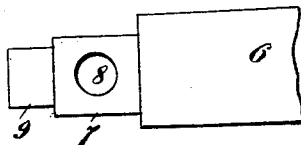
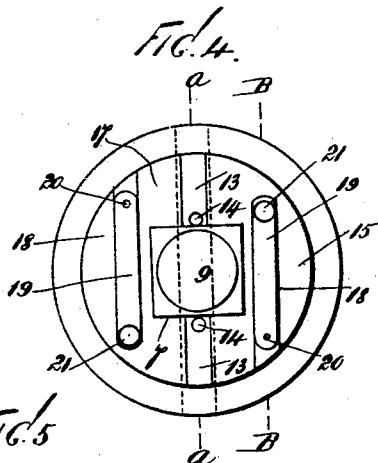
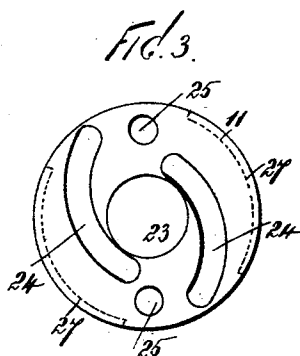
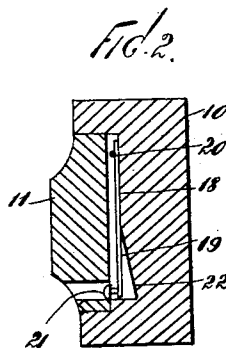
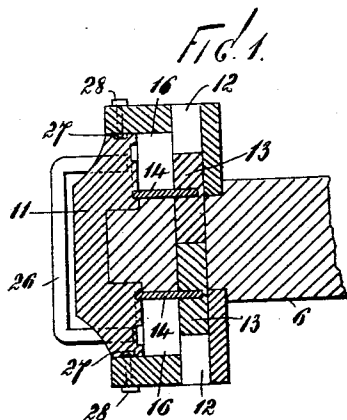


(No Model.)

A. JOSEPHS.
LOCK NUT FOR SPINDLES.

No. 587,737.

Patented Aug. 10, 1897.



WITNESSES.

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ADOLF JOSEPHS, OF SCRANTON, PENNSYLVANIA, ASSIGNOR OF TWO FIFTY-FIFTHS TO MAX ROSENBLUTH, OF WILKES-BARRÉ, PENNSYLVANIA.

LOCK-NUT FOR SPINDLES.

SPECIFICATION forming part of Letters Patent No. 587,737, dated August 10, 1897.

Application filed January 23, 1897. Serial No. 620,457. (No model.)

To all whom it may concern:

Be it known that I, ADOLF JOSEPHS, a citizen of the United States, residing at Scranton, in the county of Lackawanna and State of Pennsylvania, have invented certain new and useful Improvements in Lock-Nuts for Spindles, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to lock-nuts for the spindles of vehicles; and the object thereof is to provide an improved device of this class which is designed to securely hold the spindle-nuts in position and by means of which said nuts cannot accidentally come off in the operation of the vehicle.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 is a central transverse section of my improved spindle-nut and lock, taken on the line *a a* of Fig. 4 and showing the spindle in position; Fig. 2, a similar section on the line *B B* of Fig. 4; Fig. 3, an inside view of the nut-cap; Fig. 4, an outside view of the nut with the cap removed and showing the spindle in position, and Fig. 5 a plan view of the end of a spindle.

In the drawings forming part of this specification the separate parts of my improvement are designated by the same numerals of reference throughout the several views, and in the practice of my invention I provide a spindle 6, which is provided with an extension 7, which is square or angular in cross-section, having a central transverse bore 8, and said extension 7 is provided with a supplemental extension 9, which is cylindrical in form. I also provide a nut which comprises a main body portion 10 and a cap 11, which are of the following construction.

The body portion 10 of the nut is provided near its rear side and centrally thereof with two similar transverse bores 12, in which are mounted sliding lock-bolts 13, each of which is provided with an outwardly-directed pin 14, and the outside or face of the body portion 10 of the nut is provided with a circular chamber 15, which is adapted to receive the cap 11, and formed in the body portion of the

nut, between the circular chamber 15 and the transverse bores 12, are oblong slots 16, through which the pins 14 project, and the pins 14 are rigidly secured to or in the lock-bolts 13, and said pins project slightly beyond the inner wall of the circular chamber 15, and formed in said inner wall or back of the circular chamber 15, at opposite sides of the square or angular opening 17, through which the extension 7 of the spindle passes, are parallel slots 18, in each of which is secured a spring 19, said springs being secured at their opposite ends, as shown at 20, and each of said springs is provided at its free end with a projecting knob 21, and the back of the slots 19, beneath the free ends thereof, are deeper than at the opposite ends, as clearly shown at 22 in Fig. 2.

The cap 11 is provided near its inner surface and centrally thereof with a circular opening 23, which is adapted to receive the cylindrical extension 9 of the spindle, and at the opposite sides thereof with circular or segmental grooves 24, which begin at or near the opposite sides of the cap and which terminate adjacent to the said central circular opening 23 and at the opposite sides thereof, and said cap is also provided in the inner surface thereof and at diametrically opposite points with circular openings 25, which extend there-through and which are adapted to receive the knobs 21 on the springs 19, and the spiral grooves 24 are designed to receive the pins 14, which are secured to the locking-bolts 13. I also provide a key 26, which is yoke-shaped in form and which is adapted to be inserted from the outside into the openings 25, so as to press upon the knobs 21 of the springs 19 and by which said knobs may be forced inwardly. The cap 11 is also provided in its perimeter with grooves 27, and I also provide screws or bolts 28, which are passed through suitable openings formed in the rim of the body portion of the nut and into said groove, and by means of this construction the cap is held in place and at the same time may be turned by the key 26.

The operation will be readily understood from the foregoing description when taken in connection with the accompanying drawings and the following statement thereof.

In practice the body portion of the nut is

placed upon the extension 7 of the spindle in the usual manner, and the cap 10 is then placed in position on the extension 9, and in this operation care must be taken to see that the pins 14 of the locking-bolts enter the grooves 24 in the inner surface of the cap and that the knobs 21 on the springs 19 enter the openings 25 in said cap. By turning the cap the locking-bolts 13 will be forced inwardly and through the extension 7 of the spindle, and this operation of turning the cap is performed by the key 16, and in said operation the side arms of the key may be forced inwardly, so as to disconnect the knobs 21 of the springs 19 from the holes or openings 25 in the knobs, it being understood that in the normal position of these springs the cap is locked and prevented from turning by said knobs.

By turning the cap in one direction the nut is locked to the spindle by forcing the bolts 13 inwardly, and by turning it in the opposite direction the bolts 13 will be forced outwardly, and the nut may be removed from the spindle, and it will be understood that the cap 11 is always revolvably secured in place and cannot be removed except by moving the screws or bolts 28.

My improvement is well adapted to accomplish the result for which it is intended, and it is evident that changes in and modifications of the construction herein described may be made without departing from the spirit of my invention or sacrificing its advantages.

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

1. The combination with the spindle of a vehicle provided with an angular extension 7, and a supplemental cylindrical extension 9, the extension 7, being provided with a transverse bore, of a nut, consisting of a body portion, and cap, said nut being provided in its outer surface with a cylindrical chamber, in the opposite sides of the bottom of which are formed radial slots which communicate with transverse bores formed in the body portion of the nut, locking-bolts mounted in said bores and provided with outwardly-directed pins, which pass through said slots, and a cap which is provided with a central circular opening, circular or segmental slots in the inner side thereof, and diametrically opposite holes or openings which pass therethrough, and means for operating said cap, substantially as shown and described.

2. The combination with a spindle, provided with an angular extension, and with a supplemental cylindrical extension formed

thereon, said angular extension being provided with a transverse bore, of a nut, consisting of a body portion and a cap, said body portion being provided centrally with an angular opening and in the outer side thereof with a circular chamber in the back wall of which are formed two opposite radial slots which communicate with radial bores formed in the nut, said radial bores being provided with locking-bolts, each of which is provided with an outwardly-directed pin which passes through said slots, and said cap being provided centrally of its inner side with a circular opening, and with two circular or segmental grooves at the opposite sides thereof, and with two diametrically opposite holes or openings which pass therethrough, said body portion being also provided with springs having knobs which are adapted to enter said holes or openings, and the pins on the locking-bolts being adapted to enter said circular or segmental grooves, substantially as shown and described.

3. The combination with a spindle, provided with an angular extension, and with a supplemental cylindrical extension formed thereon, said angular extension being provided with a transverse bore, of a nut, consisting of a body portion and a cap, said body portion being provided centrally with an angular opening and in the outer side thereof, with a circular chamber, in the back wall of which are formed two opposite radial slots which communicate with radial bores formed in the nut, said radial bores being provided with locking-bolts, each of which is provided with an outwardly-directed pin which passes through said slots and said cap being provided centrally of its inner side with a circular opening, and with two circular or segmental grooves at the opposite sides thereof, and with two diametrically opposite holes or openings which pass therethrough, said body portion being also provided with springs having knobs, which are adapted to enter said holes or openings, and the pins on the locking-bolts being adapted to enter said circular or segmental grooves, and a key for turning the knob and operating said springs, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 11th day of December, 1896.

ADOLF JOSEPHS.

Witnesses:

DOUD WUSBERGER,
PHILIP O'NEILL.