

C. FAUST.
BOLSTER STAKE HOLDER.
APPLICATION FILED FEB. 17, 1913.

1,059,723.

Patented Apr. 22, 1913.

3 SHEETS-SHEET 1.

Fig. 1.

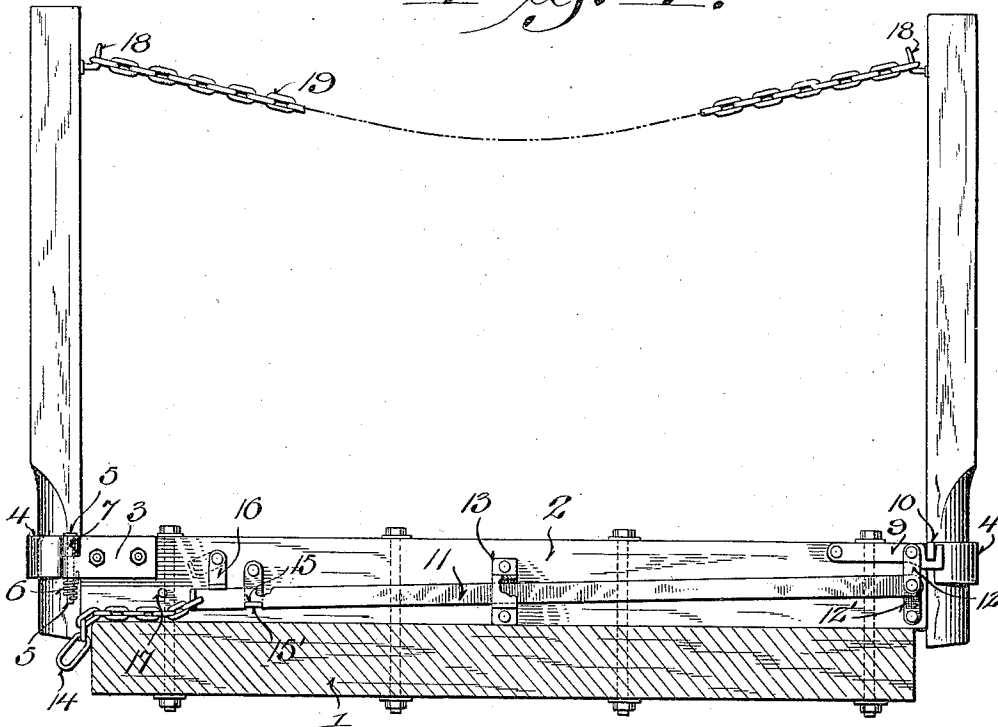
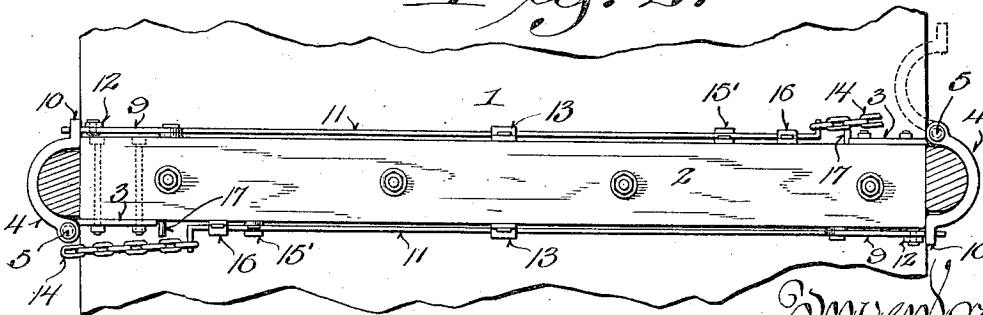


Fig. 2.



Inventor:

Witnesses:
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Casper Faust
By [Signature]
Attorneys.

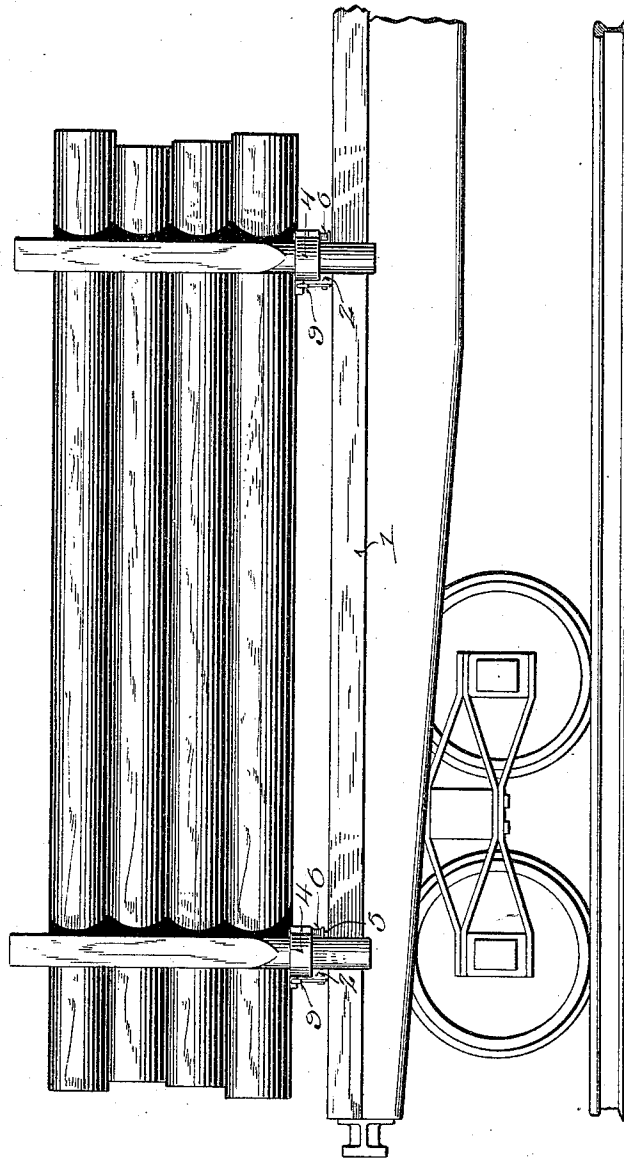
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3 SHEETS-SHEET 2.

Fig. 3.



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3 SHEETS—SHEET 3.

Fig. 4.

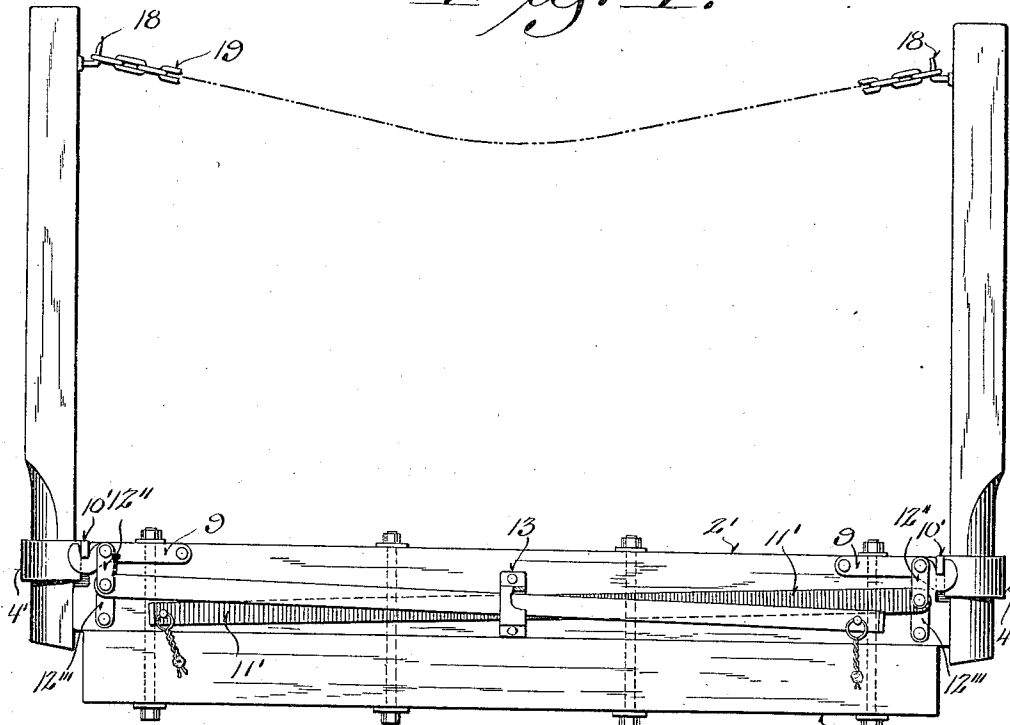
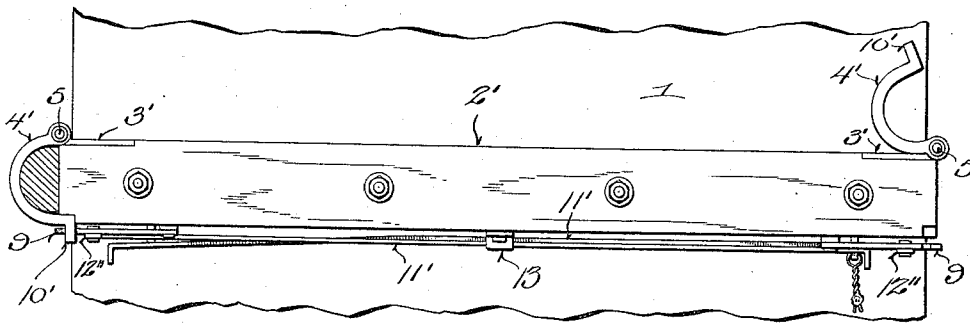


Fig. 5.



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UNITED STATES PATENT OFFICE.

CASPER FAUST, OF OSHKOSH, WISCONSIN.

BOLSTER-STAKE HOLDER.

1,059,723.

Specification of Letters Patent.

Patented Apr. 22, 1913.

Application filed February 17, 1913. Serial No. 748,883.

To all whom it may concern:

Be it known that I, CASPER FAUST, a citizen of the United States, and resident of Oshkosh, in the county of Winnebago and State of Wisconsin, have invented certain new and useful Improvements in Bolster-Stake Holders; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention has for its object to provide a simple and effective bolster stake holder, the same being arranged in pairs having means for releasing and locking the bolster stakes, whereby the same may be automatically ejected from said holders by the weight of the load in order that said load can be readily discharged from the carrier upon which it is piled.

The invention is particularly adapted for use in connection with flat cars for retaining and releasing loads of logs, beams and analogous freight, it being manifest however that the apparatus is equally applicable to any type of freight carrying vehicle such as logging sleds, trucks or the like.

With the above object in view the invention consists in certain peculiarities of construction and combination of parts as set forth hereinafter with reference to the accompanying drawings and subsequently claimed.

In the drawings Figure 1 represents a cross-section of the body of a carrier equipped with a set of bolster stake holders embodying the features of my invention; Fig. 2, a plan view of the same with the stakes in section; Fig. 3, a fragmentary elevation of a standard type of flat car showing the application thereto of a set of my improved bolster stake holders, and Figs. 4 and 5, a side elevation and plan view respectively, showing my preferred form of bolster-stake attaching means.

Referring by characters to the drawings, 1 represents the floor of a freight car or other carrier having secured thereto at a predetermined distance apart a pair of sills 2, upon which sills the logs or beams, constituting the load, are adapted to rest. Secured to the opposite side faces of each sill, adjacent to its ends, are straps 3 that constitute the fixed leaf members of a hinge. The other member of each hinge is in the form of a semi-circular stirrup 4, which stirrups are secured to the leaf members 3 by pintle-bolts 5 that engage the knuckles of

said leaf and stirrup members. The lower ends of the pintle-bolts extend beyond the leaf members and are apertured near their ends for the reception of the end windings of coiled springs 6, each of which springs surrounds its bolt and has its upper terminal secured within a recess of the leaf member 2. Each pintle-bolt is held against rotation within the knuckle of its stirrup member by a cotter-pin 7 that passes through registered apertures in the stirrup knuckle and bolt, it being understood that any other suitable means for securing said bolt to the stirrup knuckle may be utilized.

From the foregoing description it is apparent that in effect the stirrup forms a spring hinge which, when not opposed, will automatically swing open due to tension upon its coiled spring connection with the fixed leaf member. The stirrup 4, when closed, in conjunction with the adjacent end face of the sill, forms a pocket or holder for a stake 8, which stake, as shown, is socketed therein. The stake-holder or pocket is held closed by means of a lock and release latch 9 that is pivotally secured to the opposite face of the sill from that to which the fixed leaf member is attached. The socketed nose of the lock and release latch 9 engages a tongue 10, which tongue extends from the free or swinging end of the stirrup. Thus said stirrup is locked in opposition to its spring control, the force of which spring tends to open the pocket or holder when the latch is released, to thereby free the stake. Each latch is manually controlled by a trip bar 11, one end of the same being secured to the hinge joint of a pair of toggle-links 12, 12', which are respectively connected to the lock and release latch and to the sill, as best shown in Fig. 1. The trip-bar 11 of each holder extends parallel to the sill and terminates adjacent to the opposite side of the carrier to that upon which its connected stirrup is located and hence the stakes upon one side of the carrier can be released by the operator from the opposite side of said carrier, whereby the load is discharged incidental to release of the stakes through gravity without danger to the operator.

Each of the trip-bars 11 is guided intermediate of its ends in a clip 13 and the ends of said bars are preferably provided with pull-chain sections 14, whereby access may be more readily had to effect a tripping operation, it being desirable in some instances

where the trip mechanism is difficult to release to provide a chain which may be utilized in connection with a pinch-bar for applying the manual release power. When the stirrups are locked, as shown in Fig. 1, to prevent displacement or release thereof each bar is provided with a notch 15 that is adapted to seat upon a spur 15' that is riveted or otherwise secured to the face of the sill. Thus end movement of the trip-bar is prevented, the notch in said bar being locked in connection with the spur by a button 16 that is pivoted to the sill having a foot adapted to impinge against the upper end of the bar. Thus the locking mechanism of the stirrups is securely held against displacement or other conditions incidental to travel of the vehicle in such manner that there is no liability of a stake being released except through manual operation. Furthermore when the trip-bar is forced forward to lock the latch 9 in connection with the tongue 10 the toggle-links are so arranged that their center hinge connection would travel slightly forward of a vertical line intersecting their points of connection with the sill and said latch, whereby this toggle joint will also serve as a lock.

To release the stakes upon either side of the carrier it is only necessary for the operator to exert a slight pull upon the draw-bar 11 after the locking button 16 has been swung up, whereby said draw-bar in turn can be lifted from its locked position with relation to the spur 15'. Thereafter draw upon the chain will cause the lock and release latch to move downwardly, whereby the tongue of the stirrup is free to swing, the spring connection between the stirrup permitting the latter to open fully to a position indicated by dotted lines in Fig. 2. The release movement of the trip-bar is limited by a stud or pin 17 which extends from the adjacent face of the sill and is arranged to abut an upturned end of said draw-bar.

As shown in Fig. 1 the upper ends of the stakes are preferably provided with hooks 18 or other suitable connections for tie-chains 19. These tie-chains form no part of my invention and are provided to divide the outward strain that will be imparted to the stakes incidental to load pressure therebetween. With this in view after the load has been stacked between the stakes to the approximate height of the chain the said chain is attached to the stakes and thereafter other beams or logs constituting the load are piled upon said chains to effect a draw at their upper ends, which draw will, to a certain extent, counteract the expansive load strain therebelow. Attention is also called to the fact that when the stirrups are swung open their spring connections are sufficient to throw said stirrups in such po-

sition with relation to the sills and floor that there is no liability of the logs in their discharge to engage the stirrups and thus damage the same or break their hinge connection.

Referring to Figs. 4 and 5 of the drawings, which illustrate my preferred form of bolster-attaching means, it will be observed that the straps 3' that constitute the fixed leaf-members of the hinge are upon the same side of the sill 2', whereby the spring-controlled stirrup-members 4' will swing open upon the same side of the sill. This arrangement is desirable owing to the fact that when logs are loaded upon a pair of the sills it may happen that when they are discharged one or more of the logs rolling obliquely will fall between the sills and thus in dropping from the edge engage the stirrups and strip them from their hinge connections. By placing the stirrups upon the outside of the sills adjacent to the extended ends of the logs this objectionable feature is entirely overcome. In this exemplification of my invention the tongues 10' of the stirrups are adapted to seat within recesses of the sills to thus permit the nose portion of each lock and release latch to be shortened so as not to form a material obstruction beyond the ends of the sills, which obstruction if too pronounced might engage the logs when they are discharged. The toggle-links 12'', 12''', in this instance are connected by trip-bars 11' which overlap each other as shown and extend in opposite directions. In this instance the trip-bars are provided with apertures for interlocking engagement with pins extending from the sill and hence when the stirrups are locked to form pockets for the stakes the trip-bars are positively locked by their pin engagement and as shown these pins may be provided with twisted wire loops to prevent displacement in their locked position, or, if desired, I may utilize in connection with the twisted loops seals to prevent vandalism or tampering with the releasing mechanism.

I claim:

1. A bolster stake holder comprising a carrier, sets of spring-controlled stirrups in hinge connection with the edges of the carrier, a pivoted lock and release latch engageable with the free end of the stirrup, toggle-links secured to the latch and carrier, a trip-bar in connection with the toggle-links, the trip-bar being extended to that side of the carrier opposite the release latch to which it is connected, and means for locking said trip-bar.

2. A bolster stake holder comprising a transversely disposed sill-piece, a spring-controlled stirrup in hinge connection with the end portion of the sill-piece, a pivoted lock and release latch engageable with the

free end of the stirrup, toggle-links secured to the latch and sill, a trip-bar in connection with the toggle-links, the trip-bar being extended parallel with the sill and terminating adjacent to its end opposite said links, and means for locking the trip-bar.

3. A bolster stake holder comprising a transversely disposed sill-piece, a leaf secured to the sill-piece adjacent to one of its ends, a stirrup in hinge connection with the leaf, a spring in connection with the stirrup whereby the latter is held open, a tongue extending from said stirrup, a pivoted lock and release latch engageable with the tongue, whereby the stirrup is held closed in opposition to its spring tension, a toggle-

link connection between the latch and sill, and a trip-bar in connection with the toggle-links, the trip-bar being extended parallel with the sill and terminating adjacent to the end thereof opposite the latch, and means for locking and releasing said trip-bar.

In testimony that I claim the foregoing I have hereunto set my hand at Milwaukee, in the county of Milwaukee and State of Wisconsin in the presence of two witnesses.

CASPER FAUST.

Witnesses:

GEO. W. YOUNG,
M. E. DOWNEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."