

No. 880,652.

PATENTED MAR. 3, 1908.

S. P. GEORGE.  
STAKE FOR LOGGING CARS.  
APPLICATION FILED MAY 31, 1907.

Fig. 1.

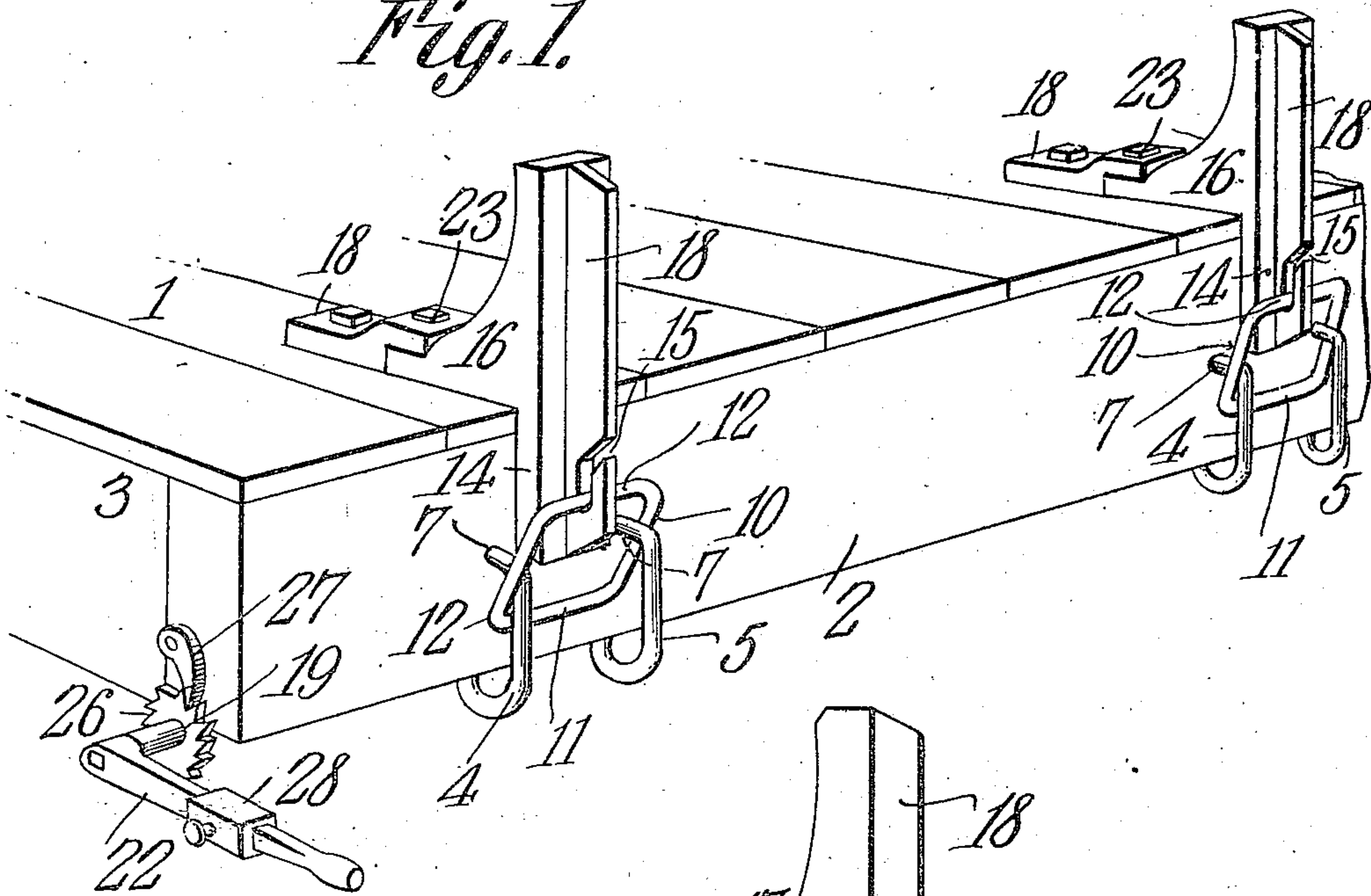


Fig. 2.

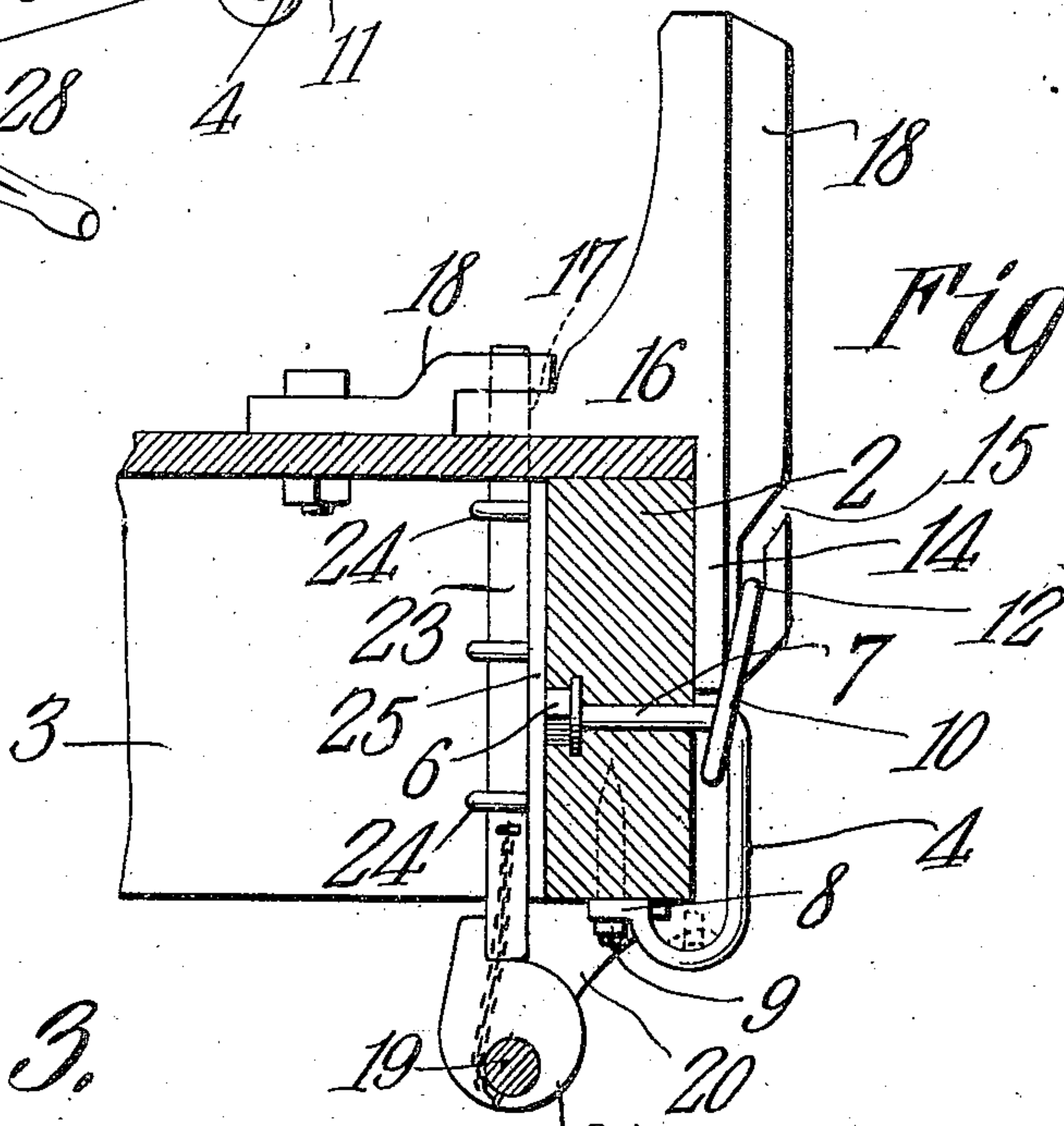
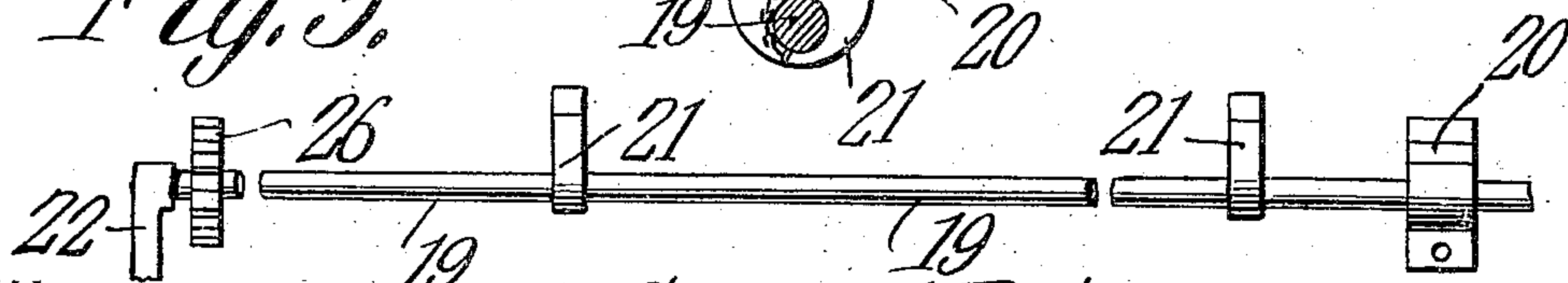


Fig. 3.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

SAMUEL P. GEORGE, OF PUYALLUP, WASHINGTON.

## STAKE FOR LOGGING-CARS.

No. 880,652.

Specification of Letters Patent.

Patented March 3, 1908.

Application filed May 31, 1907. Serial No. 376,550.

*To all whom it may concern:*

Be it known that I, SAMUEL P. GEORGE, a citizen of the United States, residing at Puyallup, in the county of Pierce and State of Washington, have invented a new and useful Stake for Logging-Cars, of which the following is a specification.

This invention relates to improvements in stakes for retaining the load in place on the usual flat car, and it is especially adapted for use on logging cars, and it has for its object to provide an improved stake that is capable of being readily applied to the ordinary flat bottom car and is so constituted that while it is comparatively light in weight, it has ample strength to retain a considerable load in place.

Another object of the invention is to provide improved means of mounting the stakes whereby they will swing clear of the sides of the car when released, although they remain supported thereby, and also to provide mechanism for locking and releasing a plurality of the stakes simultaneously from such a position that the operator is not liable to injury from the falling logs.

To these and other ends, the invention comprises the various novel features of construction and combination and arrangement of parts, which will be hereinafter more fully described, and pointed out particularly in the appended claims.

In the accompanying drawings:—Figure 1 is a perspective view of a portion of a logging car provided with stakes constructed in accordance with the present invention. Fig. 2 represents a sectional view through one side of the car showing one of the stakes and its cooperating parts in elevation. Fig. 3 is a detail view of the actuating shaft for the locking bolts.

Corresponding parts in the several figures are indicated throughout by similar characters of reference.

The invention, in the present instance, is shown in connection with an ordinary flat bottom car, although it will be understood, of course, that the invention is not so limited, as it is capable of being used in other connections, 1 designating the floor or planking of the car and 2 and 3 the side and end, respectively.

The stakes, in the present instance, are mounted at the side of the car, one or both sides being equipped with them, and any desired number of stakes being employed

in the series. In the present instance, each stake is provided with a pair of guides 4 and 5 which are secured to the edge or side sill of the car, the guides having intermediate portions extending parallel to the outer face of the sill, the upper ends being bent at right angles to the intermediate portions and extending inwardly through the sill, the inner ends being threaded to receive the nuts 6, the attaching arm 7 thus provided serving to support the guides in cooperative relation to the sill. The lower ends of the guides extend below the bottom of the sill and are curved inwardly and thence upwardly, forming an attaching portion 8 which is secured to the underside of the sill by means of a screw or bolt 9. Arranged to operate longitudinally of the guides is a link 10 having a lower cross piece 11 slidingly fitting the respective guides, and having an upper journal portion 12 which cooperates with the stake. The stakes shown in the present instance are composed of castings of steel, malleable iron, or other suitable material, and each stake comprises a body portion 14 which is substantially flat in cross section and is arranged to engage flatwise against the side of the car at its lower end, an upwardly opening slot 15 being provided thereon to receive the journal portion 11 of the link. The upper portion of the stake is provided with an arm 16 which extends inwardly from the side of the car substantially at right angles to the body portion of the stake and it is adapted to rest upon the floor or planking of the car, an aperture 17 being formed therein to receive the locking bolt. In order to afford the requisite rigidity, the outer side of the stake is preferably provided with a stiffening rib or flange 18 which extends longitudinally thereof and is arranged at substantially right angles to the body portion of the stake. The weight of the stake is supported by the inwardly extending arm which rests upon the floor or planking of the car, while the link, which is operatively connected to the lower end of the stake, serves to permit relative lateral and turning movements of the stake that will enable it to swing clear of the top of the car, and it also serves to suspend the stake while it is in released position, so that it is impossible for it to become lost from the car. If so desired, the stakes may be wholly detached from the car by removing the journal portions of the links from the respective slots in the stakes.



The means shown in the present instance or retaining the stakes in locked position comprises an actuating shaft 19 supported in bearing brackets 20 secured at suitable positions on the under side of the sill, the shaft having a series of cams 21 formed therein corresponding in number to the number of stakes employed. This shaft is preferably mounted longitudinally of the car and provided with an operating lever or handle 22 at one end of the car whereby the operator may be stationed at such a point as to avoid liability of injury when the stakes are released and the logs roll from the car. Each cam on the shaft is provided with a locking bolt 23 which is guided in the bearings 24 on a bracket 25, the latter being secured preferably to the inner side of the sill, the bolt being arranged in alinement with the aperture 17 in its respective stake. Rotation of the shaft will operate the cams, causing a reciprocation of all the locking bars of the series, the locking bars moving into cooperative relation with their respective stakes when the shaft is rotated in one direction, and are disengaged therefrom to release the stakes by chains or other flexible connections 13 which are connected, respectively, to the locking bolts and the operating shaft, rotation of the latter in a direction to unlock the bolts serving to wind the chain and thereby retract the bolts, when the shaft is rotated in the reverse direction. Suitable means are preferably employed for retaining the locking bolts in locked position, a ratchet wheel 26 being employed in the present instance that is fixed to the actuating shaft and provided with a pawl 27 secured to a relatively fixed part of the car, the pawl being so arranged as to permit turning movement of the shaft in a direction that will lock the locking bars and acting to prevent a reverse movement of the shaft that will move the locking bars to unlocked position. A weight 28 may be also employed, which normally tends to turn the shaft in a direction that will move the locking bars to locked position, the weight, in the present instance, being attached to the operating lever or handle.

A logging car equipped with retaining stakes constructed in accordance with the present invention may be unloaded with the greatest facility and without injury to the operator, for the reason that all of the locking bolts of the series are simultaneously withdrawn by the movement of the handle arranged at one end of the car and clear of the side thereof, so that the moment the stakes move into inoperative position, the logs may begin to discharge, the stakes being displaced automatically by the weight of the logs and their tendency to roll laterally of the car, and, as the stakes are displaced laterally, the links pivotally connected to their lower ends cause a swinging movement thereof that will carry

them beneath the car so that they do not interfere with the unloading of the logs, the stakes being suspended by means of the guides which cooperate with the links.

What is claimed is:—

1. In a device of the class specified, a stake, a pair of vertically disposed guides arranged on the side of the car adjacent the stake, and a link connecting the guides and stake. 70
2. The combination with a car and a pair of guides secured to one of the side sills thereof each having a vertically extending portion, of a stake having a supporting arm arranged to cooperate with the floor of the car, and a link pivotally attached to the lower end of the stake and slidable vertically on the said guides. 75
3. The combination with a car, and a pair of guides each embodying a vertically extending intermediate portion, an inwardly extending attaching arm secured to the side sill, the lower end of each guide extending below the sill and having an attaching portion secured to the under side thereof, of a stake arranged at the side of the car having a laterally extending supporting arm arranged to cooperate with the floor of the car, a link pivotally connected to the lower end of the stake and slidable vertically on said guides, and a locking device cooperating with the supporting arm of the stake for retaining the latter in operative position. 80
4. The combination with a car or other support, of a stake mounted to swing in a vertical plane relatively thereto and having an apertured arm supported on the car floor, a locking bar cooperating with the said arm of the stake to retain the latter in operative position, and an actuating shaft having a cam cooperating with the locking bar to move the latter into locked and unlocked positions. 85
5. The combination with a car or other support, of a series of stakes mounted in pivotal relation hereto and having apertured supporting arms extending laterally thereof, of a series of locking bolts arranged to cooperate with the apertured supporting arms of the respective stakes to retain them in operative position, and an actuating shaft having a series of cams therein operatively connected to the respective locking bolts for moving the latter into locked and unlocked position. 90
6. The combination with a car or other support, of a series of stakes mounted in pivotal relation thereto, and having apertured supporting arms arranged to rest upon the floor of the car, of a series of locking bolts arranged to cooperate with the respective supporting arms, an actuating shaft having cams therein cooperating with the respective locking bolts, and means for retaining the shaft in locked position. 95
7. The combination with a car or other support, of a stake mounted to swing in a vertical plane relatively thereto and having an apertured arm supported on the car floor, a locking bar cooperating with the said arm of the stake to retain the latter in operative position, and an actuating shaft having a cam cooperating with the locking bar to move the latter into locked and unlocked positions. 100
8. The combination with a car or other support, of a series of stakes mounted in pivotal relation thereto and having apertured supporting arms extending laterally thereof, of a series of locking bolts arranged to cooperate with the apertured supporting arms of the respective stakes to retain them in operative position, and an actuating shaft having a series of cams therein operatively connected to the respective locking bolts for moving the latter into locked and unlocked position. 105
9. The combination with a car or other support, of a series of stakes mounted in pivotal relation thereto, and having apertured supporting arms arranged to rest upon the floor of the car, of a series of locking bolts arranged to cooperate with the respective supporting arms, an actuating shaft having cams therein cooperating with the respective locking bolts, and means for retaining the shaft in locked position. 110
10. The combination with a car or other support, of a series of stakes mounted in pivotal relation thereto and having apertured supporting arms extending laterally thereof, of a series of locking bolts arranged to cooperate with the apertured supporting arms of the respective stakes to retain them in operative position, and an actuating shaft having a series of cams therein operatively connected to the respective locking bolts for moving the latter into locked and unlocked position. 115
11. The combination with a car or other support, of a series of stakes mounted in pivotal relation thereto, and having apertured supporting arms arranged to rest upon the floor of the car, of a series of locking bolts arranged to cooperate with the respective supporting arms, an actuating shaft having cams therein cooperating with the respective locking bolts, and means for retaining the shaft in locked position. 120
12. The combination with a car or other support, of a series of stakes mounted in pivotal relation thereto, and having apertured supporting arms arranged to rest upon the floor of the car, of a series of locking bolts arranged to cooperate with the respective supporting arms, an actuating shaft having cams therein cooperating with the respective locking bolts, and means for retaining the shaft in locked position. 125
13. The combination with a car or other support, of a series of stakes mounted in pivotal relation thereto, and having apertured supporting arms arranged to rest upon the floor of the car, of a series of locking bolts arranged to cooperate with the respective supporting arms, an actuating shaft having cams therein cooperating with the respective locking bolts, and means for retaining the shaft in locked position. 130



support, of a series of stakes pivotally attached thereto, reciprocatory locking devices coöperating with the respective stakes, an actuating shaft arranged on the car, a set of  
5 cams on the shaft coöperating with the locking devices for moving them to locked position, and flexible connections between the locking devices and the shaft for retracting the said devices from locked position.  
10 8. A stake for logging cars composed of a vertical body portion adapted to coöperate with the side of the car, and a laterally extending arm at an angle to the body portion and adapted to rest on the floor of the car.

9. A stake for logging cars composed of a 15 relatively flat body portion adapted to engage the side of a car flatwise, a laterally extending arm arranged at the inner side of the body portion and adapted to rest on the floor of the car, and a stiffening rib formed on 20 the outer side of the body portion.

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

SAMUEL P. GEORGE.

Witnesses:

GEO. W. EDGERTON,  
CHAS. HOOD.