(No Model.)

H. F. BOCK.

SHAFT TUG.

No. 418,679. Patented Jan. 7, 1890.

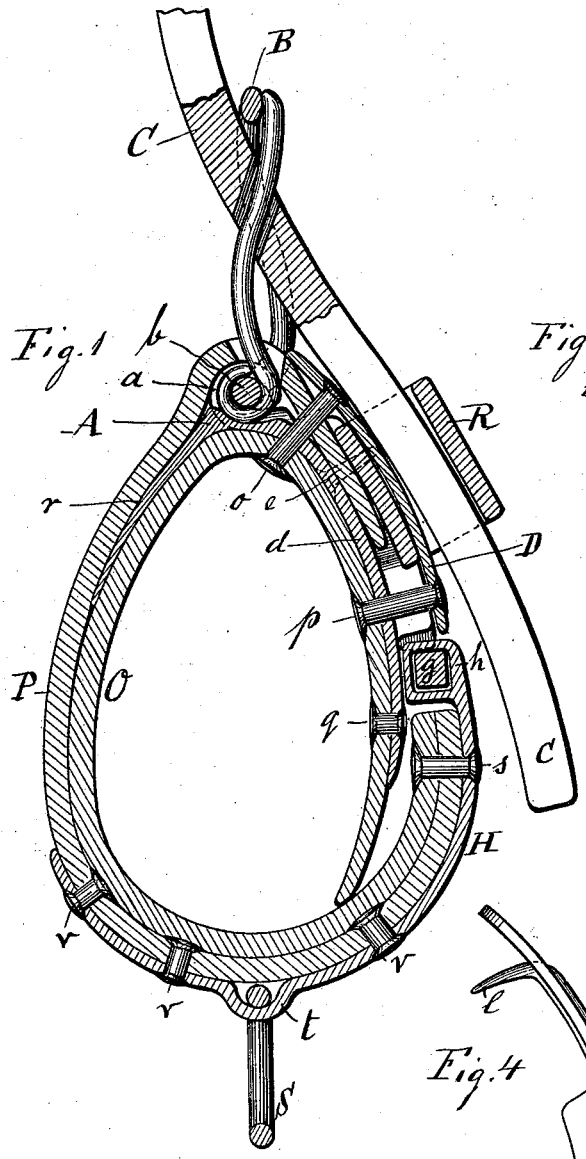

Fig. 1

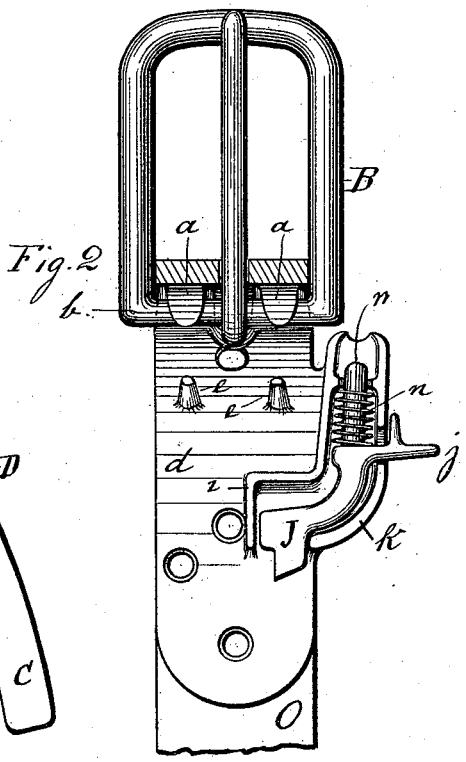

Fig. 2

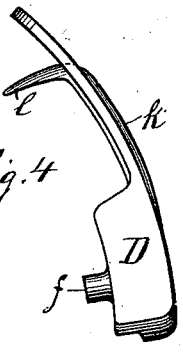

Fig. 4

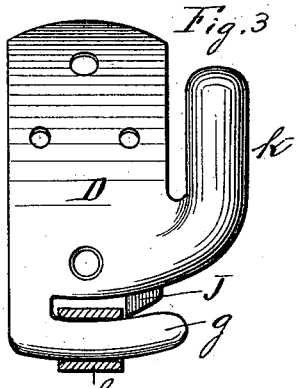

Fig. 3

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HENRY FERDINAND BOCK, OF LANSING, ILLINOIS.

SHAFT-TUG.

SPECIFICATION forming part of Letters Patent No. 418,679, dated January 7, 1890.

Application filed May 25, 1889. Serial No. 312,163. (No model.)

To all whom it may concern:

Be it known that I, HENRY FERDINAND BOCK, a citizen of the United States of America, residing at Lansing, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Shaft-Tugs, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to shaft-tugs or loops of harness for supporting the shafts or thills of vehicles, and more particularly to shaft-tugs that can be opened for inserting or releasing the shafts, such as described in the Letters Patent of the United States granted to me on January 6, 1885, and on August 25, 1885, bearing the respective numbers 310,366, 310,367, and 325,045; and it consists of certain minor improvements in the construction of such shaft-tugs tending to simplify their manufacture, and at the same time increasing their strength and durability, all as will be more fully hereinafter described and specifically claimed.

In the accompanying drawings, Figure 1 represents a section through the center of the shaft-loop. Fig. 2 is a side view of the metal yoke-plate that holds the buckle and catch; and Fig. 3 is a side view, and Fig. 4 an edge view, of the cap to be riveted upon the yoke-plate shank and provided with the hook for engaging the eye of the lower portion of the loop.

Corresponding letters of reference designate like parts in the several figures of the drawings.

A denotes the metal yoke-plate, having to its apex two eyes *a*, that pivotally hold the lower cross-bar *b* of a buckle B, by which the shaft-loop is suspended from the saddle-strap C of the harness. The shank *d* of this yoke A is provided with two studs *e* for securing the cap-plate D, and said cap-plate D also has a stud *f* projecting through a countersunk hole in shank *d* of yoke A. These three studs after riveting will rigidly connect these parts. The cap-plate D has formed to its bottom a horizontal slightly-upward-curved hook *g* for engaging the eye *h* of stiffening-plate H. Within the so-formed box, composed of shank *d* of yoke-plate A and of cap-plate D, is provided a vertically-reciprocating latch J, chamfered at its bottom for engaging the end of eye *h* of plate H and holding it rigidly on the hook, and this latch J is guided on an L-shaped rib *i*, that forms part of shank *d*, and the outwardly-curved body of this latch J enters a sidewardly-projecting tubular casing K, forming a continuation of the L-shaped rib *i*, and being integral one-half with shank *d* and the other half with cap-plate D, and the vertically-projecting pin *m* of this latch J is surrounded by a spiral spring *n*, abutting with its upper end against the top shoulder in casing K and with its bottom end against the shoulder of latch J, to be pushed downward by the elastic force of such spring, and to its upper shoulder the latch J has a horizontally-extended handle *j*, projecting through a slot of casing K, for raising the latch with the finger whenever the eye *h* is to be disconnected from hook *g*. The semi-tubular part *k* of cap-plate D has a spur *l*, that will close the top of the latch-spring casing fitting into a recess of part K of the shank *d*.

The loop proper is formed of two leather straps O and P, the strap O being placed inside or under the yoke-plate A and the strap P being placed over the yoke-plate A, with its upper end inserted between shank *d* and cap-plate D to engage the studs *e*, and besides being secured by a rivet *o*, passed through cap D, strap P, shank *d* of yoke-plate A, and strap O, rigidly connecting these parts. Another rivet *p* secures the cap D, the shank *d* of yoke-plate A, and strap O, and a third rivet *q* secures shank *d* with the extended end of strap O. A leather loop R, for engaging the end of saddle-strap C, is secured by one side of the same being placed between the end strap P of the cap-plate D in a manner that studs *e* will be passed through holes punched therein.

The shank *r* of yoke-plate A is made narrower than straps O and P, that when placed between it will be entirely covered by connecting the edges of the straps by means of stitching.

The plate H is secured to the bottom of strap P for re-enforcing the lower part of the shaft-loop by one rivet *s*, passed through such plate H and through straps O and P, and by three rivets *v*, passed through plate H and strap P. One end of this plate H is provided

with the eye h, that engages hook g, and in its bottom this plate h is curved out to provide a loop t for an iron link S to be coupled therein, by which the belly-strap of the harness connects the two shaft-loops at the opposite sides of the horse.

Between the ends of plate H and shank r of yoke-plate A leather straps O and P, only connected by stitching, will be pliable to permit a sufficient twisting necessary for engaging or disengaging the eye h with hook g. The casing K for the latch-spring n being placed to clear the straps O and P of the shaft-loop, the several parts can be connected to be more rigid, and the yoke-shank d and cap D can be constructed to fit nicer. Said yoke A, having shank r extending between the straps O and P a greater distance, will hold the upper portion of the shaft-loop to retain its shape, and the metal eyes a of the yoke A for the buckle-bar b will protect the leather straps against chafing and wearing, and with this construction, as will be seen, the leather loop R for the back-strap C can be placed lower down on account of the spring-casing K being placed exterior, so the rivet o finds room above such loop R, instead of having to be passed through such loop, as has been shown in my former Letters Patent, No. 310,367. The plate H being placed around the bottom of the shaft-loop, it will hold that part in proper shape, and will provide an eye for the belly-belt link S of the harness in the most simple manner.

What I claim is—

1. The combination, with the shaft-loop straps O P, of the yoke-plate A, interposed between said straps and having secured upon its shank d the cap-plate D, provided with hook g, that engages eye h of the lower part of the loop, and with a vertically-reciprocating latch J for locking the eye to the hook, and of a spring n within a casing exterior of the strap and yoke-plate connection for holding such latch on its locking position, substantially as set forth.

2. The combination, with the shaft-loop straps O P, and with the yoke-plate A and cap-plate D, having hook g, of plate H, having eye h and loop t for link S, and being secured exteriorly against straps O and P by rivets s and v, all substantially as set forth.

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

HENRY FERDINAND BOCK.

Witnesses:

WM. H. LOTZ,

OTTO LUBKERT.