(No Model.) 3 Sheets—Sheet 1.

G. W. ZEIGLER.

SELF ADJUSTING CLAMPING DEVICE.

No. 318,338. Patented May 19, 1885.

Fig. 3.

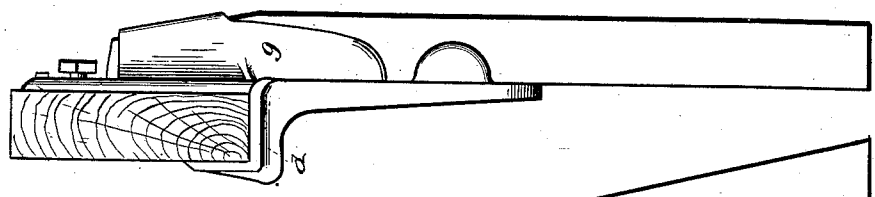


Fig. 2.

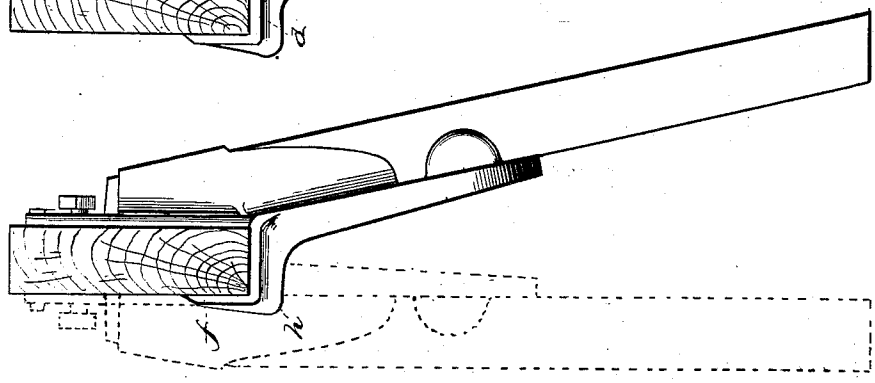
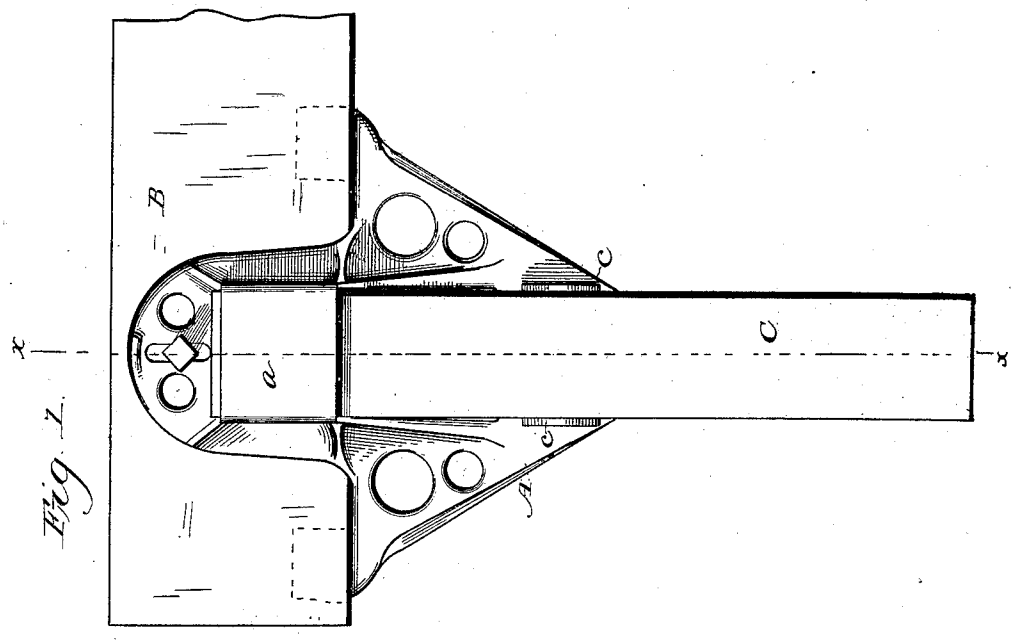


Fig. 1.



WITNESSES

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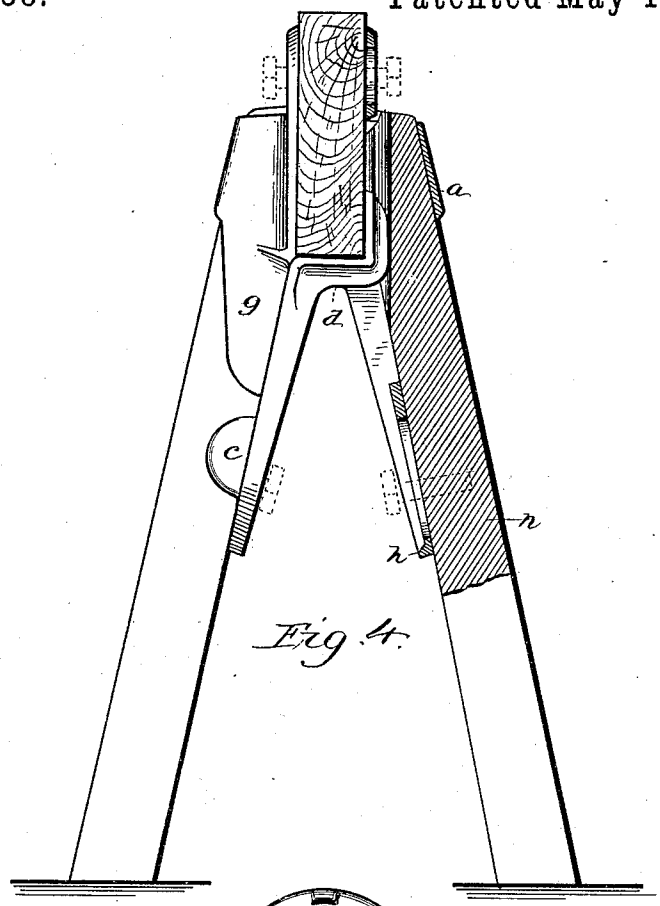


Fig. 4.

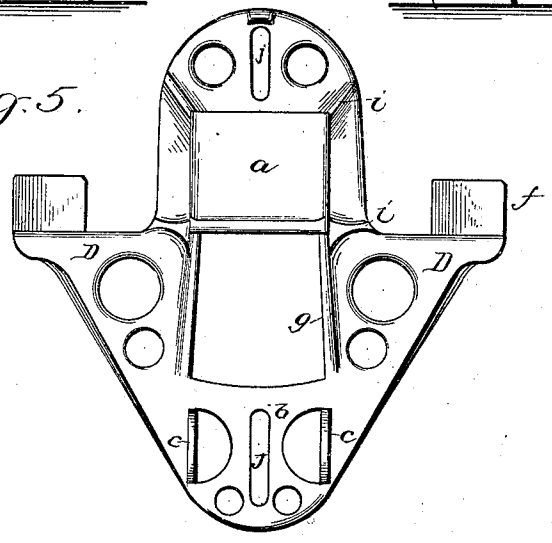


Fig. 5.

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(No Model.) 3 Sheets—Sheet 3.

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SELF ADJUSTING CLAMPING DEVICE.

No. 318,338. Patented May 19, 1885.

Fig. 6.

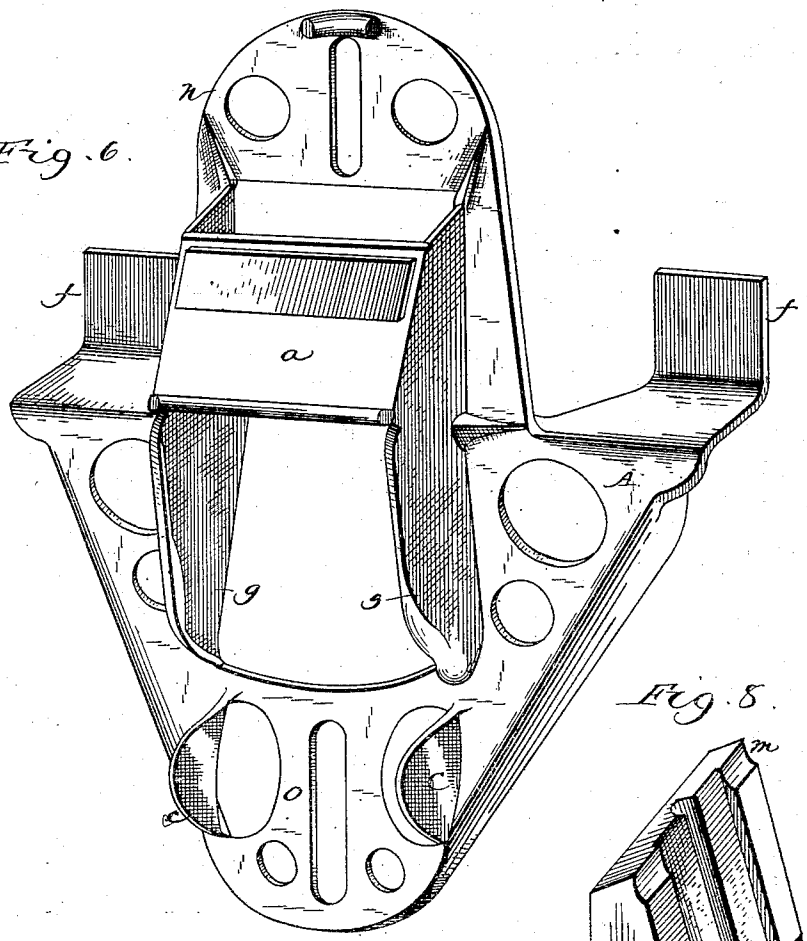


Fig. 8.

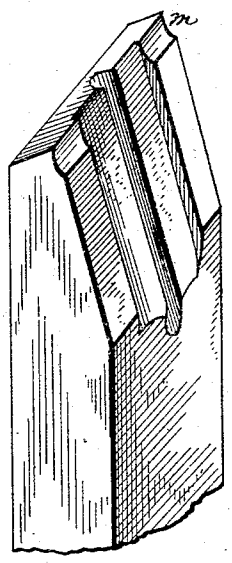
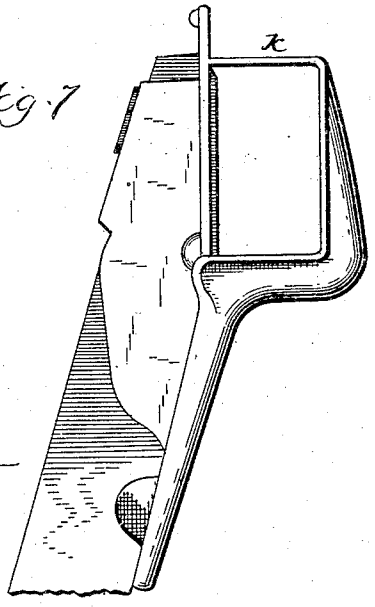


Fig. 7



WITNESSES

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UNITED STATES PATENT OFFICE.

GEORGE W. ZEIGLER, OF WASHINGTON, DISTRICT OF COLUMBIA.

SELF-ADJUSTING CLAMPING DEVICE.

SPECIFICATION forming part of Letters Patent No. 318,333, dated May 19, 1885.

Application filed February 24, 1885. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. ZEIGLER, of Washington, in the District of Columbia, have invented certain new and useful Improvements in Self-Adjusting Clamping Devices; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention has relation to self tightening and clamping devices for the supporting-legs of trestles, benches, platforms, stages, counters, racks for trellising, and the like, as well as for many other purposes to which it is applicable.

The invention consists of a single piece of metal—malleable preferred—which may be cast in the usual manner, and formed with an outwardly-projecting box or loop into which the leg-piece is inserted, and also with an elongated bearing having side legs projecting up from the sides of the bearing, and also having side strengthening-flanges, which do not impinge against the side of the leg. The leg has in this way seven independent bearings, whereby vertical and horizontal shaking movement is prevented. The sides of the loop or box are re-enforced with ribs at the corners, or at such points where the greatest strain is exerted. This leg-support has also two lateral wing projections supported by bracket-like flange-angles integral with the casting. These wings are about equidistant from the box into which the leg is inserted, and extend a considerable distance each side of the box, in order to give a wider and an enlarged bearing to the beam. These wings in turn have a flat bearing-surface and upturned lugs at right angles with the later-described bearings, which lugs may extend to the top of the casting to form braces, all of which will be more fully hereinafter described.

The present invention is an improvement on the subject-matter described and shown in application filed by me February 4, 1885, Serial No. 154,942, which I do not herein claim.

Figure 1 in the drawings represents a front elevation, and the clamping leg-holding device in position, clearly showing the beam resting on the wing-brackets in the bearings formed on said wings, the leg inserted in the loop or box. Fig. 2 is a side elevation of the clamping device, the legs being at an inclination. Fig. 3 shows the clamping device adapted to a straight leg, such as would support a platform near the wall of a building, in connection with the inclined leg, as shown in dotted lines, Fig. 2. Fig. 4 shows an end elevation, partly in section, taken on the line *x x*, Fig. 1; Fig. 5, a detached view of the metal fastening or clamping device complete. Fig. 6 is a perspective view of the device, to more clearly illustrate all its parts; Fig. 7, a side view of the clamp, for more particularly showing the wing-bracket having the metal extending from the lug *f* up to near the top of the casting. The object of this prolongation of the lug *f* is that when great strain is exerted against the lug this prolongation *k*, which is also cast with the device, forms a tie or brace, which adds greatly to the strength of the device.

I have stated that when the leg is inserted into the box or loop it impinges against the beam, forming a wedge-like joint. Thus it will be seen that the leg presses against the side of the beam and the beam against the lugs *f*, which, if not tied or braced, would yield to the pressure, and hence the necessity of the tie-extension *k* for light work. The inner portion of the taper of the leg is shown extending beyond the casting, so that it bears against the beam. Fig. 8 shows a detached view in perspective of the portion of the leg that enters the box or loop *a*, clearly showing the grooves for the lug on the device on the opposite side of the beam.

The top of the leg is designed to project through the box, and has a groove, *m*, into which the metal fits, and thus forms a tie or lock, which retains the leg in position, even if it did not impinge against the side of the beam. This clamping leg support and fastening will securely hold the various portions of a trestle or platform together without bolts, screws, or nails. It is preferable, however, for stationary purposes, to use lag-screws; but for temporary structures the parts are securely held by the device itself, as the upper

portion of the leg serves the purpose of a wedge against the beam, which forces the beams against the upturned lugs on the wings and the leg against the bearing in the box. Thus the whole structure is securely held together, and in such manner that as the weight becomes greater the joints will become more firm.

Referring to the drawings by letter, A is the clamping device; B, the beam; and C is the leg. *a* is the loop or box; *b*, the lower bearing for the leg, and *c* the side lug. D D are the bracket-wings, having the bearings *d*, and *f* the upturned lugs on said bearings. *g* are the side strengthening-flanges, which form a portion of the loop or box. The wing-brackets have a flange, *h*, surrounding their extremity and running along midway under the bearing *d*, and up and terminating at the top of the lug *f*. *i* are the strengthening-ribs. By this construction the metal is nursed in the position where the greatest strain usually takes place, and by such distribution of the iron a small quantity is made to withstand the same pressure as a larger quantity in the usual way. *j j* are oblong holes for screws or bolts, when such are required, so that when the legs move up or down they are not bound, but have room for longitudinal motion.

The portion of the leg C which enters the loop or box *a* is tapering or wedge shape, so that the further it slides up the tighter it becomes. Upon the inner face of the leg I provide grooves, so that when a leg is placed on the opposite side of the beam the lug *f* will snugly fit into said groove without further trouble.

All these parts are readily detachable and portable.

The device itself may be put up in packages for merchandise and sold as an article of trade, the same as other articles of hardware.

The uses to which my clamping and leg-supporting device may be applied are too numerous to mention in a specification, as they will readily suggest themselves to the user.

This device may be applied to the support of boxes, bins, and the like. It is also applicable for forming splice-joints for scaffolding, bridging, building, trestling, &c. The beams may be of any thickness. When trestles of different heights are required, such as for plastering, house-decorations, and for double rows of racks in stores, the shorter legs may be detached and replaced by longer ones to suit, so that mechanics desiring different height trestles would have to only carry with them different lengths of legs.

The side strengthening flanges are made flaring for two purposes, first, it is well known that a wabbling motion is less liable when tight-fitting bearings are alternately arranged than when the bearing is a solid one, hence these bearings are placed at intervals which give the required bearing-surfaces without the extra weight of metal; secondly, as the whole weight is on the box and transmitted to the leg, flange *g* flares outwardly so as to form a brace to the box, so that when the weight is transferred to the metal piece or device all its various parts, although in a single piece, co-operate to distribute said weight to all its parts.

Modifications of this invention may be made, and of various design, without departing from the spirit thereof.

Having thus described my invention, what I claim is—

1. As an article of manufacture, a combined clamping device and support consisting of the box, the bearings, and the extended bracket-supports, the latter having upturned stay or tie lugs, as described.

2. A combined clamp and leg-support having the top and bottom bearings, *n o*, the side or binding lugs, *c c*, the strengthening-flange *g*, the box *a*, and the bracket-wing supports A, all cast in the same piece, substantially as described.

3. The combination of a clamping device having front and back bearings, loop or box *a*, and bracket-wing supports, with the leg C and beam B, substantially as described, whereby the leg secures the beam to the casting, as set forth.

In testimony that I claim the foregoing as my own, I affix my signature in presence of two witnesses.

GEORGE W. ZEIGLER.

Witnesses:
J. FRED. REILY,
J. FRANK. WHITE.