No. 683,880. Patented Oct. 1, 1901.

A. S. HIGGINS.

STAKE HOLDER AND STAKE.

(Application filed May 27, 1901.)

(No Model.)

Fig. 1.

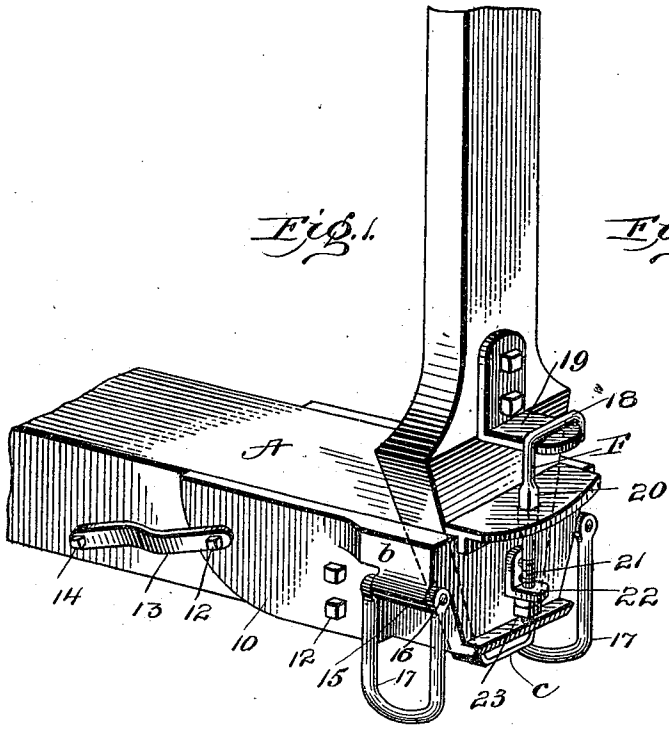


Fig. 3.

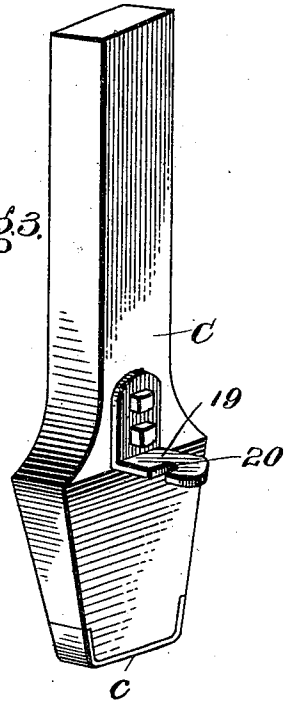


Fig. 2.

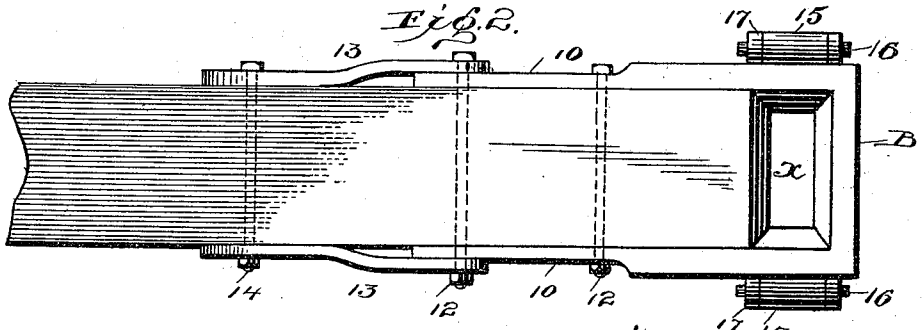


Fig. 4.

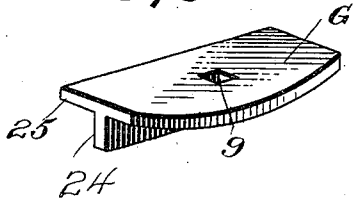
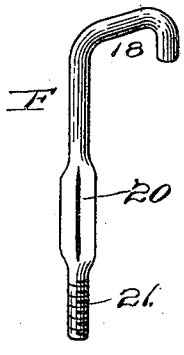


Fig. 5.



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UNITED STATES PATENT OFFICE.

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STAKE-HOLDER AND STAKE.

SPECIFICATION forming part of Letters Patent No. 683,880, dated October 1, 1901.

Application filed May 27, 1901. Serial No. 62,121. (No model.)

To all whom it may concern:

Be it known that I, ALVIN STUART HIGGINS, a citizen of the United States, residing at Dendron, in the county of Surry and State of Virginia, have invented certain new and useful Improvements in Stake-Holders and Stakes; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to stake-holders and stakes which are commonly used on cars employed for transporting logs, lumber, and the like; and the object of the invention is to improve the structure of devices of this character, whereby they are rendered more durable and efficient and whereby the stake, while firmly held in the holder when in use, may be easily removed from the holder when it is necessary for the purpose of unloading.

The invention will be fully described hereinafter, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a portion of a car bolster or bunk with my improved stake-holder and stake in position thereon. Fig. 2 is a plan view of the stake-holder and bolster, the stake being removed. Fig. 3 is a perspective view of the stake detached. Fig. 4 is a detail view of a lock-plate or washer for the locking-hook. Fig. 5 is a detail view of the locking-hook.

The bolster is indicated by A and the stake-holder by B. The stake-holder is of metal and, as shown, is in the form of a strap to fit over the end of the sill, with the two side plates 10 fitting closely against the opposite vertical sides of the sill and the head 11 abutting against the end of the sill. The holder is secured to the sill by transverse bolts 12, passing through the side plates 10 and the sill A. An additional means for resisting the strain on the holder is also preferably employed, consisting of links or bars 13, connected at one end to the rear bolt 12 and having their other ends bolted to the sill by a bolt 14.

The head 11 of the holder is provided with a vertically-extending socket *a*, all the sides of which incline inwardly from the top to the bottom, and this socket receives the lower end of the stake C. The end of the stake tapers on all sides to snugly fit the socket, and preferably a shoe *c* is secured to the bottom of the stake for a purpose to be hereinafter referred to, and the parts will be so proportioned that when the stake is in place in the socket the shod end will project slightly below the under side of the holder. Preferably the forward portion of the holder will have reinforcing-ribs *b* on the sides to resist lateral strain by the stake on the holder. A lug 15 will also be formed integrally with or be rigidly secured to the head of the holder, preferably one on each side, and these lugs will be provided with horizontally-disposed bores to receive pintles 16, upon which the loops 17 are pivoted. Each loop is designed to serve as a fulcrum or support for a bar or lever to force the stake out of the socket. Such lever will be passed through the loop and below the shod end of the stake, and a sharp quick blow by the lever upon the end of the stake will knock the stake out of the socket, and this action will be facilitated on account of the tapered shape of the end of the stake which fits in the socket. The object of the shoe is to prevent the end of the stake from being mutilated by the blows of the lever.

Some means must be provided to prevent the stake from working out of the socket, which it would be liable to do from the pressure of the logs, &c., and the jarring of the car when in motion, and while this may be accomplished in various ways I preferably employ a hooked pin for this purpose. Such pin is indicated as a whole by F and, as shown, is provided with a hook 18 at its upper end adapted to fit over the horizontal arm of an angle-bar 19, secured to the stake C, such arm being notched in one of its side edges, as indicated at 20. The lower end of the pin is round and threaded, as indicated at 21, and this threaded end will pass through an opening in a lug 22, integral with or secured to the front face of the head of the holder, and a nut 23 when screwed onto the threaded end

of the pin and against the under side of the lug 22 will prevent the withdrawal of the hooked pin from the lug 22, but it will be free to rotate therein, so that the hook 18 may be turned onto or off the bar 19, the latter having a rounded front end to permit this, and when the hook is over the bar the stake will be held in its socket.

In order to prevent accidental turning of the pin, I use a locking plate or washer G, such plate being substantially T-shaped in cross-section. The horizontal member of the outer side of the vertical member is provided with an angular opening *g*, which receives the angular middle portion 20 of the pin F. The vertical member 24 of the plate G will abut against the front face of the head 11 of the holder, and the horizontal portion 25 will rest upon the upper surface of the head in front of the socket, and when in this position the pin cannot be turned off the bar 19. In order to permit the pin F to turn, the locking-plate G must be elevated to disengage the angular portion 20 from the opening *g*, and then the pin may be turned either onto or off the bar 19 and when off the stake can be removed from the socket. Any wear of the parts can be taken up by adjusting the nut 23.

Without limiting myself to the precise details of construction illustrated and described, I claim—

1. The combination with a stake-holder having a socket, a stake adapted to fit in said socket and project below it, and a loop connected to the holder and serving as a fulcrum for a lever to force the stake from the socket, substantially as set forth.

2. The combination with a stake-holder having a socket and a perforated lug projecting from the face thereof, of a stake adapted to fit in the socket, a projection extending from the stake in line with the said lug, a hooked pin to fit over the projection on the stake and to extend through the perforation of the lug on the holder, and means to detachably lock the pin in retaining position, substantially as set forth.

3. The combination of the stake-holder having a socket and a perforated lug 22 projecting from the face thereof, a stake to fit in said socket and having a projection 19, a cross-sectionally T-shaped locking-plate G supported on the upper face of the holder and abutting against its front face and having an angular opening *g*, a pin F having a hooked upper end to fit over the projection 19, an angular middle part to fit in said opening *g*, and a rounded threaded lower end to extend through the perforation in lug 22, and a nut to screw on the threaded end against the under side of the lug 22, substantially as set forth.

4. The combination of a stake-holder having a socket, a stake to fit in said socket, a bar projecting from the stake, a hooked pin rotatably supported on the stake-holder and the hook thereof adapted to be turned onto or off the said bar, and a device to prevent the hooked pin from turning in its support but movable to permit such turning, substantially as set forth.

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

ALVIN STUART HIGGINS.

Witnesses:
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GEO. P. HAW.