

C. A. McCARTHY.
SAFETY BOLSTER BLOCK AND CHAIN LOCK.
APPLICATION FILED JAN. 11, 1911.

1,002,292.

Patented Sept. 5, 1911.

3 SHEETS—SHEET 1.

Fig. 1.

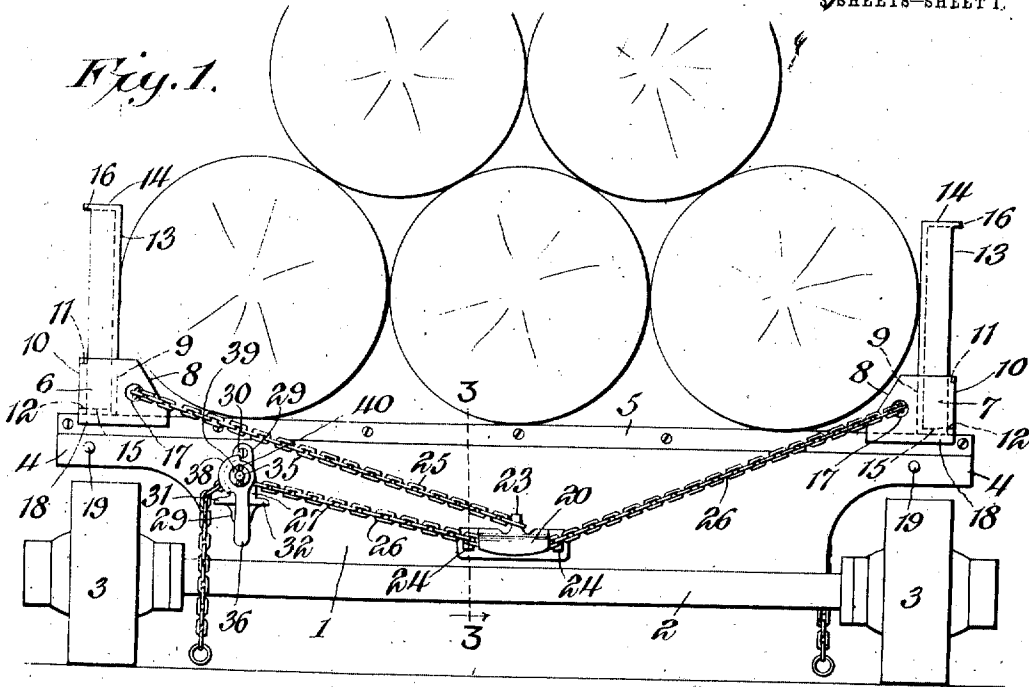


Fig. 2.

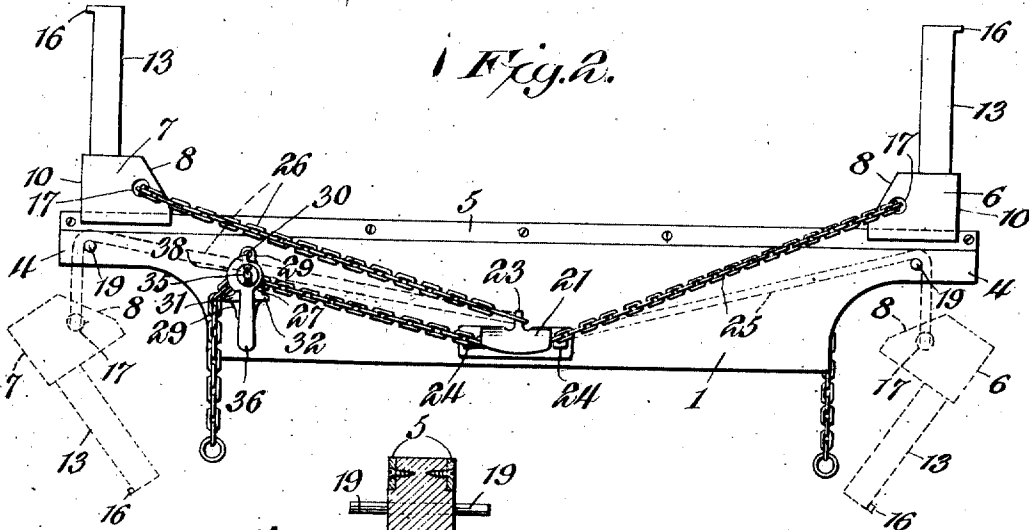
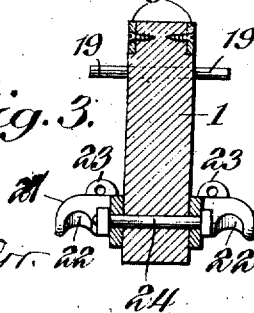


Fig. 3.



WITNESSES

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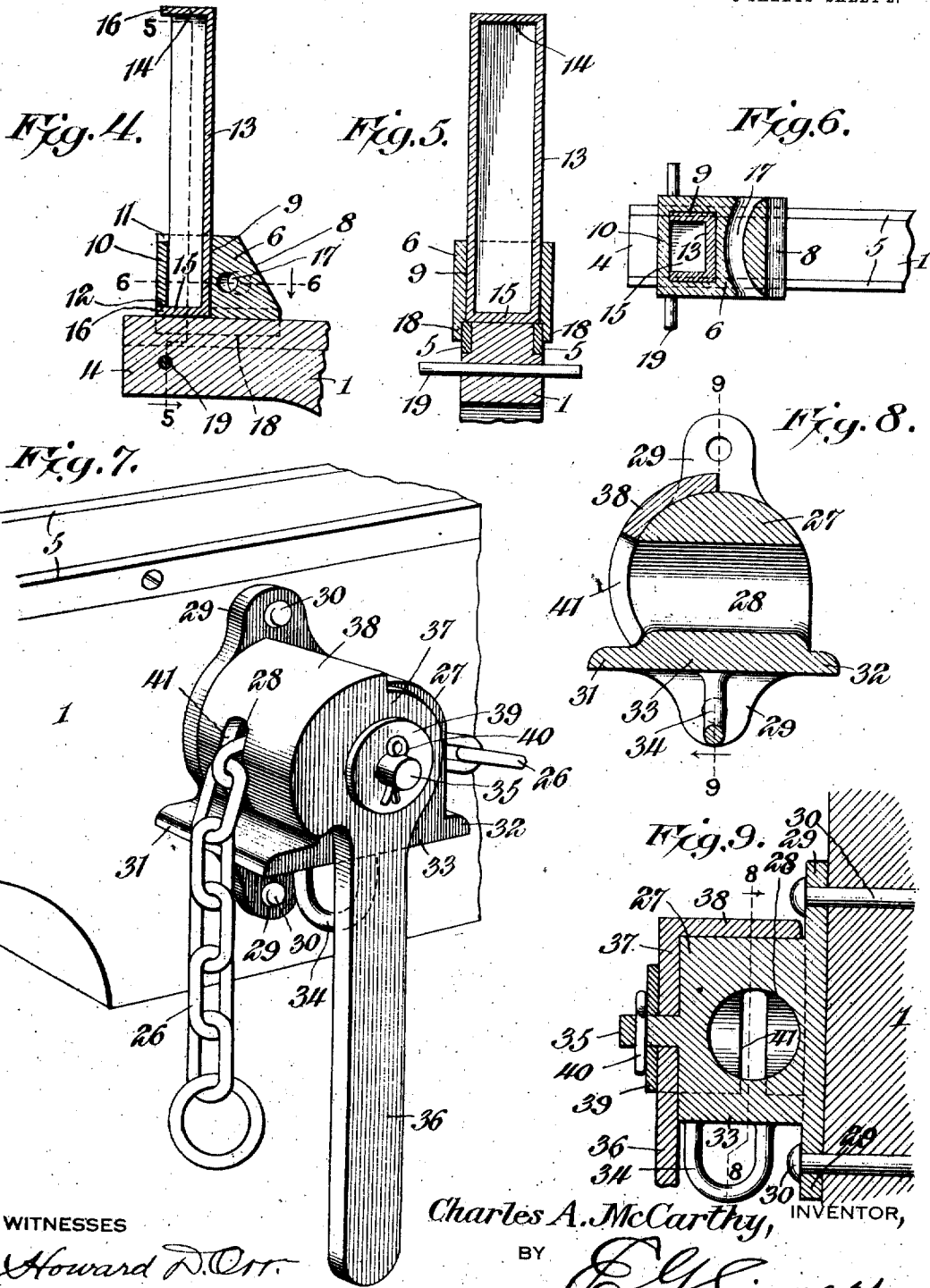
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3 SHEETS—SHEET 3.

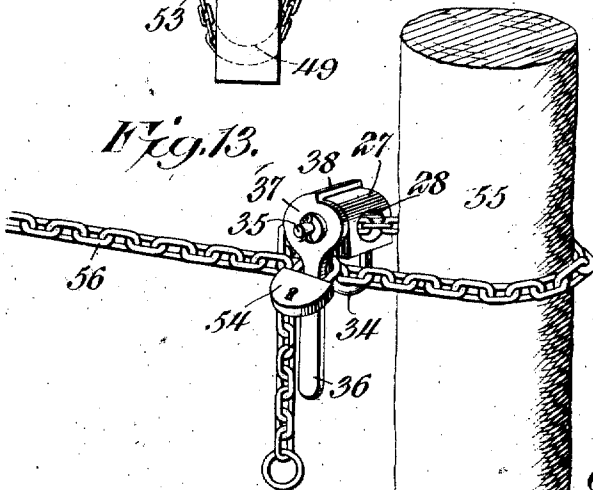
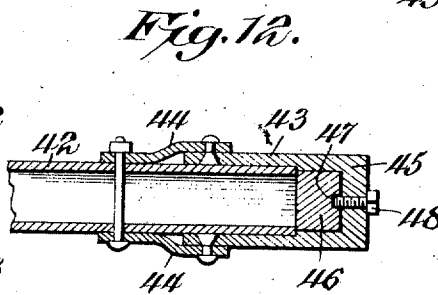
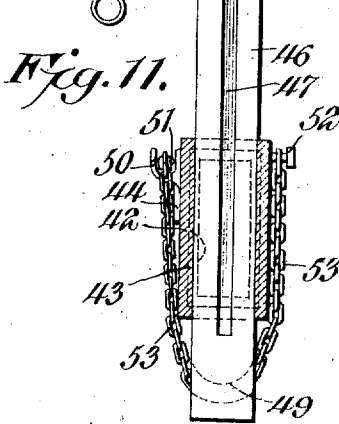
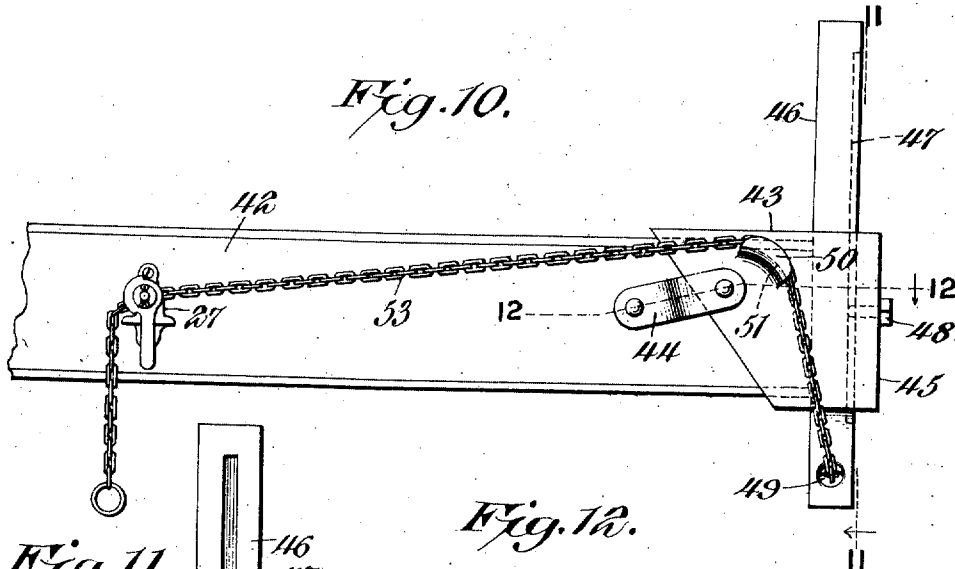
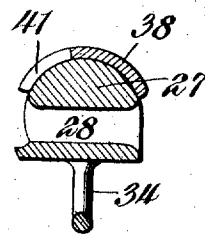


Fig. 14.



WITNESSES

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SAFETY BOLSTER-BLOCK AND CHAIN-LOCK.

1,002,292.

Specification of Letters Patent.

Patented Sept. 5, 1911.

Application filed January 11, 1911. Serial No. 602,016.

To all whom it may concern:

Be it known that I, CHARLES A. MCCARTHY, a citizen of the United States, residing at Hattiesburg, in the county of Forrest and State of Mississippi, have invented a new and useful Safety Bolster-Block and Chain-Lock, of which the following is a specification.

This invention has reference to improvements in safety bolster blocks and chain locks, and its object is to provide a means for holding logs on logging wagons or upon railway cars, whereby the locking device may be removed from holding position with respect to the logs without danger to the operator.

In the lumber regions it is customary to hold the logs on the bolsters of the logging wagons or trucks by blocks secured to the bolsters by pins, and when it becomes necessary to remove the logs the pins must be knocked out, often at the expenditure of much labor and time and frequently one or more of the logs will escape from the wagon or truck, thereby causing serious injury or the death of the loggers, since it is necessary that the person driving the pins out stand in such relation to the blocks as to be in the path of any logs which may roll from the bolster.

In accordance with the present invention the retaining blocks for the logs are so secured to the bolster that they may be released by a person standing well out of the path of the logs, should any of them roll from the bolster after the block is released, so that the person operating the mechanism to release the blocks may do so with the assurance of safety even though the entire load of logs should escape from the bolster supporting it. The blocks may, furthermore, carry stanchions and both the blocks and the stanchions will move out of the path of the logs, so that the latter may be removed from the logging wagon or truck without injury to either the blocks or stanchions, but these blocks and stanchions, or the blocks alone where the stanchions are not used, are permanently fastened to the bolster carrying them in a manner preventing the loss of such blocks, so that they are always ready for use. Furthermore, the blocks are capable of sliding along the bolsters to any desired position of adjustment and logs may therefore be secured on the

bolsters irrespective of the size of such logs, so long as the diameter of a log does not exceed the capacity of the wagon or truck.

The invention will be best understood from a consideration of the following detailed description, taken in connection with the accompanying drawings forming a part of this specification, with the understanding, however, that while the showing of the drawings illustrates a practical embodiment of the invention, the latter is not limited to the exact structure shown, since the invention is susceptible of various modifications wherein the salient features of the invention are retained.

In the drawings:—Figure 1 is an end elevation of a logging truck showing the invention applied to the bolster of the structure and also showing logs supported thereon. Fig. 2 is an elevation of the face of the bolster remote from that shown in Fig. 1, and also showing in dotted lines the positions assumed by the blocks when both have been released and the logs have moved them from the bolster. Fig. 3 is a section on the line 3—3 of Fig. 1. Fig. 4 is a central vertical section through one end of the bolster with a block and stanchion mounted thereon, the section being taken in the longitudinal plane of the bolster. Fig. 5 is a section on the line 5—5 of Fig. 4. Fig. 6 is a section on the line 6—6 of Fig. 4. Fig. 7 is a perspective view of a portion of the bolster showing the chain lock secured thereto. Fig. 8 is a section of the chain lock on the line 8—8 of Fig. 9. Fig. 9 is a section of the chain lock on the line 9—9 of Fig. 8. Fig. 10 is an elevation of one end of a logging car bolster showing the invention applied, the structure being modified in some details. Fig. 11 is a section on the line 11—11 of Fig. 10. Fig. 12 is a section on the line 12—12 of Fig. 10. Fig. 13 is a perspective view showing an application of the chain lock differing from that of the other figures. Fig. 14 is a section of the structure shown in Fig. 13 similar to the section of Fig. 8, but showing the chain engaging member in the inactive position.

Referring to the drawings, but first to the structure of Figs. 1 to 9, both inclusive, there is shown a bolster 1 mounted on an axle 2, which in turn is supported by wheels 3, the showing being largely indicative of a logging truck, such as is employed in the

lumber region, but since the truck may follow the lines of any suitable logging truck no attempt has been made to show its detailed construction.

5 The bolster 1 is of ordinary construction with ends 4 overhanging the wheels 3, and with the edge upon which the logs are supported, and, therefore, constituting the upper edge, straight. Since, however, this
10 edge is subjected to wear, it is flanked on each side with strips 5 which may be sunk into the bolster flush with the sides thereof and secured thereto in any appropriate manner, screws being the fastening devices
15 shown for the strips 5. It is assumed that the bolster 1 is made of wood, but this does not preclude the making of the bolster of metal, in which case the strips 5 may be omitted, for then the bolster may either be
20 made of structural steel or of the web and flange type commonly employed in the manufacture of light, strong metallic devices.

The logs are held to the bolster by blocks 6, 7, respectively, and since these blocks may
25 be alike, the description of one will apply with equal force to the other. One of these blocks is best shown in Figs. 4, 5 and 6. The block has that end or face designed to be presented toward the center line of the
30 truck, and, therefore, toward the logs, inclined as indicated at 8, and near the other end the block has a substantially rectangular passage 9 therethrough in an up and down or substantially vertical direction when the
35 block is in position on the bolster and the latter is level or approximately so. That wall of the passage 9 remote from the inclined or beveled face 8 and indicated at 10 is recessed at top and bottom as indicated at
40 11 and 12, respectively. The passage 9 is designed to receive a stanchion 13 which may be made of channel steel with the ends of the channels closed in by flanges 14, 15, respectively, these flanges each having an
45 extension 16 beyond the plane of the free edges of the sides of the channel. Formed in the block is a passage 17 opening at the sides of the block and curving from the ends toward the middle away from the beveled
50 face 8 of the block. At the sides of the block at which the passage 17 opens are flanges 18, so related and spaced that when the block is placed upon the top of the bolster these flanges or wings 18 are, in embracing
55 relation to the sides of the bolster where provided with the wear strips 5, the strips protecting the top and sides of the bolster from wear due to the movement of the block therealong.

60 When the block is upon the bolster the lower end of the stanchion is flush with the bottom of the block, the extension 16 of the flange 15 entering the recess 12 of the block. If, however, the block is moved sufficiently beyond the end of the bolster, the

stanchion will drop until caught by the extension 16 of the flange 14 thereof and the block will then simply fall from the bolster when its movement permitting the release of the stanchion has progressed far enough.
70 Carried by the bolster in traversing relation thereto near each end is a pin 19 projecting from each side of the bolster for a purpose which will presently appear.

At a central point on the bolster and near
75 the lower edge thereof, on each face of the bolster, are secured blocks 20, 21, respectively, these blocks having each a curved channel 22 on what constitutes the under edge of the block when the parts are in the
80 operative position and at an intermediate point on the top of the block there is formed an eye 23, while through side extensions of each block there extend bolts 24 through the bolster. Secured to the eye 23
85 of the block 20 is one end of a chain 25 and secured to the eye 23 of the block 21 is one end of a chain 26. The chain 25 is carried through the passage 17 traversing the block 16, and from thence extends to the block 21,
90 along the channel 22 in the lower edge of the block, the direction of the chain being thereby changed so that the block with its channel constitutes a direction changing means for the chain, and from this block the
95 chain extends to a chain lock to be described, this chain lock being carried by the bolster on the side of the block 21 and near that end of the bolster remote from the block 6. The
100 chain 26 is carried through the passage 17 in the block 7, thence to the block 20 through the channel 22 thereof and to a chain lock like the one just mentioned. This chain
105 lock is best shown in Figs. 7, 8 and 9, and comprises a body member 27 of general cylindrical shape having therethrough an approximately diametrical passage 28 about
110 midway of its length and formed at one end of this block are ears 29, which may also be in diametric relation one to the other, these ears being traversed by bolts 30 or other
115 suitable securing devices attaching the block to the bolster 1. At opposite ends, but on the same side of the passage 28 there are formed outstanding ledges 31, 32 for a
120 purpose which will presently appear, and these ledges merge into a face 33 on which there is formed, or to which there is attached a yoke 34 for a purpose which will
125 presently appear.

The body 27 at the end remote from the ears 29 is formed with or has secured thereto an axial stud 35 constituting a pivot support for a hand lever 36 provided with a
130 passage for the stud 35 and about this passage expanded into a disk like portion 37 having formed at its periphery for a portion of the circumference thereof a curved flange 38 shaped to partially embrace the cylindrical portion of the body 27 for an
135

extent greater than the diameter of the passage 28, the position of the flange 38 with respect to the arm 36 defining in the particular structure shown an angle somewhat greater than ninety degrees. The lever is confined to the stud 35 by a washer 39 and a pin 40, which latter traverses an appropriate hole through the stud 35, and in the particular structure shown the pin 40 is of the type known as a cotter pin.

The cylindrical flange 38 is formed with a circumferential recess 41 about midway of its length axially and this recess 41 is of a diameter and length adapting it to receive a link of the chain 25 or 26, as the case may be, when the side members of the link are in substantially parallel relation with the side walls of the recess, but this recess is too narrow to permit the next link to pass through it so long as the link maintains the same relation to the recess 41 that it has to the link already seated in said recess.

It has already been stated that the axis of the passage 28 is substantially diametric to the axis of the cylindrical body 27, but the longitudinal axis of the passage 28 may be to one side of the axis of generation of and in chord relation to the cylinder 27, so that a chain traversing the passage 28 and having a link in the recess 41 will engage the exterior of the flange 38 on that side of an axial diametric plane of the cylinder 27 parallel with the longitudinal axis of the passage 28 toward the face 33. Furthermore, the chain lock is secured to the bolster at a higher point than the block 20 or 21 as the case may be, so that the chain tends to engage the lower portion of the passage 28, whereby that link of the chain engaging against the outer wall of the flange 38 will tend to approach the ledge 31. The result of this is that there is a force brought to bear upon the flange 38 tending to move it toward the ledge 31 and thus that edge of the flange 38 where the recess 41 opens is held firmly against the ledge 31 by the constraining action of the chain, and so long as the chain remains taut the flange 38 will normally lock the chain, this tendency being augmented by the normally pendent position of the long arm of the lever 36 which is directed downward when the flange 38 is in locking relation to the chain. It requires considerable force to move the lever 36 to carry the flange 38 out of locking relation to the chain, so that accidental unlocking of the chain is practically eliminated.

Let it be assumed that the logs shown in Fig. 1 are to be discharged from the side of the bolster occupied by the block 7. Under these circumstances the logging structure is so loaded that the chain lock controlling the block 7 is readily accessible. When the logs are first loaded the block 6 may be properly

positioned and locked by means of the chain 25 and after the logs are loaded, the block 7 may be drawn up against the logs and the chain 26 locked. When it is desired to unload the logs the operator has but to grasp the lever 36 and move it in a direction to carry the flange 38 from covering relation to the passage 28, this causing the withdrawal of the flange from engaging relation to the links of the chain when the chain, in the particular instance shown the chain 26, is released, and if the logs be in position to gravitate from the bolster the block 7 is forced off of the bolster and the logs pass from the bolster to the ground. The dropping of the block 7 causes first the dropping of the stanchion carried thereby and then the escape of the block from the bolster, but the block does not fall to the ground because of the presence of the pin 19 in the path of the chain 26, so that the block and the stanchion carried thereby are upheld and do not fall to the ground to be mislaid or lost. It will thus be seen that the load of logs may be readily released without the necessity of exposure of the operator to danger, since the operator is not at any time in the path of the logs as they move from the truck, the appropriate block 6 or 7 being held solely by the chain individual thereto, and this chain is controlled solely by the lock individual thereto, which lock is accessible from one or the other face of the bolster.

The invention with some modifications is applicable to logging cars, or in fact to any car where stanchions may be used, and where the removal of the stanchions may release the load in whole or in part, so as to become dangerous to an operator at the side of the car where the stanchion or stanchions are released. The application of the invention to a car is shown in Figs. 10, 11 and 12, where a car bolster is indicated at 42 and there is shown attached to one end of this bolster a yoke 43 straddling the end of the bolster and held thereto by straps 44. While only one end of the bolster 42 is shown, it will be understood that the other end is similarly equipped. The yoke 43 has its connecting member 45 spaced from the end of the bolster sufficiently to permit a stanchion 46 to travel through such space, the stanchion and passage therefor being proportioned to make a snug, yet free fit. The stanchion is provided with a longitudinal groove 47 along one face, but this groove stops short of the ends of the stanchion, while a set screw 48 carried by the yoke and entering the groove serves to limit the movement of the stanchion to prevent its escape from the yoke. One end of the stanchion, this being the lower end in practice, has formed therethrough a passage 49, such passage being similar to the passage 17 through

the block 6 or 7, in that it is curved to avoid any sharp corners to interfere with the action of the chain or to cause sharp bends in the chain. The yoke 43 has on one side a curved bracket 50 with a longitudinally curved channel 51 therein, and the said yoke 43 on the side thereof remote from the bracket 50 is provided with a pin 52 or other suitable means designed to secure one end of a chain 53 which is carried therefrom through the passage 49 in the lower end of the stanchion, thence through the channel 51 in the bracket 50, which bracket constitutes a direction changing means for the chain, and finally to a chain lock like that shown in Fig. 7 fast to the bolster 42 at a point remote from the stanchion controlled by the chain 53. It will be understood that a like arrangement prevails with relation to the stanchion at the other end of the bolster 42 from that shown in Fig. 10. When the chain 53 is released from the lock the stanchion 46 will drop until its upper end is flush with or below the top of the yoke 43 and the load of the car, whether such load be logs or other structures, may be removed therefrom at will and without interference, the chain lock being within easy reach of an operator from the side of the car remote from that carrying the stanchion or stanchions controlled by said chain lock.

In order to protect the chain lock from unauthorized manipulation and to further contribute to the safety of the structure by preventing accidental release of the chain or chains, a lock 54 shown in Fig. 13 may be passed through the yoke 34 and about the long arm of the lever 36 adjacent thereto, thereby securing the lever in the position locking the chain in a manner preventing movement of the lever either manually or accidentally, so that none but authorized persons may cause the release of the load. The same lock is capable of securing the chain to a post or other support as shown in Fig. 13, where a post is indicated at 55, and the chain at 56 the chain being carried through the yoke 34, thence about the post 55 and finally through the passage 28 to be locked in the manner already described.

While the blocks 6 and 7 are shown as provided with stanchions 13, it will be understood that these stanchions may be omitted and the blocks used without them. It will, furthermore, be understood that the structure shown in Figs. 1 and 2 and associated figures may be used upon cars instead of the structure shown in Figs. 10, 11 and 12. Furthermore, it will be understood that while usually chains are employed in connection with the blocks, or stanchions, any other flexible strand adapted for the purpose may be used.

The chains for the blocks are each made fast at one end and are then passed through

the respective block, while the other end is carried through the chain lock, this providing a means whereby the block may be moved toward the center of the bolster with comparative ease against a considerable resistance, thereby enabling the operator to bind the load, and since either or both blocks may be moved to any extent and locked in any position they are readily adjustable to suit logs of different diameters.

What is claimed is:—

1. In a device for the purpose set forth, a bolster, a log retaining means having a hole therethrough and also mounted on the bolster in slidable relation thereto, a flexible actuating and holding means for the slidable log retaining means and extending through the hole in said log retaining means, and a lock for the flexible means for securing it in any desired position of adjustment.

2. In a device for the purpose set forth, a bolster, a log retaining means in slidable relation to the bolster, a flexible actuating and retaining means for the slidable means traversing the latter and having a connection with the bolster in fixed relation thereto, a direction changing means for the flexible means, and a lock for said flexible means on the side of the direction changing means remote from the log retaining means, said locking means being carried by the bolster.

3. In a device for the purpose set forth, a bolster, a slidable log retaining means carried by the bolster and provided with a hole through it in a direction substantially transverse to the length of the bolster, a chain connected at one end to the bolster and extending through the hole in the log retaining means, and a chain lock on the bolster secured to the side thereof remote from that to which the said end of the chain is secured.

4. In a device for the purpose set forth, a bolster, a log retaining means slidable with relation to said bolster and provided with a passage, a chain connected at one end to one side of the bolster and extending through the passage in the log retaining means, a direction changing member for the chain on the side of the bolster remote from that to which the said end of the chain is connected, and a chain lock on the same side of the bolster as the direction changing means and more distant from the log retaining means than is the direction changing means.

5. In a device for the purpose set forth, a supporting member, a log retaining block capable of sliding on the support, said log retaining block having a hole therethrough in a direction substantially transverse to the direction in which the block is slidable, a flexible member extending through the hole in the block, and means for securing the flexible member to hold the block in position on the support.

6. In a device for the purpose set forth, a bolster, a log retaining block capable of sliding on the bolster, a flexible member for retaining the block in position, said flexible member traversing the block, and means on the bolster for engaging and sustaining the flexible member with the block in pendent relation to the sustaining means.

7. In a device for the purpose set forth, a bolster, a block adapted to slide on the bolster, said block being provided with a passageway therethrough transverse to the direction of movement of the block on the bolster, a chain connected at one end to the bolster and extending through the passage in the block, a direction changing means on the bolster for the chain, and a chain lock on the bolster adjacent the end of the bolster remote from the end designed to sustain the block.

8. In a device for the purpose set forth, a bolster, slidable blocks adapted to opposite ends of the bolster, and each provided with a traversing passage, direction changing brackets on opposite sides of the bolster, a chain connected at one end to a respective direction changing bracket and extending through the passage in a respective one of the blocks, and chain locks adjacent the end of the bolster remote from the block to be controlled thereby, the chain extending from a block being engaged by the chain directing member before reaching the chain lock.

9. In a device for the purpose set forth, a log retaining block having a curved passage therethrough, block holding means extending through said curved passage, and means for guiding the block upon a suitable support.

10. In a device for the purpose set forth, a log retaining block provided with a curved passage and with another passage, block holding means extending through said curved passage and a stanchion in traversing relation to the last named passage and movable through said passage.

11. In a device for the purpose set forth, a bolster, a block slidable therealong and provided with retaining flanges or wings for engaging the sides of the bolster, said block having a passage therethrough in a direction perpendicular to the bolster where engaged by the block, and a stanchion traversing the said passage and provided with means for retaining it in the block while permitting movement of the stanchion in the block in the direction of the length of said stanchion.

12. In a device for the purpose set forth, a

bolster, a log retaining block adapted to slide on said bolster and provided with means for preventing the displacement of the block laterally with relation to the bolster, said block having a passageway therethrough in a direction perpendicular to the surface of the bolster engaged by the block, and a stanchion of channel structure traversing the passage in the block and provided at each end with lateral extensions for confining the stanchion to the block while permitting longitudinal movement of the stanchion with relation to the block.

13. In a device for the purpose set forth, a bolster, a log retaining block adapted to slide on said bolster and provided with means for preventing the displacement of the block laterally with relation to the bolster, said block having a passage therethrough in a direction perpendicular to the surface of the bolster engaged by the block, a stanchion of channel structure traversing the passage in the block and provided at each end with lateral extensions for confining the stanchion to the block while permitting longitudinal movement of the stanchion with relation to the block, said block being also provided with another passageway therethrough, and a flexible member connected at one end to the bolster and extending through the last named passageway in the block.

14. In a device for the purpose set forth, a bolster, a block adapted to slide thereon and provided with side wings designed to embrace the sides of the bolster, said block having a curved passageway therethrough from side to side and another passageway therethrough in a direction toward the portion of the block adapted to rest on the bolster, a stanchion traversing the last named passageway and provided with means for preventing its escape from the block while permitting longitudinal movement of the stanchion, a chain connected at one end to the bolster and carried through the curved passage in the block, a chain lock for the other end of the chain, and chain supports carried by the bolster to uphold the block and portion of the chain traversing the latter when the block has escaped from the end of the bolster.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

CHARLES A. MCCARTHY.

Witnesses:

W. M. FOOTE,
M. GILLIS.