flat surface bearing upon the outer side of said arm and an inclined surface bearing upon the outer side of said aperture in the cross bar, and having a radial arm pivoted at the center of the cam to the pivoted arm and at the other end an operating handle. 15

CHARLES THOM.

Witnesses:

THAD C. POUND,
A. M. BENNETT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."