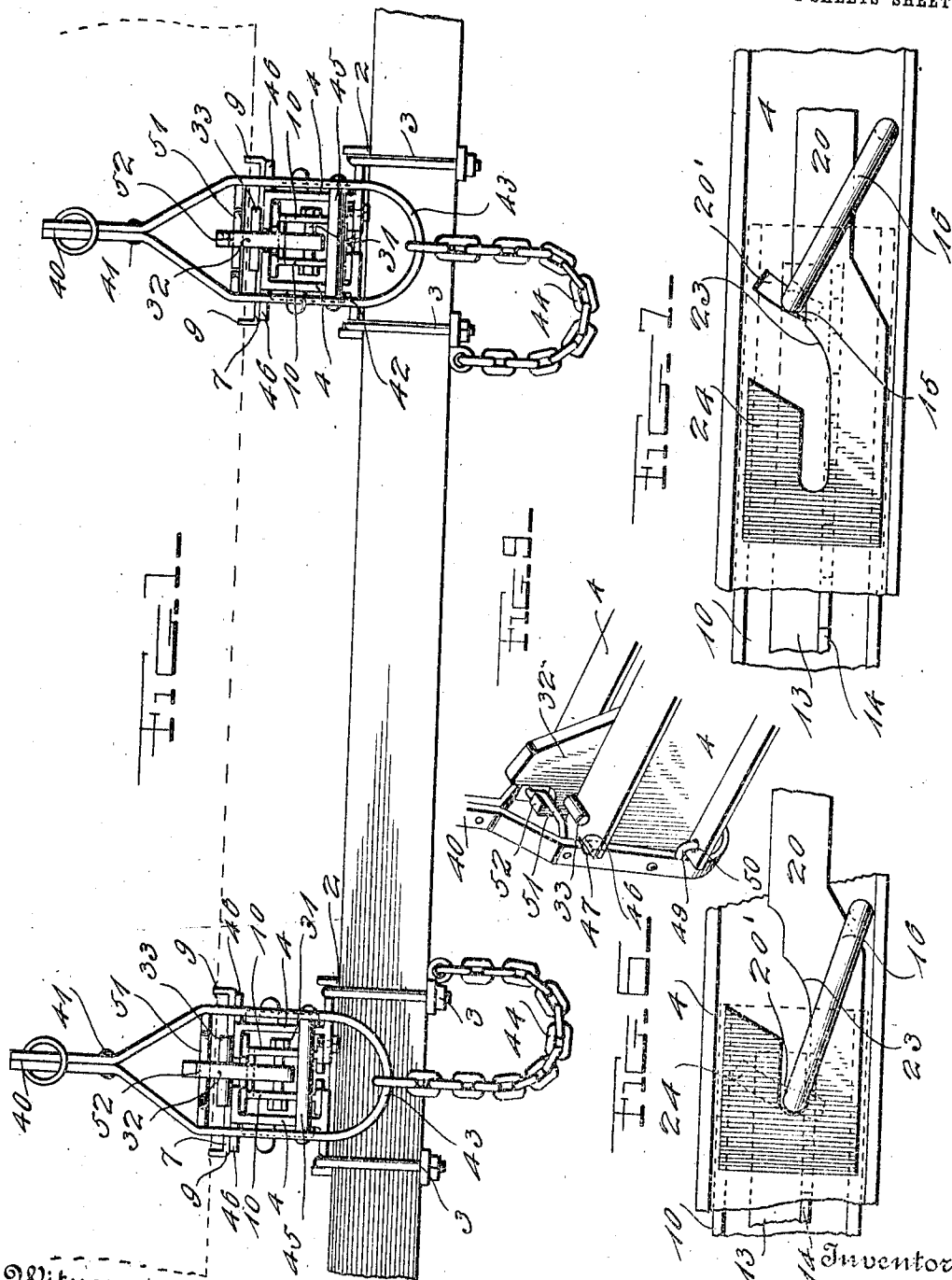


C. T. E. AID.
 LOGGING CAR BUNK AND STAKE.
 APPLICATION FILED FEB. 12, 1912.

1,055,150.

Patented Mar. 4, 1913.

2 SHEETS—SHEET 1.



Witnesses

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N. L. Colclamer

by

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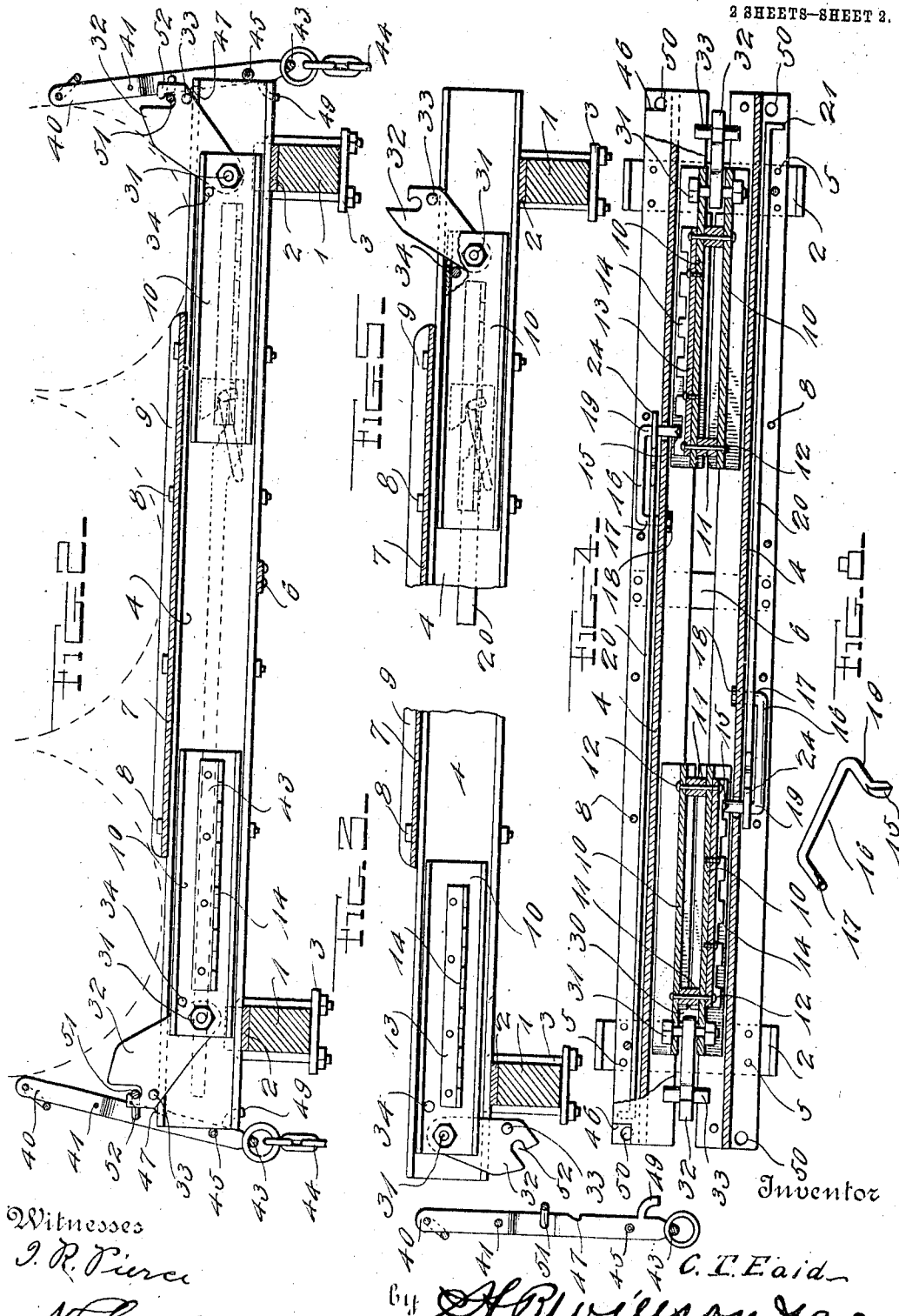
Inventor
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CLAYTON T. EAID, OF PORTLAND, OREGON.

LOGGING-CAR BUNK AND STAKE.

1,055,150.

Specification of Letters Patent.

Patented Mar. 4, 1913.

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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 Logging-Car Bunks and Stakes; 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 railway rolling stock, and more especially to freight cars adapted for conveying logs; and the object of the same is to produce improved means for holding a load of logs, poles, or lumber and for releasing the same from that side of the car where it will be impossible for the workmen to be injured by the falling of the load so released and dropped. This and other objects are carried out by the construction hereinafter more fully described and claimed, and as shown in the drawings wherein—

Figure 1 is a side elevation of the sill of the car truck, giving an end view of two of my improved bunks and an elevation of two of my improved stakes as used in connection therewith. Fig. 2 is a side elevation of one of my improved bunks with the nearer I-beam removed and the top plate in section, and both stakes engaged by the chock blocks. Fig. 3 is a similar view of one end of the device showing the carriage as having been moved to disengage the chock block from the stake and the latter in the act of falling. Fig. 4 is a plan view of the device with the stake omitted, a considerable portion of the view being in section on a line just beneath the upper flanges of the carriages. Fig. 5 is a view similar to the right end of Fig. 2 with the stake omitted, the carriage having been adjusted farther inward along the I-beams than in Fig. 3. Figs. 6 and 7 are enlarged details showing the latching mechanism with the cam in two different positions as will be referred to hereinafter. Fig. 8 is a perspective detail of the latch. Fig. 9 is a perspective detail of one of the stakes and of so much of the other parts as it engages when it is locked in substantially upright position.

In the drawings the numeral 1 designates part of the platform of a car or other vehicle such as is used for transporting logs, poles, lumber and possibly other freight of

similar shape, although this invention is especially applicable to articles which are cylindrical in contour and rather long and which by their shape are therefore likely to roll off the vehicle. If the load should consist, for instance, of three rather large logs as shown in dotted lines in Fig. 2, it may be easily held on the vehicle by the use of chock blocks properly disposed, and as an element of safety it may be additionally held by means of two stakes although the latter are ordinarily used for holding a larger load of articles of rather smaller size. When it is desired to dump the larger logs, it is usually necessary only to remove the chock blocks or stakes or both, and either permit the logs to roll off or to stop them by means of a crow bar. Once started, the load goes with a rush, and operators at that side of the car have not time to escape and therefore are frequently injured or killed. One object of the present invention is to render it impossible for an operator to release the chock block or stake on that side of the car nearest to him, and therefore no matter how careless or forgetful he may be it is impossible for him to unload a log toward himself. This object would be carried out by disposing one of my improved bunks at the midlength of a rather long platform car to engage the center of long logs loaded thereon, leaving their extremities to be chocked by other ordinary means; but when a platform car is provided with this device, there are usually two of them put in place as indicated in Fig. 1, although as they are duplicates of each other I need describe but one.

Upon the sills of the platform 1 bed plates 2 are secured by clips 3 or otherwise, and across each pair of said plates is disposed a pair of spaced I-beams 4 whose lower outer flanges are secured to the bed plates by screws or rivets 5 as shown. At suitable points throughout their length these beams 4 may also be connected by transverse straps or plates 6 passing beneath them and secured to their lower flanges as shown in Figs. 2 and 4; and they are further held in spaced relation to each other by means of a plate 7 extending over their upper flanges and bolted thereto as at 8, this plate being of some considerable length as shown in Fig. 2 and having upstanding flanges 9 along its edges so as to slightly indent the log or logs laid thereon

as indicated in dotted lines, and prevent the same from moving longitudinally upon the car body. The parallel spaced I-beams 4 are thus rigidly mounted across the sills of a car or other vehicle, their upper flanges and the flanges 9 of the plates 7 constitute supports for the load, and the space between the beams constitutes a runway or track for the carriage next to be described. There are two such carriages for each runway, one disposed at each end of the latter, and each carriage is made up of a pair of I-beams 10 all dimensions of which are smaller than those of the I-beams 4, the webs of said beams 10 being spaced by blocks 11 through which pass fastening bolts 12 as best seen in Fig. 4. Outside the web of one beam (for instance, the right-hand one of the pair) is disposed an L-shaped plate 13 having a rack bar 14 on its outwardly extending flange, and engaging this rack bar is the lip 15 at one extremity of a U-shaped latch 16 whose body lies outside the web of the adjacent beam 4 and whose opposite extremity 17 is inturned through said web and headed up as at 18 to form a pivot. The arm 19 carrying the lip 15 moves in a slot 20 cut on an arc around the pivotal end 17 of this latch through the web of the beam 4 as best seen in Figs. 6 and 7, and the lip 15 depends from the inner end of the arm 19 and is adapted to engage the notches in the rack bar 14 in a manner which will be clear. The means for actuating this latch consist of a push bar or rod 20 slidably mounted behind the bolts 8 above described and behind the screws or bolts 5 by which the beam 4 is attached to one of the plates 2, and the handle 21 of the rod stands at the remote end of the track or runway from the position occupied by the carriage being described, for a purpose which will appear below. The inner end of the rod is formed into a hook whose shank has a cam 23 underlying the movable arm 19 of the latch and whose bill forms a guard 24 overlying said arm as best seen in Figs. 6 and 7. From this construction it is obvious that when the rod is manipulated by its handle 21 the cam 23 may be forced under said arm 19 to raise the latch to the position shown in Fig. 7 so that its lip 15 disengages the rack bar 14, but when the rod is moved in the opposite direction the arm rides down the cam and the guard 24 moves over the arm so that the lip reengages the rack bar 14 and the guard prevents it from accidental disengagement therewith. As seen in Fig. 4, the carriage at each end of the track or runway is locked and unlocked by a latch controlled by a rod whose handle stands at the opposite side of the car, the purpose of which will be explained below. At the outer extremities of both I-beams

10 all their inner flanges are cut away as shown at 30, and between their webs on a bolt 31 is pivoted a chock block 32 whose thickness is such that it may move freely between the inner edges of the flanges of the I-beams 4. When idle this block hangs as seen in Fig. 3, and through its body passes a pin 33 whose extremities rest on the inner flanges of the main beams 4 when the chock block is raised as seen in Fig. 2 and may even slide inward thereon to a considerable extent when the carriage must be adjusted inward as seen in Fig. 5 to bring the chock block under a somewhat smaller load. A pin 34 is properly disposed through the webs of the two beams 10 to prevent this block from rising higher than shown in Figs. 2 and 5, and as its center of gravity is therefore always outside of its pivotal bolt 31 it follows that when the carriage is moved outward and the pin 33 passes off the extremities of the flanges of the main beams 4 the chock block will fall and the pin will pass around the ends of said beams to the position shown in Fig. 3. The device as thus far constructed is quite useful for supporting a load of logs or rather large cylindrical articles upon the bunk in such manner that they cannot roll off of the same. They are obviously disposed as indicated by the dotted lines in Fig. 2, the carriages being moved inward sufficiently to cause the chock blocks to rest beneath the outermost logs in a manner which will be clear. When now it is desired to dump the load the chock block at one side of the car must be permitted to assume the position shown in Fig. 3; and, as explained above, the carriage can only be unlatched to permit the freeing of this chock block by an operator who must of necessity stand at the opposite side of the car and is therefore free from danger of injury by the falling logs.

In connection with the improvements above described I use a stake of peculiar construction in order that it will cooperate with the chock block and the mechanism for locking and unlocking the same. The upper end of body of this stake 40, may be of any height and construction, but by preference it is composed of two pieces of strap iron riveted together as shown at 41, and at their lower ends they diverge into a loop 42 beneath which the irons are integrally connected in a bail 43 which may be and by preference is flexibly connected with the platform or sill 1 by means of a chain 44 so that the stake may not be lost. The loop is of sufficient width to span the web of the two main beams 4, it is provided with a cross bar 45 adapted to rest against the ends of said webs, beneath this bar the inner edges of the sides of said loop rest against the outer flanges of said beams, and the

upper outer flanges are cut away or notched as at 46 so that the entire stake may occupy an oblique position as best seen in Fig. 2. By preference the inner edges of the side bars of the loop are themselves notched as seen at 47 so that when each stake occupies this position there is an interengagement of notches as best seen in Fig. 9, and if the notches 47 are employed their engagement with the extremities of the outer flanges of the main beams 4 will prevent the stake from moving upward or downward or inward at this point, and the fact that the body of the loop surrounds the webs of said main beams will prevent it from moving transversely thereon. In order now to prevent the lower end of the stake from being moved outward, I provide the side bars of said loop with downwardly projecting hooks 49 engaging eyes 50 in the outer lower flanges of said main beams; and as the stake cannot rise for the reason just described, the hooks cannot disengage the eyes. Finally, in order to prevent the upper ends of the hooks from moving outward, I provide each loop with a deflected cross bar which is in effect an eye 51 properly disposed to be engaged by a hook 52 in the chock block 32 when the latter is elevated as seen in Fig. 2. Thus it will be seen that a stake of this specific construction is particularly applicable to a chock block of the construction described, especially when the latter is controlled by a carriage which is locked and unlocked as has been set forth.

Assuming that the stake is locked in upright position as shown at the left of Fig. 2. When it is desired to release the load whether the same be logs as indicated or smaller articles, an operator (who of necessity must be at the opposite side of the car) pushes inward on the handle 22 whereby the cam 23 is forced beneath the arm 19 of the latch 16 and the lip 15 thereof is raised out of engagement with the rack bar 14. This frees the carriage which is at liberty to move outward or to the left in Fig. 2 and to the position shown in Fig. 3, and with it moves the chock block 32. The pin 33 on the latter slides along the upper flanges of the main beams 4 until it clears their outer corners and may fall over the same as described, and meanwhile the hook 52 carries the eye 51 along with it and swings the stake outward so that the notches 47 and 46 disengage each other, and the hooks 49 are disengaged from the eyes 50 and the stake is disconnected from the main beam just at the time that the chock block commences to swing downward around its pivot 31. As it falls to the position shown in Fig. 3 its hook 52 disengages the eye 51 completely, and the entire stake falls out of the way and is retained merely by the chain 41. Thus the chock block and stake are simult-

taneously and automatically removed from beneath the log near that end of the bunk, and the log rolls off on the ground without the possibility that it may injure the workman who must have actuated the latch from the opposite side of the car. In this position of parts the chock block is entirely out of the way and the stake either hangs pendent by the chain 41 or is entirely removed, and the result is that the car may be used for other purposes.

When now it is desired to again load a car provided with this invention, the parts are set up to the position shown in Fig. 2 and the load must be passed over the upper ends of the stakes. The latter, however, are locked against movement in all directions in the manner described above, and if in the act of loading some of the load should strike the stakes they will not be dislodged from their position. If it should so happen that the load is smaller than the width of the car or the length of the main beams 4, the stakes will be disengaged from the hooks 42 and the carriages moved inward as shown in Fig. 5 so that the chock blocks alone support the load in a manner which will be clear.

I do not wish to be confined to the specific details of construction, as it is to be understood that this specification is merely descriptive of one embodiment of my idea and that changes in detail may be made within the spirit of the invention.

What is claimed as new is:

1. The herein described bunk for logging vehicles comprising a pair of I-beams disposed in spaced relation to each other, plates secured to the lower flanges of said beams near the extremities of the latter, chock blocks movably mounted in the spaces between said beams above such plates, means for locking said blocks, rods for tripping the locking mechanism, said rods extending along the outside of the webs of said beams, a bunk plate overlying the upper flanges of said beams and having upstanding flanges along its edges, and bolts passing through this plate and downward through the outer flanges of said beams and outside said rods.

2. In a bunk for logging vehicles, the combination with a pair of beams connected with each other so as to produce an internal runway, and a bunk plate mounted over said beams near their midlength; of a longitudinally movable carriage within said runway, a rack bar secured along the carriage, a chock block pivoted to the outer end of the carriage and its body movable in the space between said beams, a pin through said body for resting on the upper edges of said beams when the block is raised, and a latch adapted to engage said rack bar.

3. In a bunk for logging vehicles, the

combination with a pair of beams connected with each other so as to produce an internal runway, and a bunk plate mounted over said beams near their midlength; of a longitudinally movable carriage within said runway, a rack bar secured along the carriage, a chock block pivoted to the outer end of the carriage and movable in the space between said beams, a latch pivoted to one of said beams and having a lip at its free end adapted to be engaged with said rack bar, and a latch-operating rod leading along the beams.

4. In a bunk for logging vehicles, the combination with a pair of beams connected with each other so as to produce an internal runway; of a longitudinally movable carriage within said runway, a rack bar along the carriage, a chock block pivoted to the carriage and movable in the space between said beams, a pivoted latch having a lip at its free end adapted to be engaged with said rack bar, a latch-operating rod mounted in guides along one end of said beams and having a handle, and a cam on said rod adapted to coact with the movable end of said latch.

5. In a bunk for logging vehicles, the combination with a pair of beams connected with each other so as to produce an internal runway; of a longitudinally movable carriage within said runway, a rack bar along the carriage, a chock block carried by the carriage, a U-shaped latch whereof one extremity is pivoted to one of said beams and the other extremity passes through a slot in this beam and is provided with a lip adapted to engage said rack bar, and a latch-operating rod extending along one of said beams and having a hook whose throat is provided with a cam moving beneath the free end of said latch and whose bill is adapted to be moved over said free end, for the purpose set forth.

6. In a bunk for logging vehicles, the combination with a pair of spaced beams inclosing a substantially rectangular runway, the upright webs of said beams being provided with slots, and for each beam a U-shaped latch whereof one extremity is pivoted through said web and the other extremity forms an arm which extends through said slot and carries a deflected lip; of a longitudinally movable carriage within each end of said runway, a rack bar thereon adapted to be engaged by said lip, load-retaining devices connected with said carriage, and a latch operating rod extending from the latch along one beam, for the purpose set forth.

7. In a bunk for logging cars, the combination with a pair of main beams inclosing a substantially rectangular runway, the beams being spaced from each other at their extremities at top and bottom; of a longi-

tudinally movable carriage within each end of said runway and composed of two I-beams connected with each other and having their inner flanges cut away at their outer ends, a bolt through their webs, a chock-block pivotally mounted at its inner end on said bolt and adapted to move in the space between the extremities of the main beams, a pin connecting the webs of the carriage-beams and limiting the rise of said block, and a limiting pin through the outer end of the latter in position to rest upon the main beams when the block is raised into engagement with said stop.

8. In a logging bunk, the combination with two main beams secured in spaced relation to each other, a carriage movable longitudinally between them, and a chock block loosely connected at its inner end to said carriage and having a hook at its outer end; of a stake having a loop at the lower end of its body, a cross bar within the loop adapted to rest against the extremities of said beams, and an eye within the loop adapted to be engaged with said hook.

9. In a logging bunk, the combination with two main beams secured in spaced relation to each other, a carriage movable longitudinally between them, and a chock block loosely connected at its inner end to said carriage and having a hook at its outer end; of a stake having a loop at the lower end of its body, hooks depending from the sides of said loop, said beams having eyes with which the hooks are adapted to engage, and an eye within said loop adapted to be engaged by the hook of the chock block.

10. In a logging bunk, the combination with two main beams secured in spaced relation to each other, a carriage movable longitudinally between them, and a chock block loosely connected at its inner end to said carriage and having a hook at its outer end; of a stake having a loop in its body of a size to inclose the extremities of said main beams, a cross bar within said loop adapted to rest against said extremities, hooks on the side bars of said loop with their bills projecting downward, said beams having eyes with which said hooks are adapted to be engaged, and a deflected rod across said loop above the cross bar and constituting an eye with which the hook on the chock block is adapted to be engaged.

11. In a logging bunk, the combination with two I-beams secured in spaced relation to each other and each having its outer upper flange cut away at its extremity to produce a notch, a carriage movable longitudinally between them, and a chock block loosely connected at its inner end to said carriage and having a hook at its outer end; of a stake having a loop at its lower end whose side bars are adapted to rest against the extremities of the lower outer

flanges and in said notches of the upper outer flanges, means for preventing the rise of the stake, and an eye in the upper portion of the loop engaged by the hook in the
5 chock block, for the purpose set forth.

12. In a logging bunk, the combination with two I-beams secured in spaced relation to each other and each having its outer upper flange cut away at its extremity to
10 produce a notch, a carriage movable longitudinally between them, and a chock block pivoted to said carriage; of a stake having a loop whose side bars are adapted to rest against the extremities of the lower outer
15 flanges and in said notches of the upper outer flanges and themselves have notches engaging the latter flanges, and a hook-and-eye connection between the upper portion of the loop and the chock block, for the purpose
20 set forth.

13. In a logging bunk, the combination with two I-beams secured in spaced relation to each other and each having its outer upper flange cut away at its extremity to

produce a notch, a carriage movable longi- 25
tudinally between them, and a chock block pivoted to said carriage and having a hook; of a stake having a loop whose side bars are adapted to rest in said notches of the
upper outer flanges and themselves have 30
notches engaging such flanges, a cross bar within the lower portion of the loop adapted to rest against the ends of the webs of
said main beams, down-turned hooks on the side bars of said loop, the lower outer flanges 35
of said main beams being provided with eyes engaged by these hooks, and an eye in the upper portion of the loop engaged by the hook in the chock block, for the purpose
set forth. 40

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

CLAYTON T. EAID.

Witnesses:

LUKE THORNTON,
MARY A. MACKINNON.

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