(No Model.)

H. H. HAM, Jr.

NUT LOCK.

No. 330,394. Patented Nov. 17, 1885.

Fig. 1.

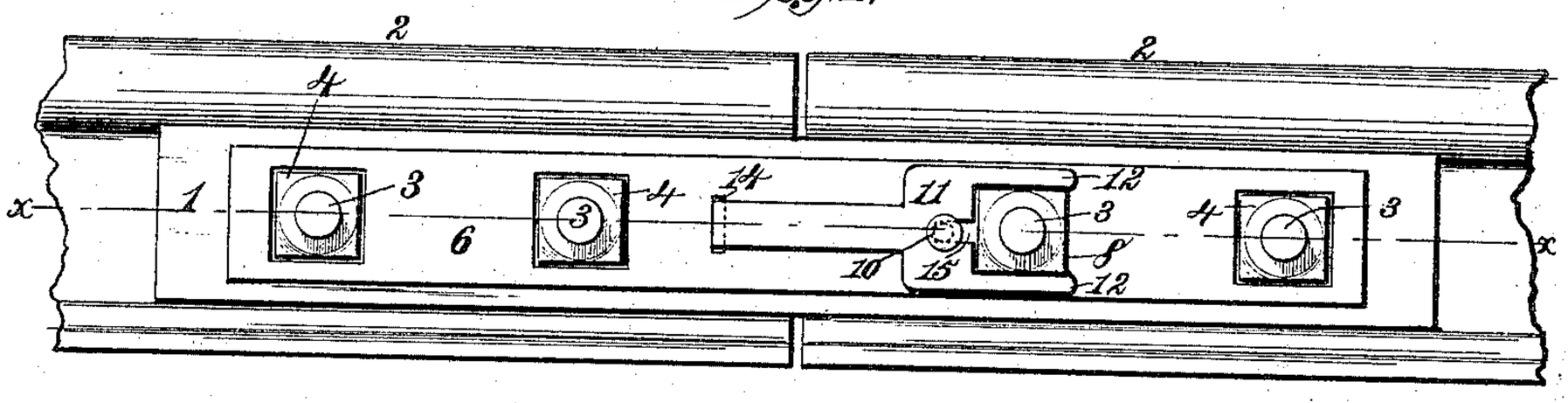


Fig. 2.

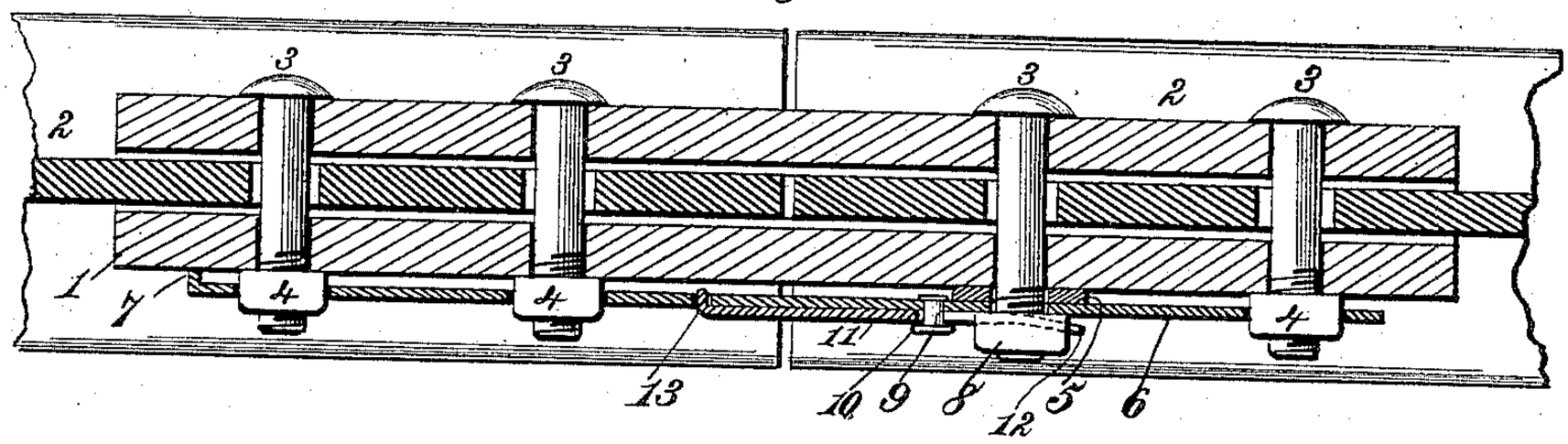


Fig. 3.

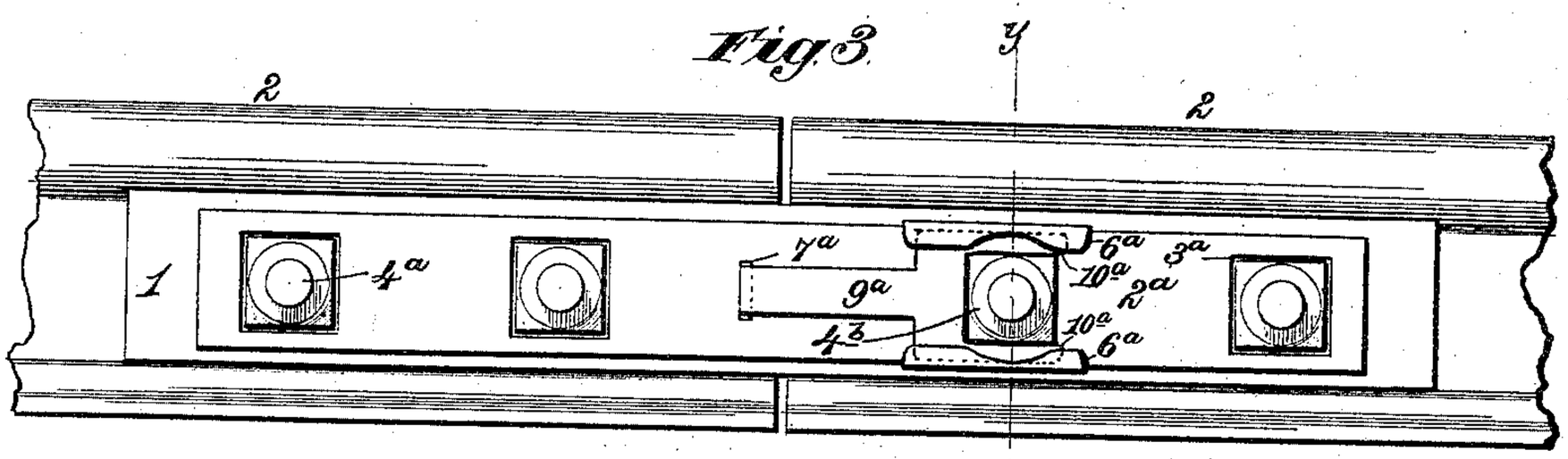
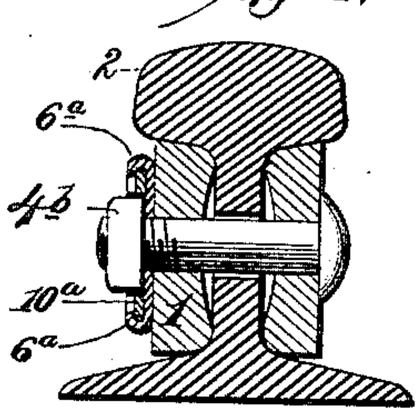


Fig. 4.



Witnesses.
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UNITED STATES PATENT OFFICE.

HENRY H. HAM, JR., OF PORTSMOUTH, NEW HAMPSHIRE.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 330,394, dated November 17, 1885.

Application filed January 22, 1885. Serial No. 153,642. (No model.)

To all whom it may concern:

Be it known that I, HENRY H. HAM, Jr., a citizen of the United States, residing at Portsmouth, Rockingham county, New Hampshire, have invented new and useful Improvements in Nut-Locks, of which the following is a specification.

My invention relates to nut-locks, and is especially adapted for use upon the fish-plates employed in securing the joints of railway-rails.

The purpose of my invention is to produce a nut-lock which may be applied or detached with the greatest ease and by any person, whether a skilled laborer or otherwise, which is adapted to every form of nut, is cheap, strong, occupies the minimum space, and requires no alteration of fish-plates, bolts, or nuts.

The invention consists in the several novel features of construction and combinations of parts hereinafter fully set forth, and definitely pointed out in the claims.

Referring to the drawings, Figure 1 is an elevation showing the nut-lock in place; Fig. 2, a central longitudinal section. Fig. 3 is an elevation showing a modified construction. Fig. 4 is a transverse section in the line *x x*, Fig. 3.

In the said drawings, the reference-numeral 1 denotes the fish-plate, which is of the ordinary construction. This plate is fastened to the rail 2 by bolts 3, having nuts 4 turned thereon in the usual manner, and these nuts are locked in the manner following: A washer, 5, being placed upon the projecting end of one of said bolts, the nuts are turned on, and a plate, 6, having rectangular openings, which embrace said nuts, is laid upon the fish-plate, one end of said plate being bent over, as shown at 7, to prevent the body of the plate from coming into contact with the fish-plate. The locking-plate 6 is supported by the washer 5 and by its bent end 7, so that the openings in the nut-locking plate embrace the nuts 4 at about the middle of their thickness. The washer 5 is placed upon any one of the bolts, and the bolt upon which it is placed passes through a perforation in the plate 6 large enough to freely admit said bolt, upon the threaded end of which a nut, 8, is turned until it comes into contact with the nut-locking plate 6. Upon the latter is mounted a pin or bolt, 9, near the nut 8, said pin having a broad head, 10, lying a little above the plate 6. Upon the latter is laid a plate, 11, having a fork, 12, on its end, which embraces the nut 8. The end of the plate 11 is bent over, as shown at 13, and enters a slot, 14, in the locking-plate 6, and the body of said plate has a slot, 15, opening into the fork of said plate, and embracing the bolt or pin 9, whereby the detachable plate 11 is held. The fork 12 has its branches bent slightly outward, as shown in Fig. 2, so that the nut 8 is firmly locked when said fork is placed thereon.

I have shown in Figs. 3 and 4 a modified construction in which the nut-locking plate 2^a is composed of a strip of iron of suitable dimensions, having rectangular openings 3^a of such size as to admit the nuts which are turned upon the bolts 4^a fastening the fish-plate. The number of these apertures is one less than the whole number of such bolts, and in place of the final opening a round hole is made for the end of the bolt, the nut being turned thereon and screwed down upon the plate 2^a. Upon the opposite edges of the plate 2^a, adjacent to the circular opening, are formed lugs or ears 6^a, which may be composed of the metal of the plate itself, bent over in the manner shown. Upon one side of the said opening is formed a vertical slot, 7^a, which receives the bent end of a locking-fork, 9^a, which is similar to the end 13 in Fig. 2, the divided or branched end 10^a thereof being of such size that it may be easily slipped under the lugs 6^a, while the opening between the forks is of sufficient width to embrace the nut upon the bolt, which lies in the circular opening, the fork being securely held in engagement therewith by the lugs 6^a and by the bent end of its shank, which is dropped into the slot 7^a in the locking-plate.

In applying the nut-lock shown in Figs. 1 and 2 the fish-plate is placed in position, and the nuts 4 are turned upon its fastening-bolts 3, the bolt carrying the washer 5 being left without a fastening-nut. The said washer being placed upon this bolt, the locking-plate 6 is set in place with the nuts turned on, embraced by the rectangular openings in said locking-plate. A nut, 8, is then turned upon the re-

maining bolt until it draws the plate down against the washer 5, when the plate 11 is applied, its slot 15 engaging with the bolt or pin 9, and its fork 12 embracing the nut 8. When in place, the bent end 13 of said plate snaps into the slot 14 in the locking-plate and securely holds the parts. In detaching the plate the end 13 is lifted out of the slot 14 and the fork 12 is withdrawn from the nut, which can then be removed, thereby releasing the locking-plate 6.

In the modified construction shown in Figs. 3 and 4 the operation is similar, the fish-plate being bolted in place, the nut of that bolt which lies in the circular opening being left off. The plate 2^a is then applied, the rectangular openings 3^a receiving the nuts of the corresponding bolts. The nut 4^b is then turned upon the remaining bolt lying in said circular opening, the plate 9^a is slipped in place, and its bent end dropped into the slot 7^a.

The entire operation is extremely simple, occupies the least possible time, and may be performed by any person.

The nut-lock is detached by a reversal of the operation described. The bent end of the fork is drawn out of the slot 7^a and the fork removed. The nut 4^b is then turned off, thereby releasing the entire plate.

What I claim is—

1. In a nut-lock, the combination, with a locking-plate having rectangular openings which receive the nuts of all the bolts save one, of a washer carried by said bolt beneath the locking-plate, a forked plate laid upon the locking-plate and embracing the nut turned on said bolt, a headed pin mounted on the locking-plate and engaging with a slot in the forked plate, and a slot in the locking-plate receiving a tang or angular end of the forked plate, substantially as described.

2. In a nut-lock, the combination, with a locking-plate having rectangular apertures, which receive the nuts of less than the entire number of bolts, of a detachable fork engaging with the remaining nut or nuts, said fork being held in place by lugs upon the plate, and by its bent end, which engages a slot in the latter, substantially as described.

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

HENRY H. HAM, JR.

Witnesses:
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A. F. HOWARD.