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CAR STAKE.

APPLICATION FILED MAR. 2, 1909.

930,623.

Patented Aug. 10, 1909.

2 SHEETS—SHEET 1.

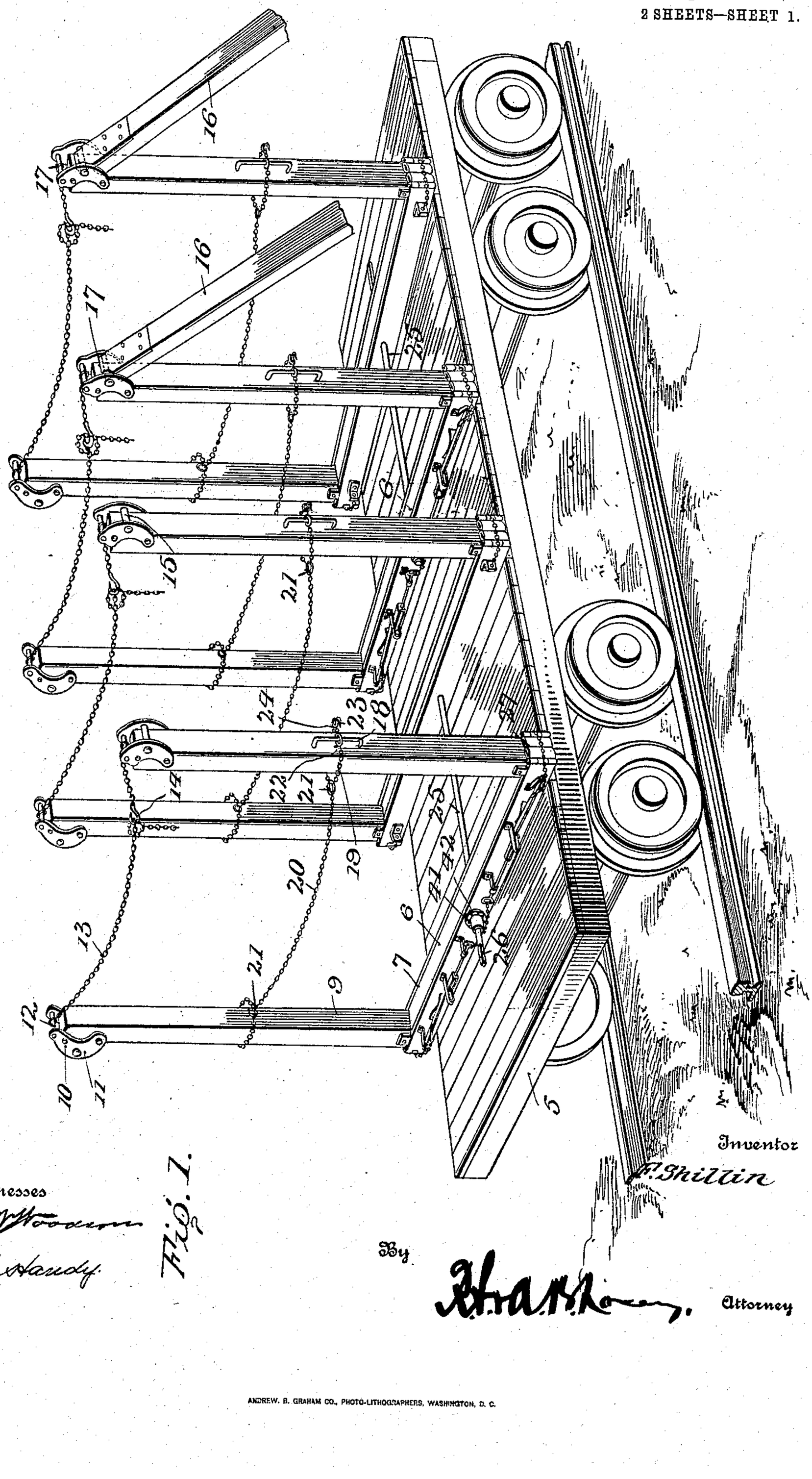

Fig. 1.

Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

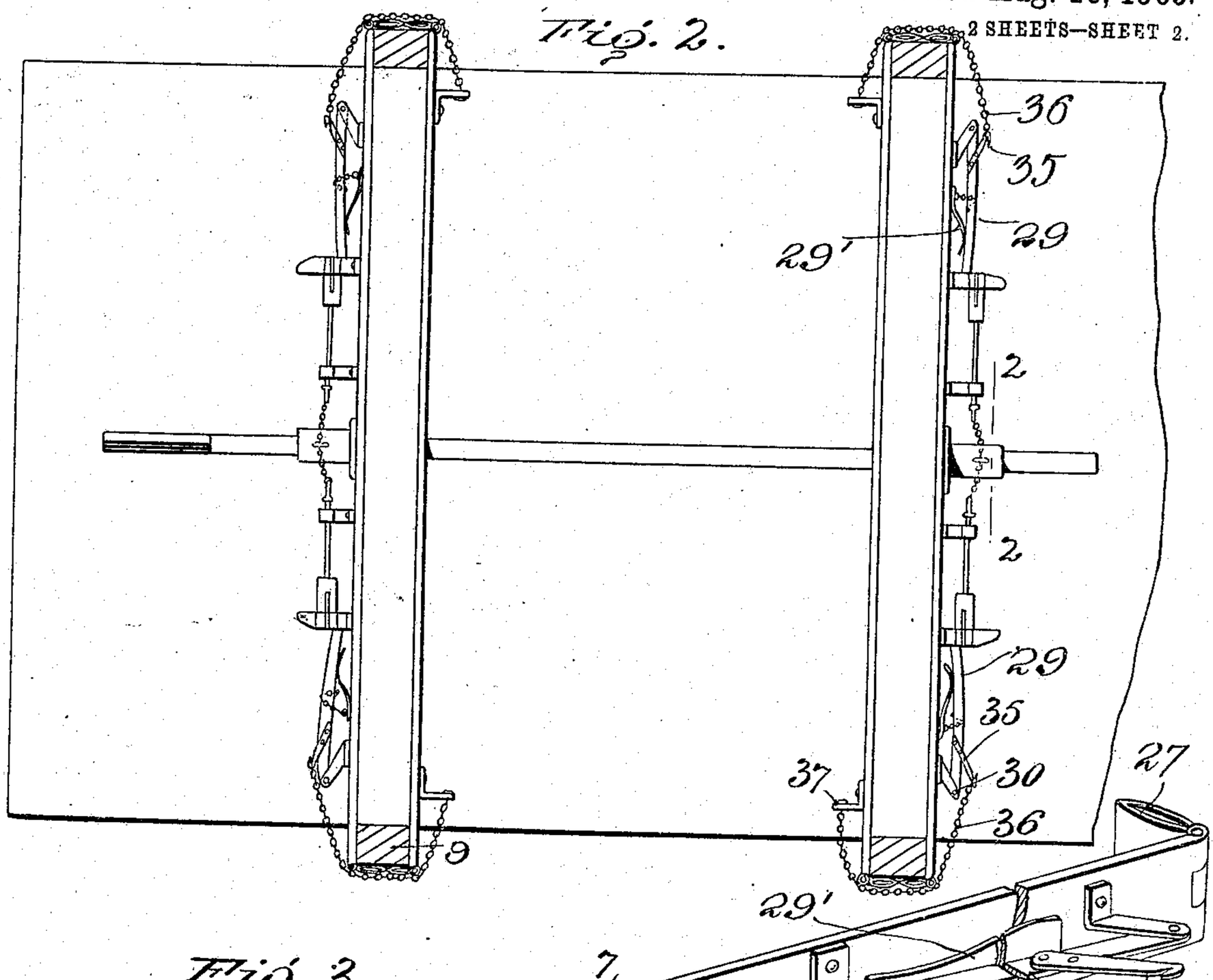


Fig. 3.

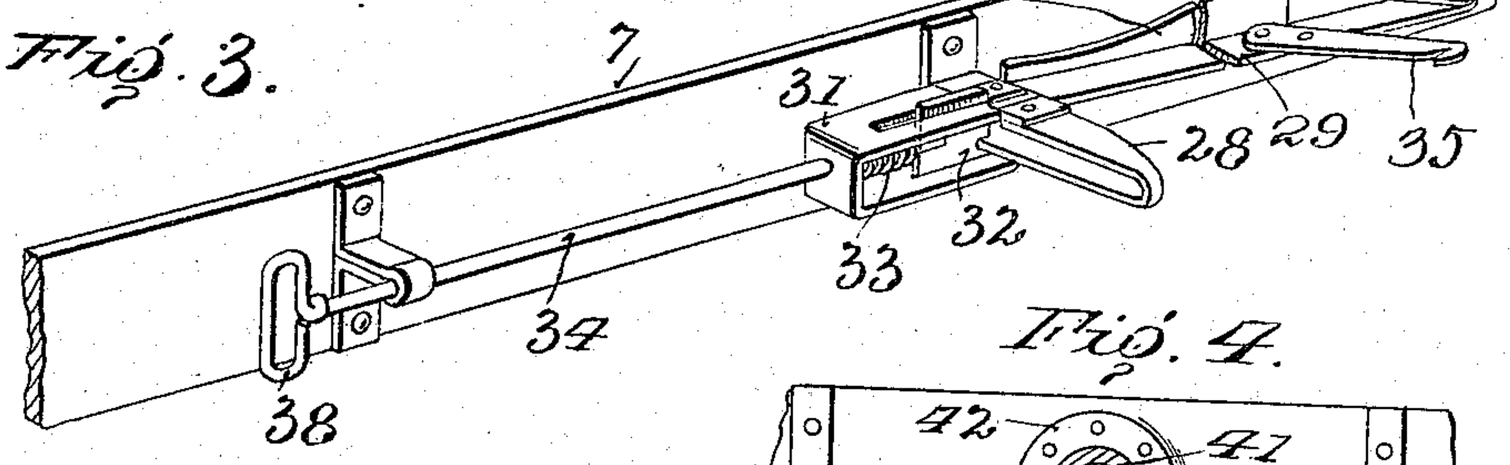


Fig. 4.

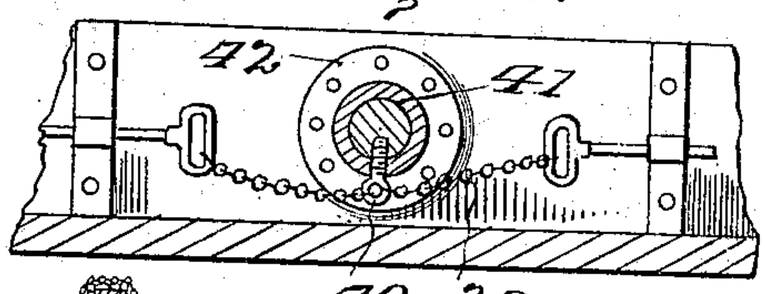
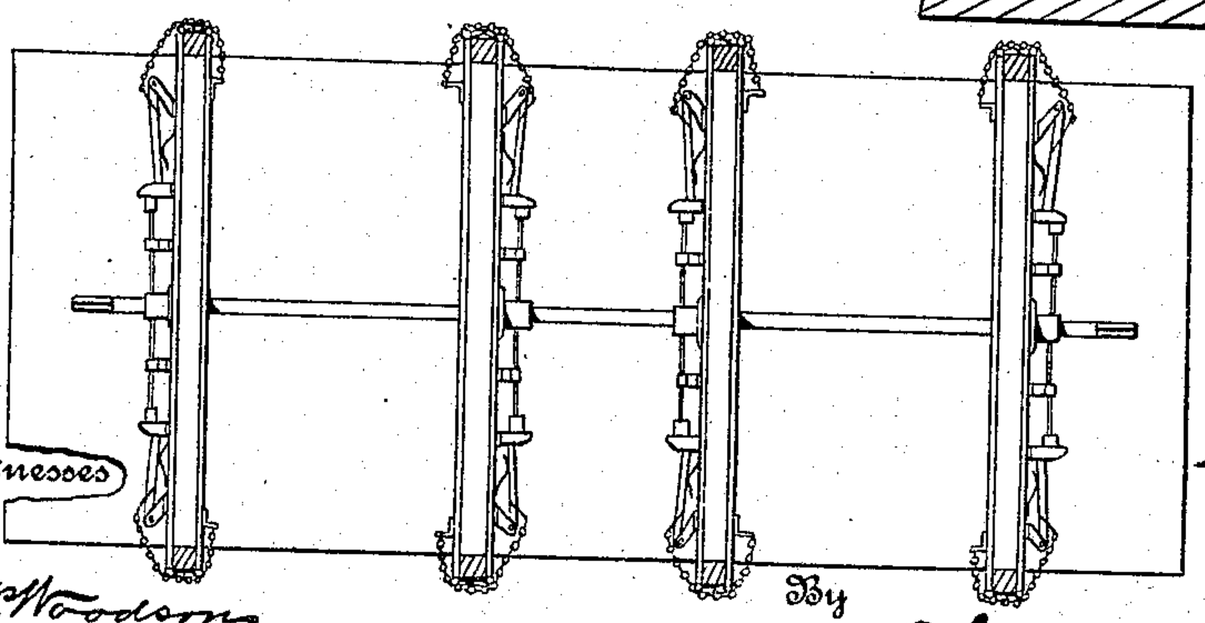


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

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CAR-STAKE.

No. 930,623. Specification of Letters Patent. Patented Aug. 10, 1909.

Application filed March 2, 1909. Serial No. 480,825.

To all whom it may concern:

Be it known that I, FRANK SHILLIN, citizen of the United States, residing at Sundby, in the county of St. Louis and State of Minnesota, have invented certain new and useful Improvements in Car-Stakes, of which the following is a specification.

This invention relates to car stakes and has for its object the provision of a strong, durable, and efficient device of this character especially designed for attachment to a logging car or similar vehicle for the purpose of retaining the logs in position on the platform of the car during transportation.

A further object of the invention is to provide a skidding attachment for use in connection with the car stake to facilitate loading or piling the logs or timber on the platform of the car.

A further object is to provide means for locking the stakes on both sides of the car in a vertical or operative position, and means operable from the opposite ends of the car for releasing the locking means thereby to permit the discharge of the logs from either side of said car.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions, and minor details of construction may be resorted to within the scope of the appended claims.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a perspective view of a logging car provided with a stake or standard constructed in accordance with my invention; Fig. 2 is a top plan view of one end of the car; Fig. 3 is a perspective view of a portion of one of the bolster plates showing the locking mechanism; Fig. 4 is a transverse sectional view taken on the line 2—2 of Fig. 2; Fig. 5 is a top plan view showing the operating shaft extending the entire length of the car.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The improved stake or standard forming the subject matter of the present invention is principally designed for attachment to logging cars or similar vehicles, and by way of illustration is shown in connection with a logging car of the ordinary construction in which 5 designates the body of the car, and 6 the transverse bolsters secured in any suitable manner to the platform thereof. Secured to the inner and outer faces of the transverse bolsters 6 are metallic plates 7 the free ends of which are projected laterally beyond the adjacent longitudinal edges of the car to produce sockets 8 for the reception of the stakes or standards indicated at 9. Secured to the opposite longitudinal edges of each standard or stake at the upper portion thereof, are segmental plates 10 forming convex bearing surfaces 11 for engaging the logs or timber when loading the same on the platform of the car.

The upper portion of the plates 10 are extended vertically above the tops of the stakes and are connected by suitable transverse pins or bolts 12 for engagement with flexible binding members or chains 13. The chains 13 are each preferably formed in two sections, the long section of which is secured to the transverse pin 12 on one side of the car, while the short section thereof is secured to the transverse pin of the stake on the opposite side of the car and is provided with a terminal hook 14 arranged to engage any one of the links of the long section, said chain sections serving to prevent spreading of the stakes or standards when the logs are in position on the platform of the car. The convex bearing surfaces 11 of the plates 10 are also projected laterally beyond the adjacent longitudinal edges of the stakes 9 to permit the insertion of a pin or bolt 15 so that a suitable skid 16 may be supported in engagement with the stake for the purpose of facilitating loading of the logs or timber on the platform of the car.

The upper end of the skid 16 is provided with a terminal hook 17 arranged to engage the transverse pin 15 of the adjacent stake or standard thereby to prevent accidental displacement of the skid during the loading operation. Secured to the central portion of each stake or standard is a staple 18 to which is connected one end of a short chain section 19 for the purpose of supporting an intermediate binding member or chain 20, the latter being provided with terminal loops or eyes 21, as shown. Each short chain section 19 is provided with a runner or ring 22 which is

slidably mounted on the adjacent staple or guide 18 and is provided with a hook 23 which passes through the loop 21 for engagement with a similar loop 24 carried by the chain section 19 thereby to support the intermediate chain section 20 in proper position and at the same time allow a slight vertical movement of the chain so as to prevent binding or wedging action between the parts.

In the transportation of the logs, the latter are usually piled in two tiers on the platform of the car, and in order to facilitate the ready discharge of the logs of either tier, means is provided for simultaneously releasing the stakes or standards on either side of the car at said tiers. The stake releasing means comprises spaced longitudinally disposed shafts 25 one of which is extended transversely through each set of bolsters 6 and is provided at its outer end with an angular terminal 26 for engagement with an operating key, not shown. Pivotally mounted on the opposite ends of each transverse bolster 6 are co-acting locking members 27 which extend across the standard receiving sockets 8 when the stakes are in operative position and serve to retain said stakes or standards in position on the car during the transportation of the logs. Secured to the outer plate 7 of each bolster on opposite sides of the adjacent transverse shaft 25, are brackets 28 which form keepers for the adjacent ends of locking members or levers 29, the opposite ends of which are mounted at 30 on suitable supports secured to said plate. Fastened in any suitable manner to each bracket 28 is a casing 31 having oppositely disposed longitudinal slots formed therein in which is slidably mounted a locking plate 32, the latter being normally and yieldably supported at the rear of the adjacent locking lever 29 by a coil spring 33 mounted on an actuating rod 34 and having one end thereof bearing against the casing 31 and its opposite end engaging the plate 32, as best shown in Fig. 3 of the drawings. Fastened in any suitable manner to each locking lever 29 is a hook 35 to which is secured one end of a chain or flexible medium 36, the intermediate portion of which passes around the locking members or plates 27 of the adjacent bolster for attachment to an eye 37 carried by the plate 7 on the opposite side of said bolster. Interposed between each lever 29 and the face of the adjacent bolster is a spring 29′ which serves to force the lever 29 laterally when the adjacent locking plate 32 is released and thus allow sufficient slack in the chain 36 to permit the members 27 to be moved to open position.

The actuating rods 34 are extended inwardly to points adjacent the angular ends of the operating shafts 25 and are each provided with a loop 38 to which is connected one end of a chain or cable 39, the opposite end of which is secured to an eye 40 carried by a sleeve or drum 41 on the adjacent end of the shaft 25, as shown. The eye 40 is extended through the sleeve or drum 41 for attachment to the shaft 25 whereby the two parts are free to rotate in unison, there being a collar 42 secured to the adjacent bolster and forming a bearing for the sleeve or drum 41 and also serving to assist in preventing longitudinal movement of the shaft 25 with respect to the body of the logging car. Thus it will be seen that by positioning a wrench or similar tool on the angular terminal of either shaft 25 and rotating the latter in one direction, the adjacent chain 39 of one of the actuating rods 34 will be wound upon the drum or sleeve 41 and thus exert a longitudinal pull upon said actuating rod thereby to release the locking lever 29 so as to allow sufficient slack in the chain 36 connected with said locking member to permit the locking plates 27 to be moved to open position and thus release the adjacent stake or standard so that the logs may be discharged from the side of the car in the usual manner.

When the shaft 25 is rotated in the opposite direction the locking members 29 of the stakes or standards on the opposite side of the car will be released in a similar manner so as to permit the discharge of the logs or timber on that side of the car. It will of course be understood that the connecting chains 39 will be sufficiently slack to prevent tension of one of said chains when the other chain is being operated to effect the release of the locking members on the other side of the car. Thus it will be seen that the operator or other attendant may stand at either end of the logging car and by rotating the adjacent shaft 25 in either direction effect the release of the locking members of one or both tiers on one side of the car, and by rotating the shafts in the opposite direction release the stakes or standards on the opposite side of the car so that the logs of either or both of the tiers may be discharged from either side of the car simultaneously. If desired however, the central longitudinal shaft, instead of being formed in sections may be continuous, as shown in Fig. 4 of the drawing, such a construction being desirable when the logs are not piled in tiers on the platform of the car. It will here be noted that the convex edges of the plates 10 form a smooth bearing surface for engagement with the logs when the latter are loaded on the platform of the car, while the intermediate connecting medium or chain 20 serves to prevent spreading or binding of the standards or stakes, as before stated.

Having thus described the invention, what is claimed as new is:

1. The combination with a vehicle including a bolster, a stake secured to each end of the bolster, means for locking the stakes in operative position, and operating means

extending longitudinally of the vehicle and operatively connected with the locking means of both stakes for releasing the same.

2. The combination with a vehicle including a bolster, a stake secured to each end of the bolster, locking members for supporting the stakes in an upright position, a shaft extending longitudinally of the vehicle, and a flexible element secured to the shaft and operatively connected with the locking members of both stakes for releasing the same.

3. The combination with a vehicle including a bolster, a stake secured to the bolster, spaced plates secured to the upper portions of the stakes and having convex bearing faces, a pin connecting said plates, and a skidding device having a hooked terminal for engagement with the pin.

4. The combination with a vehicle including a bolster, plates secured to the opposite sides of the bolster and having their free ends projected laterally beyond the same to form a socket, stakes seated in said socket, means for locking the stakes in operative position, spaced plates secured to the upper portions of the stakes and provided with convex bearing faces, pins connecting the plates of each stake, a binding element forming a connection between the pins of opposite stakes, and means operatively connected with the stake locking means for releasing the latter.

5. The combination with a vehicle including spaced bolsters, a stake secured to the opposite ends of each bolster, pivoted members for locking the stakes in a vertical position, and a shaft extending through the bolsters and operatively connected with the locking means of all of the stakes, said shaft being operable to effect the release of the locking means on one side of the vehicle when the shaft is rotated in one direction and to effect release of the locking means on the other side of the vehicle when the shaft is revolved in the opposite direction.

6. The combination with a vehicle including spaced bolsters, a stake secured to the opposite ends of each bolster, means for locking the stakes in a vertical position, spaced plates secured to the upper portions of the stakes and provided with convex bearing faces, a plurality of pins connecting each set of plates, a binding element connecting the pins of the plates on opposite sides of the vehicle, an intermediate binding chain adjustable vertically on the standards, means for releasing the locking means of the stakes, and a skid arranged to project between the bearing plates on one of the standards and provided with a terminal hook for engagement with the transverse connecting pin.

7. The combination with a vehicle including a bolster, a stake secured to the bolster, and spaced plates secured to the upper end of the stake and having their outer ends projected laterally beyond the longitudinal edges of the stake and provided with convex bearing faces and their upper ends extended above the top of the stake and connected by a pin for engagement with a binding element.

8. The combination with a vehicle including a plurality of spaced bolsters, stakes secured to the opposite ends of the bolsters, pivoted locking members for supporting the stakes in vertical position, an operating shaft extending longitudinally of the vehicle and provided with an angular terminal for engagement with an operating key, a sleeve mounted on the shaft, an eye extending through the sleeve and engaging the shaft, and a flexible connection between the eye and the adjacent locking members for releasing the latter when the shaft is rotated.

9. The combination with a vehicle including a plurality of sets of spaced transverse bolsters, stakes secured to the opposite ends of the bolsters, locking members pivotally mounted on the adjacent ends of the bolsters for retaining the stakes in vertical position, spaced shafts extending longitudinally of the vehicle and provided at their outer ends with means for engagement with an operating key, a sleeve secured to each shaft, bearing collars engaging the sleeves for limiting the longitudinal movement of the shafts, and flexible elements forming a connection between the locking members of each set of stakes for releasing the stakes on one side of the vehicle when the shafts are rotated in one direction and for effecting the release of the standards on the opposite side of the vehicle when the shafts are rotated in the reversed direction.

10. The combination with a vehicle including a transverse bolster, a stake secured to each end of the bolster an operating shaft extending longitudinally of the vehicle, keepers secured to one side of the bolster and disposed on opposite sides of the shaft, locking members pivotally mounted on the bolster and having their free ends operating within the adjacent keepers, pivoted plates for retaining the stakes in vertical position, a flexible medium secured to the pivoted end of each locking lever and having its opposite end extended around the locking plates for attachment to the opposite face of the bolster, spring actuated rods for retaining the locking levers within the keepers, and a flexible connection between the actuating rods and the shaft for effecting the release of the locking plates at either end of the bolster.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK SHILLIN. [L. S.]

Witnesses:
N. H. WILSON,
JOHN H. BRIGHAM.