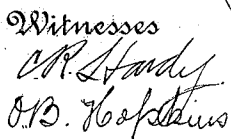


LOG BUNK AND STAKE FOR RAILWAY CARS.

1,050,929.

3 SHEETS--SHEET 1.



by

Attorneys

C. T. EAID.

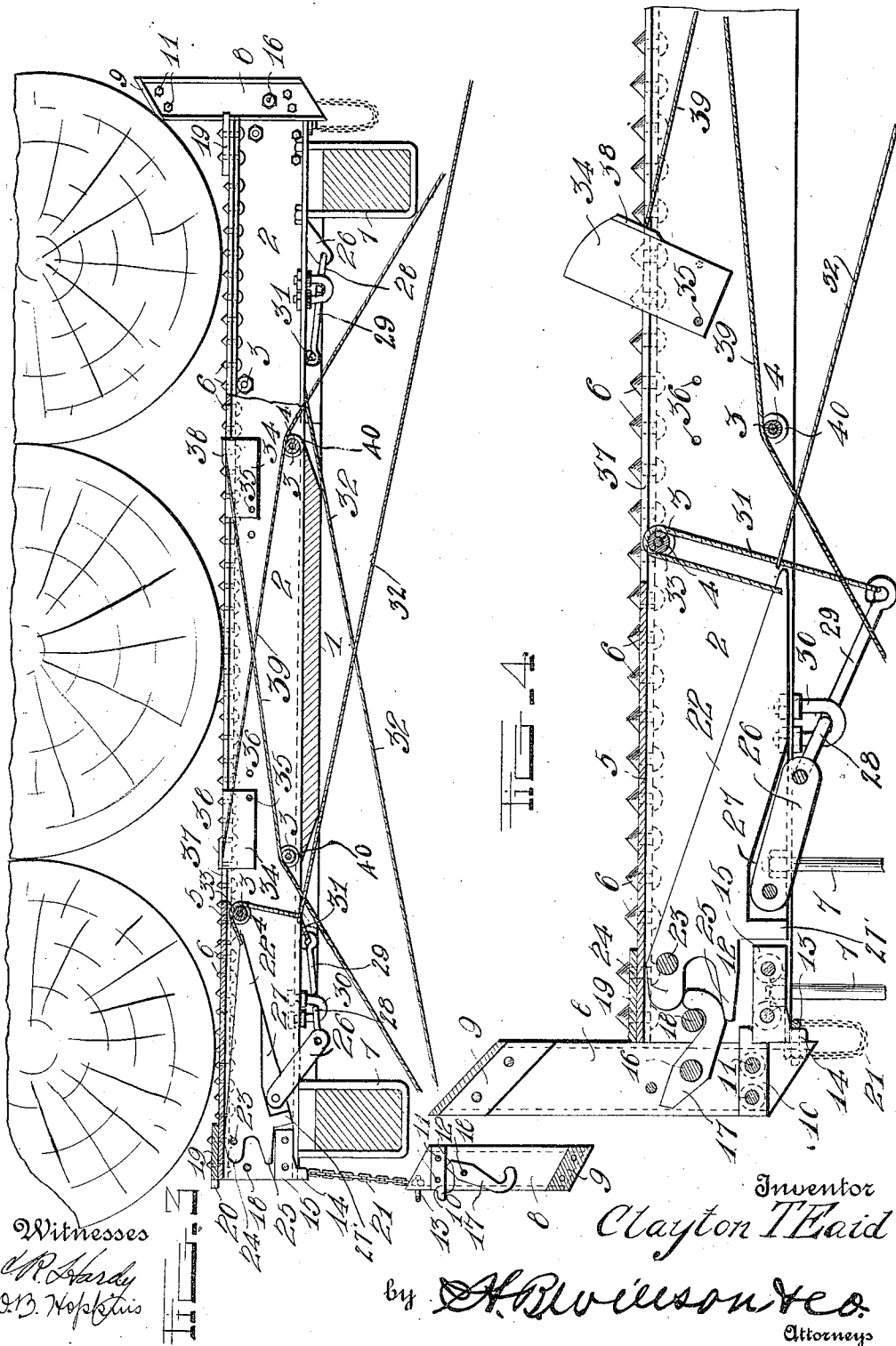
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APPLICATION FILED DEC. 29, 1910. RENEWED APR. 25, 1912.

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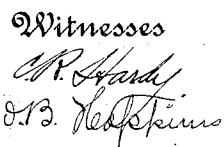


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UNITED STATES PATENT OFFICE.

CLAYTON T. EAID, OF PORTLAND, OREGON.

LOG-BUNK AND STAKE FOR RAILWAY-CARS.

1,050,929.

Specification of Letters Patent.

Patented Jan. 21, 1913.

Application filed December 29, 1910, Serial No. 599,830: Renewed April 25, 1912. Serial No. 693,194.

To all whom it may concern:

Be it known that I, CLAYTON T. EAID, a citizen of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented certain new and useful Improvements in Log-Bunks and Stakes for Railway-Cars; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in log bunks and stakes for railway cars.

One object of the invention is to provide a log bunk having an improved construction of stake and means whereby the same may be released from either side of the car thus preventing danger of the log rolling out onto and injuring the operator when the stakes are removed.

Another object is to provide a log bunk having arranged therein chock blocks adapted to be operated from either side of the car.

With these and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings: Figure 1 is a perspective view of a flat car showing my invention applied thereto; Fig. 2 is an enlarged vertical cross section of the car showing one of the bunk beams and the stakes and chock blocks therein in operative position; Fig. 3 is a similar view showing the stakes and blocks in inoperative positions; Fig. 4 is an enlarged vertical longitudinal sectional view through one end of one of the beams showing the parts in operative position, the plane of the section being indicated by line 4-4 of Fig. 5; Fig. 5 is a vertical cross section of one of the beams; Fig. 6 is a perspective view of one of the stakes; Fig. 7 is a similar view of one of the chock blocks; Fig. 8 is a similar view of one of the stake holding hooks; Fig. 9 is a similar view of one of the stake holding levers of the beams; Fig. 10 is a similar view of one of the lever locking links.

Referring more particularly to the drawing, 1 denotes a flat car which may be of any suitable construction and on which are arranged at suitable intervals these improved log bunks 2 of which there may be any desired number. The bunks 2 are preferably

formed of channel iron bars which are bolted together by a series of fastening bolts 3 and are spaced a suitable distance apart by sleeves 4 arranged on the bolts between the bars as shown. To the flanges of the upper edges of the bars are secured connecting plates 5, said plates being bolted to the flanges of the bars by bolts 6 having cone shaped or pointed heads which engage the logs on the bunks and prevent the same from shifting longitudinally. The beams or bars forming the bunks 2 are preferably secured to the car by means of U-shaped bolts or attaching bars 7 which are passed around the side sills of the car frame and have their threaded upper ends projecting through apertures formed in the lower flanges of the beams, said threaded upper ends having screwed thereon clamping nuts whereby the beams are clamped down into tight engagement with the floor of the car.

In connection with my improved bunks I provide log holding stakes 8 which are adapted to be engaged with and secured to the opposite ends of the beams forming the bunks 2 and which are preferably formed of two channel iron bars of suitable length and which have their upper and lower edges beveled or formed at an angle as shown. The bars forming the stakes 8 are spaced apart at their upper ends by T-shaped cap plates 9 the upper portion of which covers the upper ends of the bars forming the stake and forms a finish for the latter. Through the bars and the downwardly projecting portion of the spacing plates 9 is inserted a clamping bolt by means of which the bars of the stake are secured together in spaced relation. The lower ends of the bars are spaced apart by spacing blocks 10 through which and through the adjacent portions of the bars are arranged clamping bolts 11 whereby said lower ends of the bars are secured together in spaced relation. Each spacing block 10 has formed on one end a lug 12 which projects beyond the inner edges of the bars for a purpose hereinafter described.

On the inner side of each stake near its lower end is secured a horizontally disposed laterally projecting loop bolt 13 the free ends of which are engaged with apertures formed in the inner flanges of the bars forming the stake and are secured by nuts as shown. The loop end of each bolt 13 is adapted to be engaged with a downwardly

projecting lug 14 formed on a spacing block 15 arranged between the beams of the bunks and secured thereto by suitable fastening bolts. The outer end of the spacing blocks 15 are adapted to be engaged by the lugs 12 on the spacing blocks 10 of the stakes when the latter are engaged with the opposite ends of the bunk beams, said lugs and blocks thus forming a support for the stakes the lower ends of which are firmly bound to the ends of the beams by the loops 13.

Arranged through the beams of the stakes 8 near their lower ends are transversely disposed bolts 16 on which are pivotally mounted the inner ends of stake holding hooks 17 the outer ends of which are adapted to project into the space between the outer ends of the bunk beams and into engagement with fastening bolts 18 which are arranged through the beams as shown in Fig. 4. On the top plate of the beams of the bunks at their opposite ends are secured stake bracing plates 19 having on their outer ends lugs 20 which engage the opposite sides of the stakes and firmly hold the same against lateral or sidewise movement. To one end of one of the beams of the bunks is secured one end of a stake holding chain 21 the other end of which is secured to the stake thereby preventing the same from becoming lost or mislaid when disconnected or removed from the end of the bunk beams.

In order to provide for the engagement of the stake fastening hook 17 with the fastening pins 18 in the ends of the bunk beams and to effect the disengagement of said hooks from the bolts for the purpose of releasing the stakes I provide a hook operating lever 22 which is pivotally connected at its outer upper end with a supporting bolt 23 arranged through the bunk beams as shown. The lever 22 is pivotally mounted on the bolt 23 between the beams of the bunks and on the outer end of said lever is formed an outwardly projecting hook releasing lug or nose 24 below which and spaced a suitable distance therefrom is formed a hook guiding and supporting lug 25 which, when the lever 22 is in its normal position engages the under side of the inner end of the hook 17 and holds the same into operative engagement with the bolt 18 (see Fig. 4.) In order to hold the levers 22 in their normal position and thus prevent the casual disengagement of the hooks 17 from the pins 18 in the opposite ends of the bunk beams I provide suitable lever locking devices which are in the form of links 26, one end of which is pivotally connected to downwardly projecting extensions 27 formed on the under side of the levers 22 and which are pivotally connected at their outer ends to cranks 28 of link operating levers 29 which are pivotally mounted in suitable bearings 30 arranged on the under sides of

the beams as shown. The inner ends of the levers 22 and levers 29 are connected together by cables 31 to which are connected operating cables 32 leading to the opposite sides of the car. When the pull is exerted on the cables 31 and 32 the free ends of the levers 22 and 29 will be swung upwardly thereby rocking the crank 28 of said lever 29 and swinging the end of the link 26 connected with said crank 28 downwardly which will exert a downward and inward pull on the outer end of the lever 22. When the inner end of the lever 22 is thus swung upwardly the supporting lug 25 thereof will be swung downwardly and inwardly thereby removing said lug from the path of the hook of the member 17 and the hook releasing nose or lug 24 of said lever 22 will push the hook 17 down out of engagement with the bolt 18, thereby releasing the stake which will drop out of engagement with the end of the bunk beams. The cables 31 which are connected to the inner ends of the levers 22 and to levers 29 pass upwardly over guide pulleys or sleeves 33 arranged between the beams of the bunks adjacent to and above the inner ends of the levers 22 as shown.

When it is desired to replace a stake at either end of one of the bunk beams the loop bolt 13 on the lower end of the stake is engaged with the lug 14 on the spacing block at the adjacent end of the beam and the stake is swung inwardly whereupon the supporting lug 12 of the spacing block 10 will engage the upper side of the block 15 in the beam. The cables 31 and 32 are pulled to swing the inner end of the lever 22 upwardly and the lug 25 on the outer end thereof downwardly or away from the bolt 18 to permit the inner end of the hook to enter between the lug 25 and the bolt whereupon when the cables 31 and 32 are released the inner end of the lever 22 will drop by gravity thus causing the lug 25 to force the inner end of the hook up into engagement with the pin 18 thereby securely fastening the stake to the ends of the bunk beams. When the cables 31 and 32 are released the free ends of levers 22 and 29 will swing downwardly by gravity which will cause the crank 28 of lever 29 to move upwardly carrying with it the end of the link 26 connected thereto, thereby forcing the other end outward and when the free end of the lever 29 is forced downward by the operator until the crank 28 passes the center of the fulcrum of said crank 28, the latter will engage the lower faces of the bunk beams and the parts will be automatically locked in the position shown in Fig. 4. It will be noted that this locking is effected by the passing of the crank 28 above the plane passing through the fulcrum of the lever 29 and the pivot connecting the link 26 to the lever 22.

When the parts are thus locked it will be seen that the hook 17 will be held against casual disengagement from the bolt or keeper 18. The operator may obtain access to the lever 29 to lock the parts by going under the car if necessary.

In addition to the stakes 8 I also provide said bunk beams with chock blocks 34 in the form of plates having their lower ends pivotally mounted between the beams of the bunks by means of pivot bolts 35 which are adapted to be engaged with a series of aligned pivot holes 36 arranged in the beams of the bunks as shown. The chock blocks 34 are pivotally connected at their lower outer corners with the bolts 35 and project upwardly through slots 37 formed in the connecting plates 5 of the beams. The upwardly projecting ends of the plates of the chock blocks have formed on their inner edges flanged log engaging surfaces 38 and preferably have their upper ends rounded or formed at a slight angle as shown. By thus pivotally connecting the chock blocks between the beams of the bunks, said blocks may be swung upwardly to operative positions or downwardly to inoperative positions between the beams. When swung upwardly to operative positions the inner edges of the flanges 38 on the inner sides of the blocks engage the upper side of the plate 5 of the beams and thus limit the inward movement of the blocks. When the blocks are swung downwardly to an inoperative position the downward movement of the same is limited by the engagement of the flanges 38 with the upper surface of the beams. The blocks are swung upwardly and held in operative position against the pressure of the logs by operating cables 39 which are connected to the inner edges of the blocks and pass between the beams of the bunks and over suitable guide rollers 40 to the opposite sides of the car whereby the blocks on either side of the log may be released from the opposite side of the car and the log thus permitted to roll off the latter without danger of injuring the operator.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention as defined in the appended claims.

Having thus described my invention what I claim is:

1. A log bunk for cars comprising beams, means to fasten said beams to the bottom of the car, stakes arranged on the opposite

ends of the beams, fastening hooks carried by said stakes, hook-engaging means on said beams for engagement by said hooks whereby said stakes are removably secured to the ends of the beams, hook releasing levers arranged between said beams, means on said levers to hold said hooks in engagement with said hook-engaging means, means on said levers to disengage the hooks thereby releasing the stakes, means to hold said levers in operative engagement with the hooks whereby the latter are prevented from being casually disengaged from said hook-engaging means on the beams, and means whereby the levers are operated from opposite sides of the car to release the stakes.

2. A log bunk for cars comprising transversely disposed beams, means to secure said beams to the car, stakes arranged on the opposite ends of the beams, means to secure said stakes in detachable engagement with the ends of the beams, means whereby the stakes on the ends of the beams at one side of the car may be released from the opposite side thereof, chock blocks arranged on said beams on opposite sides of the center thereof and means whereby said chock blocks may be operated from the opposite sides of the car.

3. A log bunk for cars comprising pairs of transversely disposed beams secured together in spaced relation, means to fasten said beams to the bottom of the car, stakes arranged on the opposite ends of the beams, stake attaching bolts arranged in said beams, fastening hooks secured to said stakes and adapted to be engaged with said bolts whereby said stakes are removably secured to the ends of the beams; hook releasing levers arranged between said beams, means on the outer ends of said levers to hold said hooks into engagement with said fastening bolts and means to disengage the hooks from the bolts thereby releasing the stakes, means to hold said levers in operative engagement with the hooks whereby the latter are prevented from being casually disengaged from the bolts in the ends of the beams and means whereby the levers are operated from opposite sides of the car to release the stakes.

4. A log bunk for cars comprising pairs of transversely disposed beams secured in spaced relation, longitudinally slotted connecting plates arranged on the upper sides of the beams, bolts to secure said plates to the beams, said bolts having conical or pointed heads which project above the upper side of the plates, spacing and stake supporting blocks arranged between the beams at their opposite ends and adjacent to their lower edges, lugs formed on said blocks and projecting below the lower edges of the beams, stake holding plates secured to the outer ends of said connecting plates, said

stake holding plates having formed on their outer ends stake engaging lugs, log holding stakes arranged on the opposite ends of said beams, supporting lugs arranged on the lower ends of said stakes and adapted to project between the beams of the bunks and into engagement with the stake supporting blocks therein, looped stake holding bolts secured to the lower ends of the stakes and adapted to be engaged with the lugs on the lower edges of the spacing blocks of said beams, stake holding bolts arranged through the opposite ends of the beams, stake holding hooks pivotally connected to the stakes and adapted to be inserted between the opposite ends of the beams and into operative engagement with said bolts whereby the stakes are removably held in position, and means to release said hooks and thereby disengage the stakes from the ends of the beams.

5. A log bunk for cars comprising pairs of transversely disposed beams, said beams being secured together in spaced relation, log holding stakes arranged on the opposite ends of said beams, said stakes comprising pairs of bars secured together in spaced relation, combined spacing and finishing plates arranged on the upper ends of said bars, means to detachably support and fasten the lower ends of the stakes to the outer ends of the beams, stake attaching bolts arranged through the opposite ends of the beams, stake fastening hooks pivoted to said stakes and adapted to be engaged with the fastening bolts in the ends of the beams, hook holding and releasing levers pivotally mounted between said beams, hook guiding and supporting lugs formed on the outer ends of said levers and adapted to engage the inner ends of the hooks and to hold the latter in operative engagement with their fastening bolts, hook detaching lugs also formed on the outer ends of said levers and

adapted to disengage the hooks from their bolts when said levers are operated, cranked locking levers pivotally mounted on the under side of said beams, links to connect said cranks with said hook holding and releasing levers whereby the latter are locked in operative position to hold said hooks in engagement with the bolts, operating cables connected to the ends of said levers whereby the latter are simultaneously operated from the opposite side of the car to release said hooks and thereby detach said stakes, and chock blocks having an adjustable and pivotal connection with said beams to hold the logs in position thereon.

6. A log bunk for cars comprising pairs of transversely disposed beams secured together in spaced relation, means to secure said beams to the car, longitudinally slotted connecting plates secured to the upper edges of said beams, log holding stakes arranged on the opposite ends thereof, means to detachably secure said stakes in place whereby the logs may be released from the opposite side of the car, supporting bolts adjustably arranged in said beams, chock blocks pivotally mounted on said bolts and adapted to project up through the slotted connecting plate of the beams, flanges formed on the inner edges of the upwardly projecting portions of said blocks and operating cables connected to the lower ends of the blocks whereby each of said blocks is swung upwardly from the opposite side of the car and held in operative position above the beams.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CLAYTON T. EAID.

Witnesses:

J. A. HOSHOR,
R. E. MASON.