(No Model.)

E. PARTRIDGE.

HUB ATTACHING DEVICE.

No. 385,641. Patented July 3, 1888.

Fig. 4.

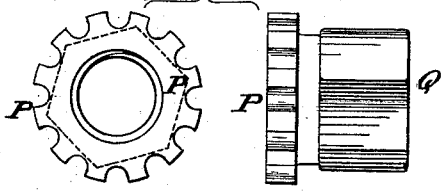


Fig. 7.

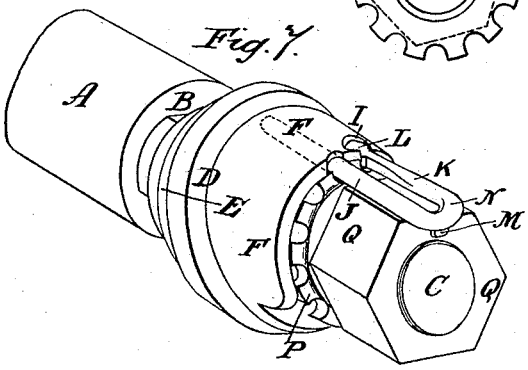


Fig. 1.

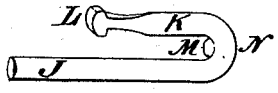


Fig 3

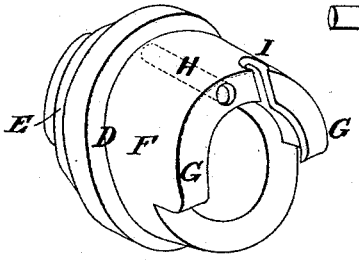


Fig. 2.

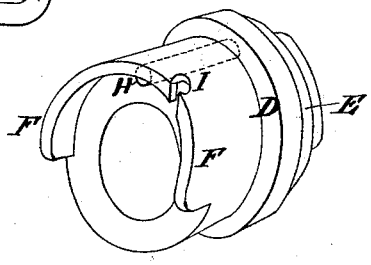


Fig. 6.

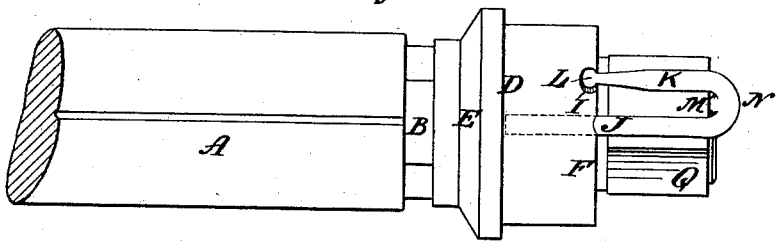
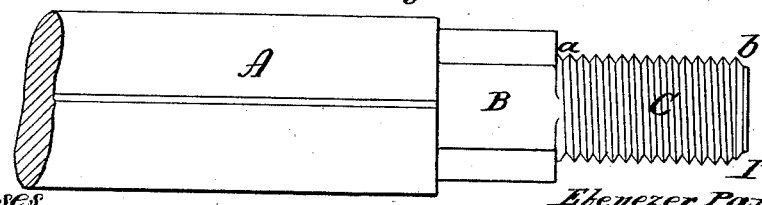


Fig 5



Witnesses.
Dennis Sumby
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By James L. Norris.
Atty.

UNITED STATES PATENT OFFICE.

EBENEZER PARTRIDGE, OF BIRMINGHAM, COUNTY OF WARWICK, ENGLAND.

HUB-ATTACHING DEVICE.

SPECIFICATION forming part of Letters Patent No. 385,641, dated July 3, 1888.

Application filed February 27, 1888. Serial No. 265,359. (No model.)

To all whom it may concern:

Be it known that I, EBENEZER PARTRIDGE, a subject of the Queen of Great Britain, residing at Litho Villa, Poplar Avenue, Edgbaston, Birmingham, county of Warwick, England, have invented new and useful Improved Means and Apparatus for Securing Wheels on their Axles, with Means of Adjusting the Same for Wear, of which the following is a specification.

This invention has for its object certain means or appliances for securing wheels upon axles, also bicycles, tricycles, and machinery fastenings.

According to existing methods—such as the old Collinge pattern principle for carriage-axles, and for affixing wheels on axles—the axle-arm is made with the outer ends of two diameters, these being screw-threaded in reverse order—viz., the larger threaded portion having a short right-handed cut thread for the reception of a nut to bear against the collet to press the conical face of said collet into contact with a corresponding face on the inside of the box, which box is inserted into and wedged tightly within the hub of the wheel. The smaller threaded short portion of the axle is formed with a left-handed thread, and when the thin left-handed nut fitted thereon is screwed home it tightens the right-handed threaded nut, but the left-handed threaded nut has no appliance to prevent it from turning back, a common linch or cotter pin only being passed down a vertically-formed hole in the extreme end of the axle, which merely keeps the nut from running right off when jarred loose by the wheel's motion.

Now, according to my invention, I dispense with the left-handed threaded portion of the axle, and also the left-hand nut, together with the vertical hole in the extreme end thereof, and instead of making the collet with the usual plain front face for the right-handed nut to press against, I make it with a hood projecting from the upper half face, and either leave the front edge of said hood of a plain shape or I form it with a downward-looking flange, having a half-round chamber between the flange and the front face of the collet for the lodgment of a notched rib, which I make on the periphery of the right-hand-threaded nut, which nut I make much longer than heretofore to correspond with the increased length of the right-hand screw-thread upon the axle. I also drill a hole in the upper front face of the flanged or plain hooded collet for the reception of the longer leg of a staple shaped key, the shorter leg of which key is shaped with a bulb on its end, and is slightly strained, so as to spring into a recess formed in the hood when turned down, the body of the key bearing upon the top surface of the notched nut, and which entirely prevents it working loose during the running of the vehicle or other applications to which my invention may be applied. The loop of the staple-shaped key is permitted to project slightly beyond the front face of the nut, to enable the key to be turned by a pair of pinchers or by hand, to enable the bulb to be lifted from its recess when the key has to be removed for the adjustment of the wheel and collet as often as required, or for cleaning the axle—such as when the wheel has to be removed for reoiling. If the hood of the collet has a plain edge, the nut can be turned back without affecting the collet; but if the collet has a flanged hood the turning back of the nut would draw the collet with it, it being necessary to insert the notched rib of the nut into the recessed collet-hood before placing the collet on the axle, the screwing on of the nut causing the collet to slide along on the axle for the required accurate adjustment. In some cases I provide the under part of the loop of the staple-shaped key with a lip to nip against the front face of the nut.

It will be understood that the longer leg of the staple-shaped key engages into either of the upper notches of the rib on the nut and serves to lock the nut fast in conjunction with that obtained from loop bearing on the square of the nut.

Figure 1 of the drawings is a perspective of staple-shaped key; Fig. 2, a perspective view of a plain-edged hooded collet; Fig. 3, a perspective view of flanged hooded collet; Fig. 4, end and plan views of notched ribbed nut; Fig. 5, end of an axle-arm; Fig. 6, axle arm with the collet, the nut, and the staple-shaped key thereon; Fig. 7, a perspective view of a plain-edge hooded collet, the nut and the staple-shaped key in position upon an axle arm.

A represents the axle-arm of the Collinge

type of axle; B, flat on which the collet is guided; C, right-handed screw-thread which runs from the shoulder *a* to the extreme end *b;* D, collet with cone E, to bear against cone-face of axle-box, as is usual; F, hood on front of collet; G, flange on front edge of hood; H, hole in top body of collet; I, recess in hood for bulb of staple-shaped key; J, longer leg of staple-shaped key; K, shorter leg of staple-shaped key, with bulb L on end thereof; M, lip on loop N of staple-shaped key; P, notched rib on nut Q.

I claim as my invention—

1. The combination, with the collet D, having the hood F, provided with the longitudinal orifice H and the recess I, having an enlarged inner end, of the notched nut Q and the staple comprising two substantially parallel legs, J K, of different length, the longer leg entering the longitudinal orifice, and the shorter leg having a bulb, L, engaging the recess of the hood, substantially as described.

2. The combination, with the axle A, having the smooth portion B and screw-thread C, of the collet D, having the cone E, and the hood F, provided with the longitudinal orifice H and the recess I, the notched nut Q, and the staple having two substantially parallel legs, J K, of different length, the longer leg entering the longitudinal orifice, and the shorter leg having the bulb L, engaging the recess, substantially as described.

3. The combination of the collet D, having the longitudinal orifice H and recess I, the notched nut Q, and the staple comprising a loop, N, provided with a lip, M, and two substantially parallel legs, J K, the longer leg entering the longitudinal orifice, and the shorter leg having a bulb, L, engaging the recess, substantially as described.

In witness whereof I have hereto signed my name, in the presence of two subscribing witnesses, this 30th day of January, 1888.

EBENEZER PARTRIDGE.

Witnesses:

RICHARD CORE GARDNER,

HENRY JAMES GARDNER,

Both of 166 *Fleet Street, London, England.*