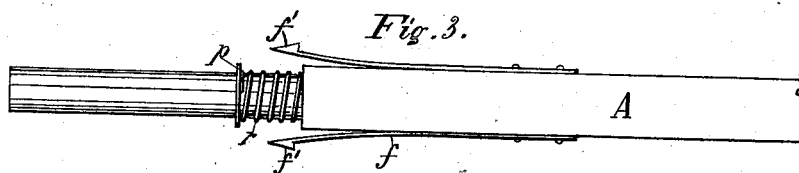
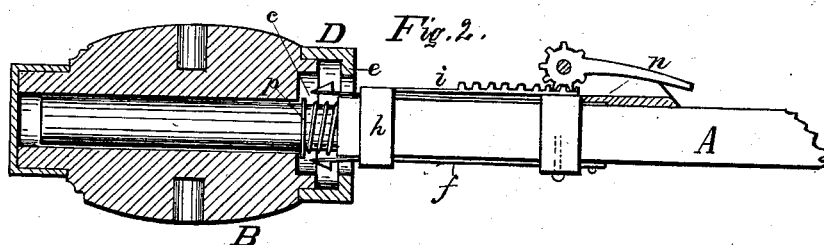
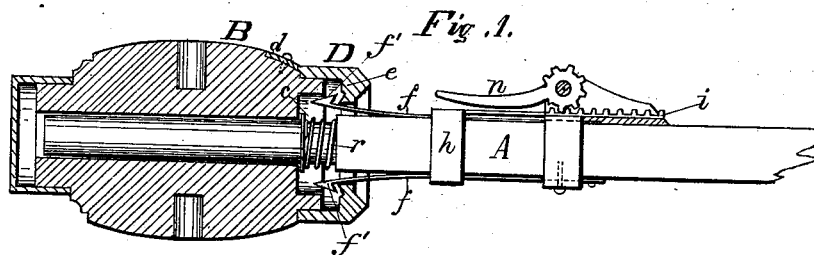


C. C. EGERTON.
Hub Attaching Device.

No. 220,968.

Patented Oct. 28, 1879.



Witnesses,
Geo. A. Boyden
A. C. Eader

Inventor,
C. Calvert Egerton
By his Atty
Char B. Mann

UNITED STATES PATENT OFFICE.

C. CALVERT EGERTON, OF BALTIMORE, ASSIGNOR OF ONE-HALF OF HIS RIGHT TO WILLIAM CANBY, OF BALTIMORE COUNTY, AND BENJAMIN G. HARRIS, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN HUB-ATTACHING DEVICES.

Specification forming part of Letters Patent No. **220,968**, dated October 28, 1879; application filed August 20, 1879.

To all whom it may concern:

Be it known that I, C. CALVERT EGERTON, of Baltimore, in the county of Baltimore and State of Maryland, have invented a new and useful Improvement in Attaching Hubs to Axles of Vehicles, of which the following is a specification.

My invention relates to certain improvements in means for attaching vehicle-wheels to axles, as will be described, and then designated in the claims.

Figure 1 is a view embodying my improvement, in which the hub is in section and is secured to the axle. Fig. 2 is a view of the same adjusted to permit the hub to be detached. Fig. 3 is a view of an axle separate provided with my improvement. Fig. 4 is a view of the spring-hook.

My improvement is adapted for all ordinary wheeled vehicles, and may be used with good advantage on children's carriages.

In the drawings, the letter A designates the axle; B, the hub of the wheel, which, for facility of illustration, is shown without spokes.

The improvement in means for attaching the hub consists, first, in boring out the inner end of the wood part of the hub, so as to form a recess, *c*, and in providing said inner end with an iron band, D, having an inward flange, *e*. By this arrangement a chamber is formed at this end of the hub; but it will be seen that by the inward flange *e* of the iron band standing off from the end of the hub a chamber will be formed, whether the hub be bored out or not.

The iron band may be provided on its inner edge with three or more projecting lips, *d*, (see Fig. 1,) through each of which a bolt passes into the hub. These bolts serve to hold the band to its position.

The letter *f* designates steel springs attached to the axle, having their free ends projecting just over the end of the axle-arm where it joins the axle, and each spring is provided at its free end with a hook or catch, *f'*, which is adapted to enter the chamber in the hub and engage with the inward flange, *e*, as shown in Fig. 1. It will be seen that when so engaged

the hooks serve to hold the hub securely to its position on the arm of the axle.

The drawings shows two springs and hooks to each axle-arm; but it is obvious that four may be used, if desired. Their perfect adaptation to retain the wheel is such that if the axle-arm were to break off at the shoulder they would hold on to the wheel and prevent the body of the vehicle from falling.

It will be noticed that in Fig. 1 the hooks are shown with an under-cut, giving to them a form resembling somewhat the barb of an ordinary fish-hook, and in the same figure the inward flange is provided on its interior side with an annular groove, into which fits the barb of the hook. This peculiarity is deemed an advantage, as it serves to prevent the accidental disengagement of the hooks; but it may be dispensed with, if desired.

The letter *h* designates a band or sleeve adapted to slide over the springs *f*, and, by compressing, release them from the inward flange, as seen in Fig. 2, thus facilitating the detachment of the wheel. If desired, suitable means may be employed to actuate the sleeve and retain it in position.

For this purpose a racked bar, *i*, is shown attached to the sleeve, and a toothed segment having a lever, *n*, is pivoted or secured to the axle in such manner as to engage with the rack, so that by turning the lever toward the hub the sleeve will be withdrawn from the springs, as seen in Fig. 1, and by turning the lever from the hub the sleeve will be forced over the springs and compress them, as seen in Fig. 2. Other devices, however, may be arranged to move the sleeve back and forth, and I do not limit myself to this particular construction.

In Fig. 1 of the drawings, the iron band D on the hub has its rear portion, which embraces the inward flange, beveled on the outer edge and tapering or countersunk on the inner edge, and thus presents on the rear an annular face that is angular in cross-section, and which extends over the shoulder of the axle. This peculiarity is specially adapted to facilitate the entrance of the spring-hooks to the chamber,

and when the hooks are engaged therein to fit closely around them, and thereby serves to protect the box from the inclemency of the weather and also to exclude sand.

The outer end of the hub is closed by a suitable cap, which serves to exclude sand and water, and to retain the oil or grease used for lubrication.

Having described my invention, I claim and desire to secure by United States Letters Patent—

1. In combination, a vehicle-axle having springs *f*, each of which is provided at its free end with a hook or catch, *f'*, and a hub provided at its inner end with an iron band having an inward flange and beveled on the outer edge, which bevel with a countersunk inner edge forms on the inner end an annular face that is right-angled in cross-section longitudinally with the hub, as set forth.

2. In combination, a hub provided on its

inner end with an inward flange, forming a chamber, and having an annular groove on the interior side of the flange, and springs attached to the axle, each provided at its end with a hook having an under-cut, as set forth.

3. In combination with a vehicle-axle having spring-hooks adapted to engage with the wheel, a band or sleeve, *h*, around the axle, adapted to slide over the springs, as set forth.

4. In combination, a vehicle-axle having attached thereto springs, each of which is provided with a hook or catch adapted to engage with an inward flange on the inner end of a hub, and a band or a sleeve on the axle, adapted to slide over the springs, and means, substantially as described, to actuate the sleeve, as set forth.

C. CALVERT EGERTON.

Witnesses:

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