

No. 846,963.

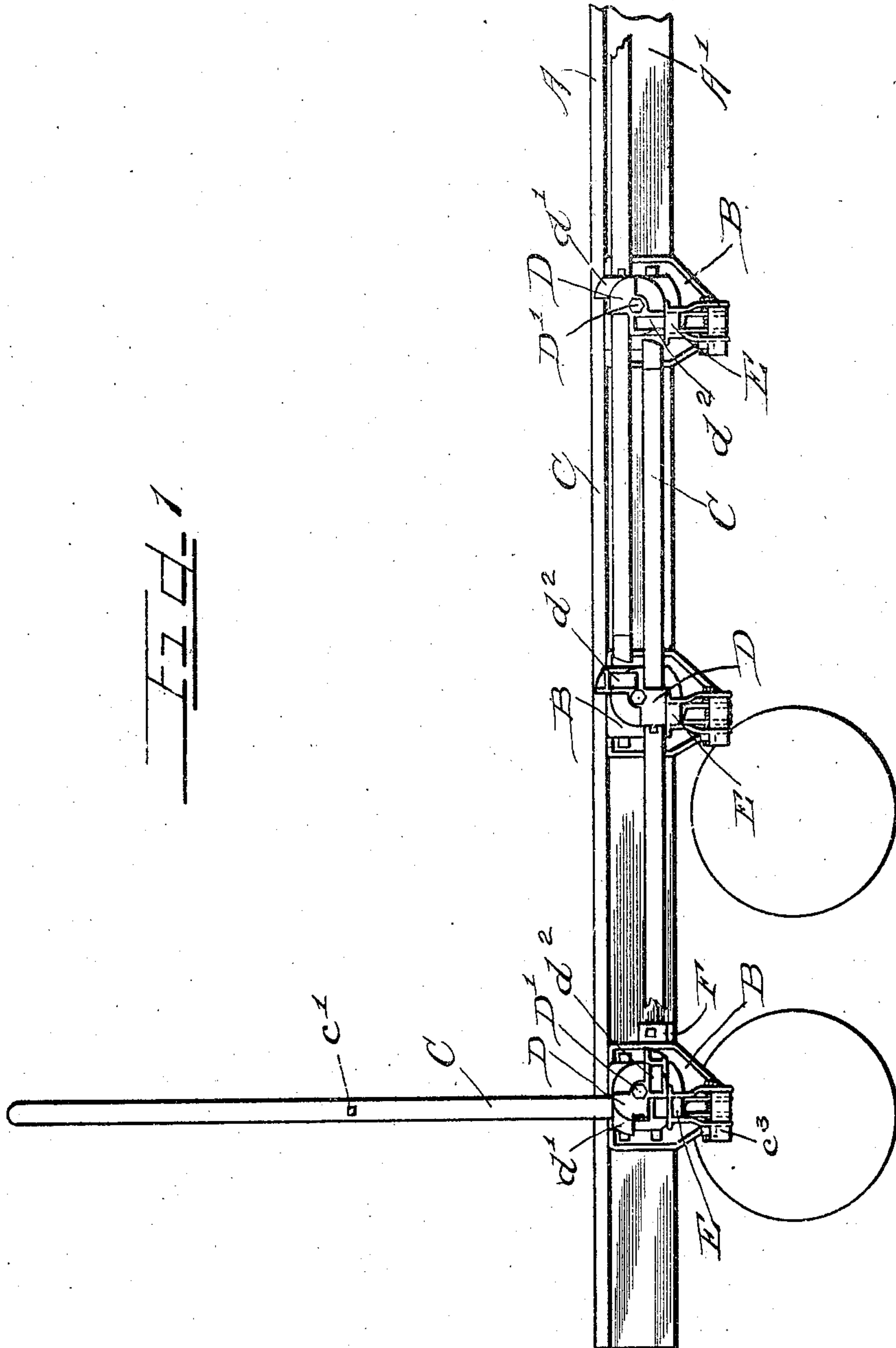
PATENTED MAR. 12, 1907.

J. A. TOOMEY.

CAR STAKE AND ATTACHING MEANS THEREFOR.

APPLICATION FILED JUNE 25, 1906.

3 SHEETS—SHEET 1.



WITNESSES
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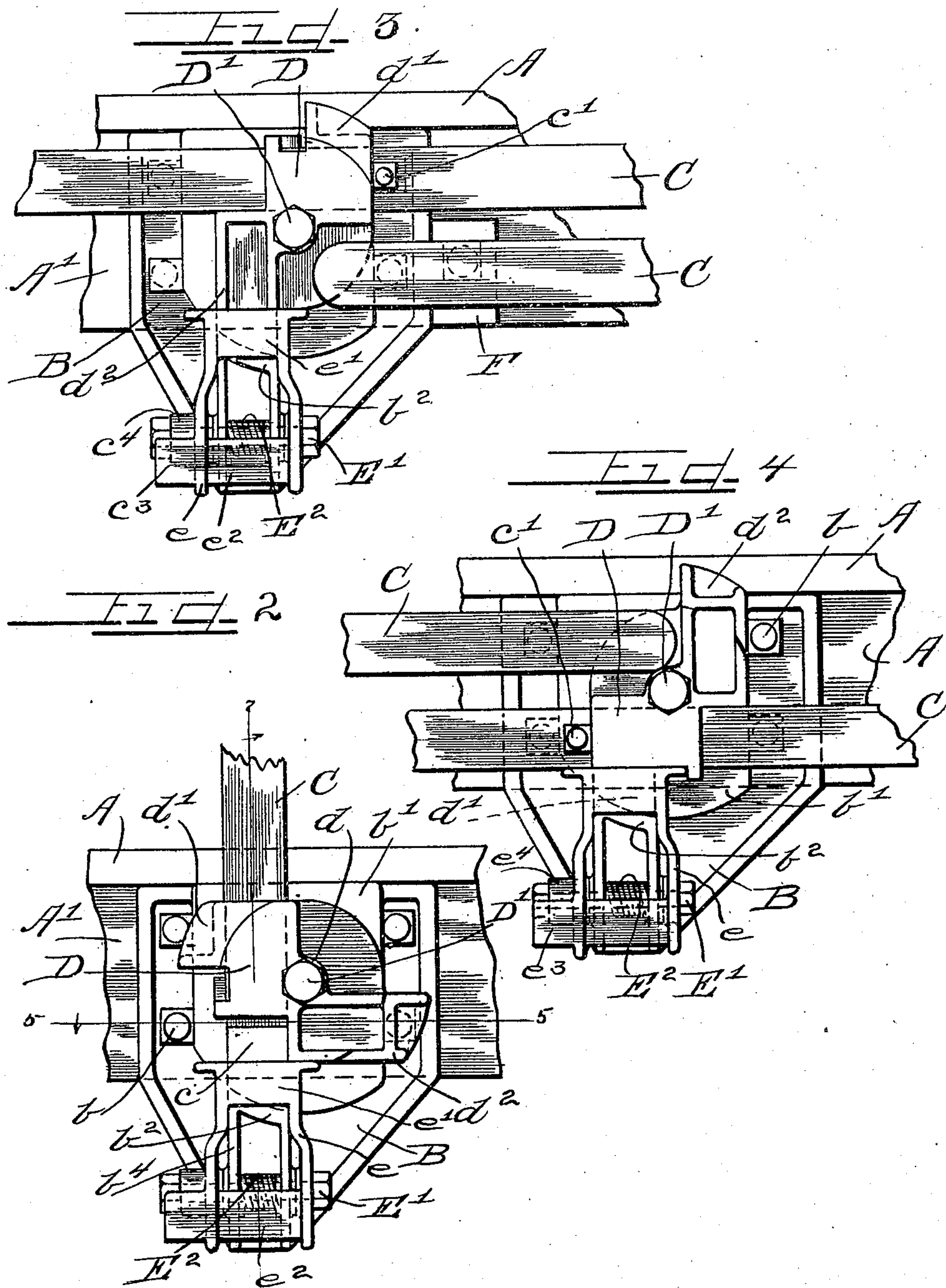
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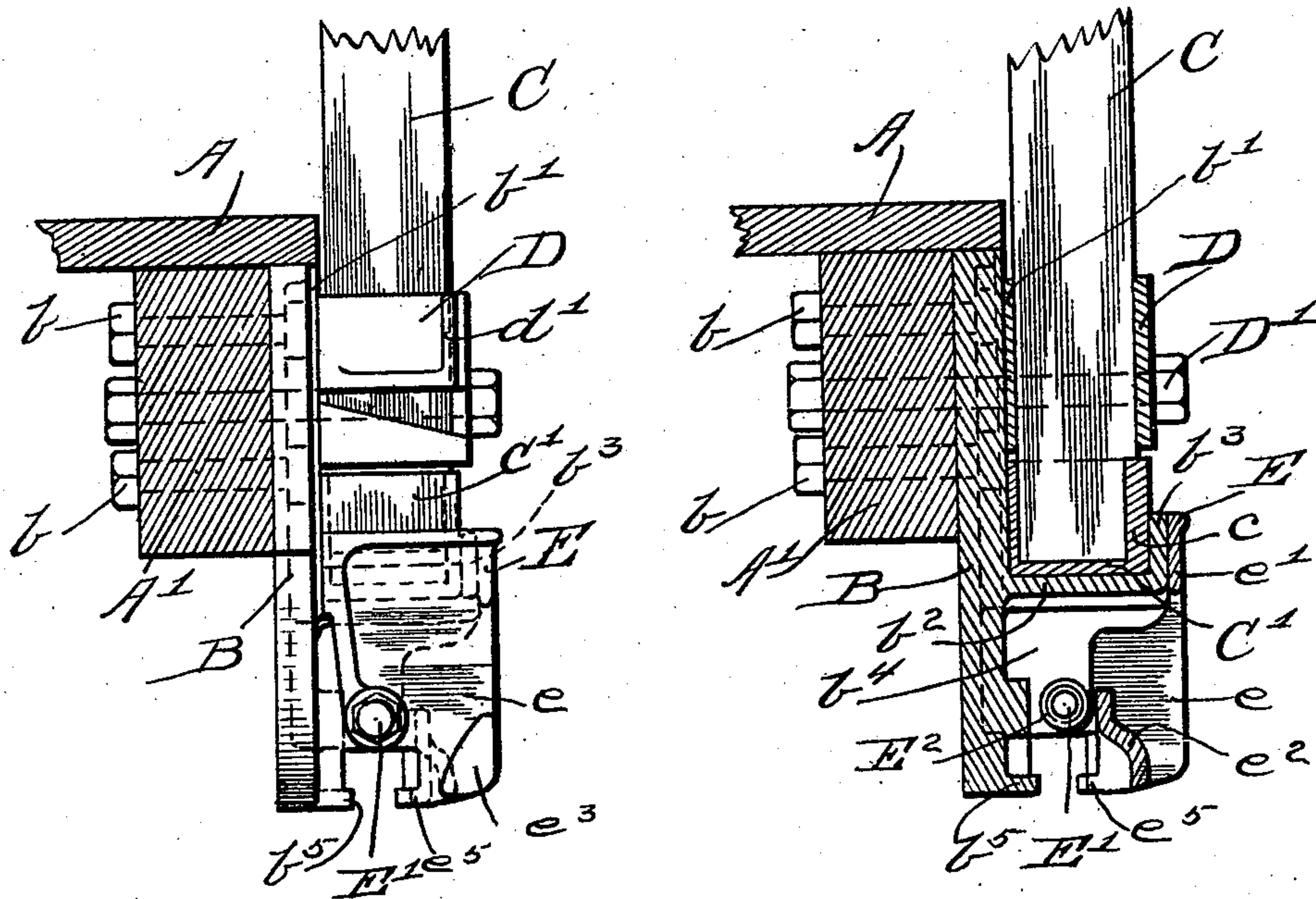
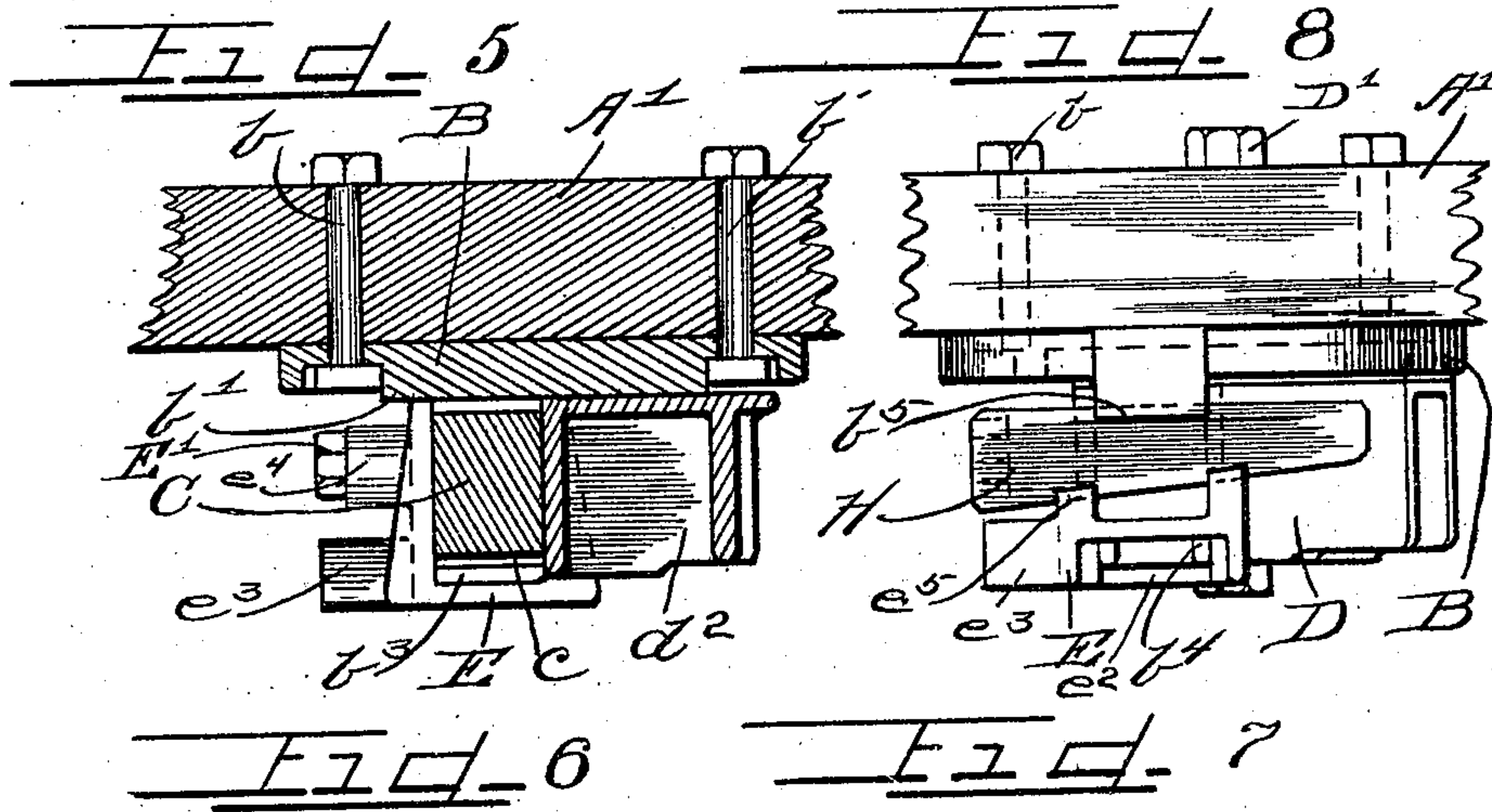
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3 SHEETS—SHEET 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

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CAR-STAKE AND ATTACHING MEANS THEREFOR.

No. 846,963.

Specification of Letters Patent.

Patented March 12, 1907.

Application filed June 25, 1906. Serial No. 323,382.

To all whom it may concern:

Be it known that I, JOHN ANDREW TOOMEY, a citizen of the United States, and a resident of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Car-Stakes and Attaching Means Therefor; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in car-stakes and attaching means therefor, and more particularly to a car-stake adapted to be permanently attached to the car.

Heretofore such cars as flat-cars and gondolas requiring stakes have not been provided with means for permanently attaching the stakes thereto, for the reason that it is oftentimes desired to load the cars with material not requiring stakes to hold it in place, in which case the stakes, as heretofore attached must, if left in place, remain in an upright position, where they would greatly impede the loading and unloading of the car. For that reason the stakes are generally removed when not required, and as a consequence they are oftentimes stolen or thrown away, and in any event they must be replaced by others the next time the car is to be loaded with material requiring retaining-stakes.

The object of this invention is to provide a car-stake adapted to form a permanent part of the car equipment and which when not in use is adapted to be carried in a horizontal position at the side or end of the car, so as to permit free access to the car in loading and unloading.

It is a further object of the invention to provide a lock for the stake both in its upright position and in its position when not in use.

It is also an object of this invention to provide a very strong, cheap, and simple device by means of which the stake is permanently attached to the car and which is adapted to rigidly lock the stake in its adjusted positions.

The invention consists in the matters hereinafter described, and more fully pointed out and defined in the appended claims.

In the drawings, Figure 1 is a fragmentary side elevation of a car provided with stakes

embodying my invention. Fig. 2 is an enlarged fragmentary view showing the attaching means for the stake in front elevation and the stake in upright position. Figs. 3 and 4 are views similar to Fig. 2, but showing the relative positions of adjacent stakes when locked in their horizontal or lowered positions. Fig. 5 is a section on line 5 5 of Fig. 2. Fig. 6 is a fragmentary side elevation of the stake and attachment therefor, showing the car-sill in section. Fig. 7 is a vertical section of the attaching means. Fig. 8 is a bottom plan view of the device, showing an emergency means for locking the stake in its adjusted position.

As shown in the drawings, A represents the floor or platform of a flat-car, and A' one of the side sills therefor, both of which may be of any preferred material and construction. A plate B, comprising a casting, is rigidly bolted on said side sill beneath the floor by means of bolts *b*, or it may be secured thereon in any preferred manner, and, as shown, projects downwardly beneath the sill. Said plate, as shown more clearly in Figs. 2, 3, 4, and 7, is provided with a bearing-face *b'*, near the bottom of which is an outwardly-directed ledge or shelf *b²*, upon which the stake C rests when in its upright position. Said ledge *b²*, as shown, has its upper surface curved to form the arc of a circle and is provided with an upwardly-directed shoulder *b³* at the outer end thereof, adapted to support the lower end of the stake against outward movement.

A housing D, open at its ends to receive the stake C, which is slidably engaged therein, is pivoted on said plate in close engagement with the bearing-face *b'* thereof by means of a strong pivot-bolt D', which extends through an apertured lug *d* on one side of said housing, near the bottom thereof, and through said plate B and sill A'. The stake C, as shown, projects from the bottom of the housing and is provided on the lower end thereof with a metallic cap or socket C', the front side *c* of which projects outwardly from the face of the stake to engage beneath the housing D, as shown in Fig. 7, thereby preventing the stake from being withdrawn from the housing. When the stake is in its upright position, the lower end thereof, which is shaped to conform to said ledge *b²*, seats upon the ledge and is locked in such position by a spring-lock E, comprising, as shown, side members *e*, which engage at their

upper ends on either side of the stake and are united at their tops by an integral plate e' and at their bottoms by a bar e^2 . A pivot-bolt E' extends through the inner edges of said side members e near their lower ends and through webs b^4 , extending downwardly from the ledge b^2 , and a coiled spring E^2 is engaged thereon between said webs, and its ends bear against the bar e^2 and act to normally hold the upper end of said lock inwardly into position to engage the lower end of the stake. A laterally-directed lug e^3 is provided on the lower end of one of said side members e and serves as a fulcrum for a lever of any desired kind which may be placed thereon with its inner end beneath a boss e^4 , forming a bearing for the bolt E' . When downward pressure is exerted on the outer end of the lever, it acts to throw the bottom of the lock inwardly and the top thereof outwardly out of engagement with the stake. Said housing D is provided on two diagonally opposite corners thereof with laterally-directed locking-arms d' and d^2 , having ends conforming to the surface of the shelf b^2 and which are of a length to be engaged in said lock when the stake is turned down to a horizontal position, as shown in Figs. 3 and 4. The stake C , as shown in Fig. 1, is provided with a pin or stop c' intermediate its ends, which limits the downward movement of the stake through the housing D to prevent it coming in contact with the ties when being lowered.

The operation is as follows: When the stake is in its vertical or upright position, the lower end thereof rests upon the shelf b^2 on the plate B , thereby supporting the downward pressure of the stake directly upon the car-sill. The lock E engages the end of the stake below the housing and prevents the stake from swinging laterally, while the housing, which has a relatively long bearing on the stake and is held by its pivot-bolt D' closely against the bearing-face b' and acts to support the stake against outward pressure. When it is not desired to use the stakes, the lock is turned out of engagement therewith by any suitable lever, and as soon as the stake is on its pivot a sufficient distance for the lower end thereof to clear the shelf b^2 it drops downwardly until the stop c' in the stake engages the housing. As the stake reaches its horizontal position with one of the locking-arms d' or d^2 on the housing above the shelf the lock is permitted to swing into engagement with said arms, thereby holding the stake in its adjusted position. The stakes are usually placed a sufficient distance apart so that when lowered the ends thereof will project into close proximity to the housing of the next adjacent stakes, so that longitudinal movement of the stake through its housing is prevented.

As shown, a bracket F is engaged on the sill adjacent the plate B to support the top

end of the lower stake when in horizontal position, and the top end of the upper stake rests on the lug or boss of the housing, though obviously such supports are not necessary, inasmuch as the stakes are securely locked against turning.

The tension of the spring E^2 acts to normally hold the lock closed; but should the spring become broken or inoperative for any other reason the lock may be held in closed position by means of a wedge H , driven between the lower end of the plate B and the lower end of the lock beneath the pivot-bolt E' and which rests on inwardly-directed flanges b^5 and e^5 on said plate and said lock, respectively.

I claim as my invention—

1. In a device of the class described a plate, a housing pivoted thereon, laterally-projecting locking-arms engaged thereto, a stake slidably engaged in said housing and means for locking the housing to the plate.
2. In a device of the class described the combination with a plate of a housing pivoted thereon, a stake slidably engaged in said housing and adapted to swing to either a vertical or a horizontal position and means for locking said stake in either of its adjusted positions to positively prevent vertical or horizontal movement in said adjustments.
3. In a device of the class described the combination with an attaching-plate of a stake pivoted thereon and means for locking the stake in its adjusted positions, said stake being movable relatively of the plate only when turned at an angle with the vertical.
4. In a device of the class described the combination with a supporting-plate of a stake slidably and pivotally engaged thereon and a spring-controlled lock adapted to hold said stake in adjusted position.
5. The combination with a car of a stake slidably and pivotally engaged thereon and means engaged to said stake adapted to limit its sliding movement.
6. In a device of the class described the combination with supporting means adapted to be engaged to a car, of means pivoted thereon adapted to receive a stake, a stake slidably engaged in said receiving means and a spring-controlled lock adapted to hold the stake in adjusted position.
7. In a device of the class described the combination with an attaching-plate of a housing pivoted thereon, a stake slidably engaged in said housing and a lock adapted to receive said stake in either a vertical or a horizontal position, said stake being secured from movement when in both the vertical and horizontal adjustments.
8. In a device of the class described the combination with a plate, of a housing pivoted thereon, laterally-directed arms on said housing, a stake slidably engaged in said housing and projecting from the bottom

thereof and a spring-controlled lock adapted to engage the bottom of said stake when the stake is in a vertical position and to engage one of said arms when the stake is in a horizontal position.

9. In a device of the class described the combination with a plate having a supporting-ledge thereon, of a housing pivoted on the plate above said ledge, laterally - directed arms on said housing, a stake slidably engaged in said housing and adapted to rest on said ledge when in an upright position and a spring-controlled lock adapted to engage said stake and arms and hold the stake in its adjusted positions.

10. In a device of the class described the combination with an attaching-plate, of a housing pivotally engaged thereon, a stake slidably engaged in said housing, means limiting the movement of said stake in the housing and means for positively locking the stake in both a vertical and a horizontal position.

11. The combination with a car of vertically and a horizontally adjustable stake therefor and spring-controlled means adapted to secure said stake in either adjustment.

12. In a device of the class described the combination with a car of a plate thereon, an adjustable housing pivoted thereto and provided with laterally-directed arms, a stake slidable in said housing, means adapted to engage said stake to secure said housing in one adjustment and to engage one of said arms to secure said housing in another adjustment.

13. In a device of the class described the combination with a car of stakes therefor, a housing adapted to hold each stake, laterally-projecting arms on said housing and a lock for engaging one of the same and securely holding said stake in horizontal position.

14. In a device of the class described the combination with a car of a housing or casing secured thereon and a stake therein adapted to be supported vertically and adapted to slide relatively of the casing or housing only when the stake is at an angle with the perpendicular.

15. In a device of the class described the combination with a car of a housing or casing secured to a side sill thereof, a stake engaged thereto and slidable therein only when inclined at an angle from the vertical.

16. The combination with a car of stakes pivotally secured on the side sills thereof, and capable of assuming a vertical position only when fully extended and slidable on the car when in an inclined position and supports for said stake while in horizontal position.

17. In a device of the class described the combination with a casing or housing of a stake seated therein and relatively slidable

thereof when the stake is turned at an angle with the vertical and said stake always firmly locked from movement when in a vertical position.

18. In a device of the class described the combination with a car of a housing or casing engaged to a side sill thereof and a stake seated therein always firmly secured from sliding movement when in a vertical and horizontal position and slidable in said housing when the stake is turned at an angle with the vertical.

19. In a device of the class described the combination with a car of a housing engaged thereto, a stake seated in said housing secured at all times from sliding movement when in a vertical position and slidable in said housing when the stake is turned at an angle with the perpendicular, means limiting the sliding movement of said stake and means positively securing said stake from sliding movement when in a horizontal position.

20. In a device of the class described the combination with a car of a stake therefor, means supporting said stake whereby the stake is at all times locked from vertical movement, said stake adapted to slide relatively of said support when turned at an angle therewith.

21. In a device of the class described the combination with a housing of a stake therein always locked from sliding movement when in a vertical position, and slidable in said housing when turned at an angle with the perpendicular, a stop limiting the sliding movement of said stake, means at all times preventing the stake from making a complete revolution thereby preventing the stake from leaving the housing, said stake securely locked from sliding movement when in a horizontal position.

22. In a device of the class described the combination with a housing of a stake slidable therein when turned at an angle with the vertical and positively secured from sliding movement when in a vertical and horizontal position.

23. In a device of the class described the combination with a car of a housing engaged thereto, a stake slidable therein by gravity when turned at an angle with the vertical, means limiting the sliding of said stake and means positively locking the stake from turning a half-revolution thereby at all times preventing the same from reversing and dropping into contact with the ties or ground.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

JOHN ANDREW TOOMEY.

Witnesses:

C. W. HILLS,

WM. C. SMITH.