July 12, 1949. O. NORDBERG ET AL 2,475,753

STAKE FOR LOGGING TRUCK BUNKS

Filed July 22, 1946

2 Sheets-Sheet 1

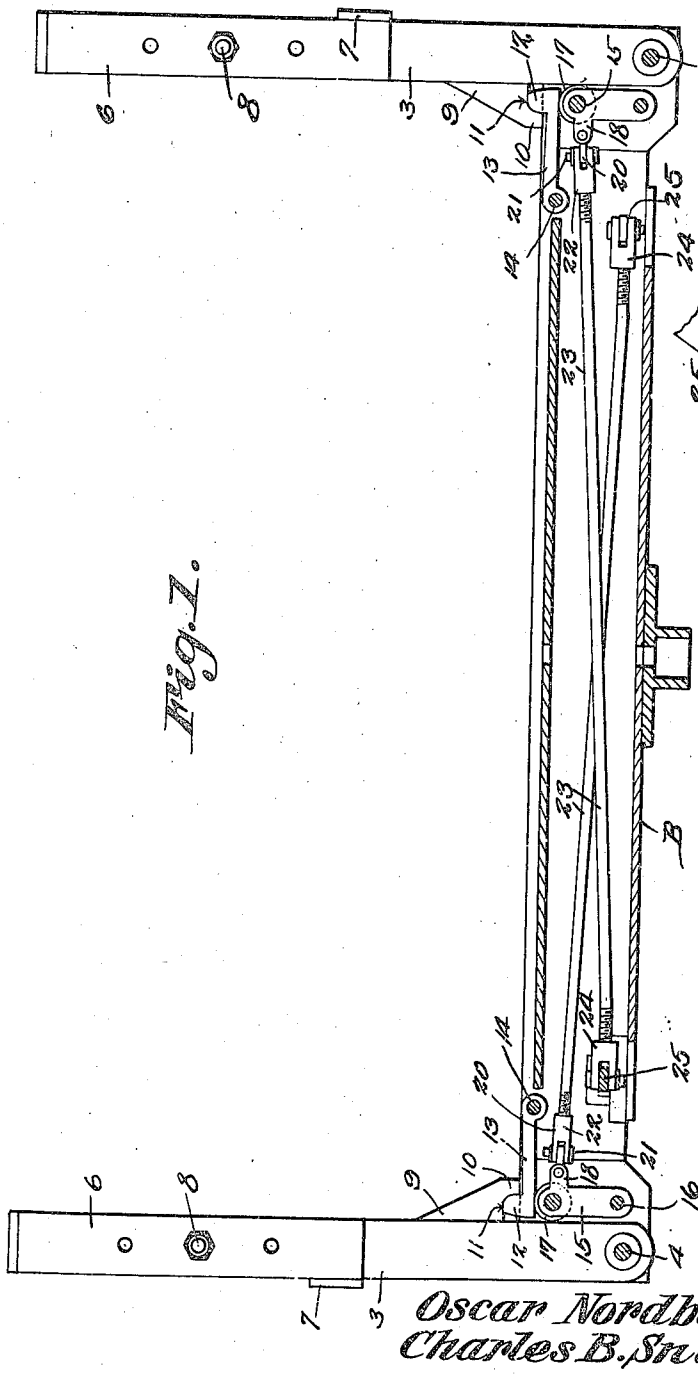


Fig. 1.

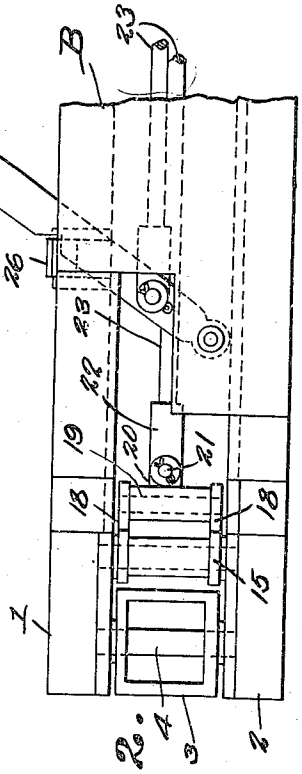


Fig. 2.

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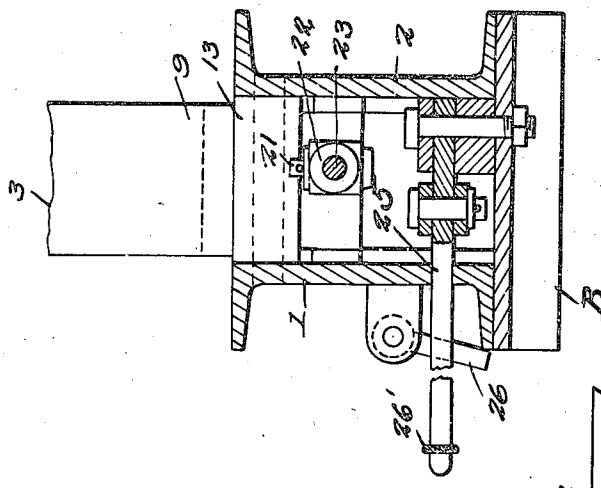


Fig. 4.

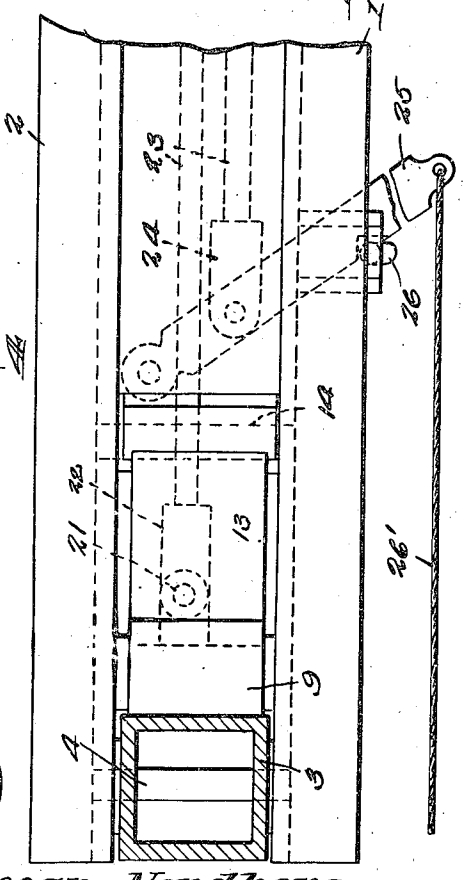


Fig. 5.

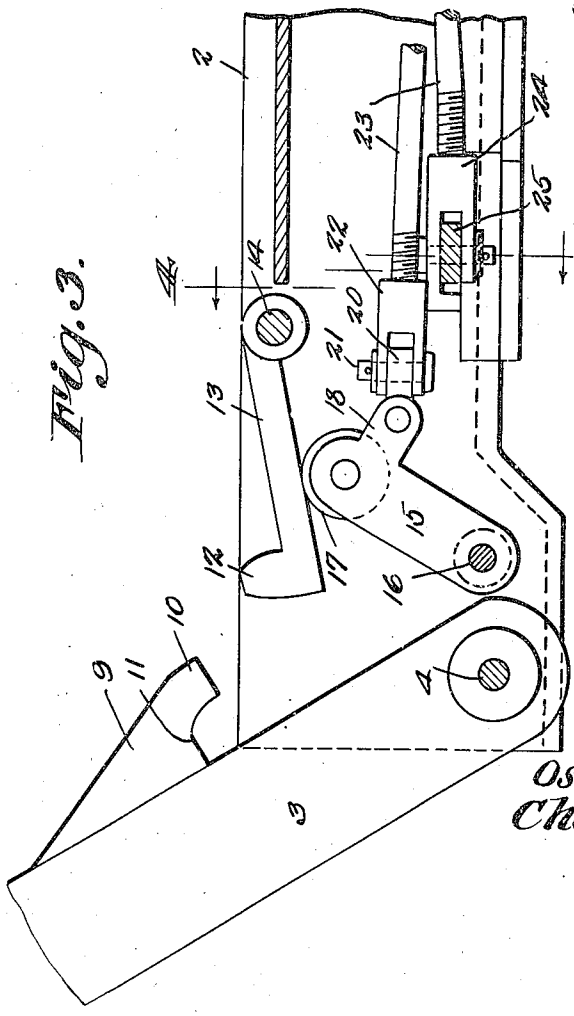


Fig. 3.

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STAKE FOR LOGGING TRUCK BUNKS

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5 Claims. (Cl. 105—384)

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This invention relates to stakes for truck bunks used in logging.

The most generally used method of holding logs on bunk trucks is by the use of cables extended between and over the logs and suitably secured. It frequently happens, however, that the weight of the logs and the jolting to which they are subjected, causes them to become displaced with the result that frequently they extend prohibited distances beyond the sides of the trucks or else cause the chains to break, resulting in delays and possible injuries.

For the purpose of overcoming the objections present where chains are used, various types of stakes have been employed but these, in practice, have generally been found impractical because, in order to retain the excessive loads to which they are subjected, which loads frequently exceed forty tons in weight in some sections, it has been necessary to make them of sizes which are prohibitive.

An object of the present invention is to provide bunk stakes having requisite strength whereby extremely heavy loads can be retained, the stakes being combined with locking means of new and novel construction which will permit the stakes to release the load only when the locking means is operated intentionally.

A further object is to provide a structure of this character which permits unloading of the logs without danger to the attendants and which also allows the logs to be unloaded from either side of the truck.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings

Figure 1 is a vertical transverse section through a bunk truck equipped with the present improvements.

Figure 2 is a bottom plan view of one of the stakes and the adjacent portion of the locking mechanism.

Figure 3 is an enlarged vertical longitudinal section through a portion of the truck bunk showing the locking mechanism in stake-releasing position.

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Figure 4 is a section on line 4—4, Fig. 3, the stake being locked.

Figure 5 is a top plan view showing the stake in section and locked in raised position.

Referring to the figures by characters of reference, 1 and 2 designate angle beams secured to a base structure B and cooperating to form a bunk. A stake 3 preferably in the form of a rectangular tube, is pivoted at its lower end between the beams 1 and 2, as indicated at 4 and can be of any desired size, there being an extension 6 adjustably and pivotally connected to the upper end portion thereof if so desired, this extension straddling the outer side of the stake and having a cross-member 7 for preventing the upper end thereof from swinging outwardly and releasing a load. The point of pivotal connection has been indicated at 8. To the inner side of the stake 3 is joined a block 9 having a retaining lug 10 extended downwardly therefrom so that a recess 11 is thus provided between this lug and the stake.

The recessed block 9 constitutes a keeper for the head 12 of a latch 13 which, as shown, is pivotally mounted between the beams 1 and 2 as at 14.

Pivotally mounted at its lower end between the beams 1 and 2 and beneath the latch 13 is a toggle 15 the pivot pin of which has been indicated at 16. This toggle has a roller 17 at its upper end and the roller and toggle are so proportioned that when said toggle is in an upstanding position with the roller pressed against the adjacent portion of stake 3, said roller will be in engagement with and supporting the latch 13 so that the head 12 thereof cannot drop out of the recess 11.

Ears 18 are extended from the toggle and have a sleeve 19 pivotally mounted between them, this sleeve carrying a plate 20 which is pivotally joined, as at 21, to a forked head 22 on one end of an operating rod 23. This operating rod is supported between the beams 1 and 2 and extended in the direction of the length of the bunk, that end of the rod remote from head 22 being provided with a head 24 which is forked so as to straddle an intermediate portion of an operating lever 25 fulcrumed in the bunk and extending outwardly therefrom. The lever 25, when moved to a position wherein it brings the toggle into latch-supporting position, is retained against movement in the opposite direction by a pivoted latch or dog 26 suspended in the path thereof. Thus the toggle 15 is held in supporting position. By lifting this lever-retaining latch, however, lever 25 can be swung to its other extreme position and, during this movement, will pull upon the rod 23 con-

nected thereto, thereby swinging the toggle 15 inwardly from under latch 13.

As a result the latch is free to drop downwardly, thereby releasing the keeper 9 and permitting the stake 3 to swing outwardly. Each of the levers 25 can be operated from a remote point by a rope 26' fastened thereto as shown particularly in Fig. 5.

The stakes at the two ends of the bunk are duplicates and the operating mechanism is also duplicated so that the same reference characters have been applied to the corresponding parts at both ends of the bunk.

It has been found in practice that a stake and locking means therefor such as herein described is capable of retaining very heavy loads and as the structure is not of excessive size or weight nor complicated in construction, it is not costly to produce. Furthermore it provides a safe means for holding and releasing logs and will act to hold the logs properly assembled during transportation without danger of shifting.

Attention is called to the fact that when the toggle 15 is moved into latch-lifting position, said movement is limited by the stake and at the same time the toggle is brought to a dead center beneath the latch, so that any tendency of the latch to shift the toggle out of supporting position, is eliminated. At the same time, the dog or lever-retaining latch 26 is holding the operating means, comprising rod 23 and lever 25, against movement in an opposite direction, the dog thus cooperating with the stake to hold rod 23, lever 25, toggle 15, and latch 13 against any movement in either direction when the parts are in the operative position illustrated in Figure 1. A point to be noted in this connection is the fact that the dog is so hung that it cannot swing laterally of the vehicle (Figure 4). Thus, bouncing of the vehicle on a rough road cannot destroy the locking action of the dog.

What is claimed is:

1. The combination with a logging bunk, of a stake pivotally mounted therein and mounted for up and down swinging movement, a keeper carried by the stake having a bottom recess, a latch carried by the bunk and mounted for up and down swinging movement into and out of the recess for latching and unlatching, respectively, of the stake, a pivoted toggle having movable contact with the latch for elevating said latch into latching engagement with the recessed keeper, the stake being adapted to limit the toggle against movement in one direction beyond a position in which it retains the latch elevated and in latching engagement with the keeper, means operated at a point remote from the latch for shifting the toggle into latch-elevating and latch lowering positions, said positions respectively constituting locked and unlocked positions of the toggle, and a dog pivoted to the bunk and adapted to retain said means against shifting the toggle in an opposite direction out of latch-elevating position.

2. The combination with a bunk including spaced beans, of a stake pivotally mounted between said beams and mounted for outward and downward swinging movement relative to the bunk, a keeper on one side of the stake having a recess in the bottom portion thereof, a latch pivotally mounted between the beams of the bunk and having a head proportioned to enter the recessed keeper, a toggle pivotally mounted in the bunk, means carried by the toggle for rolling engagement with the latch and cooperating with the toggle for shifting the latch into engagement with the keeper, said stake constituting means for limiting the movement of the toggle against movement in one direction beyond a toggle position in which the latch is in engagement with the keeper, an operating element carried by the bunk at a point remote from the latch, an operating connection between said element and the toggle, and a dog pivoted to the bunk and adapted to hold said element and toggle against movement in an opposite direction when the toggle is in said position, whereby said stake and dog will cooperate to lock said element and toggle against movement in either direction when the toggle is in said position, the dog being pivotally suspended from the bunk adjacent said element and extending across the path of movement of said element to prevent loss of engagement with the element during normal vibration of the vehicle.

3. The combination with a logging bunk, of a stake pivotally connected thereto and normally extended upwardly therefrom, said stake being mounted to swing outwardly and downwardly, a keeper on the inner side of the stake having a recess in its lower edge, a latch pivotally mounted on the bunk, a head on the latch proportioned to fit into the recess, a toggle pivotally mounted in the bunk and beneath the latch, an actuating lever connected to the bunk, means connecting said lever to the toggle for shifting the toggle thereby to lift the latch into engagement with the keeper, said stake constituting means for limiting the movement of the toggle in one direction beyond a toggle position in which the latch is engaging the keeper, and a dog pivotally attached to the bunk and engageable with the lever to retain the toggle against movement in the other direction out of said position, said position comprising a locked position of the toggle.

4. The combination with a logging bunk including spaced fixedly joined beams, of a stake pivotally supported between the beams and mounted for upward and downward swinging movement relative thereto, a keeper on the inner side of the stake having a recess in its lower portion, a latch pivotally mounted between the beams, a toggle pivotally mounted beneath the latch, means on the toggle for rolling engagement with the latch, remote control means for shifting the toggle against the stake when said stake is in upstanding position, said toggle being proportioned to lift the latch into engagement with the recessed keeper when the toggle is moved against the stake, and means pivotally attached to the bunk and adapted to engage the remote control means and hold said remote control means in a position to which it is moved in shifting the toggle against the stake, whereby said toggle position against the stake will constitute a locked position of the toggle.

5. The combination with a logging bunk, of a stake pivotally connected thereto and normally extended upwardly therefrom, said stake being mounted to swing outwardly and downwardly, a keeper on the inner side of the stake having a recess in its lower edge, a latch pivotally mounted on the bunk, a head on the latch proportioned to fit into the recess, a toggle pivotally mounted in the bunk and beneath the latch, means for shifting the toggle for elevation of the latch into engagement with the keeper, said stake constituting means for limiting the movement of the toggle in one direction beyond a toggle position in which the latch has been elevated into engagement with the keeper, and a dog pivotally attached to the bunk and adapted to engage the first-named

means to retain said first-named means in a position to which it is moved in shifting of the toggle, to prevent movement of the toggle in the other direction out of said toggle position, said toggle position comprising a locked position of the toggle.

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