(No Model.)

B. F. SMITH, H. M. CRIPPEN & M. J. CHARLTON.

HUB ATTACHING DEVICE.

No. 593,247. Patented Nov. 9, 1897.

Fig. 1.

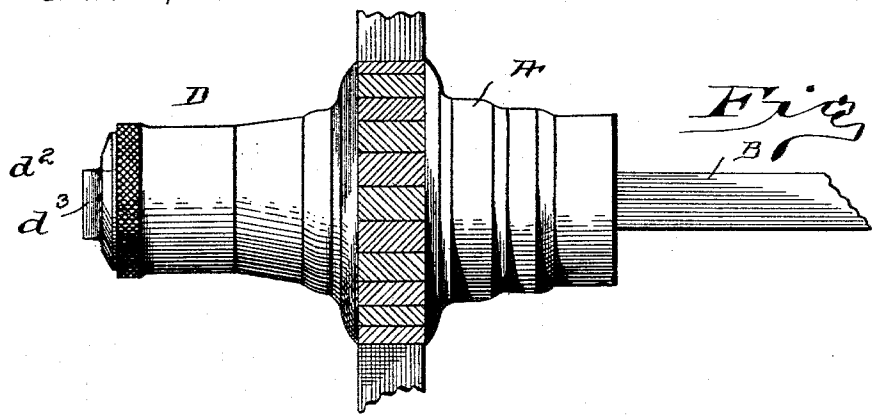


Fig. 2.

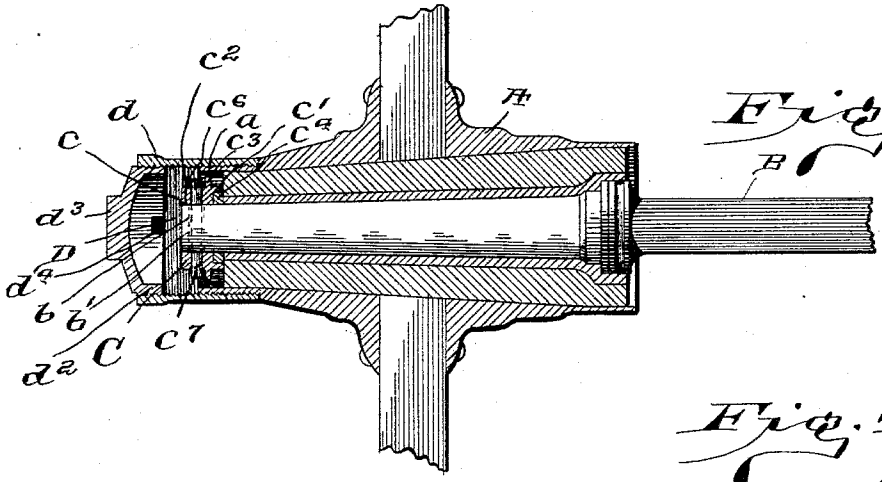


Fig. 3.

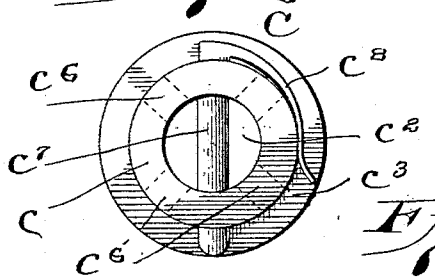


Fig. 4.

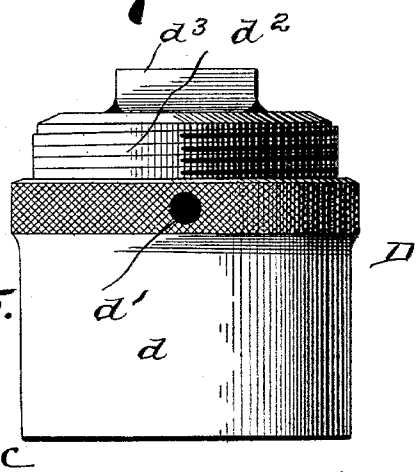
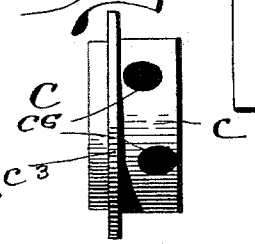


Fig. 5.



WITNESSES

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UNITED STATES PATENT OFFICE.

BENJAMIN F. SMITH, HENRY M. CRIPPEN, AND MILTON J. CHARLTON, OF STEWART, OHIO.

HUB-ATTACHING DEVICE.

SPECIFICATION forming part of Letters Patent No. 593,247, dated November 9, 1897.

Application filed December 21, 1896. Serial No. 616,554. (No model.)

To all whom it may concern:

Be it known that we, BENJAMIN F. SMITH, HENRY M. CRIPPEN, and MILTON J. CHARLTON, citizens of the United States, residing at Stewart, in the county of Athens and State of Ohio, have invented certain new and useful Improvements in Safe Buggy-Wheel Devices; and we do hereby 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.

This invention relates to improvements in carriage running-gear, and has more particular relation to axles and wheels for the same.

The invention consists of the combination, with an axle having a lateral aperture through its end, of a wheel mounted upon said axle, a securing-nut applied over the apertured end of the axle and provided with a series of pin-apertures, each pair of which is arranged upon diametrically opposite sides of said nut and at varying distances from the inner surface of the same, and a pin adapted to be passed through said apertures.

The invention also consists of certain other novel constructions, combinations, and arrangements of parts, all of which will be hereinafter more fully described and claimed.

In the accompanying drawings, forming part of this specification, Figure 1 represents a side elevation of an axle and wheel embodying our invention. Fig. 2 represents a central vertical section through said hub and axle. Fig. 3 represents an enlarged detail face view of the securing-nut and its spring-pin; and Fig. 4 represents an enlarged detail side elevation of the cap for the hub with its closing-plug, the latter being partly screwed into the said cap.

A in the drawings represents the hub of the wheel; B, the axle; C, our improved locking-nut, and D the hub-cap. The said hub A is of any desired construction, with the exception that it is provided at its outer end with a screw-threaded sleeve *a*. The axle B is also of the usual construction, with the exception that its outer end instead of being screw-threaded is turned smooth, as at *b*, to receive the locking-nut C and is provided with a lateral passage *b'*. The said locking-nut C comprises a hub portion *c*, provided with a socket *c'*, a central passage c^2, and an annular flange c^3. A suitable washer c^4, of leather or other packing material, is applied within the socket *c'*, so as to bear against the outer end of the boxing and prevent the rattling of the wheel. The nut *c* is provided with a plurality of apertures c^6, arranged in pairs upon diametrically opposite sides of said nut, the apertures of each of said pairs being in alinement. Said pairs of apertures are also arranged at varying distances from the inner end of the nut. A cotter-pin c^7 is adapted to be passed through any of these apertures of the nut *c* and the aperture in the end of said axle. This cotter-pin is provided with a segmental spring-arm c^8, which when the said pin is forced home through the nut *c* springs over the periphery of said nut, and thus holds the pin firmly in position against any accidental displacement.

It will be observed from the foregoing description that after the nut C has been applied to the end of the axle it cannot be disengaged from the same, as the cotter-pin passes through said nut and the axle and is locked firmly in position. Should the axle or boxing wear at any time, said nut C may be moved up to tighten the same by simply giving it a partial rotation, so as to bring the proper pair of apertures in alinement with the aperture in the end of said axle, so that the cotter-pin may be passed through these apertures. As an additional guard to the said locking-nut C, and also to provide for oiling the axle, we provide the cap D. This cap comprisies a screw-threaded sleeve *d*, adapted to screw onto the threads *a* and provided with an oiling-aperture *d'* and a hollow screw-threaded closing-plug d^2, adapted to screw into the outer end of said sleeve, and provided with a nut d^3, by means of which it may be rotated by a suitable wrench. The said hollow plug is provided with an aperture d^4, which may be brought into a coinciding position with the aperture *d'* when it is desired to force the oil into said cap D. The said plug d^2 fits into the outer screw-threaded end of the cap D so tightly as to practically form an oil-tight joint. Thus when the said cap D is filled with oil the forward move-

ment of the plug d^3 will force the oil into the journal of the wheel. If the wheel at any time should need oiling, it is simply necessary to give the plug d^3 a slight turn, which causes it to enter farther into the cap D, and thus force the oil in said cap into the journal.

By the employment of our invention the wheel may be always held firmly upon the axle, and at the same time the oiling of said wheel may be accomplished without removing any of the parts, and thus sand, dirt, and the like are prevented from entering the bearing and cutting the same. If at any time the oil becomes exhausted in the cap, the plug d^3 is simply screwed out until the aperture d^4 coincides in position with the aperture d', when said cap may again be refilled with oil. If it is desired to remove the wheel, it is simply necessary to insert a nail in the oil-hole of the cap after it has partly been screwed out and rotate the same by an ordinary buggy-wrench.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination with an axle having a lateral aperture formed in its end, of a wheel mounted on said axle, a locking-nut adapted to be applied on the end of said axle and provided with a plurality of pin-apertures arranged in pairs, said pairs being at varying distances from the inner end of the nut, and a pin adapted to be passed through the apertures of the nut and axle and provided with a segmental spring adapted to spring over the outer portion of the nut to hold said pin firmly in position, substantially as described.

2. The combination with an axle, of a wheel mounted on said axle and having a screw-threaded hub, a nut for securing said hub on said axle, a cap adapted to screw over said hub and comprising a screw-threaded sleeve, and a screw-threaded plug mounted on said sleeve and adapted to be forced forward to force the oil contained in said cap into the journal, substantially as described.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

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Witnesses:
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