

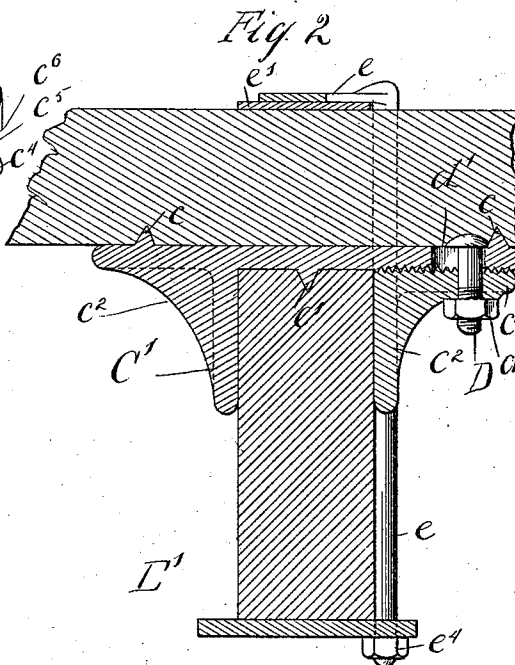
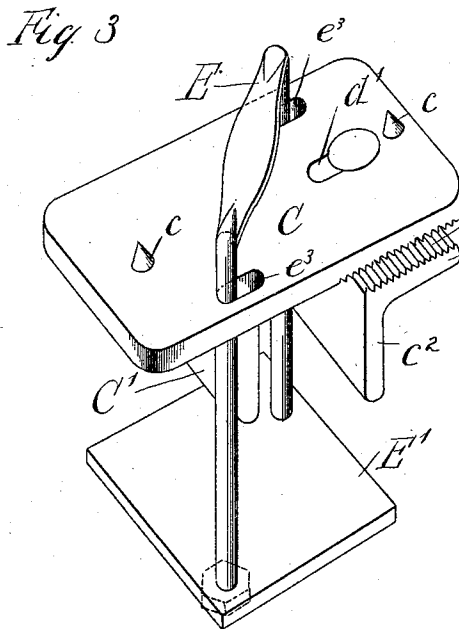
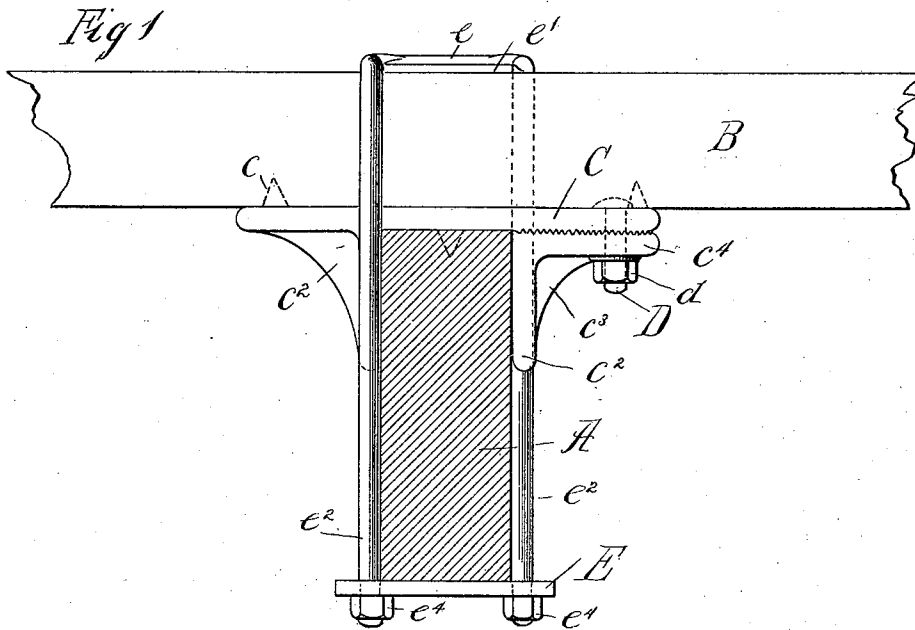
(No Model.)

G. WENZELMANN.

CROSS SILL SUPPORT AND BRACKET CLAMP.

No. 543,663.

Patented July 30, 1895.



Witnesses
Clinton Hamblin
John W. Adams

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UNITED STATES PATENT OFFICE.

GUSTAVE WENZELMANN, OF MISSAL, ILLINOIS.

CROSS-SILL SUPPORT AND BRACKET-CLAMP.

SPECIFICATION forming part of Letters Patent No. 543,663, dated July 30, 1895.

Application filed April 8, 1895. Serial No. 544,851. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVE WENZELMANN, of Missal, in the county of Livingston and State of Illinois, have invented certain new and useful Improvements in Cross-Sill Supports, Brackets, and Clamps; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in cross-sill supports, brackets, and clamps therefor, and while being adapted for general use wherever two timbers cross each other in the construction of buildings or in machines, it will be more particularly used in connection with hay-racks, where the rack consists of two longitudinal timbers set upon edge and four or more cross timbers or sills supported upon the two longitudinal timbers, the ends of the cross-timbers being united by boards extending lengthwise of the rack.

In hay-racks it has been customary to unite the cross timbers to the longitudinal stringers or timbers by simply nailing or spiking the two together at their point of juncture, but more usually by means of a bolt passing vertically through a hole extending through both the stringer and the cross-sill. The making of this hole necessarily weakens both timbers, and owing to the oscillation that takes place in the use of a hay-rack these timbers become jammed and twisted, the bolt wears the hole into an oblong form, and finally the whole structure becomes loose. It is very desirable therefore to provide a metal clamping device whereby the cross-sill and stringer shall be firmly united together.

My invention relates therefore more particularly to metal brackets and supports for the purpose named, which may be made of malleable steel or cast-iron or other metal, as desired.

The invention will be more fully understood by reference to the accompanying drawings and the subjoined description, when taken in connection with the appended claims.

In said drawings, Figure 1 represents a side view of a cross-sill and timber connected by means of my invention to a lower timber, which latter is shown in cross-section. Fig. 2

is a central vertical sectional view through my device, while Fig. 3 is a perspective view of the several parts of my invention properly secured together, the timbers only being removed.

A is the lower timber, which, for example, may be two by four inches in dimensions, and standing upon one of its narrow edges or sides, but of course this timber may be of other dimensions.

B is a cross-timber, say two by four inches in cross-section, and standing at right angles with the timber A.

C is a metal support interposed between the top edge of the timber A and the cross timber or sill B. The support C is provided with a plurality of upwardly-extending pointed studs *c*, which enter the lower surface of the cross-timber when the latter is placed firmly upon the support C and which thus prevents the cross-sill B from being shifted out of its position. Depending from the under side of the plate C is a sharp-pointed stud or pin *c'*, adapted to enter the top of the timber A and thus assist in holding the timber A in proper position. Secured integrally to the support C is a downwardly-extending bracket *C'*, against the inner face of which the side of the timber A is placed.

*c*² is a web or flange for strengthening the bracket *c'*.

The opposite end of the support C may be provided with a similar bracket integral therewith, (not shown in the drawings,) but I prefer to make the second bracket *C*² separate from the support C. As shown, the bracket *C*² is provided with a strengthening rib or web *c*³, and the upper surface of its horizontal member *c*⁴ is corrugated, as shown at *c*⁵, so as to register with the similarly-corrugated under surface *c*⁶ of the support C, the corrugations *c*⁵ and *c*⁶ running transversely of the support C, as shown. The bracket *C*² is adjustably secured in proper position by means of a bolt D and nut *d* thereon, the bolt passing through suitable apertures in the member *c*⁴ of the bracket *c*² and in the support C, the apertures through the plate C being elongated, as shown at *d'*, in order to afford the requisite amount of adjustment.

After the timber A has been placed against the bracket *C'* and the bracket *C*² has been

snugly placed against its other side and secured in proper position by the bolt D, the cross-sill B may then be put in position upon the support C. A diagonal clamp or clip E, generally U-shaped, is next placed over the entire device, as shown. Underneath the bow end *e* of the clip is a wearing or friction plate *e'*, interposed between the said end *e* and the timber or cross-sill B. The two side or bolt members *e*² of the clip E extend downwardly through elongated openings *e*³ in the plate C and pass through suitable openings in a bottom plate or washer E', which latter is placed upon the free edge of the timber A. Nuts *e*⁴ upon the side members *e*² of the clip E firmly draw the parts together, as will be readily understood.

The object of the washer-plate E' is to prevent the clip E from wearing into the cross-sill B. It will be observed that the side members *e*² of the clip extend downwardly against the wide sides of the timber A, and thus serve to strengthen and support the timber, acting as auxiliary supports to the brackets C' C². My device is simple, effective, and easily put in position, and is adapted to secure together timbers of various sizes. Securing the bracket C² by a single bolt *d* might permit, under some circumstances, an oscillation of the bracket upon said bolt; but this is prevented by making the corrugations *c*⁵ *c*⁶, as stated.

It is to be particularly noted that the construction of my device as a whole is such as not only to avoid weakening the cross-timbers supported thereby, but to actually increase the strength by reason of the fact that the support C supports the said cross-timber throughout a length considerably greater than the width or thickness of the timber A, and the wearing-plate *e'* is clamped firmly against its upper surface.

What I claim, and desire to secure by Letters Patent, is as follows:

1. The combination with two crossing timbers, of an intermediate metal plate provided with downwardly directed guide flanges between which the lower timber is positioned, and a U-shaped clamp extending over the upper timber, through suitable apertures in said plate, and through a washer plate secured to the free edge of the lower timber, substantially as described.

2. The combination with two crossing timbers, of an intermediate metal plate provided with downwardly directed guide flanges between which the lower timber is positioned, and a U-shaped clamp extending over the upper timber, through suitable apertures in said plate, and through a washer plate secured to the free edge of the lower timber, one of said depending brackets being adjustable with respect to the intermediate plate, substantially as described.

3. A clamping device for crossing timbers comprising a plate C provided with an integral depending flange C' having a plurality of studs to engage both timbers, elongated openings, as *e*³ *d'*, a clip, as E, a washer plate, as *e'*, and an adjustable bracket, C², substantially as described.

4. In a clamping device for securing cross timbers together, the combination with a clip, of an intermediate supporting plate, as C, provided with a depending flange, as C', and an adjustable bracket, as C², the adjacent surfaces of the bracket C² and the supporting plate C being corrugated, substantially as and for the purpose specified.

In testimony that I claim the foregoing as my invention I affix my signature, in presence of two witnesses, this 6th day of April, A. D. 1895.

GUSTAVE WENZELMANN.

Witnesses:

TAYLOR E. BROWN,
ALBERT H. GRAVES.