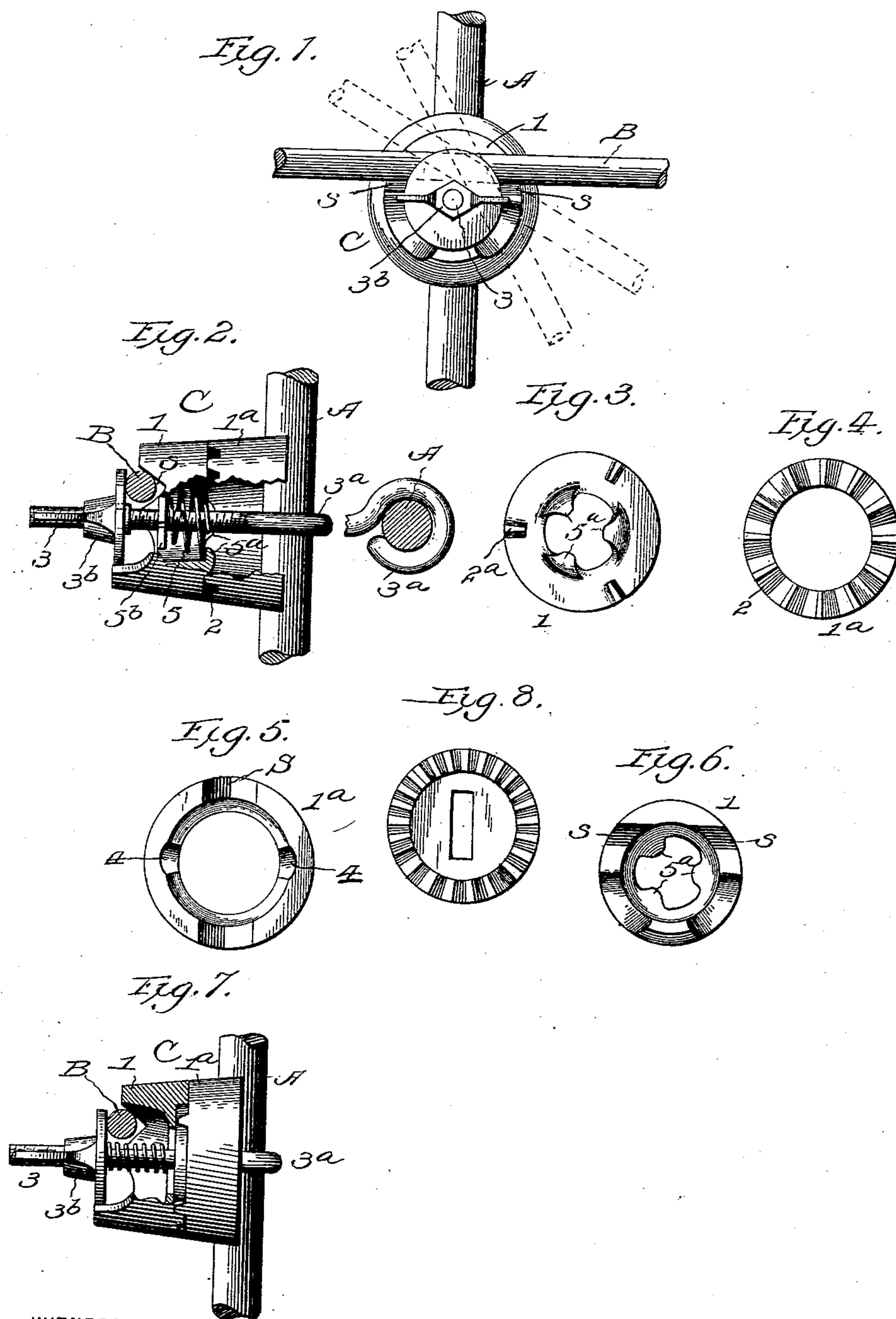


(No Model.)

B. G. CASLER.
CLAMP.

No. 562,949.

Patented June 30, 1896.



WITNESSES:

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CLAMP.

SPECIFICATION forming part of Letters Patent No. 562,949, dated June 30, 1896.

Application filed January 7, 1896. Serial No. 574,569. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN G. CASLER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga, State of Ohio, have invented certain new and useful Improvements in Clamps; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is an end view of a clamp embodying my invention in connection with portions of two rods or bars held thereby, the dotted lines illustrating different adjustments of the clamp whereby the relative angles formed by the bars or planes of the bars with relation to each other may be changed as desired. Fig. 2 is a side elevation of the clamp, portions broken away to show the threaded eyebolt, washers, &c. Figs. 3 and 4 are detached views of the adjustable sections of the clamp, showing the adjacent or coacting faces thereof. Figs. 5 and 6 are views of the outer faces or ends of the clamp-sections. Fig. 7 is a view similar to Fig. 2 (portions broken away) to show a modification in the arrangement of the spring which controls the adjustable clamp-sections; and Fig. 8 is a plan view of section 1 as shown in Fig. 7, showing the elongated slot through which the eyebolt 3 passes.

Like symbols refer to like parts wherever they occur.

My invention relates to the construction of clamps for adjustably connecting and fixedly securing rods or bars for any desired purpose, but has been more especially devised for use in erecting show-racks or display-fixtures for exhibiting merchandise in general, and has for its object the production of a simple, substantial, and efficient clamp whereby any two rods or bars may be rigidly connected at any desired angle one to the other, and the relative planes of the bars be thereafter changed from time to time, as required, by a simple rearrangement of the clamp-sections.

To this end the invention consists in the construction and combination of certain rotatable annular sections, with eyebolt or hook, clamp-nut, and tension-spring, as will

hereinafter more fully appear, and be specifically pointed out in the claims.

In the drawings, A B indicate two rods or bars, which may be the upright and cross bar of a show-rack, or crossing bars of any equivalent structure, and C a clamp embodying my invention. The clamp C is composed of two sections 1 and 1^a, each having on its outer face a rod or bar seat S s and so shaped and constructed as to be rotatable, one with relation to the other, on a common axis, and provided with means for securing said sections together at any given point in their rotation.

The preferred form of said clamp-sections is annular, with contacting faces (though an interposed idle section may be used) one of which is serrated as at 2 and the other provided with one or more—preferably a plurality of—projections or teeth 2^a, adapted to enter the serrations on the face of the coacting section. Passing loosely through the central opening of the said sections 1 1^a is a threaded eyebolt 3, whose eye 3^a is adapted for the passage of one of the rods or bars A and whose threaded end is provided with a nut 3^b, (and washer loose on the nut,) thus completing the clamp and providing means for binding both rods or bars A B securely to the clamp-sections 1 1^a in any given position. Instead of an eye 3^a its equivalent a hook end for the bolt 3 may, if desired, be substituted, and in either case it is desirable to form eye-seat 4 at right angles to the bar or rod seat of that section to insure a proper relation of the hook or eye to the rod-seat when the rod is removed.

In order to hold the clamp-sections 1 and 1^a in any given relative position to which they have been adjusted until such time as they shall have been secured by setting home the clamp-nut 3^b or its equivalent, and also to permit of the change in adjustment of the said sections without displacing the bars or rods A B when the nut 3^b has been retracted, a tension-spring 5 of any desired form is arranged to act on one of the sections, as for instance section 1, and is interposed between said section and the nut 3^b. Said spring is preferably of spiral form encircling the eyebolt and located within the annular section 1 (though a flat spring may be used) and with

one bearing 5^a formed on the said section 1 and the other either directly on the nut 3^b (or the loose nut-washer) or if preferred on a separate detached nut 5^b, located on said eyebolt 3.

In the combination illustrated in Fig. 2 of the drawings the tension-spring 5 is shown as a taper-coil broadest at the base, which rests on the inwardly-projecting points or bearings 5^a of the section 1, while the opposite or outer end of the coil bears on the separate or detached nut 5^b, whereby the tension of the spring may be adjusted independently of the clamp-nut 3^b. In the combination shown in Fig. 7 of the drawings, however, a straight coil or spiral is used, its inner end seated on section 1, the section 1 in this case being solid except for an elongated slot the width of the diameter of eyebolt 3 for the passage of the eyebolt, (or even a simple hole the diameter of the eyebolt will serve the purpose,) and the outer end of the straight coil-spring bears directly on the clamp-nut 3^b or the loose washer attached thereto, in which latter construction the tension of the spring cannot be controlled independently of the clamp-nut.

The construction being substantially of the character hereinbefore set forth, the clamp is applied by first separating or springing apart the serrated clamp-sections 1 1^a and rotating one section on the other until the two bar or rod seats S s are at the required angle to each other, or in the required intersecting planes, after which the serrated faces are allowed to engage, which fixes the said sections and bar-seats in the desired position, after which the rods or bars are inserted and secured by turning home the nut 3^b. Thereafter any other adjustments may be secured without removing the rods or bars by simply loosening up nut 3^b until the sections 1 1^a can be sprung out of engagement, whereupon the sections may be rotated one upon the other until in the new position desired, when the serrated faces of sections 1 and 1^a are again allowed to engage and the nut 3^b turned home as before.

Among the advantages of my invention are, first, simplicity, effectiveness, and rigidity, when considered simply as a clamp for verticals and cross-rods in erecting show-racks and like structures, and, secondly, as an efficient, simple, and inexpensive substitute for pivoted and ratchet bracket-arms where in-

clined bar rests or shelves are required. In fact, a clamp constructed substantially as herein set forth cannot only be employed for obtaining all the results and usual adjustments effected by the present known forms of bar and rod clamps, but for the general purposes for which pivoted and ratchet bracket-arms are now generally required, thus in a great measure dispensing with expensive bracket-arms.

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

1. In a clamp, the combination of a plurality of annular rotatable sections each having a rod or bar seat on its outer face, and one of said sections having a tension-spring seat on its interior, an eye or hook bolt which passes through the annular sections, a clamp-nut provided with a loose washer, and an included tension-spring interposed between said tension-spring seat and the clamp-nut; substantially as and for the purposes specified.

2. In a clamp, the combination of engaging annular rotatable clamp-sections, each having a rod or bar seat on its outer face, one of said sections having an eye-seat at right angles to the rod or bar seat and the other section having a tension-spring seat on its interior, an eyebolt, a clamp-nut thereon, and an included tension-spring interposed between the clamp-nut and the tension-spring seat of said section; substantially as and for the purposes specified.

3. In a clamp, the combination of a plurality of annular sections having engaging faces, each of said sections having a bar-seat on its outer face, an included eyebolt, a spiral spring which encircles the eyebolt within the annular section and on which section said spring bears, an independent nut for adjusting the tension of the spring, and a clamp-nut and loose washer thereon for securing the several sections and the bars or rods, substantially as and for the purposes specified.

In testimony whereof I affix my signature, in presence of two witnesses, this 6th day of January, 1896.

BENJAMIN G. CASLER.

Witnesses:

J. A. OSBORNE,
E. E. OSBORNE.