No. 774,150. PATENTED NOV. 8, 1904.

J. BERRY.

AXLE NUT.

APPLICATION FILED DEC. 24, 1903.

NO MODEL.

Fig. 1.

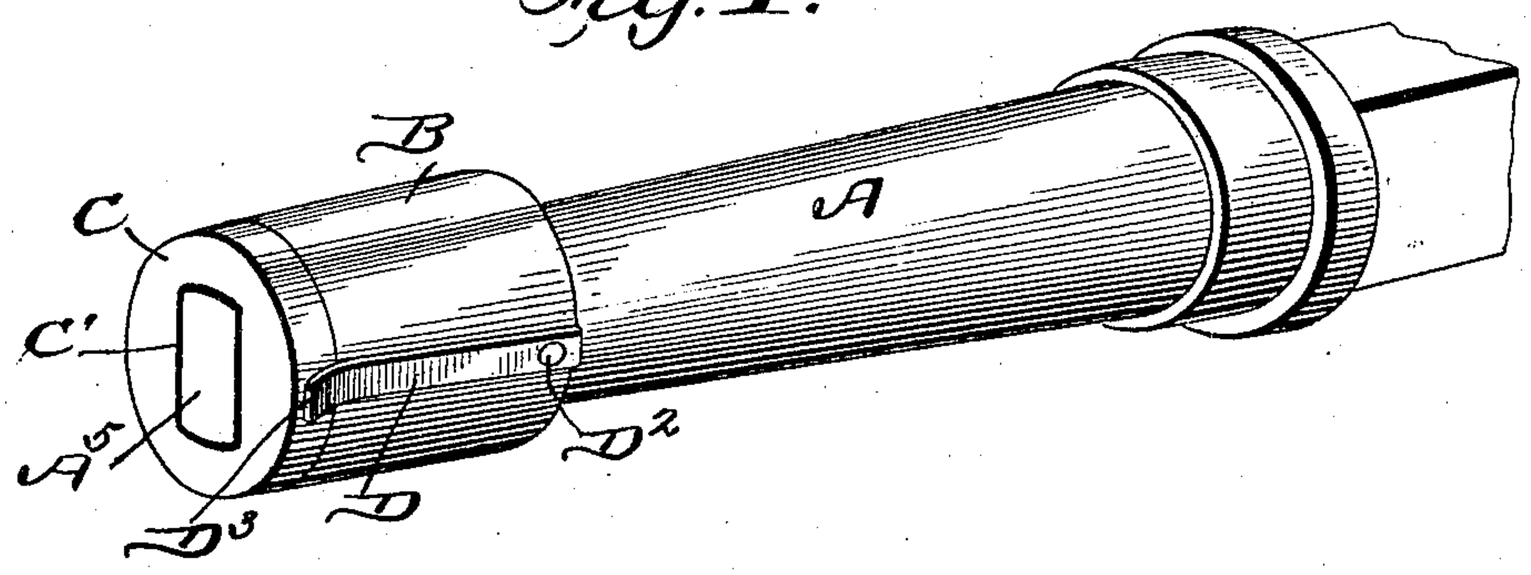


Fig. 2.

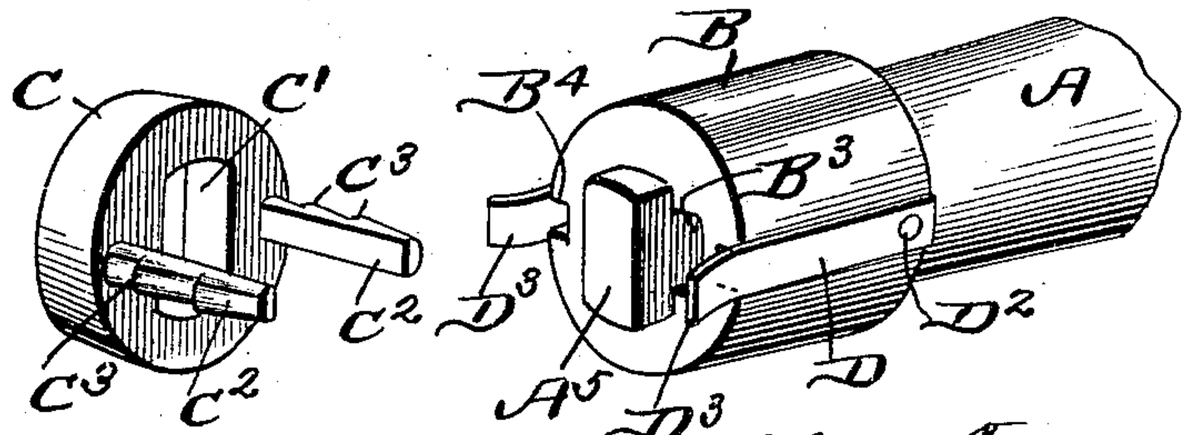


Fig. 3.

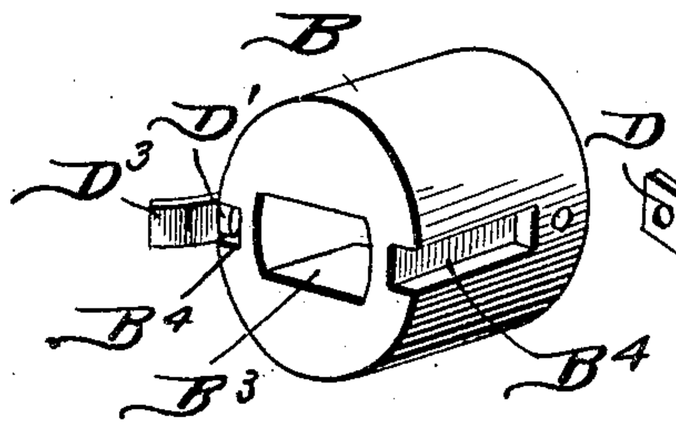


Fig. 4.

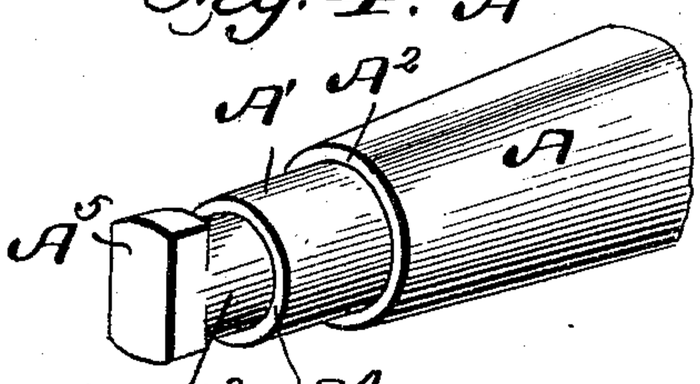


Fig. 5.

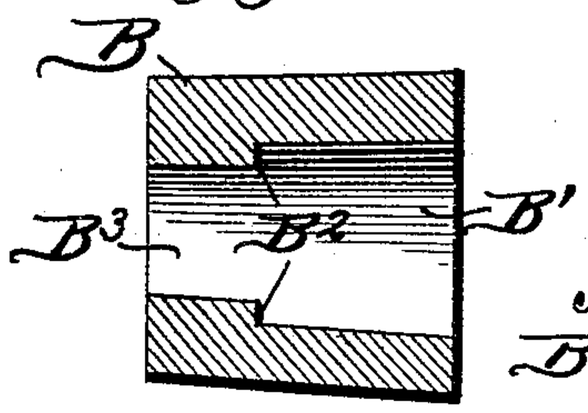
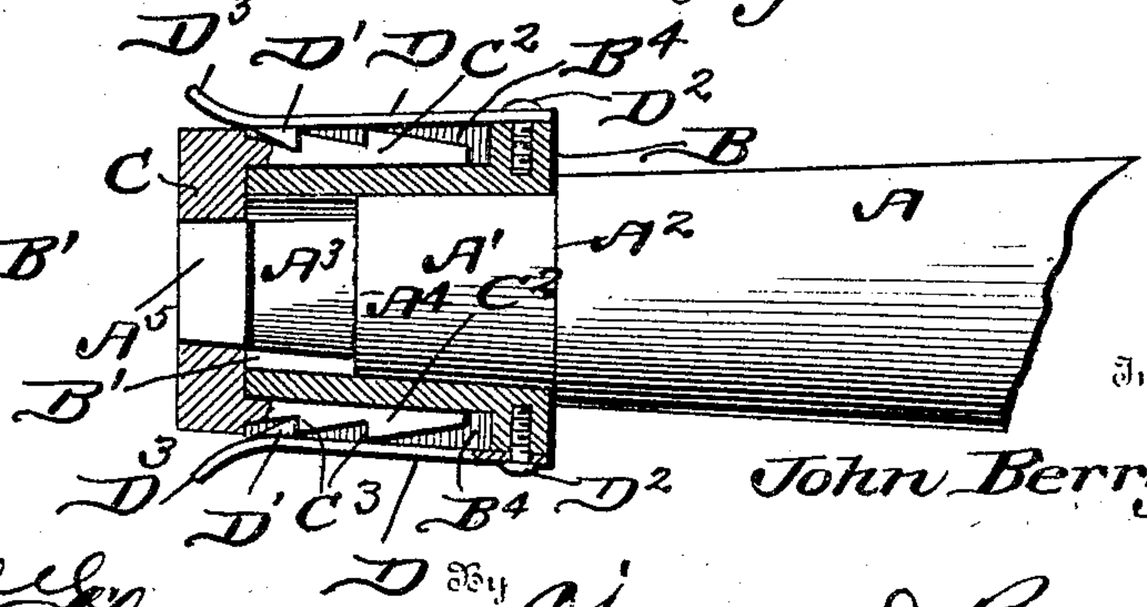


Fig. 6.



Witnesses

M. D. Blondel

Clarence Shaw

Inventor

John Berry.

By Church & Brock

Attorneys

No. 774,150. Patented November 8, 1904.

UNITED STATES PATENT OFFICE.

JOHN BERRY, OF BERRYVILLE, TENNESSEE.

AXLE-NUT.

SPECIFICATION forming part of Letters Patent No. 774,150, dated November 8, 1904.

Application filed December 24, 1903. Serial No. 186,461. (No model.)

To all whom it may concern:

Be it known that I, JOHN BERRY, a citizen of the United States, residing at Berryville, in the county of Union and State of Tennessee, have invented a new and useful Axle-Nut, of which the following is a specification.

This invention is an improved construction of axle-nut or hub-fastening device employed for the purpose of retaining the wheel upon the axle or spindle.

The object of the invention is to provide an exceedingly cheap, simple, and efficient device which when once applied to the end of the spindle is not likely to work loose, as frequently occurs with the ordinary threaded end now employed.

With these objects in view the invention consists, essentially, in constructing the spindle with a reduced end portion carrying an elongated head at the outer end and in constructing the nut with an elongated opening through which the elongated head passes, said nut carrying a cap which is adapted to fit upon the elongated head and be locked in connection with the nut, thereby preventing the said nut turning upon the end of the spindle.

The invention consists also in certain details of construction and novelties of combination, all of which will be fully described hereinafter and pointed out in the claims.

In the drawings forming part of this specification, Figure 1 is a perspective view showing my invention applied to the end of an axle-spindle. Fig. 2 is a view showing the locking-cap disconnected from the nut. Fig. 3 is a detail perspective view of the nut with one of the spring-arms detached therefrom. Fig. 4 is a detail perspective view of the end of the axle-spindle. Fig. 5 is a longitudinal sectional view of the nut; and Fig. 6 is a longitudinal sectional view of the nut and locking-cap applied to the end of the spindle, said spindle being shown in elevation.

Referring to the drawings, A indicates the spindle of an axle, which is reduced adjacent the end, as shown at A′, providing a shoulder A^2, and still further reduced, as shown at A^3, providing a shoulder A^4, and at the extreme end of the spindle is arranged a vertical elongated head A^5. It will be understood, however, that it is not necessary that the elongation should be vertical, as the said head can be elongated horizontally or in any other direction so long as it is elongated or non-circular. The nut B is made with a circular bore B′, which extends nearly to its forward end, said circular bore being interrupted by the inwardly-projecting shoulders B^2, adjacent the said forward end, and at the forward end of the nut the opening B^3 is elongated or non-circular in shape and is of a size to permit the head A^5 to pass therethrough, and when the nut is arranged upon the reduced end of the spindle the inner end bears against the shoulder A^2 and the shoulders B^2 bear against the shoulder A^3. The nut therefore turns freely upon the end of the spindle, said end of the spindle being of such length that when the nut is arranged thereon the elongated head will project beyond and through the same, and for the purpose of holding the nut upon the end of the spindle the said nut is given a quarter-turn, so that the major axes of the head A^5 and the opening B^3 are brought at right angles to each other. For the purpose of locking the nut in this position I employ a cap C, which has an elongated or non-circular opening C′, into which the head A^5 fits when the said cap is fastened to the nut, and in order to accomplish this I employ two fingers C^2, which are connected to the nut and which slide in grooves B^4, produced in the opposite sides of the nut B, said grooves being arranged at the ends of the elongated opening B^3. It will be noted that the fingers C^2 are arranged at the sides of the elongated openings C′, so that the major axes of the opening C′ and B^3 are at right angles to each other. The outer sides of the finger C^2 are provided with ratchet-teeth C^3, which are adapted to be engaged by the pawls D′, carried by the spring-plates D, fastened at D^2 to the nut B, the outer ends D^3 of said spring-plates being turned outwardly, so that the said plates can be easily separated by the proper tool for the purpose of disengaging the pawls from the fingers, so that the cap can be drawn out whenever it is desired to remove the nut from the end of the spindle.

In operation the nut is placed upon the spin-

dle and given a quarter-turn, so that the head A^5 will serve to hold the nut against longitudinal movement, and the ratchet-faced fingers are then inserted in the grooves B^4 and the cap C forced against the nut and the head A^5 will enter the opening C′, the spring-actuated pawls engaging the ratchet-faced fingers, holding the cap against longitudinal movement, and in this manner the nut is securely fastened upon the end of the spindle and held against both rotary and longitudinal movement.

Whenever it is desired to remove the nut, the spring-plates are separated, disengaging the pawls and the cap can then be either completely removed or drawn outwardly a sufficient distance to disengage the cap from the head of the spindle. The nut can then be quickly and easily removed from the end of the spindle by giving the nut a quarter-turn and slipping it off the end of the spindle.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A nut having a circular bore extending nearly therethrough, said circular bore being interrupted adjacent its forward end by inwardly-projecting shoulder, the opening at the outer end of the nut being elongated, and the cap having an elongated opening, said cap having ratchet-faced fingers adapted to embrace the sides of the nut, and the spring-actuated pawls carried by the nut and adapted to engage the ratchet-faced fingers for the purpose set forth.

2. The combination with the spindle reduced adjacent the end and having the elongated head at the end, of the nut having an elongated opening at the outer end and the cap having an elongated opening, the ratchet-faced fingers carried by the cap and the spring-actuated pawls carried by the nut and adapted to engage the ratchet-faced fingers, as set forth.

3. The combination with the spindle reduced adjacent its end providing shoulders and having an elongated head at its end, of the nut having inwardly-projecting shoulders adjacent the forward end and an elongated opening at said forward end, said nut having grooves upon the opposite sides thereof, the cap having an elongated opening, the ratchet-faced fingers attached to the said cap and adapted to work in the grooves in the sides of the nut, the spring-plates connected to the nut and the pawls carried by said spring-plates, substantially as set forth.

JOHN BERRY.

Witnesses:
MARTIN PETERS,
JAMES H. PETERS.