

(No Model.)

J. R. CARTER.

NUT LOCK.

No. 268,079.

Patented Nov. 28, 1882.

Fig: 1,

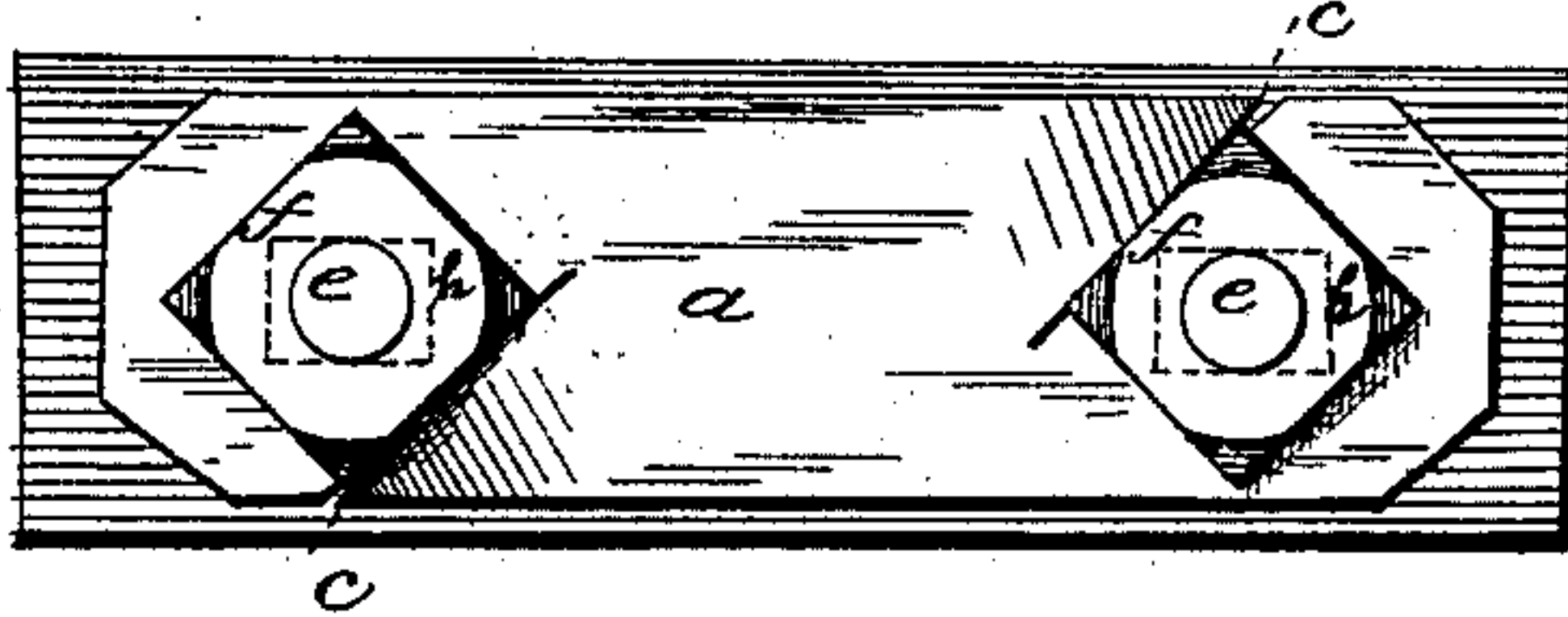


Fig: 2,

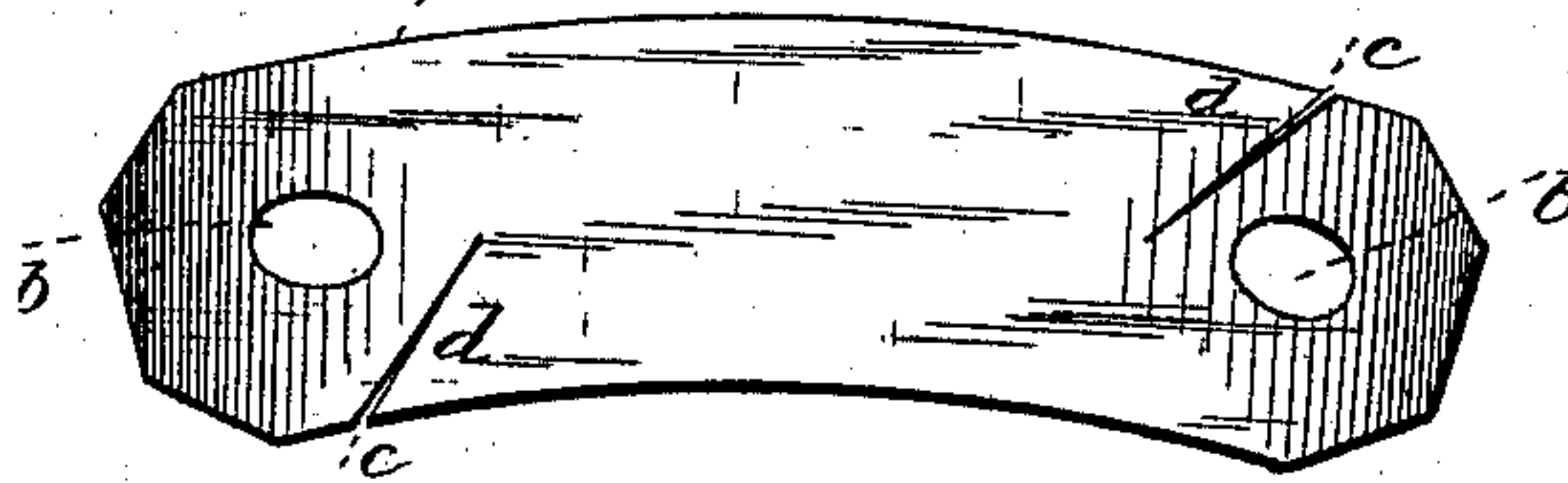


Fig: 3,

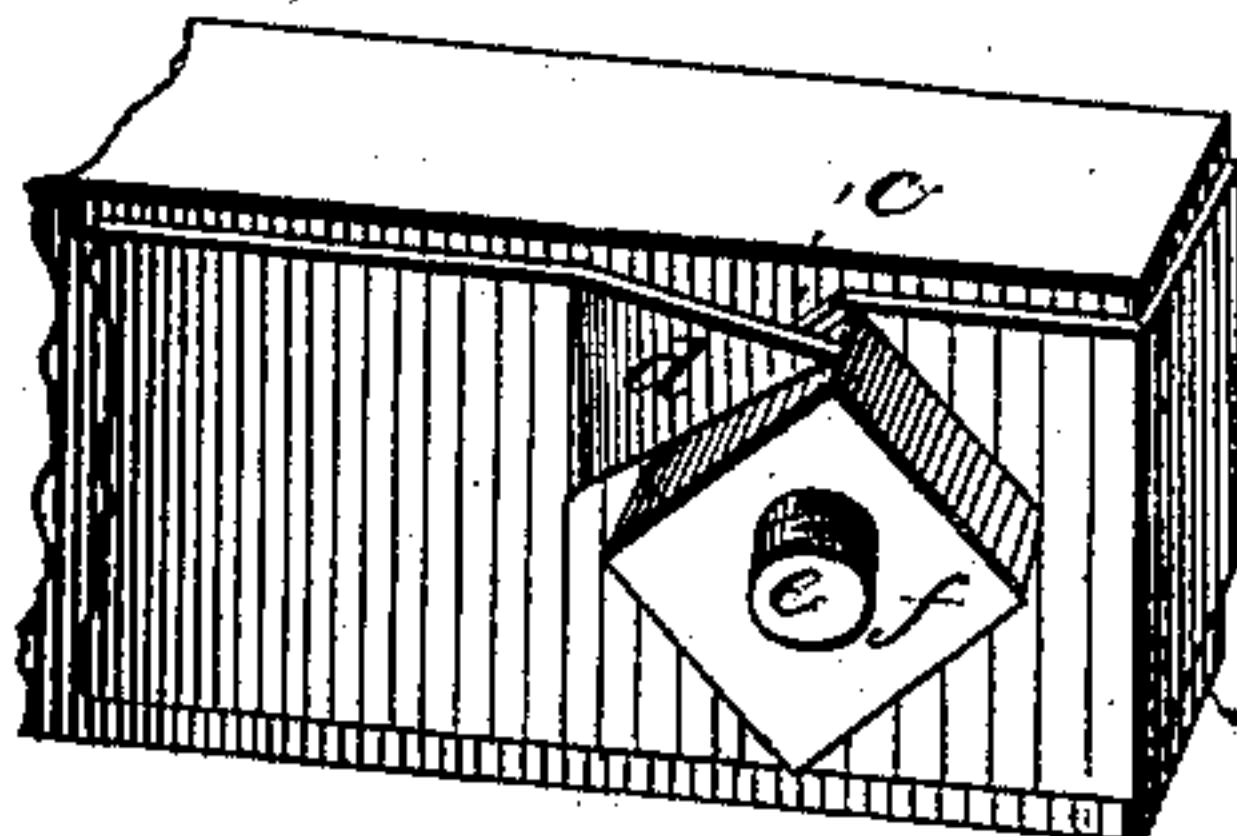
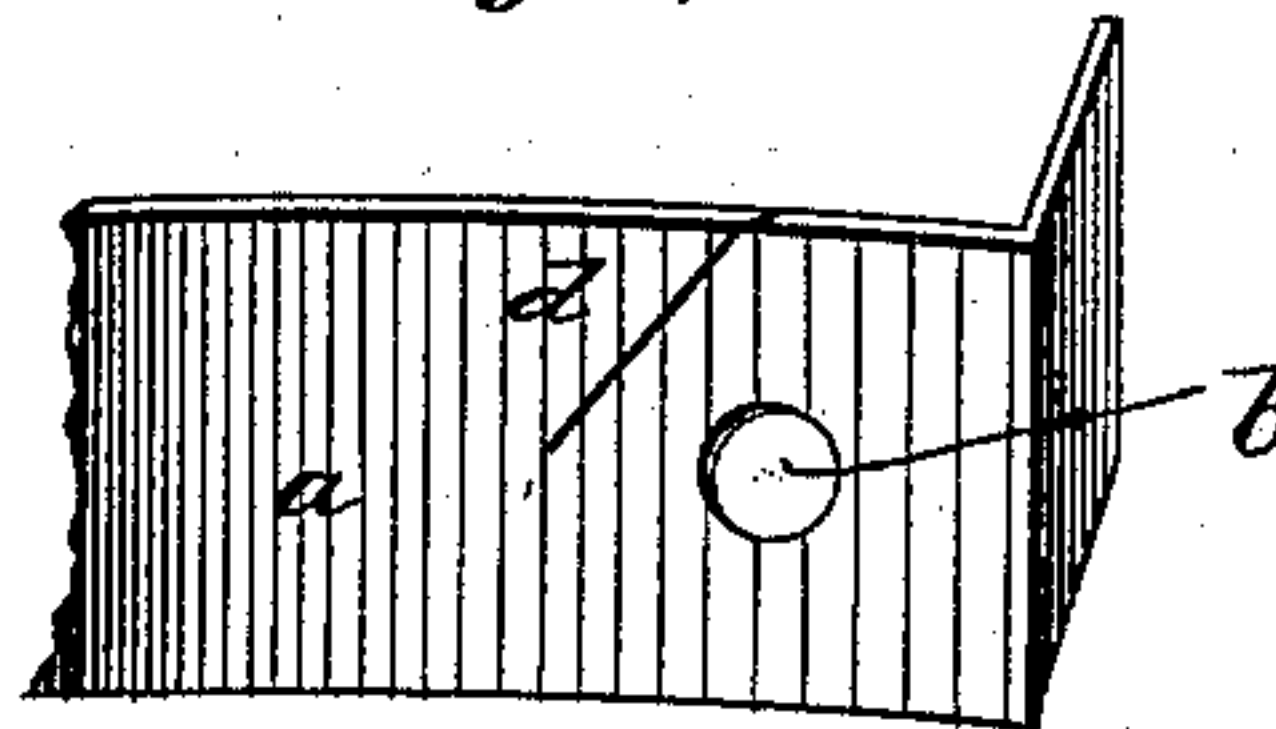


Fig: 5,



Fig: 4,



WITNESSES:

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UNITED STATES PATENT OFFICE.

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NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 268,079, dated November 28, 1882.

Application filed April 4, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES R. CARTER, a citizen of the United States, residing at Anderson, in the county of Anderson and State of South Carolina, have invented certain new and useful Improvements in Nut-Locks; and I do hereby 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, reference being had to the accompanying drawings, and to the letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to nut-fasteners; and it consists in the novel construction of an elastic plate of convenient thickness. It can be made of wrought-iron, steel, brass, or any other suitable substance. In practice it will be found that iron or brass will spring sufficiently for its purpose.

My invention is designed in a cheap and simple manner to prevent nuts from turning on their bolts, becoming loose, and rattling or working off, may be applied to buggies, carriages, wagons, and all kinds of vehicles or machinery, or where one or more screw-bolts and nuts are used to secure the tie-bars and T-rails on railways.

Figure 1 represents my self nut-locking plate securing the nuts from turning by means of its projecting V-shaped tongues *d*. Fig. 2 represents my self nut-locking plate as it appears when detached. Fig. 3 represents my self nut-locking plate with one of its ends turned over the end of the material it binds. Fig. 4 represents my self nut-locking plate detached. Fig. 5 represents bolt *e*, which is square near its head, adapted to fit in square or oblong holes, (represented by dotted lines *h* in Fig. 1.)

My self nut-locking plate *a* is constructed as follows: I take a piece of sheet-iron or other elastic metal and cut it the desired width, about one-fourth of an inch wider than the diameter of the nuts to be secured, and long enough to cover the number of nuts desired to be locked. Then I cut as many holes *b* in the plate *a* as there are bolt-holes in the material to be bound, and the same distance apart. Just immediately opposite these holes I commence slits *c*,

cutting them nearly to the center of the plate, one on either side alternately. These slits are cut at an angle of about forty-five degrees in relation to the edge of the plate, forming the V-shape tongues *d*. This slit may be cut at any angle; but the angle of forty-five degrees has been found by the inventor to work best. The holes *b* in this plate are slightly oblong, running lengthwise the same to provide against the edges of these holes binding against the bolts when the nuts are screwed down, and thus bowing or warping the plate, and also that the ends of the plate may be thus free to spring up and keep a continual pressure on the nuts and keep the bolt-heads to their place as the material bounds, shrinks, or wears away, thus preventing rapid wearing and rattling of the nuts and bolts. The sides of this elastic plate *a* are smooth, and it is of uniform width and thickness its entire length, and is so bowed or curved as to form a segment of about one-eighth of a circle. In using this plate the holes through the material to be bound should be square or oblong, running lengthwise the material, with their two longest sides straight, so as to clasp the square ends of the bolts. The bolts used with this plate should be square near their heads, and of such size as to fit in these square holes, or to be clasped by two of their sides to prevent them from turning, for it is needless to lock the nuts if the bolts are allowed to turn. The nuts used should be square, so that the tongues *d* may rest against their outer edges and prevent them from turning on their threads.

In using the plate put the material to be bound together; then put the bolts in place; then put the plate *a* on with its concave side out, putting the oblong holes *b* over the threaded ends of the bolts *e*; then put on the square nuts *f*, and as the nuts are screwed down the elastic plate around the holes *b* is first depressed and the V-shaped tongues *d* stand up from the face of the plate of themselves because of its curvilinear shape, and commence locking the nut before the plate is screwed down, and continues to hold the nuts locked when down tight. Thus the nuts are locked by the self operation of said V-shaped tongues.

This power of locking the nut before the nut is tight down is of great advantage, because in many places it is desirable that the nut should not be screwed down tight, and at the same time should be prevented from turning. As will be seen, more than two nuts can be locked by one plate; but on railroads it will be found cheaper and simpler to lock only two nuts with one plate, as represented.

10 This device may be made with only one hole, in which case one end of the plate is turned down over the end or edge of the material bound, to prevent the plate from turning. In all other respects it is like the plate above described. My V-shaped spring-tongue *d* is the same thickness its entire length and width, and is also the same thickness of the plate *a*, and has the same curve as said plate, and springs down perfectly flat and level with said plate, and allows the corners of the nuts to pass over it without having to tilt up, and the tongue immediately rises when the nut has thus passed over it and locks the same.

25 It will be observed that my device comprises essentially a flat curved spring-plate of

equal width throughout, adapted to be packed closely for transportation or storage; that the nut-lock is concealed at all times except when the device is in actual operation, thereby covering the projecting points to avoid injury from contact or in handling, and that the nut-lock is only brought out by the act of applying the device to service, and then automatically.

I claim—

The nut-lock herein described, consisting of the curved metal plate *a*, of equal thickness and width throughout and having oblong apertures *b* to receive the bolt *e*, and diagonal slit *c* to form a spring-lip, *d*, and the whole being adapted to serve with a nut, *f*, by forcing the nut-bearing ends backward to leave the lip *d* projecting and bearing against the side of the nut, as and for the purposes set forth.

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

JAMES R. CARTER.

Witnesses:

A. M. DUFFIE,

J. J. BAKER.