No. 801,714. PATENTED OCT. 10, 1905.

A. M. FERRIN.

SAFETY BUR.

APPLICATION FILED FEB. 16, 1905.

2 SHEETS—SHEET 1.

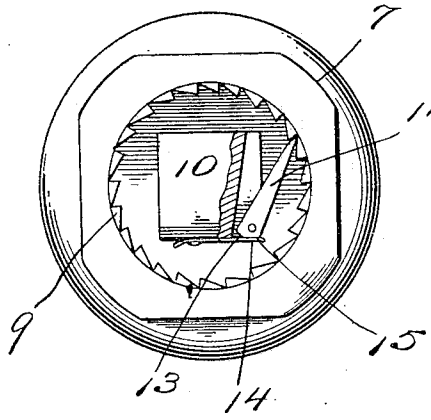

Fig. 1.

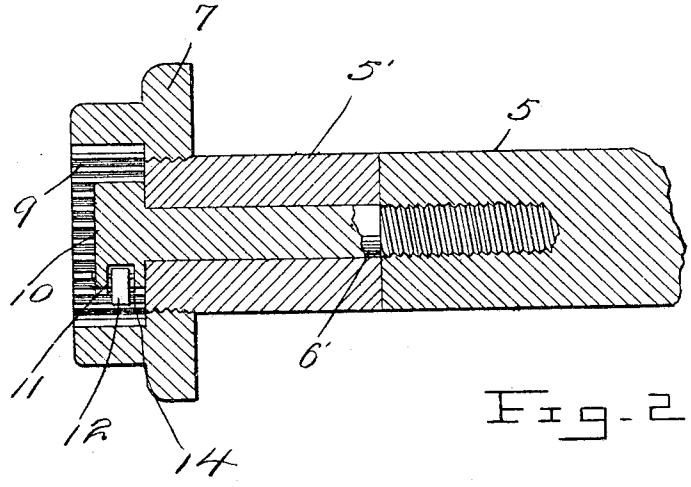

Fig. 2.

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2 SHEETS—SHEET 2.

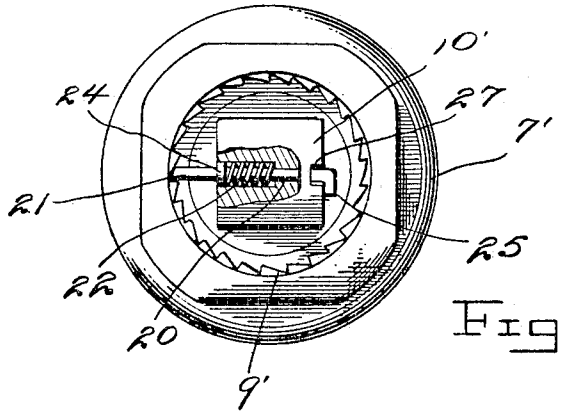

Fig. 3.

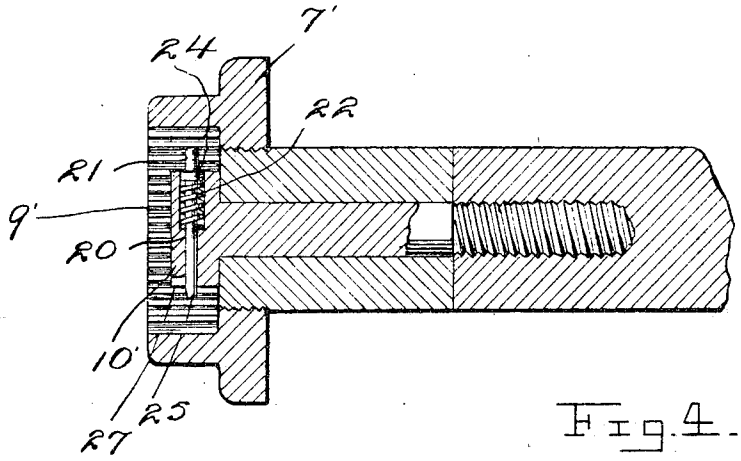

Fig. 4.

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UNITED STATES PATENT OFFICE.

ARTHUR M. FERRIN, OF EDEN, UTAH.

SAFETY-BUR.

No. 801,714. Specification of Letters Patent. Patented Oct. 10, 1905.

Application filed February 16, 1905. Serial No. 245,971.

To all whom it may concern:

Be it known that I, ARTHUR M. FERRIN, a citizen of the United States, residing at Eden, in the county of Weber, State of Utah, have invented certain new and useful Improvements in Safety-Burs; and I 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 nut-locks, and more particularly to that class particularly designed for use on wagon-spindles, the object of the invention being to provide a lock which will effectively hold the nut from unscrewing and which may be easily and quickly thrown out of action when desired to permit of manipulation of the nut.

A further object of the invention is to provide a construction which will comprise but few parts and which will be cheap and simple of construction.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is an end view of a spindle provided with a nut and a lock embodying the present invention, a portion of the end of the spindle being broken away to illustrate the shape and arrangement of the locking-pawl. Fig. 2 is a longitudinal section through the spindle and nut. Fig. 3 is an end view similar to Fig. 1, illustrating a modification. Fig. 4 is a longitudinal section through the spindle in the structure shown in Fig. 3.

Referring now to the drawings and more particularly to Figs. 1 and 2 thereof, there is shown a portion of a wagon-axle 5, having secured to its ends a spindle 5′, which spindle is attached to the axle by means of a long screw or lag-screw 6′, passed longitudinally and centrally through the spindle and engaged in the axle, the thread of the screw being such that in the forward movement of the vehicle the tendency will be to tighten the screw in the axle. The free end portion of the spindle is threaded in the usual manner, the thread in the present instance being a left-hand thread to receive a correspondingly-threaded nut 7. The outer end of the nut 7 is without threads and has its bore slightly increased in diameter, and the increased portion of the bore is provided with ratchet-teeth 9, which project to the right at the upper portion of the nut. The head of the long screw rests against the outer end of the spindle, and in one side face of the head (indicated at 10) is formed a slot 11, which extends throughout the length of the face at right angles to the axis of the spindle. In the slot 11 is pivoted at one end a pawl 12 so positioned that when the opposite or free end of the pawl is swung out of the slot 11 it will engage the ratchet-teeth 9 and prevent rotation of the nut to the right, but will drag freely over the teeth to the left. The end face of the pivoted end of the pawl is flat for a portion of its width, as shown at 13, and secured to the head 10 of the long screw is a leaf-spring 14, which is adapted to rest against this flat end face and in such position hold the pawl yieldably within the slot 11. Adjacent to the flat end face 13 the butt of the pawl is beveled, as shown at 15, and when the pawl is in position to engage the ratchet-teeth 9 the leaf-spring rests against the bevel-face and holds the pawl yieldably in engagement with the ratchet-teeth. The leaf-spring thus serves to hold the pawl yieldably in either of its extreme positions, it being understood that when a right-hand thread is used the arrangement of the pawl-and-ratchet teeth will be the reverse of that illustrated.

Referring now to Figs. 3 and 4 of the drawings, in this form of the invention the head 10′ of the long screw has a passage 20 formed transversely therethrough, in which is received a sliding ratchet 21. One end portion of the passage is enlarged and receives a helical spring 22, that encircles the pawl and rests with one end against the inner end of the enlarged portion of the passage and with its opposite end against a suitable stop 24 on the pawl. This spring serves to hold the pawl yieldably at one limit of its movement or projected, the projection of the pawl being limited by the laterally-turned opposite end 25 thereof, which is disposed to strike the corresponding face of the head 10′. A notch 27 is formed in the head 10′ and the pawl may be rotated to cause its portion 25 to lie in this notch, and thus permit of further projection of the pawl. When the portion 25 is in the notch, the pawl may engage the ratchet-teeth 9′ of the nut 7′, and when the portion 25 is out of the notch the pawl is held from such engagement with the ratchet-teeth. When the pawl engages the ratchet-teeth, the nut is held against rotation in one direction, but is permitted to rotate in the opposite direction.

What is claimed is—

1. The combination with an axle, of a spindle having a central longitudinal passage, a screw passed through the passage and engaged in the axle with the head of the screw against the outer end face of the spindle and having a slot extending throughout one side face thereof, a pawl pivoted at one end in the slot and adapted for movement of its opposite end into and out of the slot, the butt-end of the pawl projecting from the slot and having end faces at an angle to each other, a leaf-spring fixed to the head in position to bear against the end faces of the pawl interchangeably and hold the pawl yieldably within or projecting from the slot and a nut engaged with the spindle and having an interior ratchet disposed for engagement by the free end of the pawl when projecting from the slot.

2. The combination with an axle, of a spindle having a central longitudinal passage, a screw passed through the passage and engaged in the axle, a nut engaged with the spindle and provided with ratchet-teeth, and a pawl carried by the head of the screw and disposed to engage the ratchet-teeth and hold the nut against rotation in one direction.

In testimony whereof I affix my signature in presence of two witnesses.

ARTHUR M. FERRIN.

Witnesses:

A. P. BIGELOW,

ANNIE CARR.