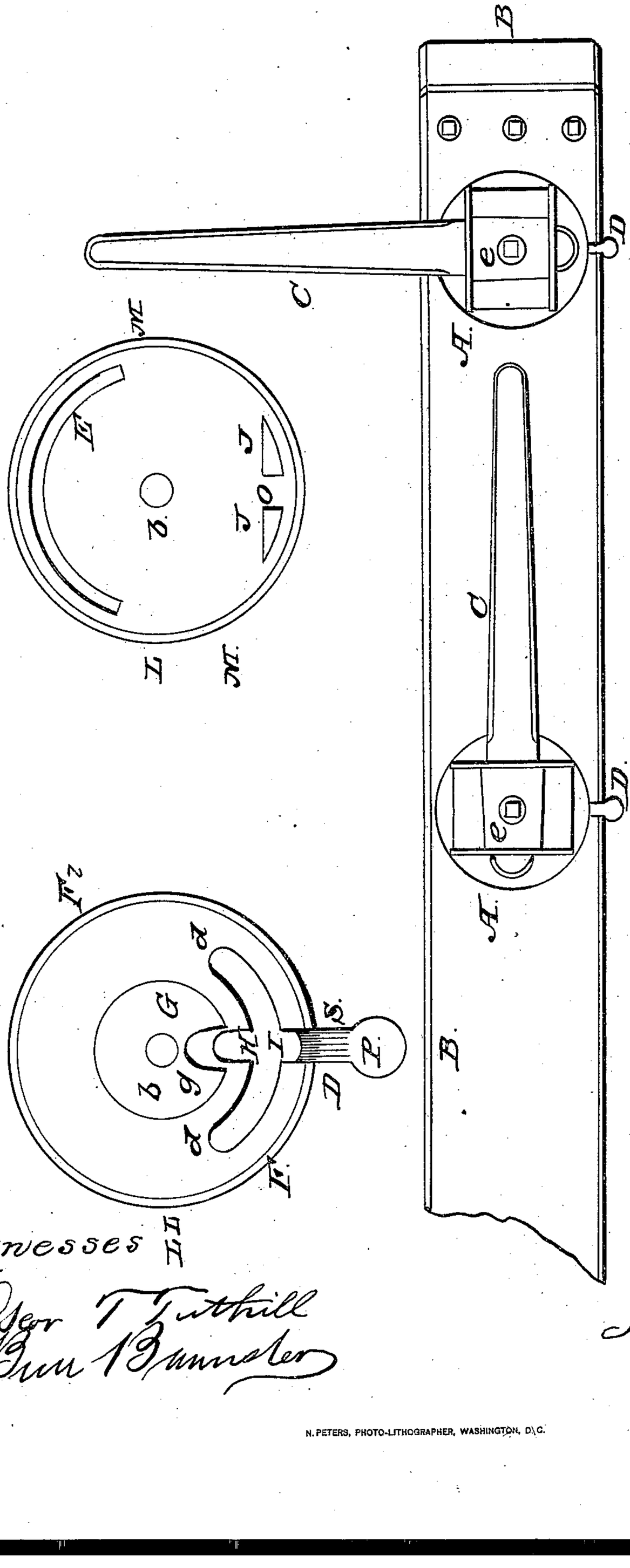
G. A. BROWN.

Car-Stake Holder.

No. 76,596. Patented April 14, 1868.



Witnesses

Oscar T. Tuthill

Wm. B. Bannister

Inventor

George A. Brown

United States Patent Office.

GEORGE A. BROWN, OF KALAMAZOO, MICHIGAN.

Letters Patent No. 76,596, *dated April* 14, 1868.

IMPROVED CAR-STAKE HOLDER.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, GEORGE A. BROWN, of Kalamazoo, in the county of Kalamazoo, in the State of Michigan, have invented a new and improved "Gravitating Lock-Stake Holder for Railroad-Cars;" and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in providing the sides of the car, at given distances, with two cast-iron circular plates, of sufficient size and heft to render them strong and practical, and so constructed that the one immediately next the car-beam has a rim circulating it, on to which fits and works the other outside plate, and to which is fixed the stake-socket. This plate also has a small rim around it, and closely fitting on the rim above mentioned, on the inner plate next the beam, from the inside of the car-beam, passes a bolt, of wrought iron, large enough to be sufficiently strong for the purpose used, through the beam, and through holes in the centre of the two plates, and through the stake in the socket outside, and secured by a nut. Enclosed in the rim, between the two plates, works a gravitating bolt, so constructed that it falls by its own weight into its place when raising the stake to a perpendicular position from a horizontal one, whose use and purpose are to keep the stake in either of the above-mentioned positions, as desired.

To enable others skilled in the art to make and use my invention, I will proceed to more minutely describe its construction and operation.

I construct all the parts of my invention by casting from iron, viz, the plates L L, and L, and combinations, the socket, and its protecting-guards, and the gravitating bolt D, as shown in accompanying drawings, at D, L L, and L, and K. I construct the plates L L and L with a rim circulating them, as shown at M M and F F in accompanying drawings, and in the centre of the plates a hole, *b b*, as shown in the drawings, large enough to admit the attaching-bolt, around which, in the plate L L, above described, I raise a circular projection, about one-third the diameter of the plate to which it belongs, and of about the same thickness of the circular rim F F, above mentioned, as shown in the accompanying drawings at G. In this projection, directly under the hole *b*, I make an opening, from the lower surface of the projection above described, nearly to the hole *b*, and large enough to admit the upper end of the gravitating bolt D, as shown in the accompanying drawing at *g* and H. This opening, above described, I make to extend through the thickness of the circular projection G to the inner surface of the plate L L, but not into it, through the rim F F on plate L L, shown in accompanying drawing. Directly under the opening *g*, in the circular projection G above specified, I make an opening the depth of the rim, and wide enough to admit the gravitating bolt D at its lower end, as shown at S in the accompanying drawing.

On the inner surface of the plate L, on the upper side, over the hole *b*, I construct a semicircular projection, narrow, and the ends reaching nearly opposite the hole *b*, horizontally, as shown at E in the accompanying drawing. The use of this projection just specified is to stop the stake in a horizontal position along the car, bear and hold it there by the ends striking against the gravitating bolt D in the operation of shifting the stake either to the right or left. Under the hole *b*, near the rim, on the inner surface of the plate L, I construct two catches, pointed on the extreme ends, and separated by an opening in the centre, directly under the hole *b*, as shown in accompanying drawing at J J and O. The use and object of these catches above specified are to catch under the shoulder on the bolt D, as hereinafter described, and raise it so that it falls into the opening, O, when the stake is raised to a perpendicular position, and holds it there firmly, as shown at A A in accompanying drawing.

On the outer surface of the plate L, over the hole *b*, I construct the stake-socket, with holes in the centre, the size and opposite the holes *b b*, above described. Over the socket I construct guards, as shown at K in accompanying drawing, the use and object of which are to protect the nut *e*, as shown in the drawing, and also the stake-socket from blows in the operation of unloading the car. The stake and the socket I construct in the usual and known forms.

I construct the gravitating bolt D, as shown in the accompanying drawing, as to size, in proportion to the plates L L and L, between which it works, so as to fit loosely in the opening at *g* in circular projections G and S in rim F F, in accompanying drawing. Near the upper end H, of the bolt D, I construct projecting semicircular arms, as shown at *d d* in accompanying drawing, the use and object of which are to steady the gravitating bolt D, and give it additional weight. I also construct, at the lower end of the bolt D, a ball, to give it additional weight, as shown at P in accompanying drawing. Immediately below the arms *d d* above specified, on the bolt D, I make a shoulder projection, as shown at I in the accompanying drawing, the use and object of which are, in the operation of raising and lowering the stake, it is raised by means of the catches J J passing under it, so that when the stake comes to a perpendicular position, it falls into the opening, O, between the catches J J, as hereinbefore specified.

I operate my new and improved gravitating lock-stake holder for railroad-cars, above specified, as follows: I place the gravitating bolt D in its position on the plate L L, as above specified, and as shown in accompanying drawings, over which I place the plate L, the inner surfaces of the plates facing each other, and put the stake into the socket on the outside of the plate L, and attach it to the car-beam by means of the bolt passing through from the inside of the beam, as shown at T in accompanying drawing. I put on a washer, made of iron, over the bolt next the socket, then screw on the nut, as shown at A A and *e e* in accompanying drawing. The object and aim of the washer above named are to prevent the screw from getting loose in the operation of turning the stake.

I let the stake down to a horizontal position along the beam from a perpendicular one, by lifting up the gravitating bolt D by the ball P, as above described, and shown in accompanying drawing, at the same time turning the stake C in either direction desired, viz, from right to left, and *vice versa*, till it comes horizontally along the car-beam, when the end of the narrow semicircular projection E strikes the bolt D and stops it. To raise the stake to a perpendicular position, I take hold the stake C, lift it up, when the catches J J pass under the shoulder I on the bolt D, and raise it till it comes over the opening, O, when, by the attraction of gravitation, by its own weight it is caused to fall into it, between the catches J J, and locks it, as above specified, and as shown in the accompanying drawings at A A on the beam B B. The operation and working are the same, whether the stake is raised from right to left, or *vice versa*. In the operation of changing stake in the socket, I take off the nut *e*, and the washer slips off from the attaching-bolt T, the plate L, and the stake, put the stake on desired, the plate L, the washer, and nut as before.

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

The combination of the plates L, catches J, circular projection E, arms *d*, and gravitating bolt D, when constructed and arranged substantially as described and for the purpose set forth.

GEORGE A. BROWN.

Witnesses:

OSCAR T. TUTHILL,

BURR BANNISTER.