No. 833,976. PATENTED OCT. 23, 1906.

R. V. SAGE.

CAR STAKE.

APPLICATION FILED AUG. 27, 1906.

Fig. 1

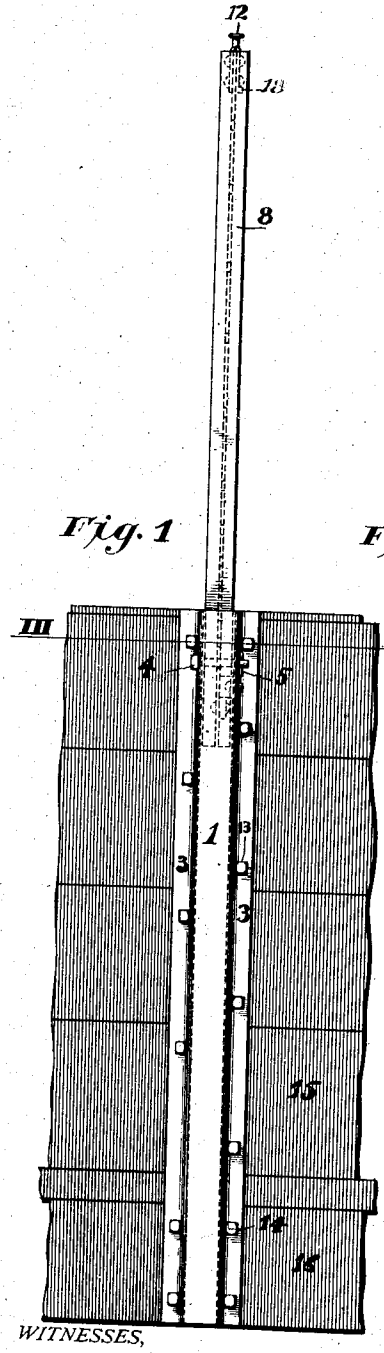



Fig. 2

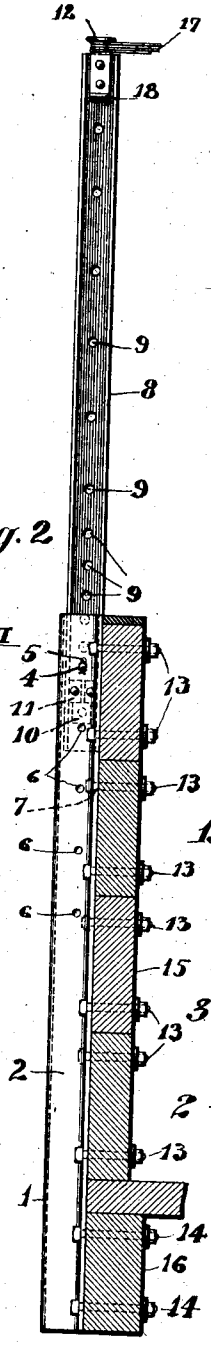



Fig. 3

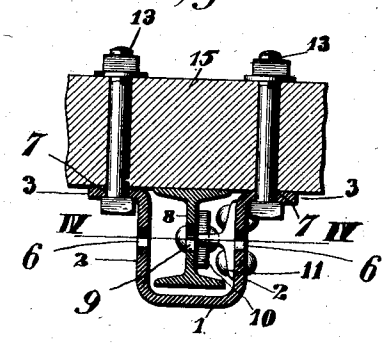
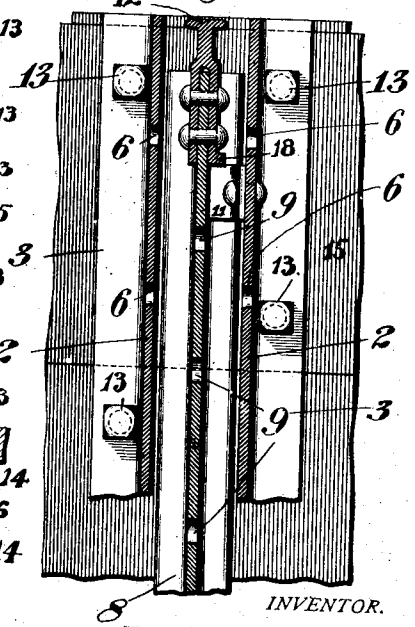



Fig. 4




WITNESSES,

Cyrus E. Brown

Thomas H. Kyler

INVENTOR.

Ralph V. Sage

by Geo. E. Thackray

his ATTORNEY.

THE NORRIS PETERS CO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

RALPH V. SAGE, OF WESTMONT, PENNSYLVANIA.

## CAR-STAKE.

No. 833,976. Specification of Letters Patent. Patented Oct. 23, 1906.

Application filed August 27, 1906. Serial No. 332,111.

*To all whom it may concern:*

Be it known that I, RALPH V. SAGE, a citizen of the United States, residing in the borough of Westmont, in the county of Cambria and State of Pennsylvania, have invented certain new and useful Improvements in Car-Stakes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention consists in general of a car-stake which is adapted both for stiffening and supporting the permanent car sides and for projecting above same to retain light or bulky lading—such as lumber, bark, structural material, or any other kind of goods which extend above the side of the car.

My invention is particularly adapted for use on what is known as "gondola cars," and for the sake of simplicity in description I will confine my illustration and specification to this form, although my improved stake may be used on other cars.

My invention in general consists of an exterior hollow stake or envelop, which may be made of pressed or rolled metal, fastened to the car-sill or underframing of the car, the car sides in turn being secured to said hollow stake. Inside of this envelop is arranged an extension-stake composed of an I-beam or similar section, which latter can be adjusted to any height desired within its limits, the extension portion of said stake being provided with means to prevent its loss by neglect, accident, or theft.

When not in use, the extension-stake is lowered wholly within the envelop and its top is below or flush with the top of the car side, thus preventing obstruction to the ordinary lading or injury to the car-stake itself, as will be readily understood.

The envelop portion of my stake, as herein illustrated, is substantially trough-shaped in section, with outwardly-extending flanges, by means of which attachment is made with the sides and sill of the car, the cross-section of the envelop or body portion of said stake being substantially square or rectangular, with slightly-rounded corners. This exterior stake or envelop serves to stiffen and maintain the car sides in position and at the same time retains the extensible portion both in its lowered and in its extended positions. Means are also provided for securing the extended portion of the stake at various heights, dependent upon the requirements of the lading, and the top of the extension-stake is furnished with a cleat or rounded button, around the shank of which rope or wire may be wound, extending from one stake to its companion stake on the opposite side of the car, to assist in holding same and the lading in position.

Having thus given a general description of my invention, I will now, in order to make the matter more clear, refer to the annexed sheet of drawings, which forms part of this specification and in which like letters and characters refer to like parts.

Figure 1 is a side elevation of a portion of a wooden gondola car, showing my improved stake raised to its full height. Fig. 2 is a cross-section through the side of a car, showing my side stake in side elevation, the extensible portion in this figure being also raised to its full height. Fig. 3 is a horizontal cross-sectional elevation on the line III III of Fig. 1; and Fig. 4 is a sectional elevation on line IV IV of Fig. 3, showing my extension-stake in its lowered position.

Referring now to the various characters of reference on the drawings, 1 is the exterior portion or envelop of my side stake, to which is secured the car side 15 and the side sill 16 of the car by means of the bolts 13 and 14, respectively, which pass through holes 7 in the flange 3 and through corresponding holes in the car side and car-sill.

8 is the extension portion of my stake, which is shown as of I-beam section, inserted within the envelop and capable of being moved up and down, so as to be wholly inclosed therein, or to extend to considerable height above the top of said envelop, as desired.

The sides 2 2 of the envelop portion are provided with holes 6 6, and the extension portion of the stake is provided with similar holes 9 9, which may be caused to register with the holes 6 6 in the flat portions 2 2 of the hollow stake 1. The extension-stake 8 may be secured in different positions by inserting the bolt 4 in the holes aforesaid, said bolt being temporarily secured in position by means of the cotter 5. 10 is a lug or flat piece of metal secured to the lower portion of the extension-stake to serve as a stop to prevent

the complete withdrawal of same, and to assist in this a T-shaped piece of metal 11 is secured to the interior of the envelop, as shown. Upon drawing the extension-stake up to its full height the projection 10 abuts against the inwardly-extending portion of the T-shaped bar 11, which thus stops the extension-stake from being entirely withdrawn, thereby preventing its loss through carelessness or otherwise.

Owing to this construction, the stake is always ready for use and the expense and delay connected with supplying temporary stakes of wood are eliminated.

On the top of my extension-stake 8 I secure a button 12, provided with rounded shank, as shown, which when the stake is in its extended position serves for the attachment of wire, rope, or other flexible material, extending from one stake to its companion stake on the opposite side of the car to help in retaining the lading. The rounded top of the button 12 also serves as a convenient handle by which to pull the stake upward when required. Wire is indicated at 17 in Fig. 2 of the drawings.

The spacing of the holes 6 in the envelop and the holes 9 in the extension-stake is so arranged that the extension portion may be adjusted in height beginning at one-inch intervals and continuing thereafter at two-inch intervals until the extension portion is withdrawn as far as the stop will permit. The button 12 of the extension-stake is provided with a flange 18, projecting from its lower portion, which holds the stake in its lowered position by resting on the upper surface of the T-shaped bar 11, as shown in Fig. 4.

It should be especially noted that the trough-shaped envelop with its projecting flanges and the I-beam extension portion are both particularly well adapted to serve the purposes intended in an economical and efficient manner, and I have found by actual design that a stake of this kind can be made of less size than a continuous wooden stake to serve the same purpose. This permits me to apply my stake to cars without exceeding the allowable limits of the side clearance prescribed by the different railroads, and thus make a wider car of greater capacity than if wooden stakes are used.

My improved stake also has the advantage that it is always ready for use when required, thus obviating the expense and delay of supplying and fitting temporary stakes for high lading.

Although I have shown, illustrated, and described my invention in connection with a wooden gondola car, I wish it understood that it is equally applicable to metal cars, the only change required being in the length and arrangement of the fastening bolts orrivets.

I make the exterior portion or envelop of my car-stake of trough-shaped section, open on one side, as this is a particularly strong form and one that is capable of being rolled of iron or steel or pressed from a single plate or sheet of metal.

Although I have shown and described my improvements in considerable detail, I do not wish to be limited to the exact and specific details shown and described, but may use such substitutions, modifications, or equivalents thereof as are embraced within the scope of my invention or as pointed out in the claims.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A car-stake comprising a trough-shaped section with integral side flanges projecting therefrom, means for securing same to the car-sill and means for securing the car side thereto through the flanges aforesaid; an adjustable metallic stake mounted within the opening of the trough-shaped stake aforesaid and means for securing said adjustable stake in various positions therein as desired.

2. A car-stake comprising a trough-shaped section with integral side flanges projecting therefrom, holes in said flanges, bolts for securing said stake to the car-sill and similar bolts for securing the car sides to said flanges through the holes aforesaid; an adjustable metallic stake located within the opening of the trough-shaped stake aforesaid, holes in the sides of said trough-shaped stake and corresponding holes in the body portion of the adjustable metallic stake adapted to register with said holes in the sides of the trough-shaped stake, a bolt adapted to pass through said registering holes, whereby the adjustable stake may be held in various positions as desired.

3. A car-stake comprising a trough-shaped section with integral side flanges projecting therefrom, means for securing same to the car sides through the flanges aforesaid, an adjustable metallic stake of I-beam section located within the opening of the trough-shaped stake aforesaid and means for adjusting said I-beam stake at various heights as desired.

4. An adjustable car-stake comprising an exterior portion of trough-shaped section secured to the car sides, an interior adjustable portion mounted therein, said adjustable portion being provided with a button-shaped top secured thereto and adapted to hold wire or other flexible material.

5. An adjustable car-stake comprising an exterior portion of trough-shaped form secured to the car sides, an interior portion of I-beam section slidably mounted therein, a stop-piece secured to the inside of the trough-shaped portion, and a cap secured to the upper end of said I-beam portion, having a projecting flange adapted to abut against the in-

terior stop-piece aforesaid, whereby the adjustable stake is limited in its downward movement.

6. An adjustable car-stake comprising an envelop of trough-shaped section secured to the car side, an adjustable stake of substantially **I**-beam section mounted therein, a stop-piece secured to the inside of said envelop near the top thereof, corresponding abutments secured to the top and to the bottom of said **I**-beam section to limit the movement of same in both directions.

7. A car-stake comprising an exterior portion or envelop of trough-section, provided with substantially flat sides and integral flanges projecting therefrom, holes in said flanges, bolts passing through the holes in said flanges securing said exterior portion to the car sides, holes in the two sides of said exterior portion, an adjustable stake of **I**-beam section slidably mounted within the opening of the trough-shaped section aforesaid, holes in said **I**-beam section corresponding with the holes in the sides of the envelop and adapted to register therewith, a key-bolt adapted to pass through said registering holes aforesaid to secure the adjustable stake in various positions as desired.

8. A car-stake comprising an exterior portion or envelop of trough-shaped section, having substantially parallel flat sides and integral flanges projecting therefrom, means for securing said trough-shaped section to the car sides by means of bolts passing through the holes aforesaid, a series of holes arranged in the parallel sides of said trough-section, an adjustable stake mounted within the opening of said trough-shaped section and provided with holes adapted to register with those in the parallel sides aforesaid, a key-bolt adapted to pass through said registering holes for adjustably securing said exterior stake in various positions as desired, a stop secured to the inside of the exterior stake near the top thereof, corresponding abutments secured to the top and to the bottom portions of the adjustable stake to limit and restrain the extreme movements thereof.

9. A car-stake comprising an exterior portion of trough-shaped section provided with integral side flanges projecting therefrom through which it is secured to the car sides, an interior portion slidably mounted therein, means for securing said interior portion in various positions as desired, said interior portion being also provided with a button-shaped top, the lower position of said interior portion being such that said top is flush with or below the upper surface of the exterior portion, thereby offering no obstruction to the ordinary lading when the adjustable portion of the stake is not in use.

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

RALPH V. SAGE.

Witnesses:

CYRUS E. BROWN,

ELMER SEAVEY.