(No Model.)

G. GIBSON.

NUT LOCK.

No. 524,295. Patented Aug. 7, 1894.

Fig. 1.

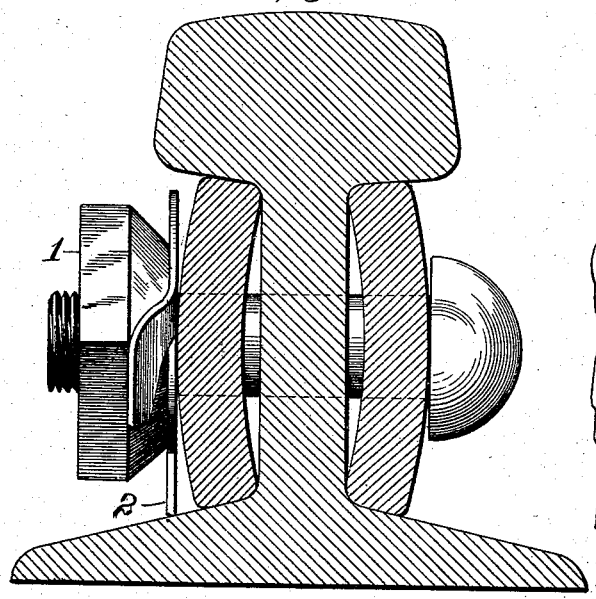


Fig. 2.

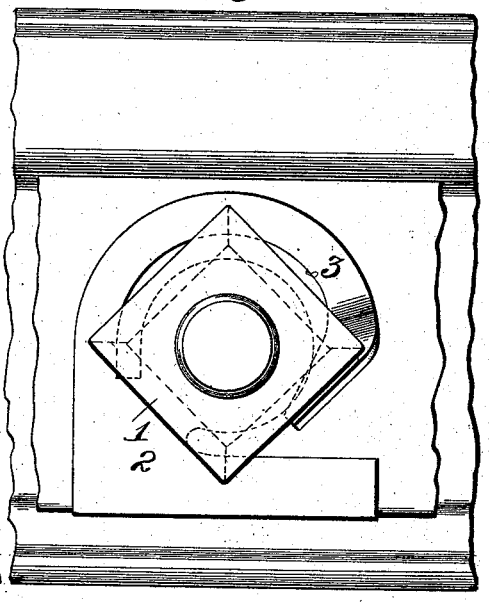


Fig. 3.

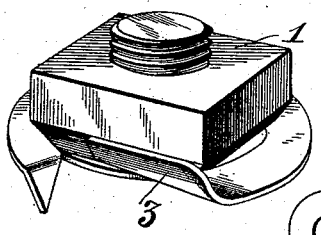


Fig. 4.

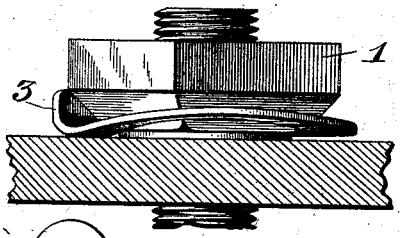


Fig. 5.

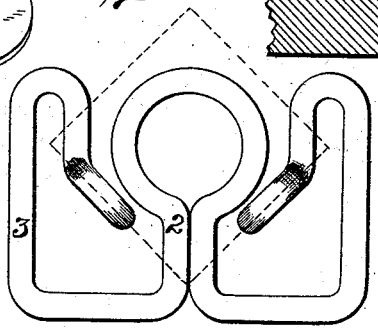


Fig. 6.

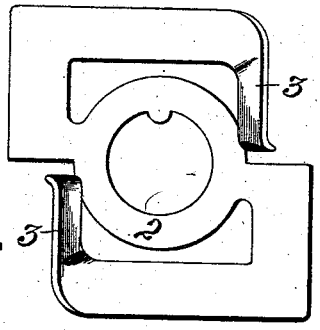
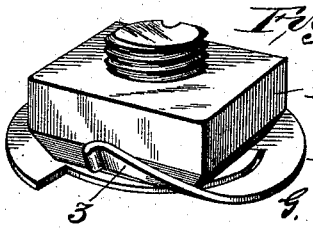


Fig. 7.



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UNITED STATES PATENT OFFICE.

GEROLT GIBSON, OF ST. LOUIS, MISSOURI.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 524,295, dated August 7, 1894.

Application filed February 14, 1894. Serial No. 500,183. (No model.)

To all whom it may concern:

Be it known that I, GEROLT GIBSON, a citizen of the United States, residing in the city of St. Louis, in the State of Missouri, have invented a new and useful Improvement in Nut-Locks, of which the following is a specification.

My invention relates to automatic nut locks and has for its principal objects to attain certain practical advantages of manufacture and operation hereinafter disclosed.

It consists principally in a nut having its lower edge beveled pyramidally and in a washer having a tongue as hereinafter described to co-operate with the bevel of such nut; and it further consists in the parts and in the arrangements and combinations hereinafter described and claimed.

In the accompanying drawings, which form part of this specification, Figure 1 is a cross-sectional view of a railway joint showing my device applied thereto. Fig. 2 is a front elevation thereof. Fig. 3 is a perspective view, the washer therein having a projection specially adapting it for use on woodwork. Fig. 4 is a side elevation showing the position of the tongue when the end thereof is being depressed by the nut. Figs. 5, 6 and 7 show modified forms of the washers and of the tongues thereon.

The nut, 1, whether square or polygonal, has its lower edges beveled pyramidally to form wide inclined surfaces. A plate or washer, 2, provided with the ordinary bolt hole, has a tongue, 3, integral therewith and of considerable length. The end portion of this tongue near the line on which it is struck up as hereinafter described is preferably wider than the body portion thereof, so that, in practice, the wide end portion is practically inflexible, while the narrower body portion is flexible. The narrow portion lies flush with the body of the washer and the end portion is turned or struck up at an angle about equal to the angle of the bevel on the nut, as above mentioned. This wide end portion is preferably straight, or bent slightly inwardly, in which latter case, the beveled surface will preferably be provided with a transverse, curved concavity near its middle portion to co-operate therewith. The tongue is turned up on a line which is the continuation of the lower edge of the nut; or, when a hub is used on the nut, then the line on which the end portion is turned up is the intersection of the plane of the beveled surface with said tongue.

The inner edge of the body of the tongue is entirely out of reach of the nut; but the wider end portion is in the path of the corners of the beveled portion, and when the nut is screwed down, this wide portion bears flatwise against the beveled side. It may be desirable to bend or round off the tip end of the tongue as shown in Figs. 6 and 7, to prevent it biting into the nut, when the nut is being unscrewed; and it is also desirable to narrow down the tongue toward its free end.

The operation of the device is as follows: The washer being placed over the bolt, the nut is screwed down. When the beveled portion bears against the wide flat portion of the tongue, this flat portion turns down rigidly as if on a pivot without bending to any appreciable extent. The narrower portion is at the same time curved upwardly, as shown in Fig. 4 and the longer the tongue the more easily it will permit this curving. When the corner of the nut passes the flat portion, the narrow portion resumes its position flush with the surface of the washer and the like operation is repeated for each corner. The resilience of the narrow portion of the tongue is sufficient to resist any ordinary jarring or force tending to unscrew the nut; but is adapted to yield automatically to a large force, such as is intentionally applied to unscrew a nut. The operation of unscrewing is merely the reverse of the operation above described.

Several modifications are shown in the drawings. The washer shown in Figs. 1 and 2 is shaped especially to have one edge rest against something fixed so as to prevent rotation. Fig. 3 shows a washer provided with sharp pointed projections adapting it to be fixed to woodwork. Figs. 5 and 6 show two tongues on a single washer. Fig. 5 also shows how the washer may be made of a single piece of stiff wire of even diameter throughout. Fig. 7 shows the tongue of even width throughout its length and struck up spirally instead of on a straight line. I consider all of these modifications as within the scope of my invention together with other modifications

which I consider it unnecessary to illustrate and describe herein.

The principal advantages of my nut lock are that the nut as well as the washer can be easily made, as the "crowner" against which the hot blank is punched presents no projecting parts which would be liable to be burned off or distorted; the tongue in its normal position is not exposed to danger from outside forces; and the device is specially adapted for woodwork, as in operation, the spring rises away from the woodwork and is therefore not affected by the washer being pressed into the wood, nor does the accumulation of dirt destroy its efficiency because the tongue will raise the dirt with it. The automatic yielding of the tongue is of great importance for many obvious reasons.

What I claim as new, and desire to secure by Letters Patent, is—

1. An automatic nut lock comprising a nut having its lower edge beveled pyramidally and a washer having an integral resilient tongue whose body is normally flush therewith and struck up at its end as described, the whole being arranged substantially as and for the purpose described.

2. An automatic nut lock comprising a nut having its lower edge beveled pyramidally and a washer having a long tongue, the body of which is approximately flush with said washer and is entirely out of reach of said nut, the end portion of said tongue being struck up as described to cooperate with the beveled surfaces of said nut, substantially as described.

3. An automatic nut lock comprising a nut having its lower edge beveled pyramidally and a washer having a long tongue, the body of which is entirely out of reach of said nut and normally flush with said washer, the end portion of said tongue being wider than the body portion and being struck up as described to cooperate with the beveled surfaces of said nut, substantially as described.

GEROLT GIBSON.

Witnesses:
CHARLES E. WISE,
JAMES A. CARR.