

No. 655,054.

Patented July 31, 1900.

A. M. BURLESON.

NUT LOCK.

(Application filed May 14, 1900.)

(No Model.)

Fig. 1.

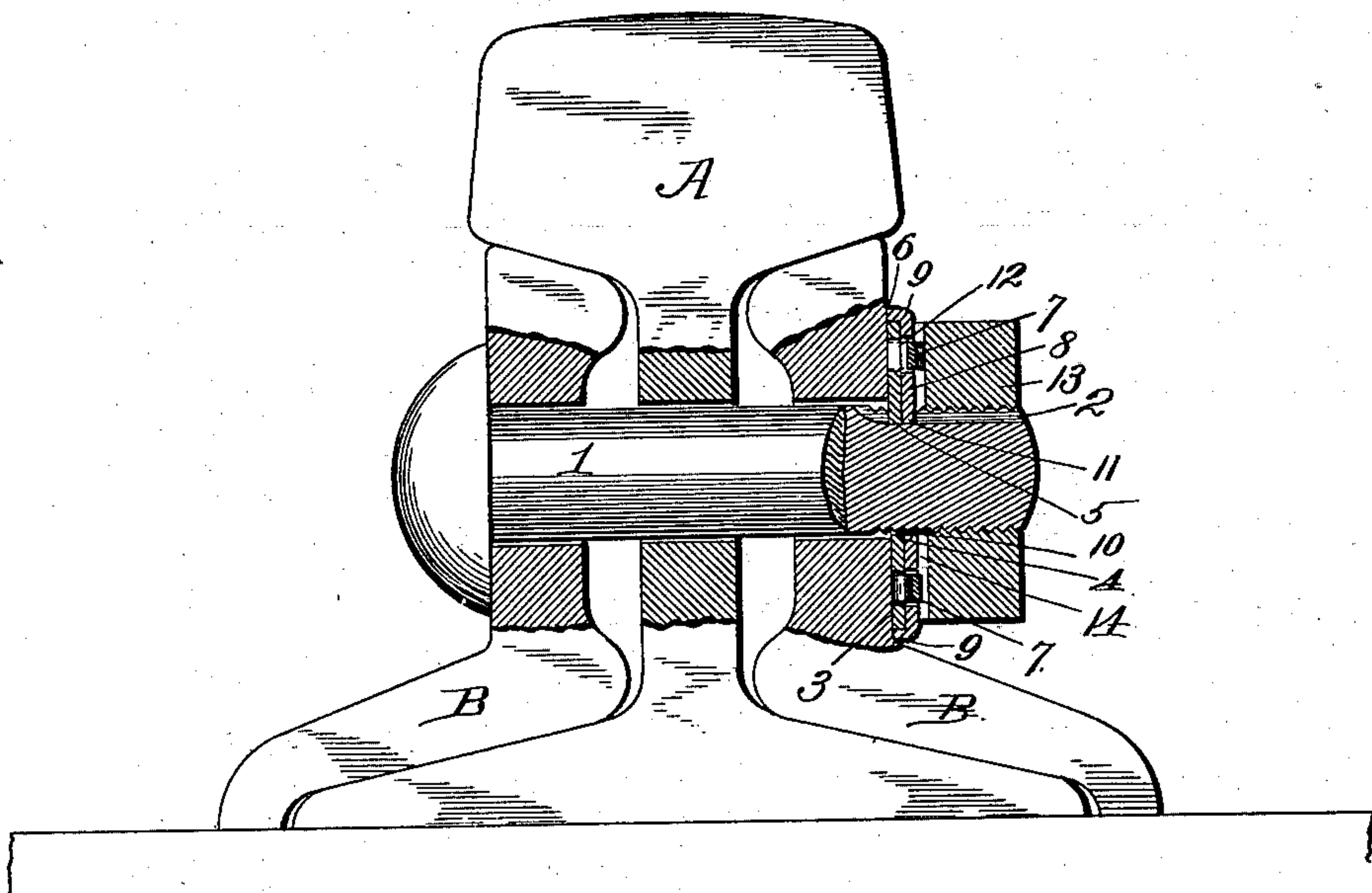


Fig. 2.

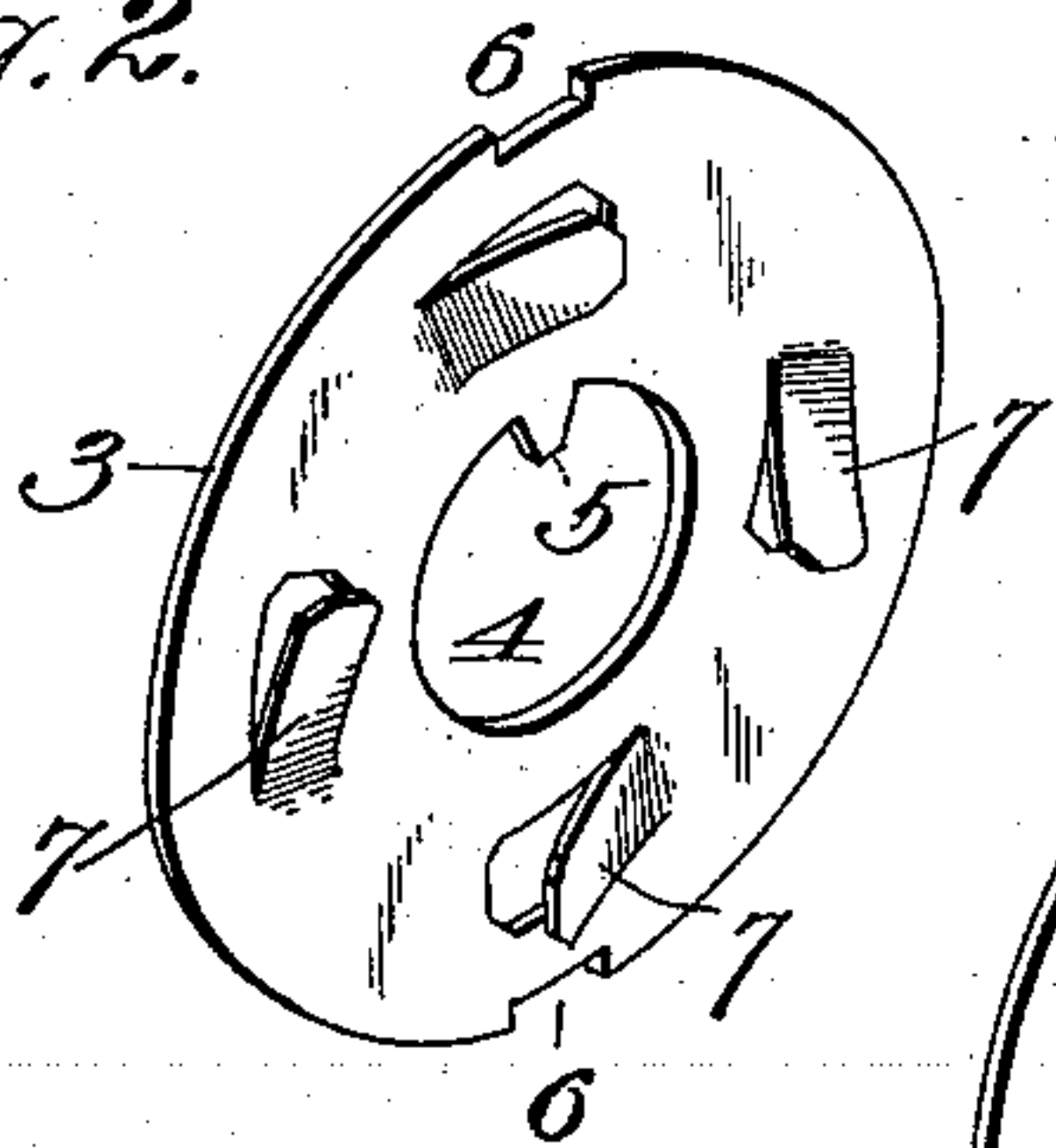


Fig. 3.

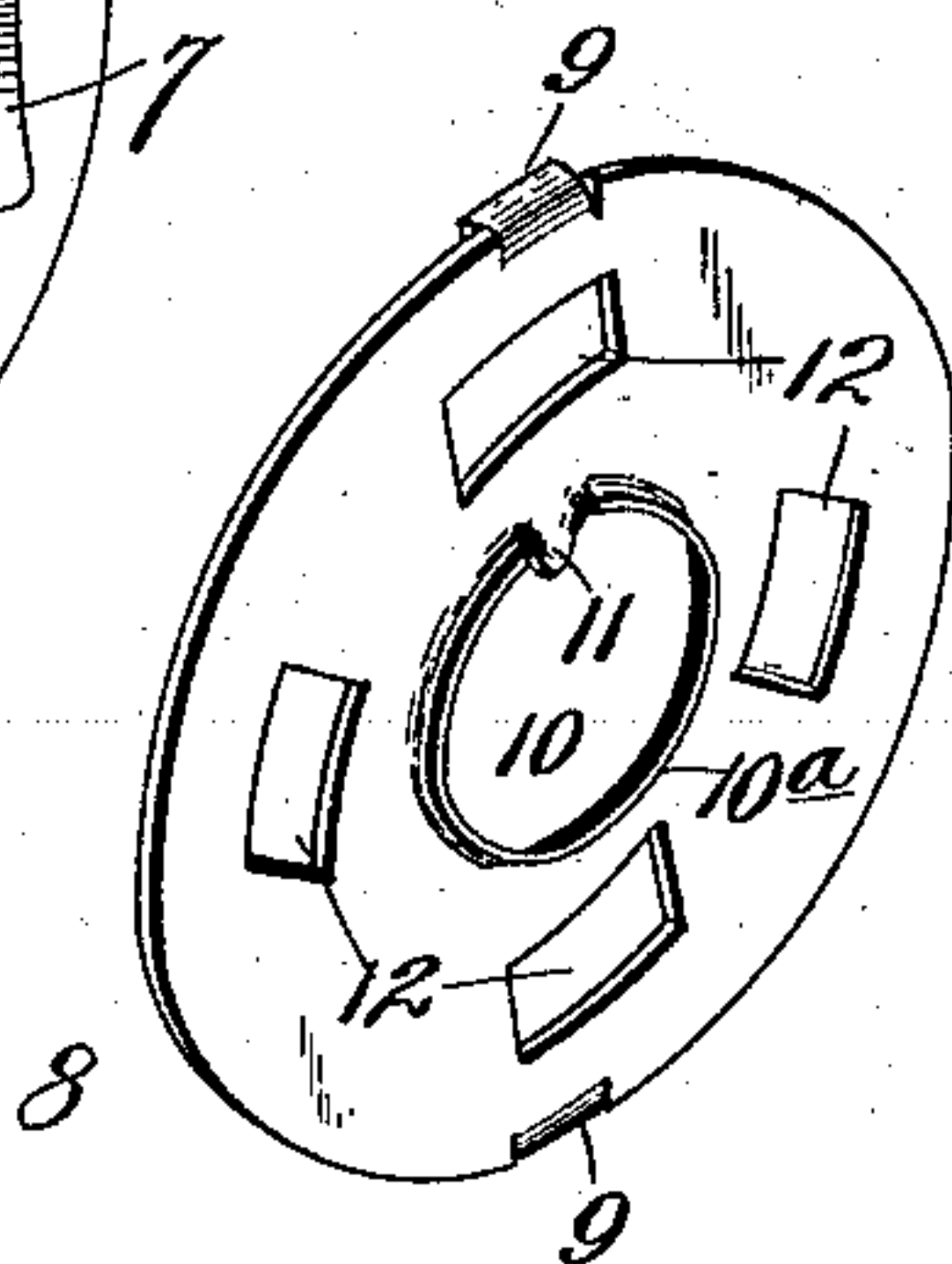
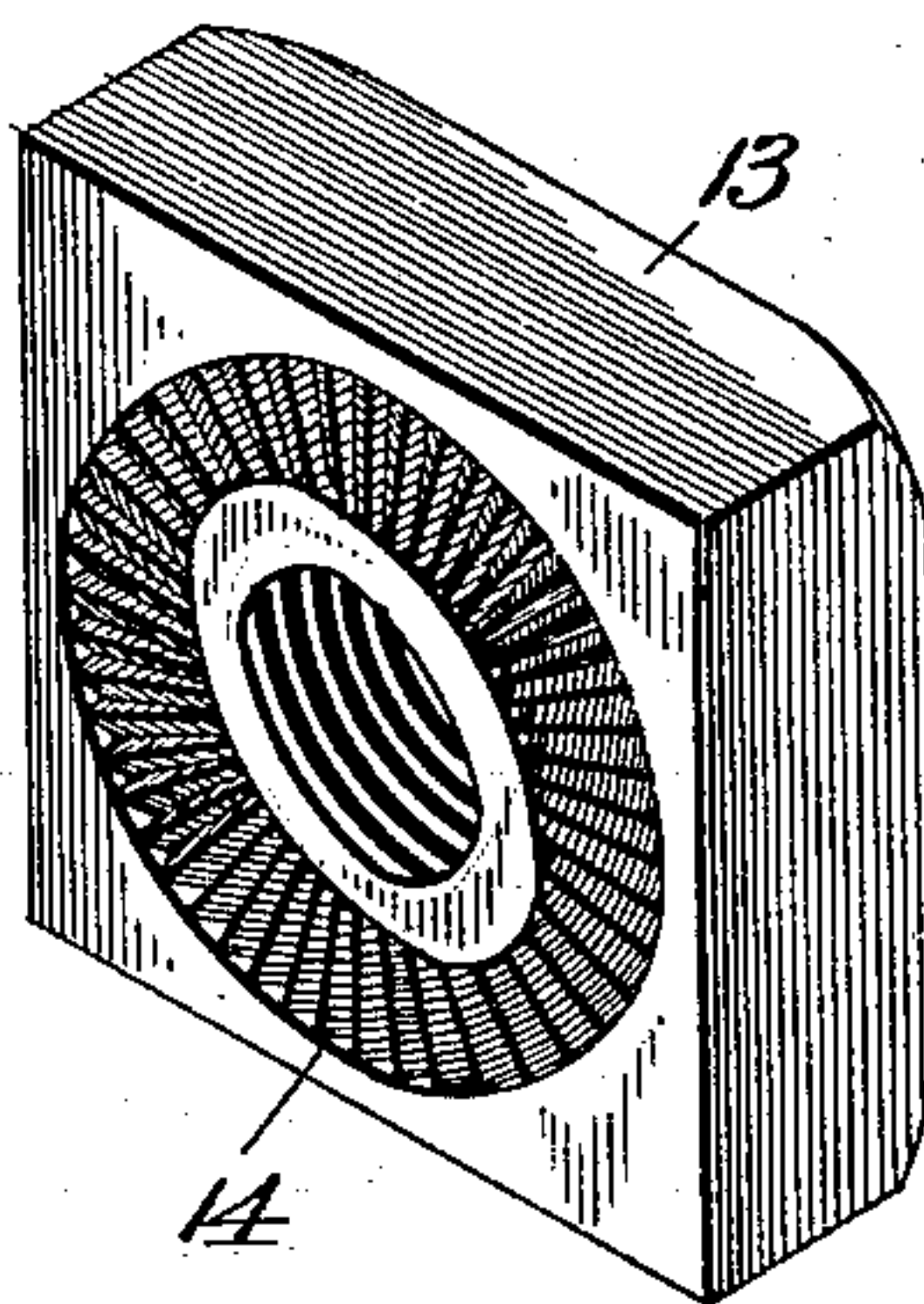


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

ANDREW M. BURLESON, OF KANSAS CITY, KANSAS.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 655,054, dated July 31, 1900.

Application filed May 14, 1900. Serial No. 16,573. (No model.)

To all whom it may concern:

Be it known that I, ANDREW M. BURLESON, a citizen of the United States, residing at Kansas City, Wyandotte county, Kansas, have
5 invented a new and useful Nut-Lock, of which the following is a specification.

My invention relates to nut-locks; and my object is to produce a device of this character of simple, durable, and cheap construction,
10 which can be used in rail-joint, bridge, and other constructions where reliable connections are of the greatest importance.

The invention consists in certain novel and peculiar features of construction and combination of parts, as hereinafter described and
15 claimed, and in order that the invention may be fully understood reference is to be had to the accompanying drawings, in which—

Figure 1 is a cross-sectional view of a rail-joint provided with a nut-lock embodying my invention. Figs. 2, 3, and 4 are perspective
20 views of the securing-plate, the clamping-washer, and the nut, respectively.

Referring to the drawings in detail, 1 designates the bolt, provided with a longitudinal groove 2 in its threaded portion, said groove
25 by preference being V-shaped in cross-section.

3 designates the nut-securing plate, the same being preferably of circular form and provided with a central opening 4 to receive the bolt, and a substantially V-shaped tongue
30 5 to fit snugly in the groove 2 of the bolt to prevent rotatable movement of the plate thereon. The plate is also provided with peripheral notches 6 and with a plurality of spring arms or lugs 7, projecting in the same direction and diagonally outward from the plate, being preferably stamped out of said
35 40 plate by means of a die.

8 designates the washer, of substantially, the same size and configuration as plate 3 and provided with lugs 9 to engage notches 6 of said plate to lock them from independent
45 movement. Said washer is provided with a central opening 10 and with a V-shaped tongue 11, projecting into said opening. In the formation of this washer it is flared outward slightly, as shown at 10^a, at its center
50 around opening 10, so that it can be easily fitted upon the bolt and for a purpose which hereinafter appears. The washer is also pro-

vided with a plurality of elongated openings 12, through which are adapted to project the spring arms or lugs 7 of the plate 3.

The nut 13 is of ordinary construction, except that it is provided with a circular series of ratchet-teeth 14 concentrically of its threaded portion.

In order to illustrate clearly the action and relation of the various parts composing this improved nut-lock, I have shown it in connection with a rail-joint, in which A designates a rail, and B B the fish-plates. The bolt 1 is fitted through the registering holes of the fish-plates and rail. The plate 3 is then slipped upon the bolt and against the contiguous fish-plate, the spring arms or lugs of the plate, of course, projecting outward and the tongue 5 engaging the groove of the bolt. Washer 8 is now slipped upon the bolt with its tongue 11 engaging groove 2. This construction constitutes, through the medium of the bolt, an interlocked connection with the plate 3, with which it is further interlocked by the engagement of lugs 9 with notches 6, the spring arms or lugs 7 also projecting outward through openings 12. The nut is now screwed home upon the bolt until it comes in contact with the flaring portion 10^a of the washer and with the spring arms or lugs 7. It is now given one or two extra turns with sufficient force to press the flaring portion 10^a back into the plane of its body portion. By this action the opening 10 is obviously diametrically decreased and its surrounding wall caused to bight or bind firmly and tightly upon the bolt, and as the same clamping action on the nut tends to slightly increase the width of tongue 11 the latter is caused to bind or bight firmly against the opposite walls of the V-shaped groove 2, and thereby prevent the slightest rotatable action of the plate and washer upon the bolt. The nut is locked reliably against back rotation, because of the engagement with its ratchet-toothed surface of the spring arms or lugs 7, and, furthermore, because of the heavy pressure exerted against the nut by that portion of the washer immediately surrounding the bolt-opening and which is held in the plane of the body portion of the washer by said nut. The principal function of the washer, however, is to prevent the nut from pressing against the plate 3, as such pressure

against the base of said spring-arms would tend to press the latter back into the plane of the body portion of the plate, and thus deaden or render them unreliable.

5 With the washer interposed between the plate and nut the latter can press only against the free ends of the spring-arms, and as said arms cannot be pressed clear back to the plane of the body portion of the plate they are al-
10 ways in operative condition.

From the above description it will be apparent that I have produced a nut-lock which embodies the features of advantage enumerated as desirable in the statement of inven-
15 tion, and it is to be understood that I reserve the right to make such changes as properly fall within the spirit and scope of the appended claims.

20 Having thus described the invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A nut-lock, comprising a grooved bolt, a plate thereon provided with outwardly-projecting spring-arms, a washer fitting upon the
25 bolt and provided with a tongue engaging said groove, and with openings through which said spring-arms project, and a nut screwed upon the bolt and provided with a circular series of ratchet-teeth adapted for engage-
30 ment with said spring-arms, substantially as described.

2. A nut-lock, comprising a grooved bolt, a plate thereon provided with outwardly-pro-

jecting spring-arms, a washer fitting upon the bolt and interlocked with said plate and pro- 35
vided with holes through which the spring-arms of the latter project, and with a tongue engaging the groove of the bolt, and a nut
40 screwed upon the bolt and provided with a circular series of ratchet-teeth, adapted for engagement with said spring-arms, substantially as described.

3. A nut-lock, comprising, a bolt having a groove intersecting its threads, a plate fitting thereon and provided with outwardly-project- 45
ing spring-arms, and with a tongue engaging said groove, a spring-metal washer fitting upon the bolt and having that portion immediately surrounding the latter flaring out-
50 ward, and provided with a tongue engaging said groove and also flaring outward slightly, and provided with openings through which said spring-arms project, and a nut provided
55 with a circular series of ratchet-teeth to engage said spring-arms, and adapted to press the flaring portion of the washer back into the plane of the body portion and thereby
60 cause the latter to bind tightly upon the bolt and against the opposite walls of the groove, substantially as described.

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

ANDREW M. BURLESON.

Witnesses:

H. C. RODGERS,
G. Y. THORPE.