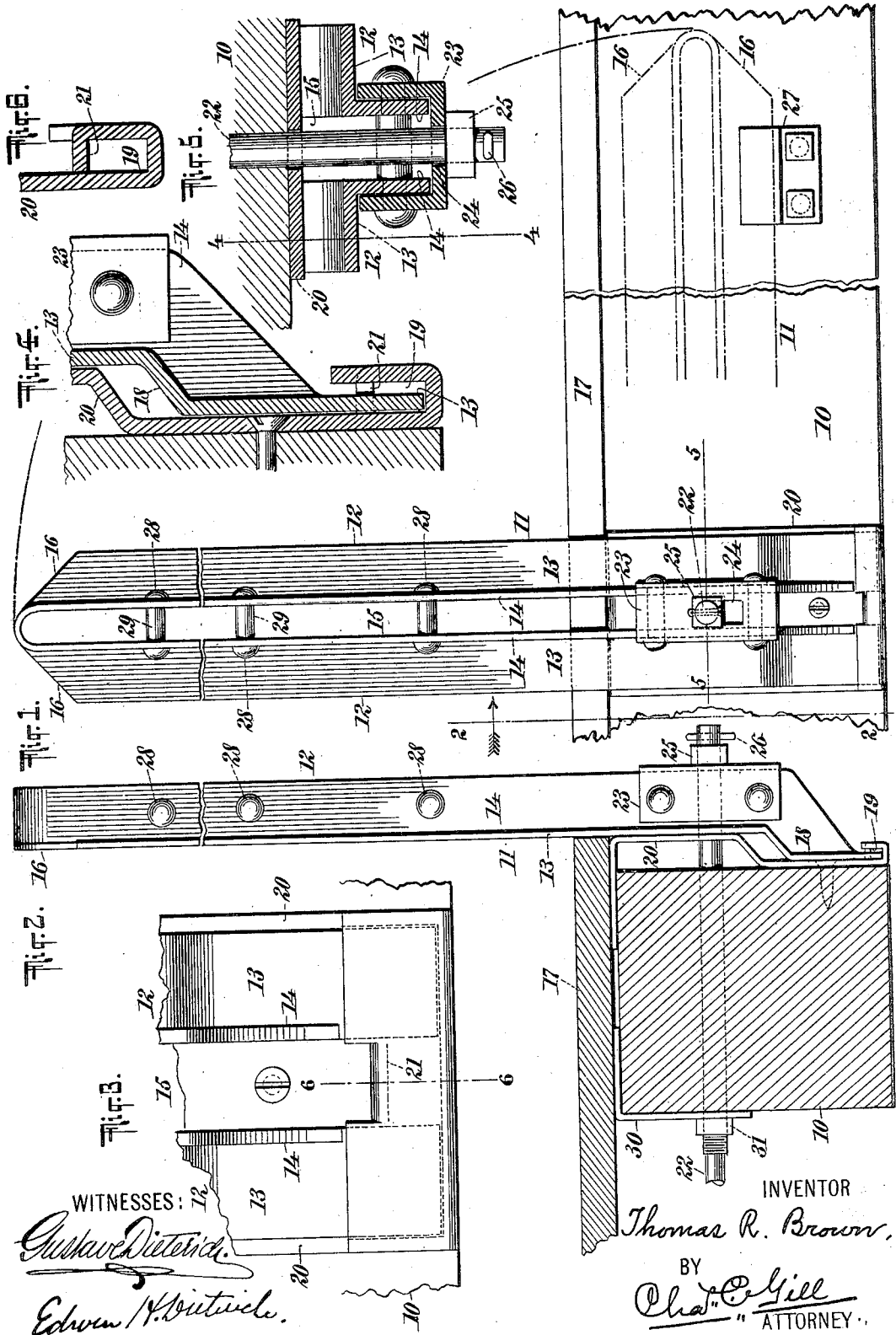


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PATENTED JULY 31, 1906.

T. R. BROWN.
STAKE FOR THE SIDES OF RAILWAY CARS.
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STAKE FOR THE SIDES OF RAILWAY-CARS.

No. 827,501.

Specification of Letters Patent.

Patented July 31, 1906.

Application filed April 23, 1906. Serial No. 313,163.

To all whom it may concern:

Be it known that I, THOMAS R. BROWN, a citizen of the United States, and a resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Stakes for the Sides of Railway-Cars, of which the following is a specification.

The invention relates to improvements in stakes for the sides of railway-cars and the like; and it consists in the novel features hereinafter described, and particularly pointed out in the claims.

The object of the invention is to produce a novel and efficient metal stake for permanent application to the sides of freight-cars, such as platform or flat cars and other cars, for retaining the load upon the latter during the travel of the cars.

I present my invention herein as embodied in a stake formed from a folded piece of angle-iron and equipped with means for enabling the ready and firm application of the stake to the side of the car, said means also permitting the stake to be folded down along the sides of the car when desired.

The invention will be fully understood from the detailed description hereinafter presented, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation, partly broken away, of a car equipped with a stake embodying my invention, the folded position of the stake being indicated by dotted lines. Fig. 2 is a vertical transverse section of same on the dotted line 2 2 of Fig. 1. Fig. 3 is an enlarged side elevation of a portion of the car, the stake, and the means for securing the same, Fig. 3 presenting on an enlarged scale what is shown in reduced size at the lower part of Fig. 1. Fig. 4 is an enlarged vertical section through a portion of the side of the car, the stake, and the means for securing the latter, taken on the dotted line 4 4 of Fig. 1. Fig. 5 is an enlarged horizontal section through the stake, its securing means, and a portion of the side of the car, taken on the dotted line 5 5 of Fig. 1; and Fig. 6 is a vertical section of the supporting means for the lower end of the stake, taken on the dotted line 6 6 of Fig. 3.

In the drawings, 10 designates a portion of a side sill of a car, and 11 the stake of my in-

vention applied thereto, said stake being shown as formed from an integral bar of angle-iron folded at about its center to form the two members 12 12, which correspond with each other and afford the flanges 13, extending parallel with the side of the car, and the flanges 14, extending at right angles thereto and separated from each other by a space 15. Prior to folding the bar of angle-iron to form the stake a portion of its web at its central portion should be removed, so that the bar may take a symmetrical fold, as shown in Figs. 1 and 2, and the upper edges of the flanges 13 present downwardly-diverging surfaces 16, the part removed from the straight bar being approximately of V shape.

The floor 17 of the car is shown as extended outwardly beyond the side sill 10, and hence the lower end of the stake is presented as having at its lower end an inwardly-bent portion 18, adapted to reach in toward the side sill and obtain a firm bearing therefrom, while the main portion of the stake stands vertical parallel with the side of the floor 17. At the extreme lower end of the stake I remove the flanges 14, as shown in Figs. 2 and 4, so as to leave the flanges 13 plain and flat and adapted to enter a pocket 19, formed at the lower edge of a plate 20, secured to the side sill 10, this plate 20 being preferably somewhat wider than the stake and at its lower portion fastened by a screw to the side of the side sill, while its upper vertical portion sets outwardly from the side sill on a vertical plane with the side of the floor 17, so that it may serve as a bearing for that portion of the stake above the bend 18 therein. The pocket 19 is formed by bending the lower edge of the plate 20 outwardly and then upwardly, and this pocket is divided into two parts to respectively receive the lower ends of the flanges 13 of the stake, the division in said pocket being formed by cutting a lip 21 in the upturned lower edge of the plate 20 and bending said lip inwardly, as clearly shown in Figs. 3, 4, and 6. The lip 21 is adapted to snugly fit between the lower ends of the flanges 13 of the stake and at its edges forms stops to prevent any turning or swiveling of the stake on its main securing-bolt 22 when it is desired that the stake shall stand vertically.

The stake has secured to its flanges 14

near the lower end of the latter a plate or box 23, which spans the space 15 between said flanges and is formed with a vertically-elongated slot 24, through which the outer
 5 end of the bolt 22 passes. The bolt 22 has upon its outer end a nut 25, by which the lower end of the stake may be clamped against the plate 20 and which is wider than the slot 24. A key 26 is provided in the extreme outer end of the bolt 22 to prevent the
 10 loss of the nut 25 but is so located that the nut may be tightened against the plate 23 to bind the stake against the side of the car or loosened therefrom sufficiently to permit the
 15 stake to be moved upwardly clear of the pocket 19 and then turned downwardly along the side of the car to the position denoted by dotted lines in Fig. 1. The slot 24 permits the stake to be moved upwardly from the
 20 pocket 19, and the outer end of said stake when turned downwardly into a horizontal position is received and supported by a bent metal plate 27.

The two members 12 of the stake are integrally connected together at their upper ends, while at their lower portion they are connected by the plate 23 and the rivets securing this plate in position, and at suitable other points said members are connected by rivets
 30 28, passing through the flanges 14, and which rivets have usual spacing-sleeves 29 upon them between said flanges. The stake as a whole is of very simple and durable construction and highly efficient for the purposes of its creation.

The plate 20 at its upper end turns inwardly upon the top of the side sill 10, and upon the inner side and top of said sill is provided an angle-plate 30, through one member of which the bolt 22 passes. The bolt 22 preferably extends from side to side of the car, so that both its ends may be utilized for securing the stakes. The bolt 22 may also be provided with a nut 31 to bind against the
 45 plate 30 and not only secure the latter, but lock the bolt against any movement or play transversely of the car.

When the side edge of the floor 17 is parallel with the side of the side sill 10, the lower end of the stake will not require the bend 18, and in such instance the plate 20 will lie flat against the side sill and the stake will rest flat against said plate.

The angle-bar from which the stake is formed is a structural bar, and while I prefer to construct the stake of a structural bar of angle-iron shape I do not limit my invention in every instance to the use of an angle-bar technically considered, since substantially the same stake may with some disadvantages be made of a structural channel-bar, which also in cross-section presents right-angle flanges.

The separation by a space 15 of the two members of the stake enables the bolt 22 to

pass between the adjacent right-angularly-extending flanges 14 14 of the stake and is of further advantage in that the spaces 15 of two oppositely-placed stakes are adapted to receive the ends of a piece of timber which
 70 may be extended transversely across the car and upon the load thereon to retain said load firmly in position, the said timber being held down upon the load by the contact of its upper edge with the lower side of the upper end of the stake, or the said piece of timber may be inserted through the spaces 15 of two opposite stakes below any of the rivets 28 in accordance with the height of the load.

In instances in which the bolt 22 may not extend entirely across the car, but only through the side sill 10, the nut 25 will not be used, the ordinary head on the bolt taking its place and the key 26, being then of no use, being omitted.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A stake comprising two connected flanged rolled members separated by a space at their lower portions, means securing said stake to the side of a car and permitting it to have a vertical movement and then to be turned downwardly along the side of the car, and a plate secured to the side of the car and having a pocket at its lower end to receive the lower ends of said members, a lip being provided on said plate to lie between said members when the stake is in operative position; substantially as set forth.

2. A stake comprising two connected flanged rolled members separated by a space at their lower portions, a vertically-slotted plate secured to the lower portions of said members and spanning said space, a bolt passing through the slot in said plate and secured in the side sill of a car, and a plate secured to said side sill and having a pocket at its lower end to receive the lower ends of said members; substantially as set forth.

3. A stake comprising two connected flanged rolled members separated by a space at their lower portions, a vertically-slotted plate secured to the lower portions of said members and spanning said space, a bolt passing through the slot in said plate and secured in the side sill of a car, and a plate secured to said side sill and having a pocket at its lower end to receive the lower ends of said members, a lip being provided on said plate to lie between said members when the stake is in operative position; substantially as set forth.

4. A stake comprising two flanged members of angle formation in cross-section separated by a space at their lower portions, a vertically-slotted box-plate secured to the outwardly-extending flanges of and connecting said members and spanning said space, a bolt passing through the slot in said plate and secured to the side sill of a car, and a

plate secured to said side sill and having a pocket at its lower end to receive the lower ends of said members; substantially as set forth.

5 5. A stake comprising two flanged members of angle formation in cross-section separated by a space at their lower portions, a vertically-slotted box-plate secured to the outwardly-extending flanges of and connecting
10 said members and spanning said space, a bolt passing through the slot in said plate and secured in the side sill of a car, and a plate secured to said side sill and having a pocket at its lower end to receive the lower
15 ends of said members, a lip being provided on said plate to lie between said members when the stake is in operative position; substantially as set forth.

20 6. A stake comprising two flanged rolled members connected at their upper ends, a pocket on the side sill of a car to receive the lower end of same, and means for holding said stake in vertical position against the side of the car; substantially as set forth.

25 7. A stake comprising a folded rolled flanged bar forming two members, means connecting said members below their upper ends, and means for securing said stake to the side of a car; substantially as set forth.

30 8. A stake comprising a folded rolled angle-bar forming two members, means connecting said members below their upper ends,

and means for securing said stake to the side of a car; substantially as set forth.

9. A stake comprising a folded rolled angle-bar forming two members separated by a
35 space below their upper ends, means connecting said members below their upper ends, and means for securing said stake to the side of a car, the flanges of said bar running parallel with the side of the car being cut away
40 at the point where the bar is folded; substantially as set forth.

10. A car-stake comprising two rolled angle-iron members having their flanges which
45 extend at right angles to the side of the car, parallel with and adjacent to each other and their other flanges extended in opposite directions therefrom, means connecting said right-angularly-extending flanges, a pocket
50 on the side sill of a car to receive the lower ends of said members, means for holding said stake against the side of the car, and means for permitting said stake to be turned downwardly along the side of the car; substantially
55 as set forth.

Signed at New York city, in the county of New York and State of New York, this 21st day of April, A. D. 1906.

THOMAS R. BROWN.

Witnesses:

JOHN McE. AMES.

CHAS. C. GILL.