

No. 641,191.

Patented Jan. 9, 1900.

J. W. CHAMPION.  
SAFETY NUT AND BOLT HEAD.

(Application filed Apr. 22, 1899.)

(No Model.)

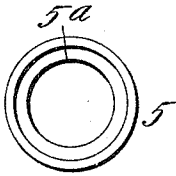


Fig. 3.

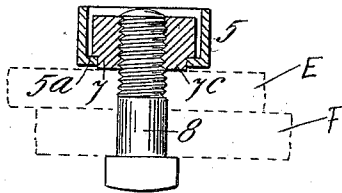


Fig. 1.

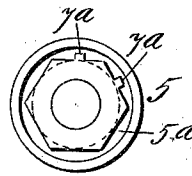


Fig. 2.

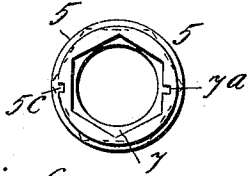


Fig. 6.

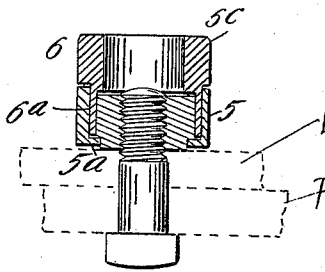


Fig. 5.

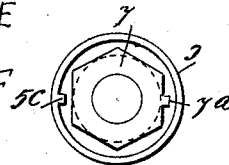


Fig. 4.

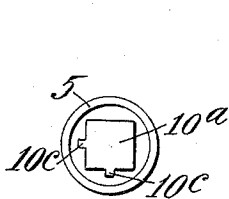


Fig. 8.

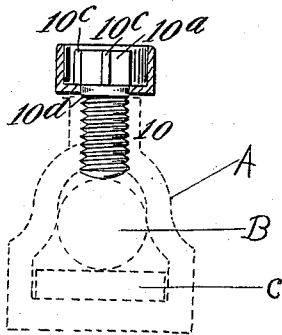


Fig. 7.

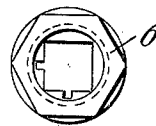


Fig. 9.

Witnesses,

*H. M. Neff*  
*Nellie G. Daniels*

Inventor,  
*John W. Champion,*  
By *[Signature]*

Attorney.

# UNITED STATES PATENT OFFICE.

JOHN W. CHAMPION, OF DENVER, COLORADO.

## SAFETY NUT AND BOLT-HEAD.

SPECIFICATION forming part of Letters Patent No. 641,191, dated January 9, 1900.

Application filed April 22, 1899. Serial No. 714,067. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN W. CHAMPION, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Safety Nuts and Bolt-Heads; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in safety nuts and bolt-heads, my object being to provide a device of this class possessing features making it practically impossible to loosen the bolt or nut by the use of an ordinary wrench or tool; and to this end the invention consists of the features hereinafter described and claimed, all of which will be fully understood by reference to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a section taken through my improved nut applied to an ordinary bolt. Fig. 2 is a top view of the nut and rotary shield or sleeve shown in detail. Fig. 3 shows the sleeve detached from the nut. Fig. 4 shows the nut and protecting-sleeve, each provided with a tongue. Fig. 5 is a section taken through the same shown in connection with an ordinary bolt and a special wrench or tool for operating the nut, the said tool being provided with counterpart grooves to fit the tongues of the nut. Fig. 6 is an underneath view of the construction shown in Fig. 5 with the bolt detached. Fig. 7 illustrates the bolt-head construction shown with the protecting-sleeve, which is sectionized. Fig. 8 is a top view of the same. Fig. 9 is a top view showing the wrench applied to the bolt-head.

My improvement possesses two distinguishing features—namely, the sleeve 5, surrounding the nut or bolt-head, and the tongues formed on the nut or bolt-head and also upon the sleeve when desired, making it necessary to have a specially-constructed wrench or tool 6, adapted to pass between the nut or bolt-

head and the sleeve and also provided with counterpart grooves in order to unscrew the nut or bolt.

Referring first to the construction shown in Fig. 1, the nut 7 is screwed upon an ordinary bolt 8, the nut being provided with tongues 7<sup>a</sup>. The lower part of the sleeve is flanged, as shown at 5<sup>a</sup>, and the nut shouldered to lock the sleeve in place between the nut and the part to which the nut is applied, said part being indicated by dotted lines in Fig. 1. The reduced portion 7<sup>c</sup> of the nut projects a short distance below the flange of the sleeve, whereby the nut may be screwed tightly against its engaging part without locking the sleeve, which is free to revolve at all times, thus making it impossible to unscrew the nut by applying a pipe-wrench to the sleeve.

In the construction shown in Figs. 4 and 6 the sleeve is provided with an interiorly-projecting tongue 5<sup>c</sup>. The sleeve should project beyond the nut in order to make the latter more secure against being turned or operated. The nut is applied and removed by the employment of a specially-constructed wrench or tool 6, having a collar 6<sup>a</sup>, adapted to pass between the nut 7 and the sleeve 5 and provided with grooves adapted to fit the tongues in the nut or sleeve, or both, as the case may be. If there is a tongue on the sleeve, the collar of the wrench is provided with an exterior groove. If the tongue is on the nut, the said collar is provided with an interior groove, and if there is a tongue on both the sleeve and the nut, as shown in Figs. 4 and 6, the wrench is provided with both interior and exterior counterpart grooves. The portion 6<sup>c</sup> of the wrench projecting beyond the sleeve is preferably angular, as indicated by dotted lines in Fig. 6, to permit the use of an ordinary wrench in turning the same.

In Figs. 7, 8, and 9 a bolt 10, provided with a square head 10<sup>a</sup>, having tongues 10<sup>c</sup>, is shown. The sleeve 5 is held in place by the bolt-head, which is provided with an unthreaded neck 10<sup>d</sup>, projecting through the opening surrounded by the flange of the sleeve far enough to prevent the clamping of the sleeve tightly between the bolt and the part to which the bolt is applied, thus allowing

the sleeve to turn freely. In Fig. 9 the wrench 6 is shown in connection with the bolt-head and the protecting-sleeve.

In Figs. 1 and 5 of the drawings the parts 5 E and F, located between the bolt-head and my improved nut, are indicated in dotted lines.

In Fig. 7 my improved construction of bolt is shown in connection with a clamp A for use on a bicycle-saddle. In this construction 10 the bolt is screwed tightly against the rod or projection B, attached to the bicycle-frame. The clamp A, the projection B, and the saddle-spring C are indicated by dotted lines.

15 It must be understood that I do not limit the use of the invention to the uses illustrated in the drawings, as I am aware that the invention will be found useful in many other relations.

20 Having thus described my invention, what I claim is—

1. The combination of a nut or bolt-head, and a safety-sleeve surrounding the same, the sleeve having a bottom flange and the nut or 25 bolt-head being constructed to hold the flange in place, the nut or bolt-head being also provided with a neck projecting beyond the flange to prevent the clamping of the sleeve, whereby the latter is allowed to turn freely 30 when in use.

2. The combination of a nut or bolt-head, a safety-sleeve surrounding the same and held

in place thereby, the nut or bolt-head being provided with one or more tongues and means to prevent the locking of the sleeve against 35 independent revoluble action.

3. The combination of a nut or bolt-head, a surrounding revoluble safety-sleeve, the nut or bolt-head and the sleeve being each provided with one or more tongues, and means 40 to prevent the locking of the sleeve against revoluble action.

4. The combination of a nut or bolt-head, a revoluble safety-sleeve, means to prevent the locking of the sleeve against independent 45 revoluble action and a tool adapted to be inserted between the sleeve and the nut or bolt-head for turning the latter.

5. The combination of a nut or bolt-head, a revoluble safety-sleeve, means to prevent 50 the locking of the sleeve against independent revoluble action and a tool adapted to be inserted between the sleeve and the nut or bolt-head for turning the latter, the tool and the nut or bolt-head being respectively provided 55 with counterpart tongues and grooves for the purpose set forth.

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

JOHN W. CHAMPION.

Witnesses:

A. J. O'BRIEN,  
NELLIE G. DANIELS.