

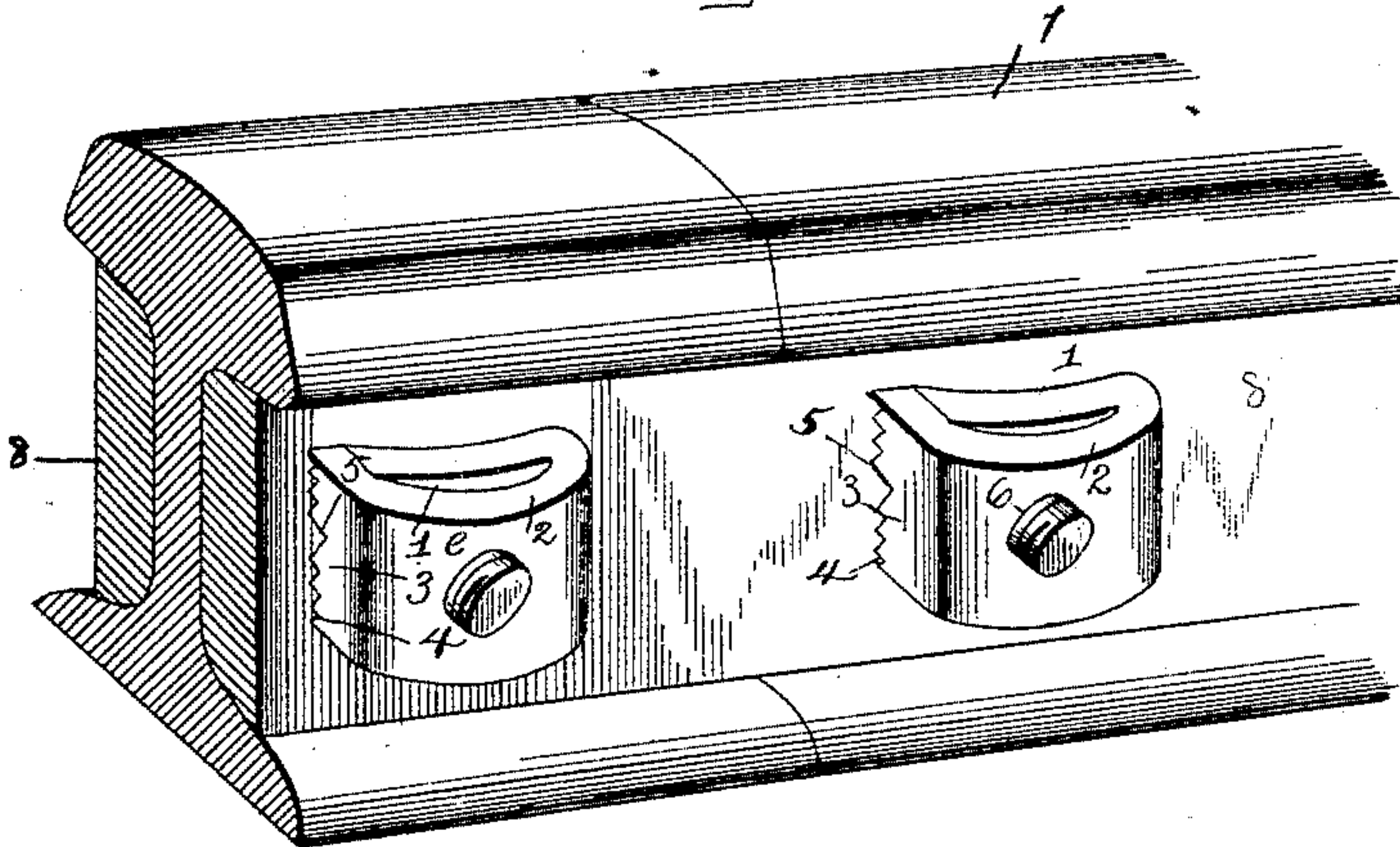
(No Model.)

W. S. NEIL.  
SELF LOCKING NUT.

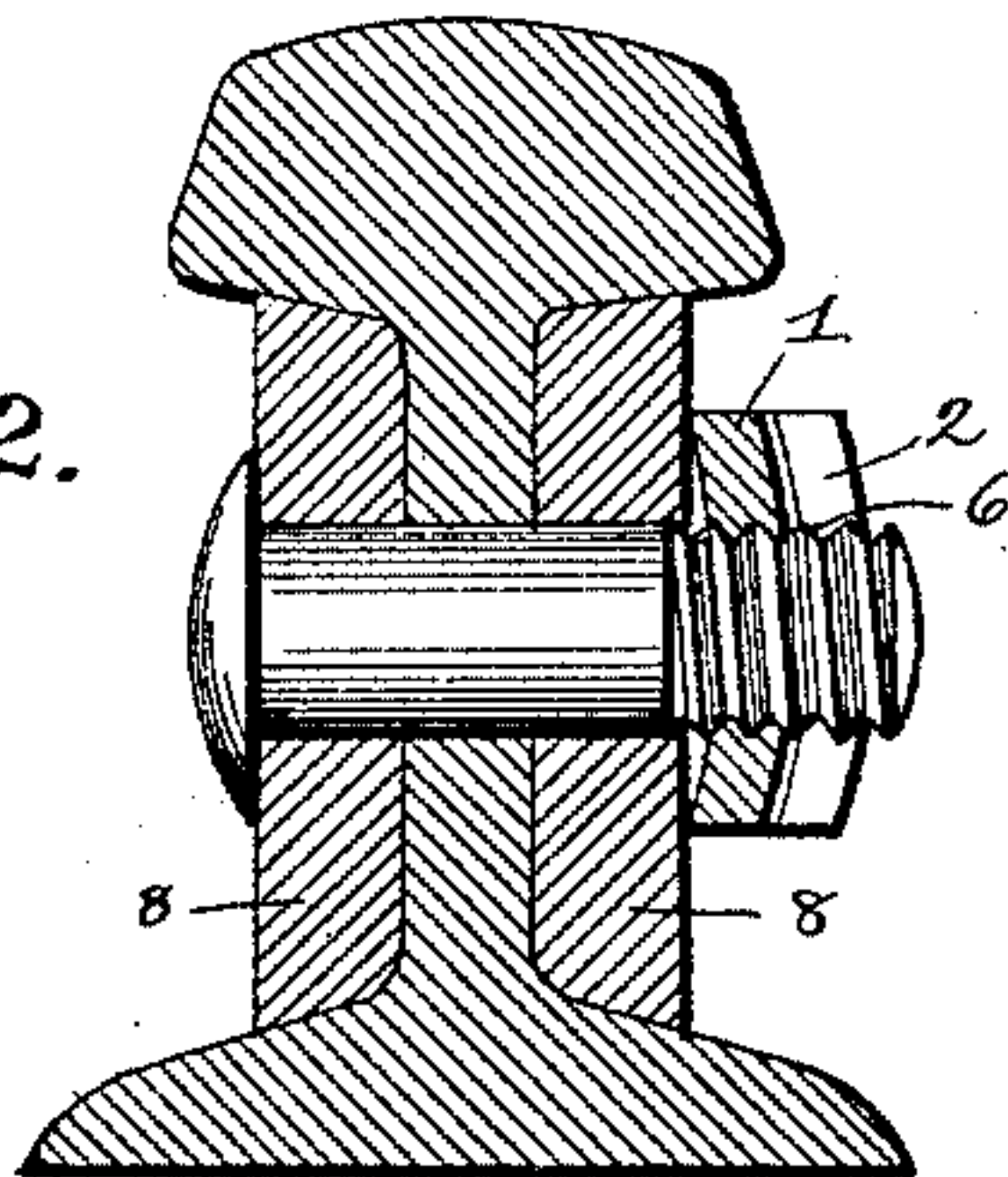
No. 483,676.

Patented Oct. 4, 1892.

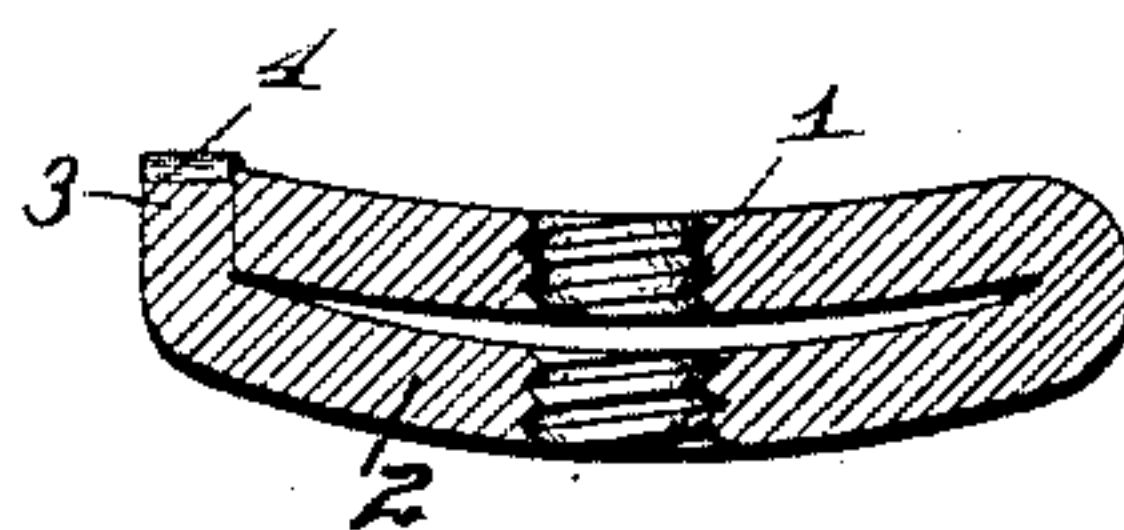
*Fig. 1.*



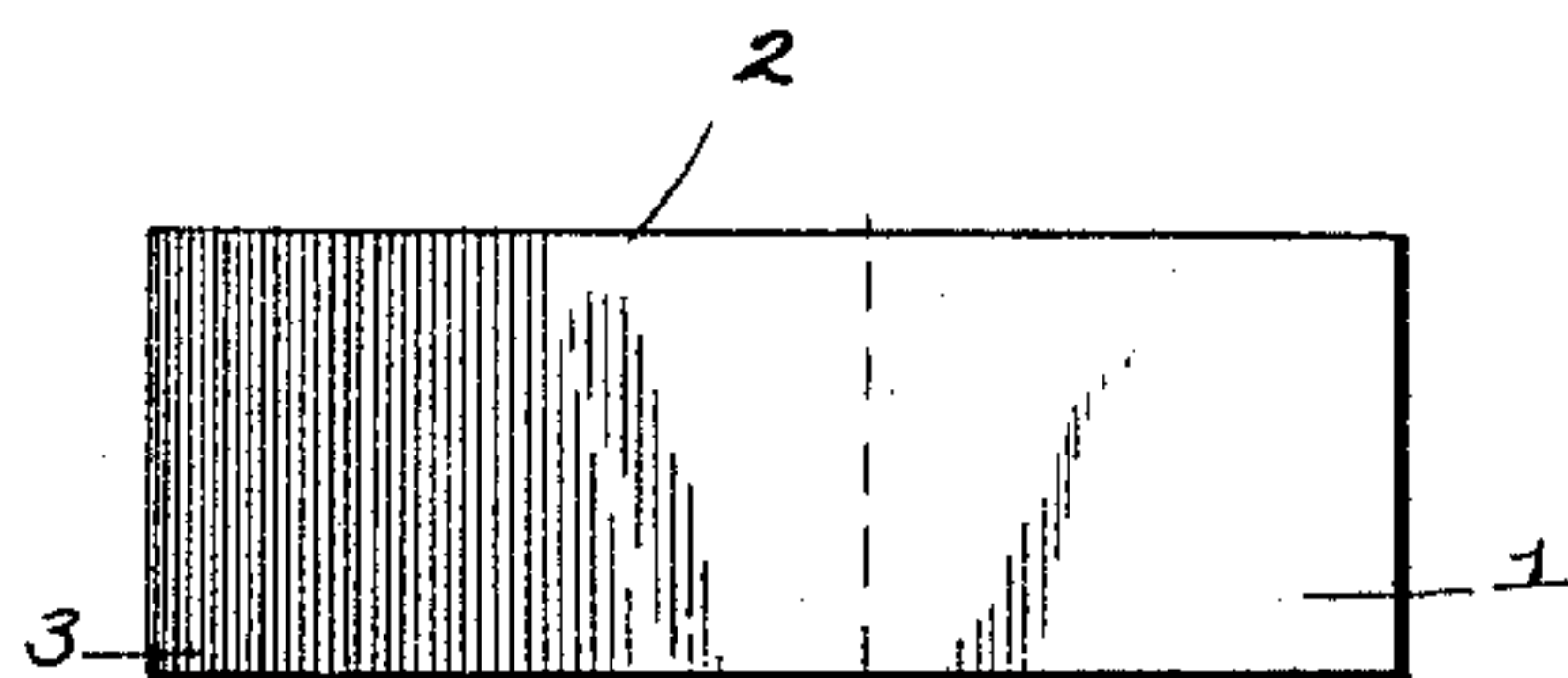
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



Witnesses:

Chas A Ford.  
W S Duval.

Inventor

W<sup>m</sup> S. Neil.

By his Attorneys,

C. A. Snow & Co.



# UNITED STATES PATENT OFFICE.

WILLIAM S. NEIL, OF ENON, WEST VIRGINIA.

## SELF-LOCKING NUT.

SPECIFICATION forming part of Letters Patent No. 483,676, dated October 4, 1892.

Application filed November 4, 1891. Serial No. 410,876. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM S. NEIL, a citizen of the United States, residing at Enon, in the county of Nicholas and State of West Virginia, have invented a new and useful Self-Locking Nut, of which the following is a specification.

This invention relates to improvements in nuts; and the objects in view are to provide an easily-manufactured, cheap, and simple nut adapted for general use and which by its peculiar construction will when run down upon a bolt automatically lock thereon, thus avoiding the necessity of the employment of any of the various extraneous devices—such as nut-locks, washers, &c.—for this purpose.

With these objects in view the invention consists in certain features of construction hereinafter specified, and particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective of a railroad-joint, the bolts of which are provided with nuts constructed in accordance with my invention. Fig. 2 is a transverse section of the same. Fig. 3 is a detail in section of the nut. Fig. 4 is a detail in plan of the blank from which the nut is formed.

Like numerals of reference indicate like parts in all the figures of the drawings.

In constructing the nut I employ a blank of sheet-steel about one half as thick, or nearly so, as an ordinary nut and bend the blank upon itself at one side of its center, so that an inner and outer terminal (designated as 1 and 2 respectively are formed, the latter by reason of the uneven bending being slightly longer than the former, and such difference in length being slightly greater than the thickness of said former terminal, so that when said difference in the longer terminal is bent at a right angle over the inner terminal the free end of said bent portion extends slightly beyond the inner face of the nut, as indicated at 3. This free end is provided with a series of teeth 4, at the center of which a deeper notch or tooth 5 is formed.

The nut as a whole is of concavo-convex form when longitudinally considered, so that only its ends bear upon an object when the nut is in position upon a bolt, and the two terminals or layers are provided with a threaded bolt-receiving opening 6. The outer layer

is also preferably curved slightly greater than the inner layer.

7 designates the rail, 8 the fish plate or bar, and 9 the bolt, all of the ordinary construction.

In operation the nut is run down upon the threaded end of the bolt in the usual manner, and is tightened by the application of a wrench, and in so tightening the nut, as before stated, the ends impinge upon the fish-bar and the center of the nut is forced outwardly, so that it has great frictional contact with the threads of the bolt, and is thus prevented by the strength of the spring of the metal of which the nut is formed from retrogression. At the same time the teeth 4 being forced into the metal or other object through which the bolt passes aids in such prevention. By introducing a chisel or other sharp-pointed instrument into the large notch 5 the points 4 may be pried out of their engagement with the fish-bar or other object, and thus the nut, being freed, may be retrograded by a wrench, and hence removed from the bolt. If desired, the bent and serrated end 3 may be omitted and the nut formed of one or two layers. In such instance the security of the nut would simply depend upon the tensile strength of the spring of the stock of which the nut is formed.

The nut when run down on the bolt and bearing against the object only at its ends is forced outward at its center, so that its threads will frictionally lock with those of the bolt.

Having described my invention, what I claim is—

1. The combination, with the bolt and fish-plate or other object through which the bolt passes, of the improved nut formed of spring metal and consisting of two layers formed integral and having an inner concaved face and an outer convexed face, the outer layer being curved to a greater degree than the inner layer, and said layers having a threaded bolt-receiving opening, substantially as specified.

2. The herein-described improved nut, formed of a blank of spring metal and consisting of inner and outer integral layers, the outer layer being longer than the inner layer and folded over the free end of the same, beyond which it extends, and having its edge serrated, substantially as specified.

3. The herein-described improved nut,

formed of a blank of spring metal, said blank bent back upon itself, forming an inner and an outer layer, the outer layer being longer than the inner layer and folded over the free  
5 end of the same, beyond which it extends, and having its edge serrated and provided with a chisel or other prying device receiving notch 5, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM S. NEIL.

Witnesses:

I. R. C. FITZWATER,  
WILLIAM J. FITZWATER.