(No Model.)

J. C. BROWN.

NUT LOCK.

No. 509,870. Patented Dec. 5, 1893.

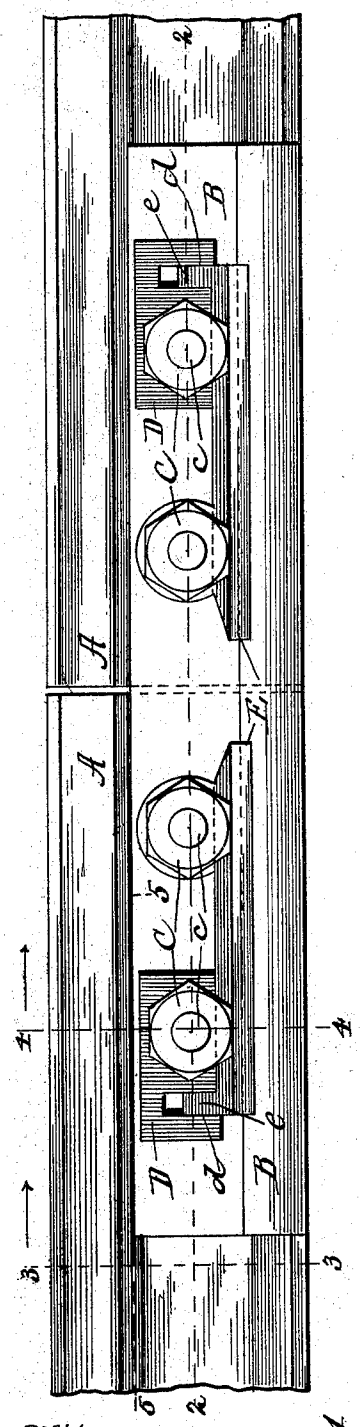

Fig 1

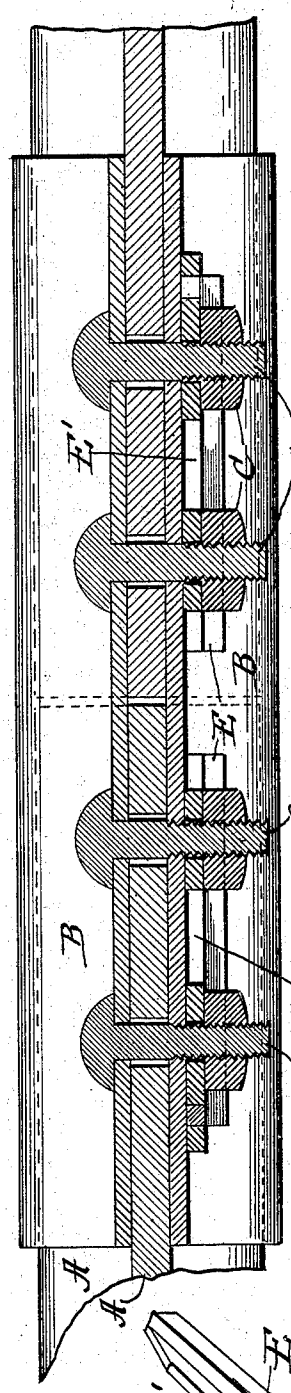

Fig 2

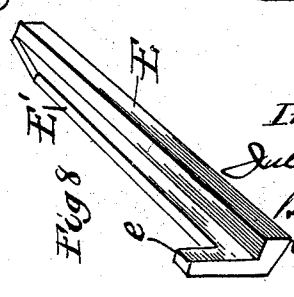

Fig 8

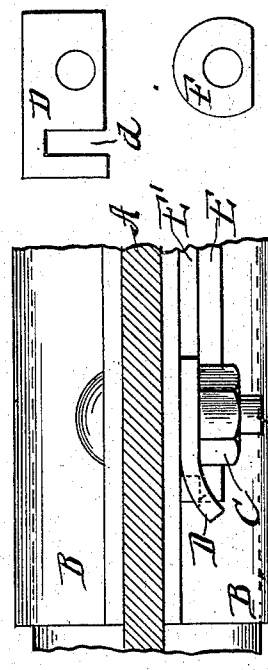

Fig 5

Fig 6

Fig 7

Fig 4

Fig 3

Witnesses
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JULIUS C. BROWN, OF SANTA BARBARA, CALIFORNIA.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 509,870, dated December 5, 1893.

Application filed August 14, 1893. Serial No. 483,057. (No model.)

To all whom it may concern:

Be it known that I, JULIUS C. BROWN, a citizen of the United States, residing at Santa Barbara, in the county of Santa Barbara and State of California, have invented certain new and useful Improvements in Nut-Locks; 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 of reference marked thereon, which form a part of this specification.

The object of my invention is to provide a key for locking the nut, which shall itself be positively held in place by a peculiar form of washer and which may be used in conjunction with any of the ordinary forms of nuts.

The present invention is an improvement on the construction described in Letters Patent No. 484,731, issued to me October 18, 1892, in which the key is held in position by friction, and a special form of nut is required.

My invention consists of a key adapted to slide between the lower side of the nut and the fish-plate, entirely filling the space between the two so that the nut cannot turn, the key having a flange, or rib, extending upwardly back of the nut, and a lug adapted to engage a slotted washer, of peculiar form.

In the drawings, Figure 1, is a side elevation of portions of two railway rails, united by fish-plates, upon which my nut locking device is used. Fig. 2, is a plan section of the same on the line 2—2 of Fig. 1. Fig. 3, is a transverse section on the line 3—3 of Fig. 1. Fig. 4, is a similar view on the line 4—4 of Fig. 1. Fig. 5, is a plan section on the line 5—5 of Fig. 1. Figs. 6 and 7, are elevations of the two forms of washers used. Fig. 8, is a view, in perspective, of the locking key.

Ordinary railway rails are shown in the accompanying drawings at A, and fish-plates of the usual construction at B. The fish-plates are held to the rails by the bolts *c*, and nuts C, in the usual manner. These nuts may be square, or they may be hexagonal as shown, or of any other form.

The key piece E, is adapted to fit within the angle of the fish-plate and fill the space between the lower surface of the nut C and the fish-plate, and having an upwardly projecting flange E′, adapted to lie between the nut and the vertical portion of the fish-plate. At one end of the key piece a lug *e*, projects upwardly from the flange E′. A washer D, is placed upon the bolt, back of the nut. This lug projects beyond the nut at one side and is vertically slotted, as shown at *d*, to receive the lug *e*. The relative proportions of the parts are such that the upper edge of the flange E′, lies against the lower edge of the washer D. The washer D, is manufactured with its extended side, or end, curved outwardly as shown in Fig. 5. The nut C, having been turned up on the bolt *c*, the key piece E is slid into place, and by a blow of the hammer the curved portion of the washer D, is flattened against the fish-plate, thus bringing the lug *e*, into engagement with the slot *d*. The flange E′ prevents the key piece from slipping out of place. For convenience of adjustment the key piece E, is preferably made with its flange E′ beveled off at the forward, or toe end, as shown.

The key piece E may be of any desired length so as to adapt it for use with one nut only, or any number of nuts lying near together. As shown it is of sufficient length to engage two nuts. When so used the keys should be made as "rights" and "lefts," so that one may be adjusted from one end and the other from the other end of the fish-plate. When used with a multiple number of nuts the washers, except the one at the rearward, or heel end, of the key piece, may be of the ordinary circular form F, with one side clipped as shown. Should a strap be used in place of the fish-plate, that is, a strip of metal lying along the web of the rail only, and not extending laterally over the foot, the key will fit into the angle formed by the outer surface of the strap and the upper surface of the foot piece, the situation being, so far as the application of my nut-lock is concerned, the same in both forms of construction.

By the form of construction described I secure a positive lock, both for the nut and the key piece, while providing for the easy separation of the parts, as the slotted end of the washer may be readily bent so as to release

the key piece, by the use of a lever. This operation will not injure the washer so that the parts may be used an indefinite number of times.

I claim—

In a nut-lock for use in conjunction with fish-plates, the combination with a key-piece adapted to lie within the angle of a fish-plate, and having a flange to lie behind the nut, and a lug projecting upwardly from the flange at one end, of a washer extended in one direction and having such extended portion transversely slotted to receive the lug of the key piece, substantially as described and for the purpose specified.

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

JULIUS C. BROWN.

Witnesses:
M. H. L. WING,
L. K. GILLSON.