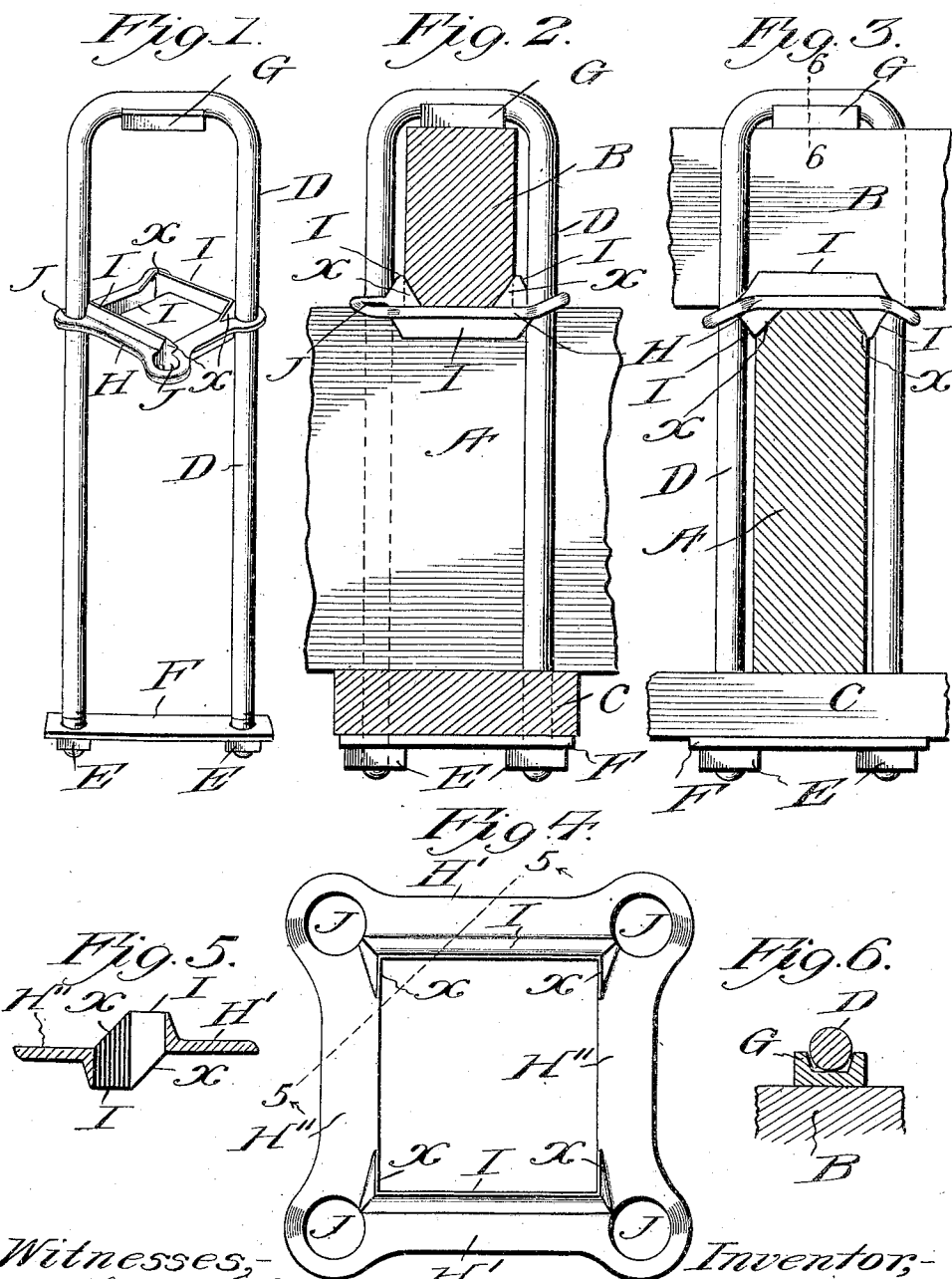


No. 828,616.

PATENTED AUG. 14, 1906.

W. LOUDEN.  
CROSS TIMBER CLAMP.  
APPLICATION FILED NOV. 3, 1904.



Witnesses,  
O. North,  
W. C. Lawson

Inventor,  
William Loudon,  
& Frank Appelman  
Attorney.

# UNITED STATES PATENT OFFICE.

WILLIAM LOUDEN, OF FAIRFIELD, IOWA.

## CROSS-TIMBER CLAMP.

No. 828,616.

Specification of Letters Patent.

Patented Aug. 14, 1906.

Application filed November 3, 1904. Serial No. 231,222.

*To all whom it may concern:*

Be it known that I, WILLIAM LOUDEN, a citizen of the United States, residing at Fairfield, in the county of Jefferson and State of Iowa, have invented a new and useful Improvement in Cross-Timber Clamps, of which the following is a specification.

My invention relates to cross-timber clamps designed to be used in the construction of hay-racks and for other purposes; and it consists of an arrangement of a metallic supporting-plate whereby the timbers may be brought in direct contact with each other and be held in a fixed relation thereto by means of said plate, which is arranged to surround and support the adjoining edges of the timbers and has edges adapted to cut into the corners of the timbers and prevent them from slipping on each other if the clamping device should become loosened.

In the drawings forming a part of this specification, Figure 1 is a perspective of the invention separated from the timbers. Fig. 2 is a transverse section of the upper and lower timbers and a side view of a portion of the main timber of a hay-rack, showing the clamp applied thereto. Fig. 3 is a transverse section of the main timber and a side view of a portion of the upper and lower timbers of a hay-rack with the clamp applied. Fig. 4 is a top view of the supporting-plate. Fig. 5 is a section on the line 5 5 of Fig. 4, and Fig. 6 is a section on the line 6 6 of Fig. 3.

Referring to the drawings, A represents the main timber of a hay-rack, while B represents the upper cross-timber, and C the lower cross-timber, of the rack.

D is an inverted-U-shaped clamp adapted to diagonally straddle the timbers and clamp them together by screwing up the burs E in the usual manner. It is preferably provided with a lower washer F and an upper washer G. The upper washer G may be made channel-shaped, as shown in Fig. 6.

H is the metal supporting-plate. It is left open in the center so the lower edge of the timber B may bear directly upon the upper edge of the timber A. If desired, however, the edges of the plate may all be set in alignment, and one set of the opposite edges may be inlaid within one of the timbers to permit them to come in direct contact with each other or both sets may be partially inlaid within the adjoining edges of both of the timbers to accomplish the same result or purpose or, if preferred, the timbers may be

held slightly apart by the edges of the plate, and the opening in the center will facilitate the drying out of moisture between the timbers, so as to prevent decay. The sides of the plate which pass over the upper edge of the timber A have upwardly-projecting flanges I, which bear against and support the adjoining sides of the timber B, and the sides of the plate which pass under the timber B have similar flanges I, which project downwardly and bear against and support the adjoining sides of the timber A. The plate is also provided with an eye J on each corner, through two of which the clamp D is passed. These eyes support the clamp in its center, where it might be bent or sprung if not thus supported.

On each end of the flanges I are small webs X, set at right angles thereto and running obliquely down to the main part of the plate H. These webs are preferably placed at each end of all the flanges I on both sides of the plate. Those on the upper side are arranged so they will cut into the corners of the timber B and hold it from slipping through between the flanges I on the upper side, and those on the lower side are arranged so they will cut into the adjacent corners of the timber A and prevent it from slipping through between the flanges I on the lower side of the plate H.

The main portions of the plate H are preferably arranged so that the lower sides of the parts H' will be substantially on the same line as the upper sides of the parts H'', as will be seen by reference to Figs. 4 and 5. By this means the lower edge of the timber B can be set directly on the upper edge of the timber A and the plate H be placed so as to surround and support the meeting edges of the timbers, the parts H' passing over the upper edge of the timber A on each side of the timber B and the part H'' passing under the lower edge of the timber B on both sides of the timber A, and the upwardly-extending flanges I will support the adjoining sides of the timber B, and the downwardly-extending flanges I will support the adjoining sides of the timber A.

If desired, the plate may be made with only two eyes J, arranged on diagonal corners thereof; but it is preferable to have an eye on each corner of the plate. When made in this way, there are no rights or lefts, as the plate will be perfectly reversible and may be placed either side up in any position desired,

and the clamps D can be set diagonally in either direction desired. The U-shaped clamp is preferable, and any other kind of clamp may be used that will properly embrace but hold the timbers together.

What I claim is—

1. In combination with crossed timbers, a plate having parallel flanges adapted to embrace the opposite edges of one or more of the timbers, webs set at right angles to one or more of said flanges and adapted to cut into one or more of the corners of the timbers, and clamping means to embrace and hold said timbers together.

2. In combination with crossed timbers, a plate having flanges adapted to embrace the opposite edges of one or more timbers, webs formed with the flanges to cut into the timbers, said webs having their free edge inclined toward the plate, and clamping means to embrace and hold the said timbers together.

In witness whereof I have hereto signed my name in the presence of two witnesses.

WILLIAM LOUDEN.

Witnesses:

H. M. MILLER,

ARTHUR C. LOUDEN.