

(No Model.)

W. BROCK & F. W. VETTER.
NUT LOCK.

No. 424,853.

Patented Apr. 1, 1890.

Fig. 1.

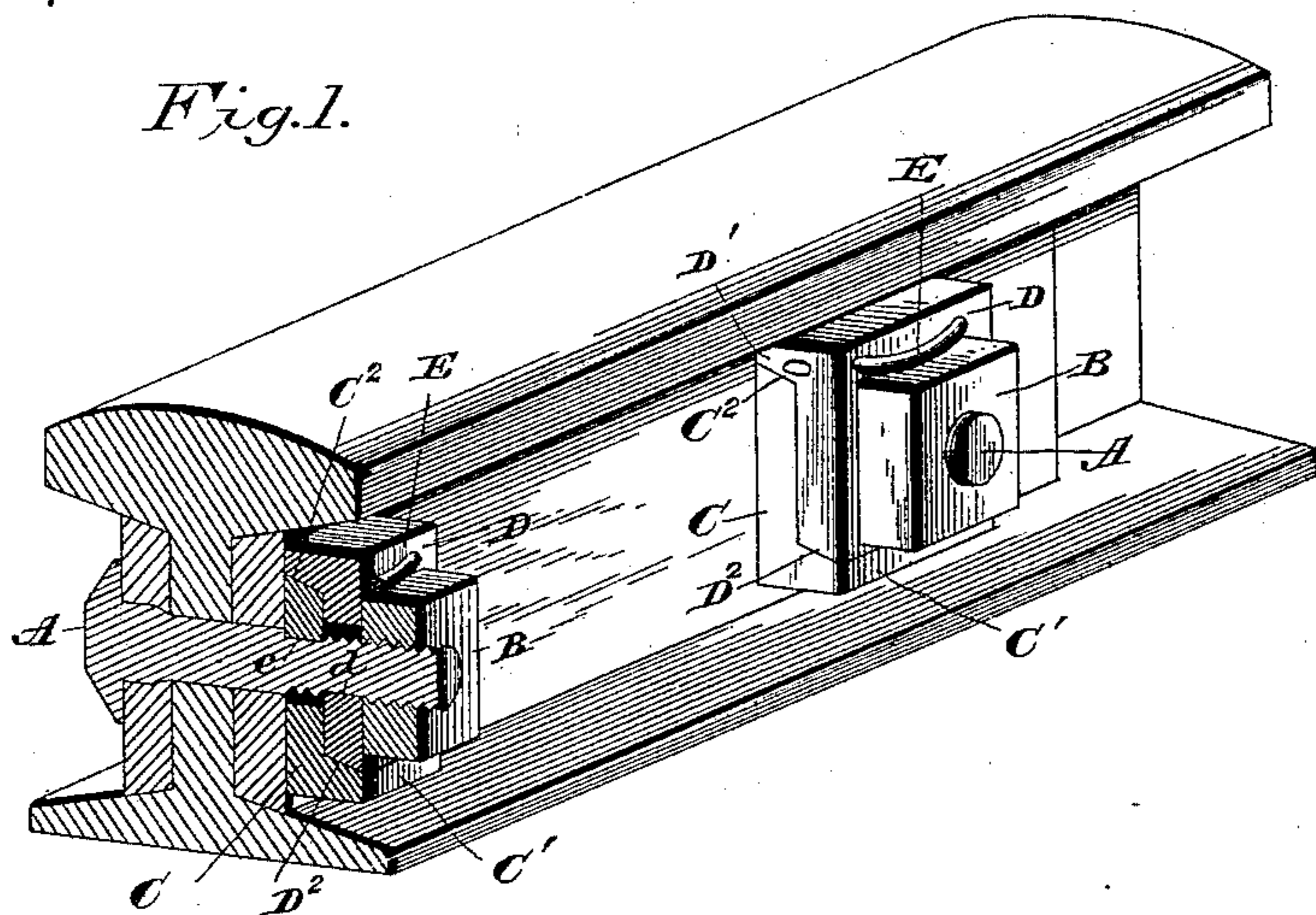


Fig. 2.

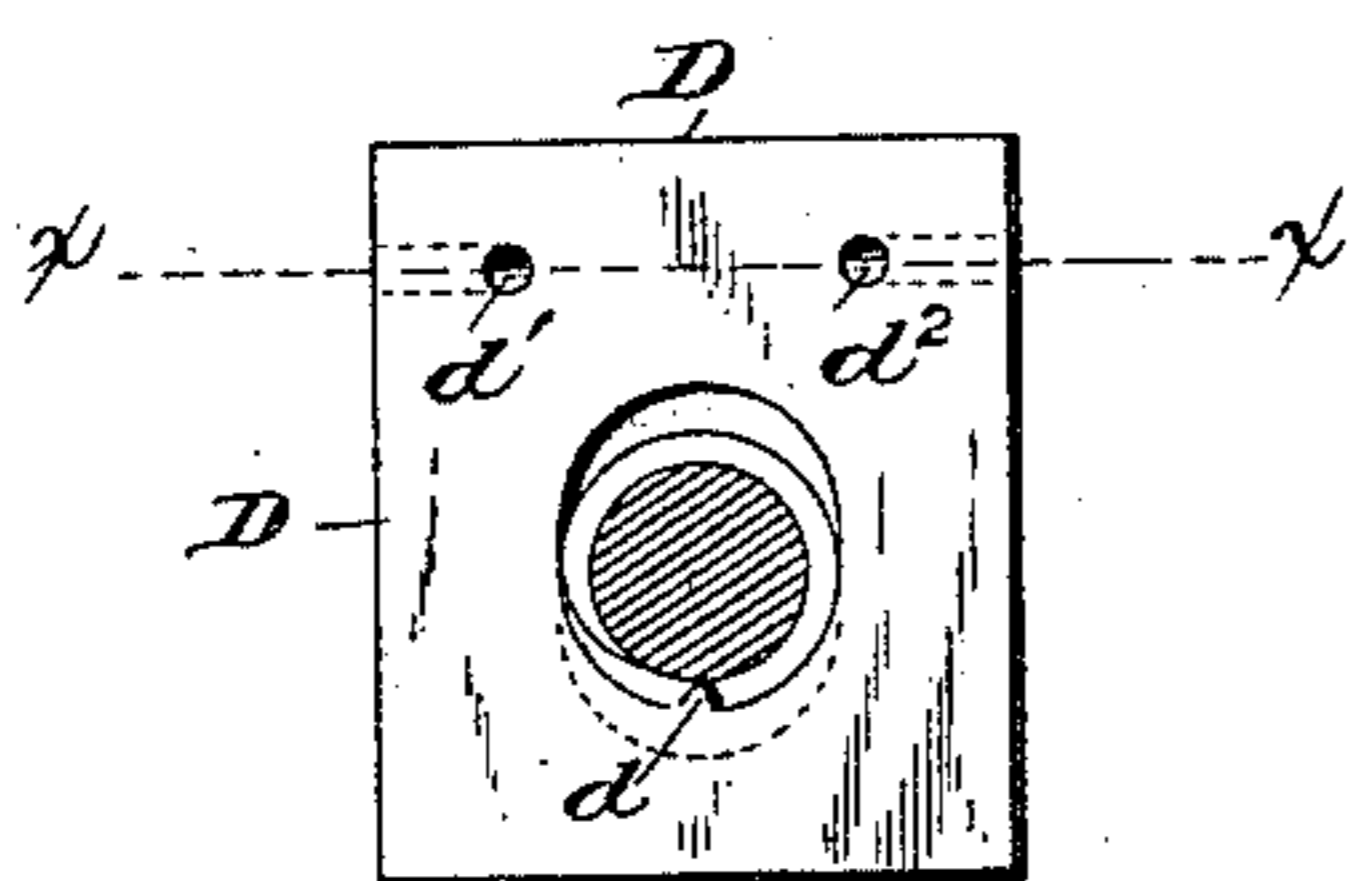


Fig. 3.

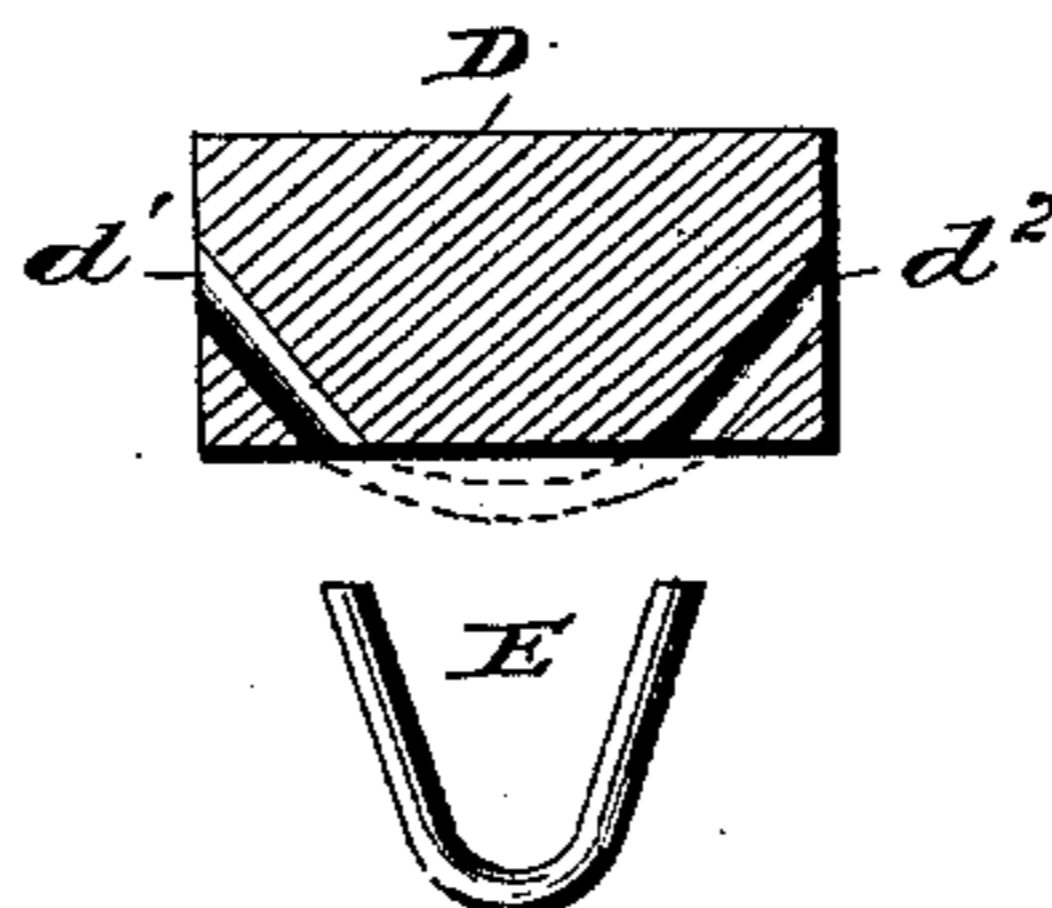
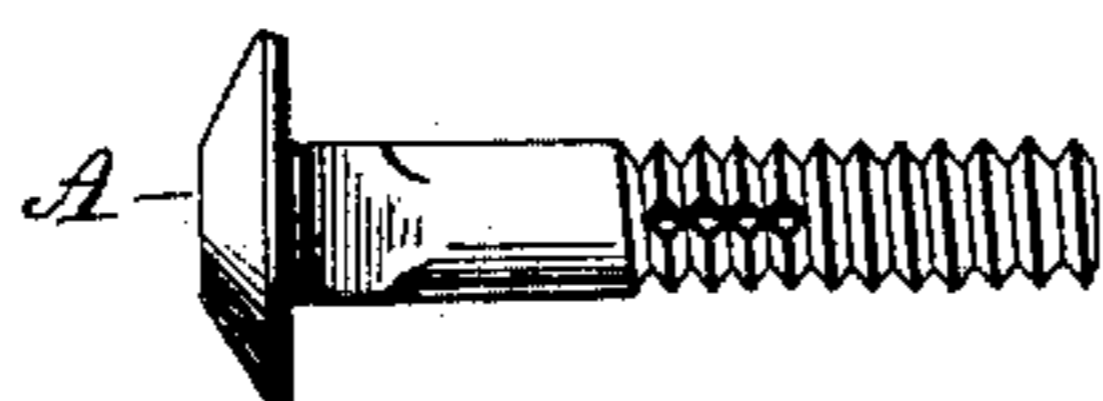


Fig. 4.



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Witnesses

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By his Attorney

UNITED STATES PATENT OFFICE.

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NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 424,853, dated April 1, 1890.

Application filed January 11, 1890. Serial No. 336,672. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM BROCK and FREDRICK WILLIAM VETTER, citizens of the United States of America, residing at Puxico, in the county of Stoddard and State of Missouri, have invented certain new and useful Improvements in Nut-Locks; and we 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in nut-locks; and it consists in the employment of two washers or jam-plates which have projecting portions which are inclined and adapted to engage the inclined edges of said washers or jam-plates and force knife-edges formed in the openings in said washers into the threads of the bolt, and a key for locking the nut against rotation, as will be hereinafter fully set forth.

The invention further consists in the construction and combination of the parts, as particularly pointed out in the claims.

In the drawings accompanying and forming part of this specification, Figure 1 is a perspective view, one end thereof being in section. Fig. 2 is a side view of the outer washer or jam-plate, the bolt upon which it is placed being shown in section. Fig. 3 is a sectional view taken through the line xx of Fig. 2, also a view of the key detached. Fig. 4 is a side view of a bolt to which the jam-plates have been applied.

For the purpose of illustrating our invention we have shown it applied to the fish-plate of a railroad-rail.

A refers to a bolt which before the application of our invention thereto was of ordinary construction, and B refers to the nut, which has straight sides.

C refers to the inner washer or jam-plate, which has a flat or smooth inner face, especially when the bolt is held from rotation at the end near the head thereof, and when the bolt is not so held the inner face of the washer or jam-plate C may have formed thereon projecting pins or ridges which will enter or

engage the portion against which it contacts. The jam-plate or washer C has formed integrally therewith a projecting portion C' , the face thereof adjacent to the bolt being inclined or beveled, as shown, while the edge C^2 is correspondingly inclined or beveled. Centrally the washer or jam-plate C has an opening through which the bolt A passes, and said opening is oblong or of greater diameter than the bolt, so that the washer C can move thereon, and this opening nearest the inclined edge C^2 is intersected by a projecting wedge-shaped or knife-edge portion c , which is adapted to cut and enter the threads of the bolt.

D refers to the second or top washer or jam-plate, which is similar in construction to the washer or jam-plate C, D' being the inclined projecting portion, D^2 the inclined edge, and d the knife-edge. This outer washer is also provided with outwardly-inclined perforations d' d^2 , in which the ends of a V-shaped locking-key E are placed after the nut has been screwed home, so that the projecting portion of the key will lie over one edge of the nut and prevent the same turning. It will also be observed that when the key E is driven in place the ends thereof will be spread, so that said key cannot be accidentally removed, but can be withdrawn to permit the removal of the nut by employing a suitable implement which can be inserted between the outer face of the plate D and beneath the curved portion of the key.

In operation the washers C and D are placed over the bolt, so that the inclined projecting portions will lie partially over the inclined ends. The nut is then placed upon the projecting end of the bolt and screwed home, which operation will press the washers together and cause the knife-edges to cut into the threads on opposite sides of the bolt, and when the faces of the washers are brought together the V-shaped key is driven in place, which holds the nut against rotation.

It is obvious that the foregoing nut-lock can be modified without departing from the spirit of our invention, as the opening in one of the washers may be of such a size as to fit over the bolt and one of the knife-edges dispensed with. One of the inclined projecting portions on one of the washers, as well as the inclined face on the adjacent washer against

which it abuts, can be dispensed with, and the key may be passed through perforations in both of the plates, so as to lock them together.

5 Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a nut-lock, the combination, with a bolt and nut, of washers or jam-plates, one side thereof having a projecting inclined portion which abuts against an inclined edge of the adjacent washer or jam-plate, said washer or jam-plate having openings through which the bolt passes, one of said plates having a knife-edge for engaging with the bolt, and a key attachable to the outer washer or jam-plate for preventing the rotation of the nut, substantially as set forth.

2. In a nut-lock, a plate or washer C, having an opening through which the bolt passes and an inclined edge, in combination with an outer plate or washer having an opening with an inwardly-extending knife-edge, as *d*, and a projecting portion *D'*, the inner face of which is inclined, and diverging perforations *d'* *d*² for the reception of the ends of a locking-key, substantially as shown, and for the purpose set forth.

3. In a nut-lock, the combination of the washers CD, which are similarly constructed, each having oblong central openings with wedge-shaped projecting portions, inclined

edges and extended portions with inclined faces, the washers being so disposed upon the bolt that they will ride upon the inclined faces and force the wedge-shaped portions which intersect the openings into the bolt, the outer washer having perforations for retaining a locking-key in place, said locking-key being adapted to engage with one of the edges of the nut, substantially as shown, and for the purpose set forth.

4. In a nut-lock, the combination, with a bolt and nut, of washers or jam-plates, one side thereof having a projecting inclined portion which abuts against an inclined edge of the adjacent washer or jam-plate, said washers or jam-plates having openings through which the bolt passes, the outer washer or jam-plate having diverging perforations, and a locking-key made up of a bent bar adapted to be forced into said perforations and retained thereby, so that the central portion of the key will abut against one of the faces of the nut to be locked, for the purpose set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

WM. BROCK.

FREDERICK WILLIAM VETTER.

Witnesses:

J. W. FRISTOE,

THEO. BESEL.