W. E. BALL.
NUT LOCK WRENCH.
(Application filed Jan. 22, 1900.)

INVENTOR

WITNESSES:

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WILLIAM E. BALL, OF ZANESVILLE, OHIO.

NUT-LOCK WRENCH.

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To all whom it may concern:

Be it known that I, WILLIAM E. BALL, a citizen of the United States, residing at Zanesville, in the county of Muskingum and State of Ohio, have invented certain new and useful Improvements in Nut-Lock Wrenches; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable any one skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in nut-lock wrenches, and particularly to a tool adapted for use in holding a key carried by a nut from a locking relation while the nut is being unscrewed from its spindle or bolt.

More particularly my invention consists in the provision of a nut-wrench which has integral with one face thereof a lug having a beveled face which is adapted to engage under a spring-actuated key which is carried by a nut and has its angled end extended through an aperture in the nut and engaging in a recess in the thread of the spindle or bolt to normally hold the same locked, said lug on the wrench adapted to hold the angled end of the key out of the recess in the thread end of the spindle and hold the same from engagement with the threads while the nut is being unscrewed.

My invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form part of this application, and in which drawings similar letters of reference indicate like parts throughout the several views, in which—

Figure 1 is a perspective view of my improved nut-lock wrench. Fig. 2 is a detail view showing the manner of the application of the wrench to the key of the nut, whereby as the wrench is applied to the nut the key is withdrawn from its locking relation; and Fig. 3 is a sectional view through the nut, showing the manner in which the key is held to the recess in the threaded end of the spindle and the manner in which the lug on the wrench engages said key to withdraw it.

Reference now being had to the details of the drawings by letter, A designates the wrench, which has an aperture A' at one end adapted to fit over the squared portion of the nut D, and on one face of said wrench adjacent to its squared aperture is a lug A', the inner face of which is flush and continuous with one of the inner faces of said squared aperture. This lug on its outer face is beveled, as shown at a.

The nut-lock in connection with which my invention is adapted to be used consists of a threaded spindle E, having a recess E' in its threaded portion, and the nut H, having a squared portion about which the locking-key K, made, preferably, of spring- wire, is passed, said key having one end held to the nut, while its opposite end is bent at an angle and extended through an aperture in the wall of the squared portion of the nut and its inner end adapted to engage in said recess in the thread of the spindle or bolt to normally hold the nut in a locked relation. A slight space intervenes between the outer wall of the squared portion of the nut, through which the end of the key passes, and the portion of the key adjacent to its bent end, in which space the beveled portion of said lug on the wrench is adapted to work, the beveled portion of said lug being against the inner edge of the spring-wire forming the key in order to throw its locking end outward. When the squared portion of the wrench is placed over the nut, with the lug on the side of the nut through which the end of said key passes, the lug will cause the end of the key to spring out of the path of the threads of the spindle, after which the nut may be unscrewed by means of the wrench in the usual manner, the wrench holding the key from a disengaging or locking relation with the threads of the spindle, as will be clearly understood.

While I have shown my wrench as having a squared aperture with a lug on its under face, still I do not confine myself to any shape of wrench, the essential feature being a wrench having a lug on its face which is adapted to normally engage with and release a locking-key carried by a nut and held said key out of locking relation while the nut is being unscrewed or screwed into place by means of the wrench.

Having thus described my invention, what
I claim to be now, and desire to secure by Letters Patent, is—
As an improved article of manufacture, a nut-lock wrench having a square-apertured end, an integral lug A extending the width of the wall of said aperture, the inner face of the lug being flush with one of the inner walls of said aperture and the outer face of the lug being convexed and merging at its lower end into and flush with the outer face of the wrench, as shown and for the purpose set forth.
In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM E. BALL.

Witnesses:
FRANK C. HAAS,
PERRY SMITH.