

No. 712,748.

Patented Nov. 4, 1902.

G. W. WHITEHURST.

NUT LOCK.

(Application filed Mar. 6, 1902.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

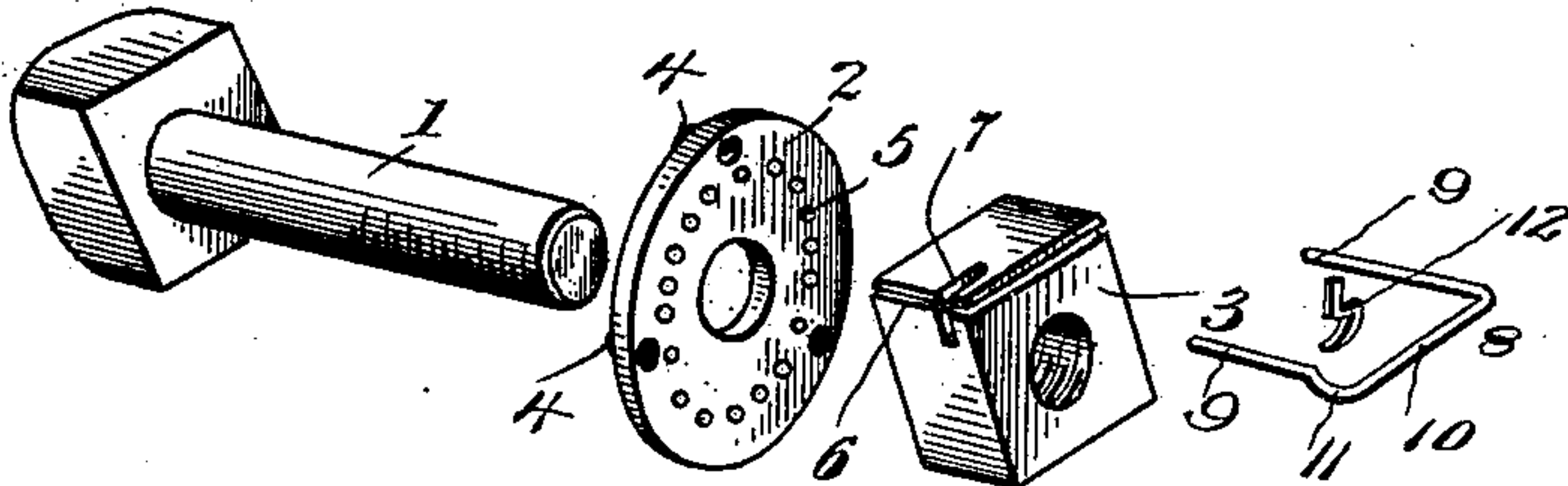


Fig. 2.

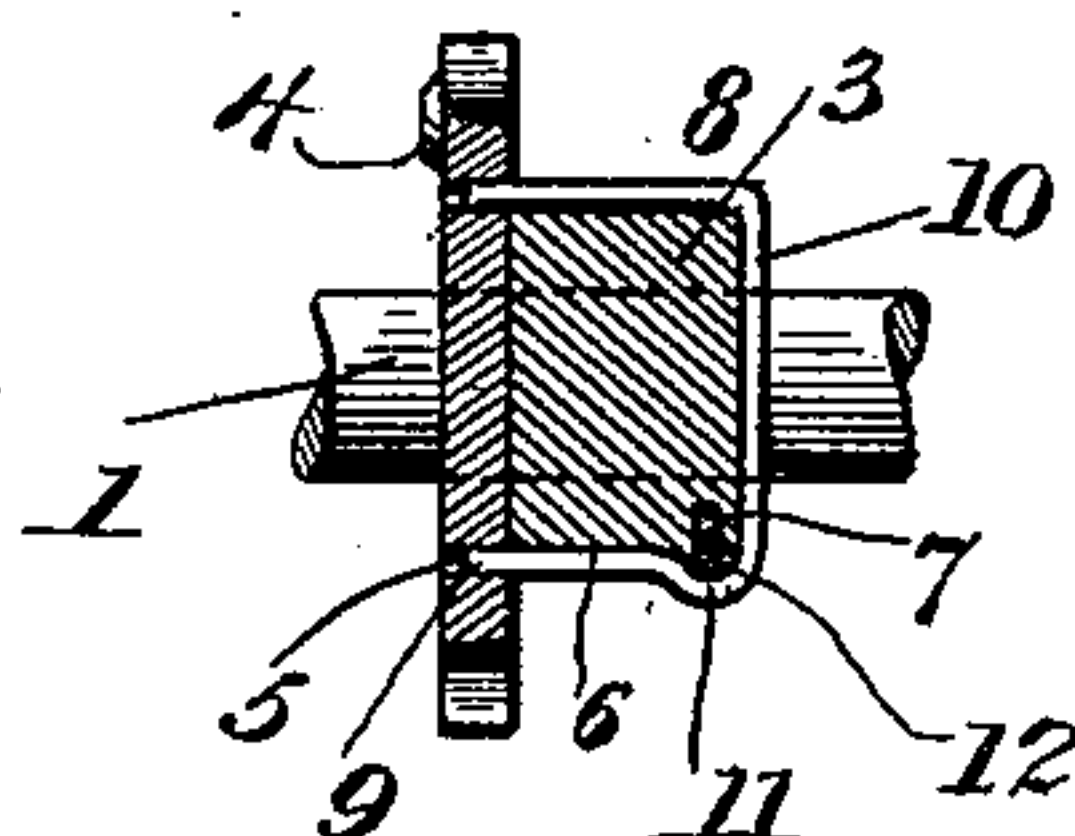


Fig. 3.

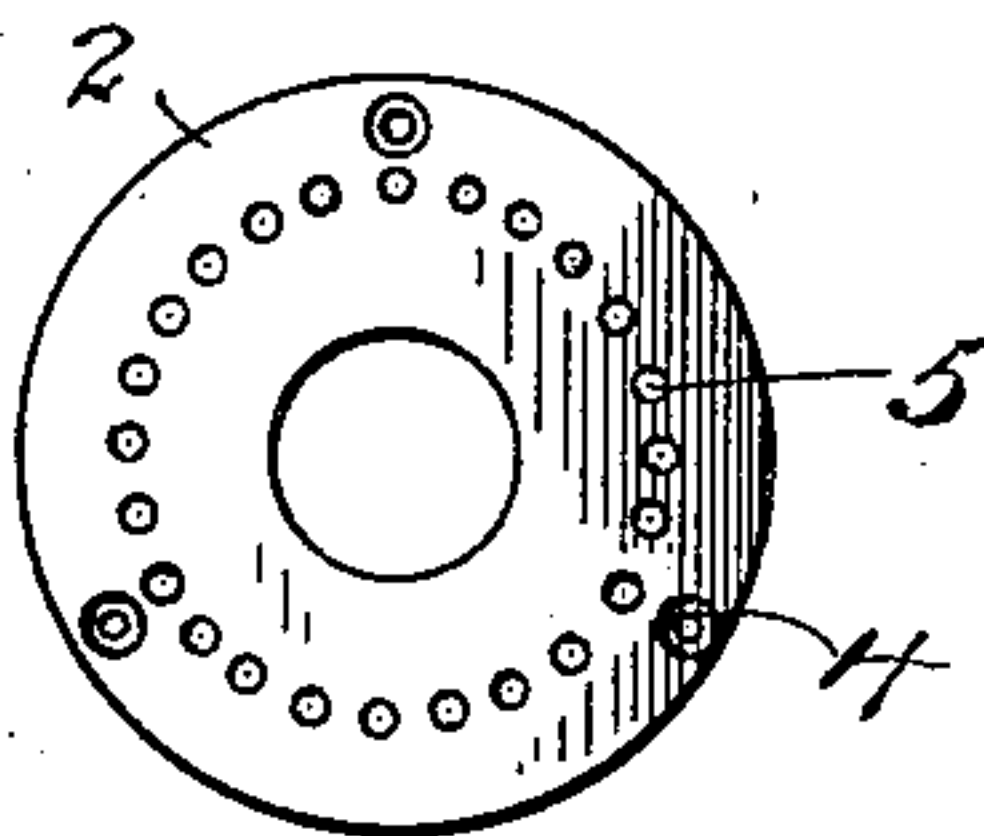


Fig. 4.

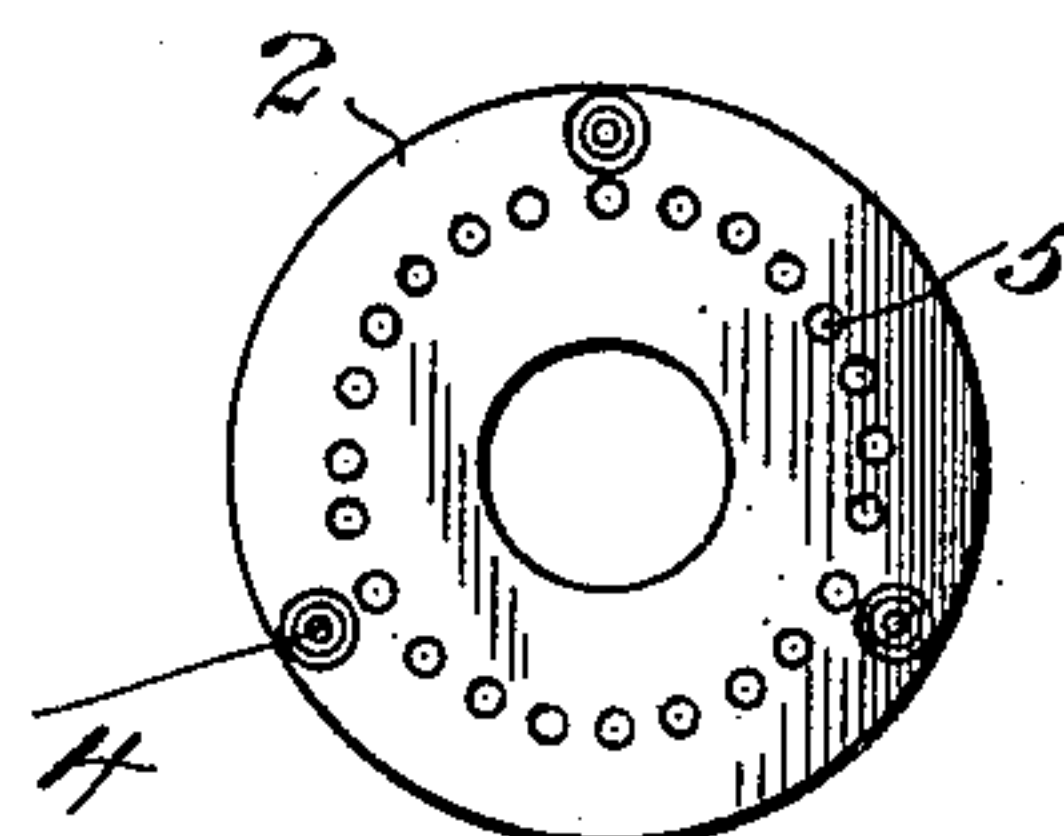


Fig. 5.

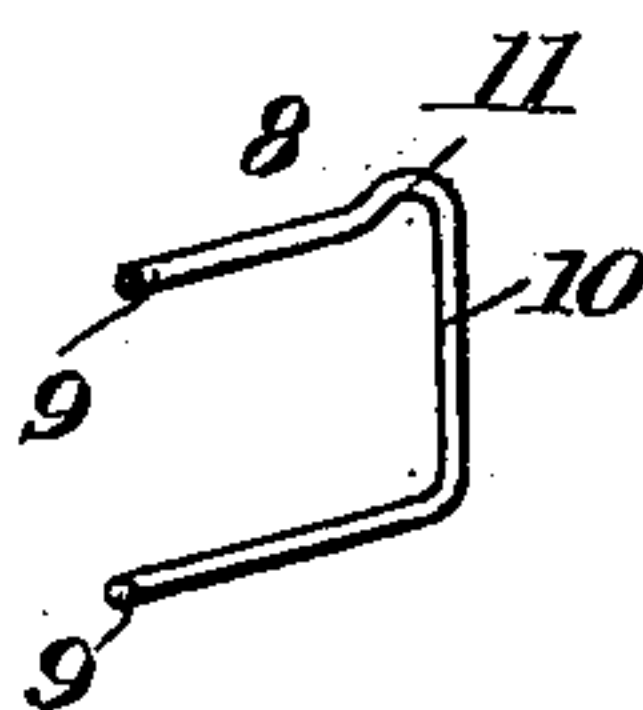
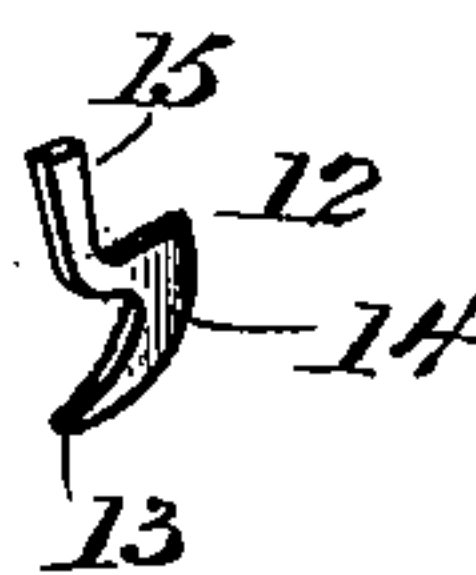


Fig. 6.



Inventor

Geo. W. Whitehurst,

Witnesses

Edw. S. Belt,  
J. E. Bellson

By

A. B. Wilson & Co.,  
Attorneys

No. 712,748.

Patented Nov. 4, 1902.

G. W. WHITEHURST.

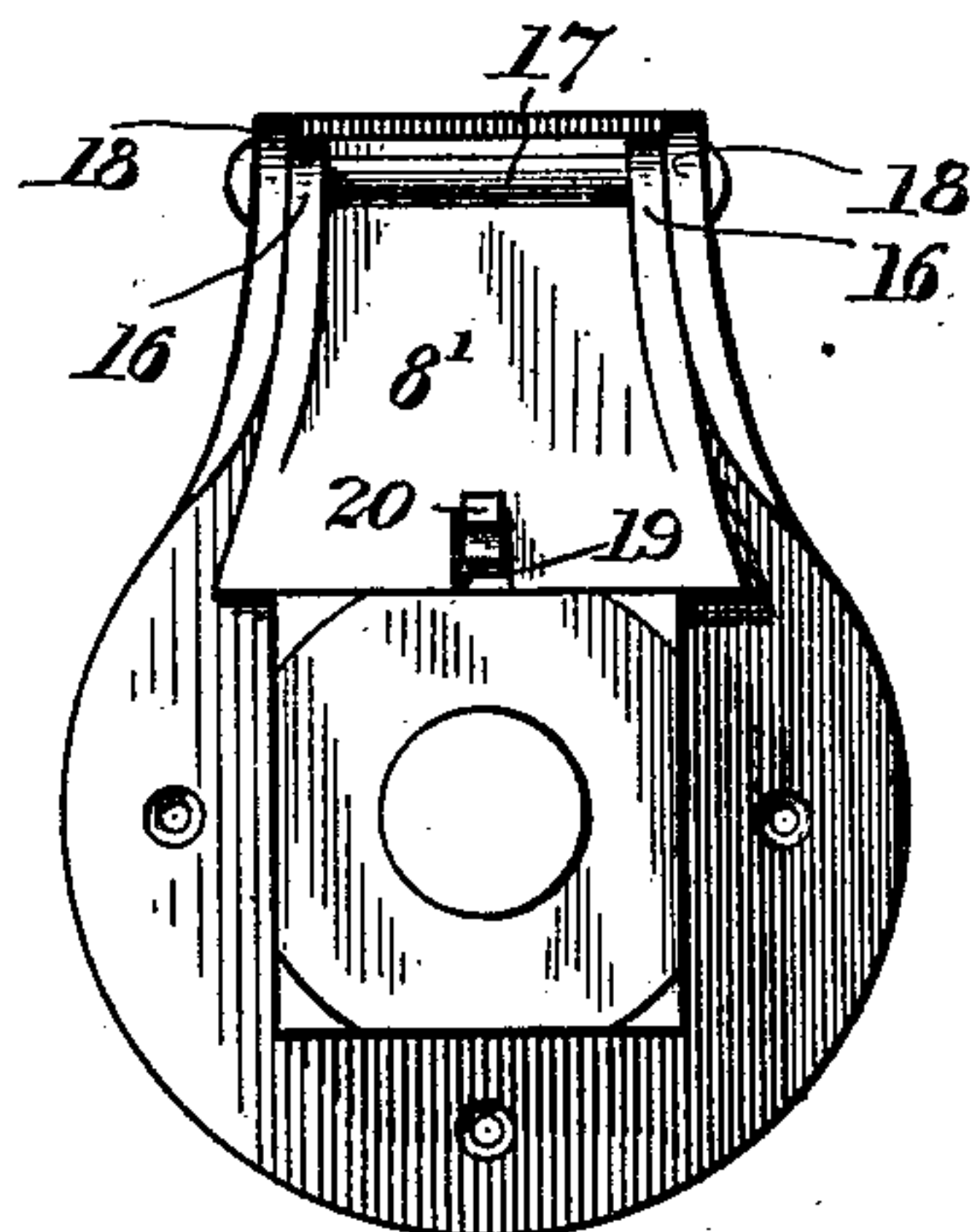
NUT LOCK.

(Application filed Mar. 6, 1902.)

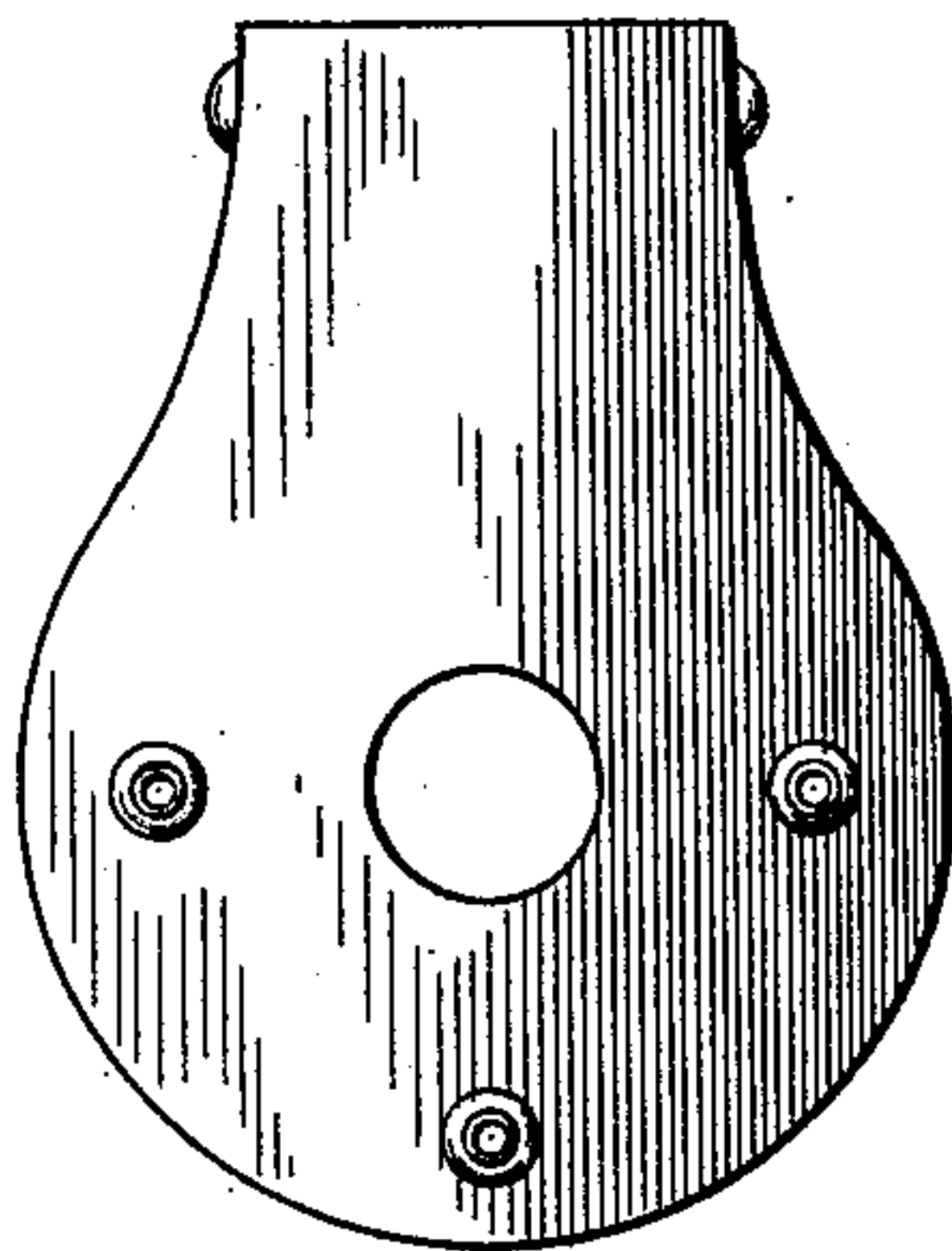
No Model.)

2 Sheets—Sheet 2.

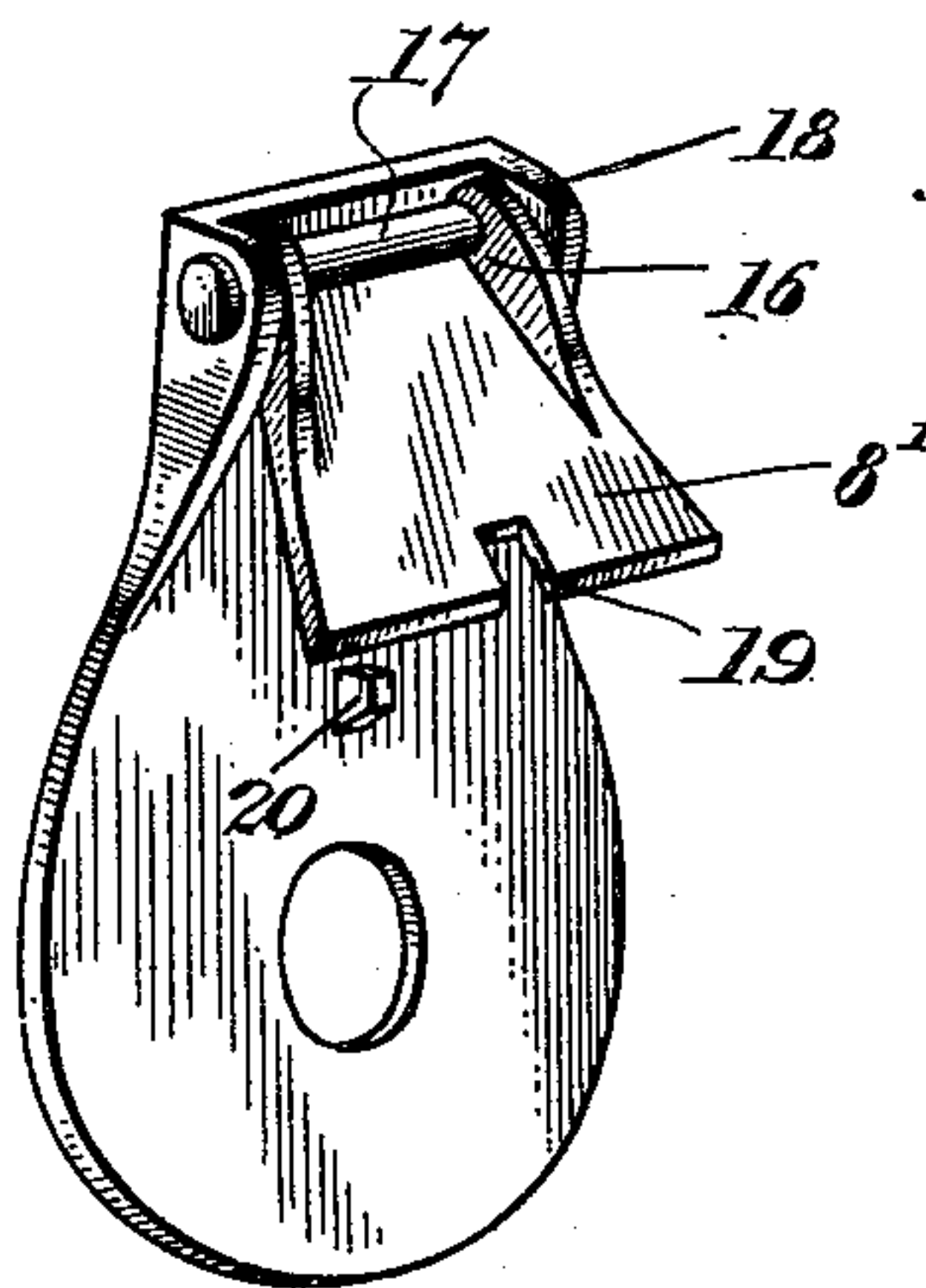
*Fig. 7.*



*Fig. 8.*



*Fig. 9.*



Inventor  
Geo W. Whitehurst,

Witnesses  
Gordon S. Galt,  
Ed. Billson

By *A. R. Wilson & Co.*  
Attorneys



# UNITED STATES PATENT OFFICE.

GEORGE W. WHITEHURST, OF ELLISVILLE, MISSISSIPPI.

## NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 712,748, dated November 4, 1902.

Application filed March 6, 1902. Serial No. 96,965. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE W. WHITEHURST, a citizen of the United States, residing at Ellisville, in the county of Jones and State of Mississippi, 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.

This invention relates to certain new and useful improvements in nut-locks, and aims to provide a nut-lock which is simple, cheap, and durable and which will effectually hold a nut against casual displacement.

The invention consists of certain novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view showing the parts detached, but arranged in position for application to a bolt. Fig. 2 is a detail section through the nut and washer. Figs. 3 and 4 are front and rear views of the washer. Fig. 5 is a detail view of the detent. Fig. 6 is a similar view of the key. Fig. 7 is a front elevation of a modified form of nut-lock, showing the application of the same to a bolt and nut. Fig. 8 is a rear elevation of the same detached. Fig. 9 is a perspective view of the nut-lock as it appears prior to its application to the bolt and nut.

Referring to the drawings, the numeral 1 represents a bolt of ordinary construction, on which is adapted to be fitted a locking-washer 2 and a nut 3. The washer is provided on its rear face with projections 4, which are preferably struck up from the body of the washer and are also preferably of frusto-conical form, but may be of solid conoidal shape or of any other form to suit the purpose. These projections are adapted to engage or sink into the surface of the object against which the washer bears to hold the washer against rotation when the nut is screwed up. When the object is of wood or any other relatively soft material, the projections will be forced thereinto by the pressure of the nut

in screwing the same home; but where the object is of metal it is preferable to form pits or indentations therein to receive the projections. By making the projections of frusto-conical form the pointed end of each projection provides a cutting surface which easily enters a wooden or other soft object and bites into and more securely impinges against a metal object, and the bore of the projection acts as a recess to receive a portion of the body or a projection therefrom, whereby the washer may be more effectually retained in place and prevented from slipping. The washer has also formed therein an annular series of openings or recesses 5, forming seats for the reception of a detent on the nut 3.

Formed in the nut adjacent to one of its sides are grooves 6, and intersecting one of these grooves at one of the corners of the nut is a cross or diagonal groove or recess 7. In the grooves 6 are slidably fitted the two arms of a substantially U-shaped detent 8, the free ends of which form locking points or projections 9, which are adapted to enter the said seats 5 in the washer to hold the nut when screwed up from turning. The cross-bar 10 of the detent bears against the outer face of the nut and limits the inward movement of the detent, and formed in one of the arms of the detent is a bend or offset 11, which registers with the groove 7. The detent is locked in position by a key 12, which is adapted to seat in the said groove 7 and offset 11. This key has a segmental bill 13, tapering to a point and forming an extension of a cam-shaped head 14, from one side of which projects a finger-piece 15. When the key is inserted, this bill is slid through the offset 11 and the cam-head 14 turned down into the recess 7, against the wall of which it tightly binds or wedges and holds the key securely seated until forcibly withdrawn. When the cam-head is thus seated, the bill 13 occupies the offset 11 and holds the detent against movement. When the key is tapped out of position by a hammer or forcibly withdrawn, the detent may be retracted to detach the nut from the washer.

In the modification shown in Figs. 7, 8, and 9 the washer carries the detent, which is in the form of a flap or plate 8', formed with ears 16 to receive a pintle 17, by means of which



it is hinged or pivoted to ears 18 on the washer. The lower edge of this detent is adapted to bear upon one of the sides of the nut to hold the latter from retrograde rotation and is  
 5 formed with a recess 19 to receive a locking pin or key 20 on the washer. When the detent is brought to bear against the nut, it is locked in position by bending or upsetting the end of the key, as shown in Fig. 7, so as  
 10 to form a stop or shoulder to prevent the detent from swinging on its pintle. When it is desired to release the nut, the bent end of the key is straightened out and the detent swung out of engagement with the nut, as  
 15 will be readily understood.

From the foregoing description, taken in connection with the accompanying drawings, the construction, mode of operation, and advantages of my improved nut-lock will be  
 20 readily apparent without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the prin-  
 25 ciple or sacrificing any of the advantages of this invention.

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

30 1. In a nut-lock, a locking-washer provided with projections in the form of a frustum of a hollow cone, said projections being struck up from the body of the washer, the points of the projections constituting cutting edges  
 35 and the bores receiving-recesses, substantially as described.

2. In a nut-lock, the combination with a bolt; of a locking-washer provided with pro-  
 jections in the form of a frustum of a hollow cone, said projections being struck up from 40 the body of the washer, the points of the projections constituting cutting edges and the bores receiving-recesses, a nut, a detent co-acting between the washer and nut to connect the same and hold the nut against rotation, 45 and a key for locking the detent, substantially as specified.

3. In a nut-lock, the combination with a bolt; of a locking-washer provided with frusto-  
 conical engaging projections and with seats, 50 a nut provided with side grooves and a cross-groove intersecting one of said side grooves, a detent sliding in said grooves and adapted to engage the seats in the washer, said detent having an offset, and a key insertible into the 55 cross-groove and offset to hold the detent in position, substantially as set forth.

4. In a nut-lock, the combination of a bolt and nut, a locking-washer upon the bolt, a  
 detent-plate hinged or pivoted to the washer 60 and having an edge to bear upon the nut and a slot opening through said edge, and a key integral with the washer and passing through the slot and bent to overlap the detent-plate, 65 substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing wit-  
 nesses.

GEORGE W. WHITEHURST.

Witnesses:

C. J. DEVALL,  
 J. W. AMMONS.