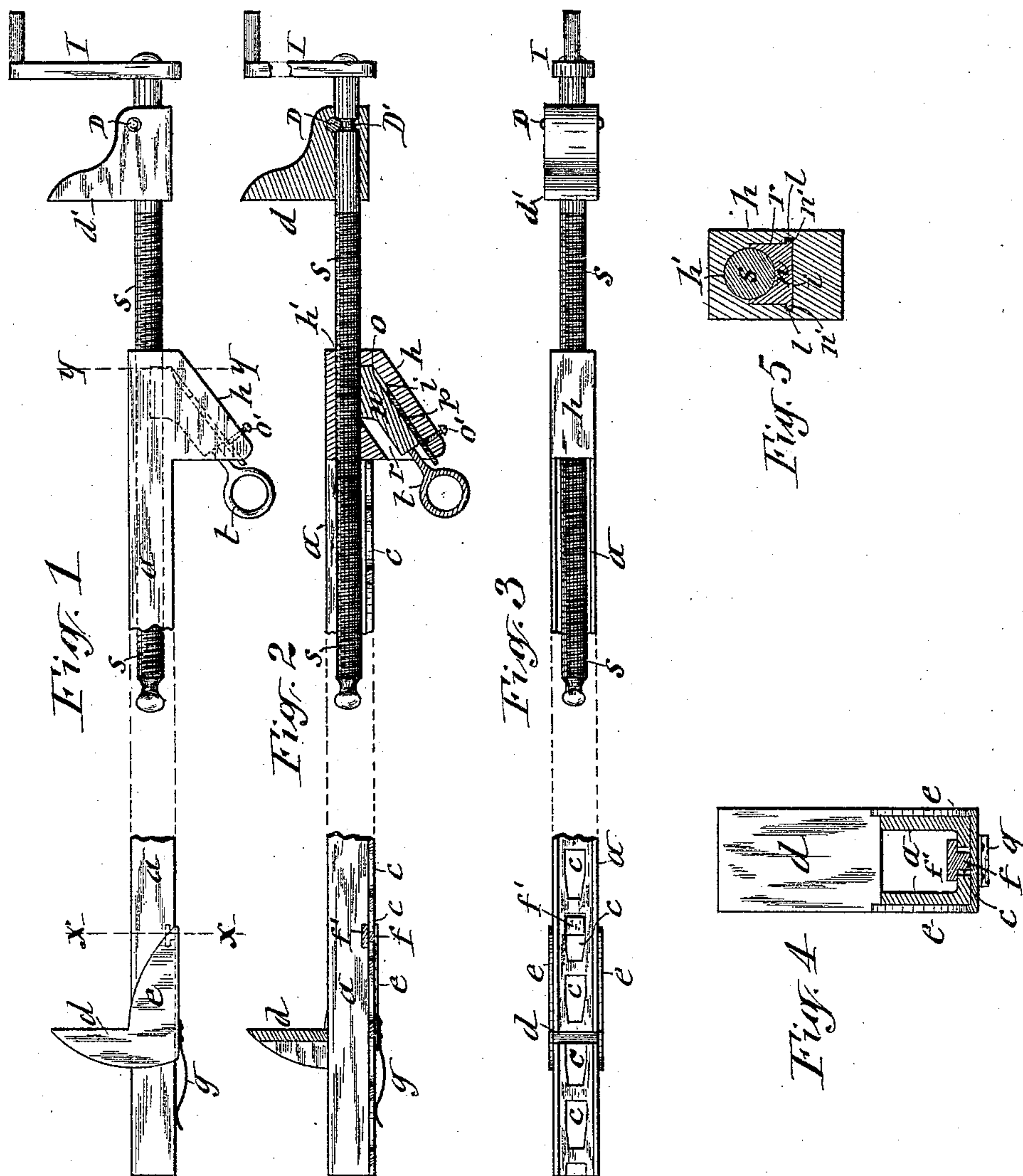


(No Model.)

J. J. TANNER.  
EXTENSION CLAMP.

No. 444,510.

Patented Jan. 13, 1891.



WITNESSES:

J. J. Laasz.  
A. F. Walz

INVENTOR:

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BY  
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# UNITED STATES PATENT OFFICE.

JESSE J. TANNER, OF ONEIDA, NEW YORK, ASSIGNOR OF ONE-HALF TO  
ROBERT J. FISH AND DANIEL C. BURKE, BOTH OF SAME PLACE.

## EXTENSION-CLAMP.

SPECIFICATION forming part of Letters Patent No. 444,510, dated January 13, 1891.

Application filed March 5, 1890. Serial No. 342,707. (No model.)

*To all whom it may concern:*

Be it known that I, JESSE J. TANNER, of Oneida, in the county of Madison, in the State of New York, have invented new and  
5 useful Improvements in Extension-Clamps, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to the class of clamps  
10 which are extensible in length and are chiefly employed by molders, carpenters, and cabinet-makers; and the invention consists in the improved construction and combination of parts hereinafter fully described, and set  
15 forth in the claims.

In the annexed drawings, Figure 1 is a side view of a clamp embodying my improvements, the central portion of the clamp-bar being broken away to bring the end portions within  
20 the field of illustrations. Fig. 2 is a vertical longitudinal section of the same. Fig. 3 is a plan view; and Figs. 4 and 5 are enlarged transverse sections, respectively, on lines  $x x$  and  $y y$ , Fig. 1.

25 Similar letters of reference indicate corresponding parts.

$a$  denotes the clamp-bar, which I preferably form with a longitudinal channel and with slots or perforations  $c c c$  in its bottom.  
30 One end of the said bar has rigidly attached to it or formed integral with it a head  $h$ , preferably projecting downward from the bottom of the bar. The top portion of the interior of this head is formed with a smooth seat  $h'$   
35 for the clamping-screw  $s$ , which extends through said head in line with the longitudinal groove of the bar  $a$ . From the screw-seat  $h'$  downward is a recess  $r$  in the head  $h$ , and the bottom of this recess is formed with  
40 an inclined way  $i$ , extending to the under side of the screw. The sides of the recess  $r$  adjacent to the inclined way  $i$  are formed with grooves  $l l$ , which are parallel with said way.

45  $n$  represents a nut-section adapted to engage nearly or quite half of the circumference of the screw  $s$ . This nut-section slides on the inclined way  $i$ , and is formed with side projections  $n' n'$ , which enter the grooves  $l l$ , and  
50 thus guide said nut-section on the inclined way.

By means of a suitable handle  $t$ , extending outward from the nut-section, the latter can be pushed up and into engagement with the under side of the screw  $s$  when desired to em- 55  
ploy the clamp as hereinafter described. The nut-section has sufficient play lengthwise of the inclined way  $i$  to allow it to move out of engagement with the screw, and in order to prevent the nut-section from dropping com- 60  
pletely out of the head  $h$  I form the bottom of the inner end of the nut-section with a downwardly-projecting stop  $o$ , and insert in the way  $i$  a plate  $p$ , which I detachably connect to the head  $h$  by a screw  $o'$ , passing up 65  
through the bottom of the head  $h$  and entering a screw-threaded eye in the plate. To the outer end of the screw  $s$  I swivel a jaw  $d'$ , preferably by means of a pin  $D$ , passing transversely through the base of the jaw and 70  
tangentially through a circumferential groove  $D'$  in the surface of the shank of the screw. Said shank projects sufficiently from the outer end of the jaw  $d'$  to allow a crank or suitable handle  $I$  to be attached to the screw- 75  
shank for turning the screw.

$d$  represents the jaw, which is connected longitudinally adjustably to the bar  $a$ . This jaw projects from a shoe  $e$ , which is preferably formed integral with it and embraces 80  
the bottom and sides of the bar  $a$ . The end of the shoe  $e$  nearest the end of the screw  $s$  is formed with a lug  $f$  and a head  $f'$  on said lug, both of which latter are adapted to enter into the slot  $c$ . Each of the slots  $c c c$  is tapered 85  
in width toward the end of the bar  $a$  farthest from the screw  $s$ . The small end of the slot allows the lug  $f$  to enter, but is narrower than the head  $f'$ , and thus the shoe  $e$  is securely held on the bar  $a$  when strain is ap- 90  
plied to the jaw  $d$  in the operation of the clamp. A spring  $g$ , attached to the end of the shoe farthest from the screw  $s$  and bearing against the under side of the bar  $a$ , serves to sustain the shoe and jaw  $d$  in their normal 95  
position when the lug  $f$  is withdrawn from the slot  $c$ .

The described clamp is operated as follows: The jaw  $d$  is first set in such a position on the bar  $a$  as to render that portion of said bar 100  
which is in front of the jaw somewhat shorter than the article to be gripped by the clamp.

Then, while holding the jaw *d* against one edge of the aforesaid article, the nut-section *n* is drawn out of engagement with the screw *s*. The latter can then be pushed along to bring  
5 the jaw *d'* up against the opposite edge of the article to be gripped, and by pushing the nut-section *n* into engagement with the screw and then turning the latter the jaw *d'* is tightened in its hold on the aforesaid article.  
10 Thus the adjustment of the clamp is greatly facilitated. It will also be observed that by the attachment of the jaw *d'* to the outer end of the screw *s* I obtain a greater range of adjustment.

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

1. The jaw *d*, formed with the shoe *e*, lug *f*,

and head *f'* on said lug, in combination with the screw *s* and the bar *a*, provided with slots  
20 *c c c*, tapered in width toward the end of the bar farthest from said screw, as set forth.

2. In combination with the bar *a*, provided with a nut at one end, and a jaw adjustably connected to said bar, the clamping-screw *s*,  
25 working in said nut, and the jaw *d'*, swiveled on the outer end of the screw, substantially as set forth and shown.

In testimony whereof I have hereunto signed my name this 28d day of February, 30  
1890.

JESSE J. TANNER. [L. S.]

Witnesses:

JOSEPH BEAL,

B. RATNEUR.