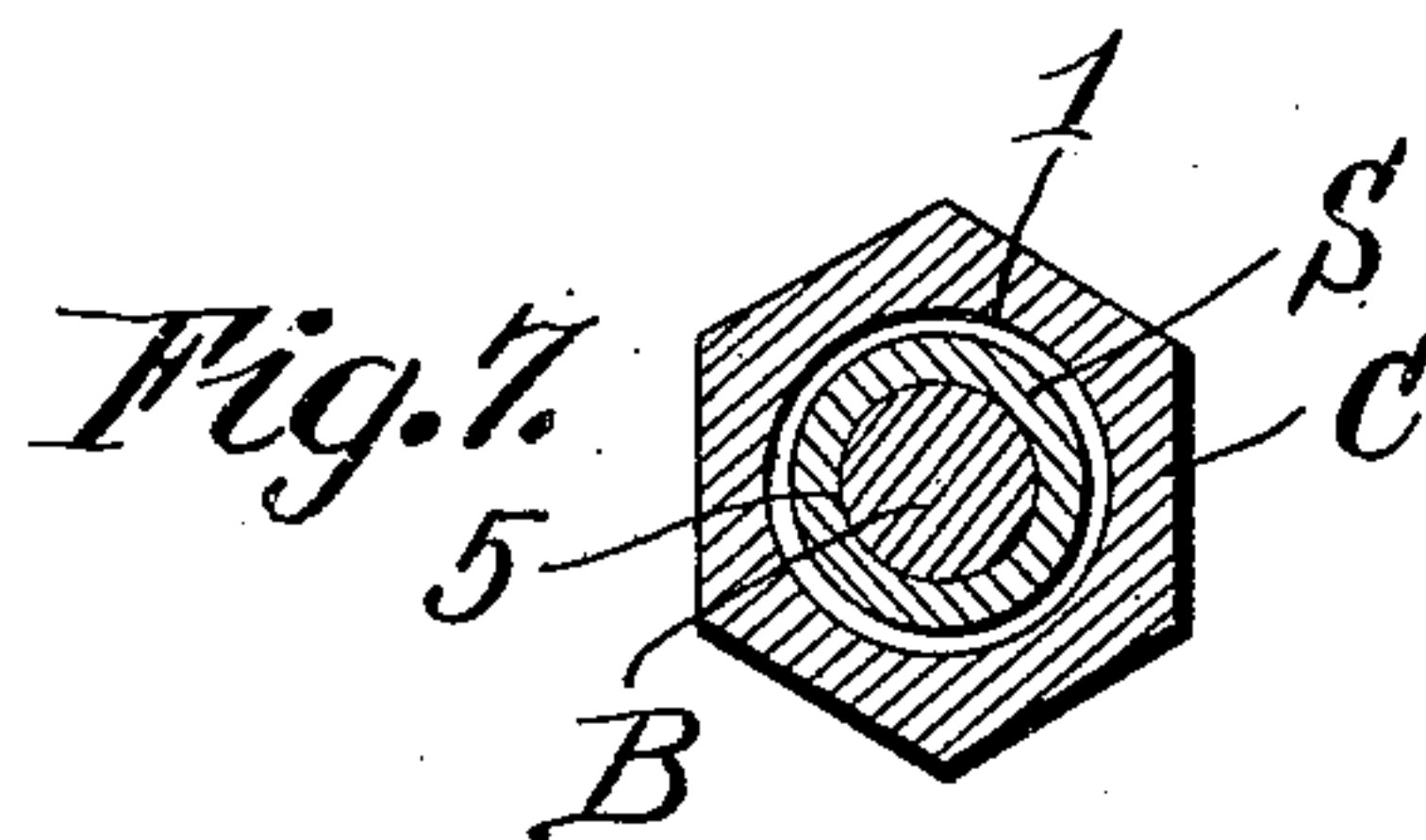
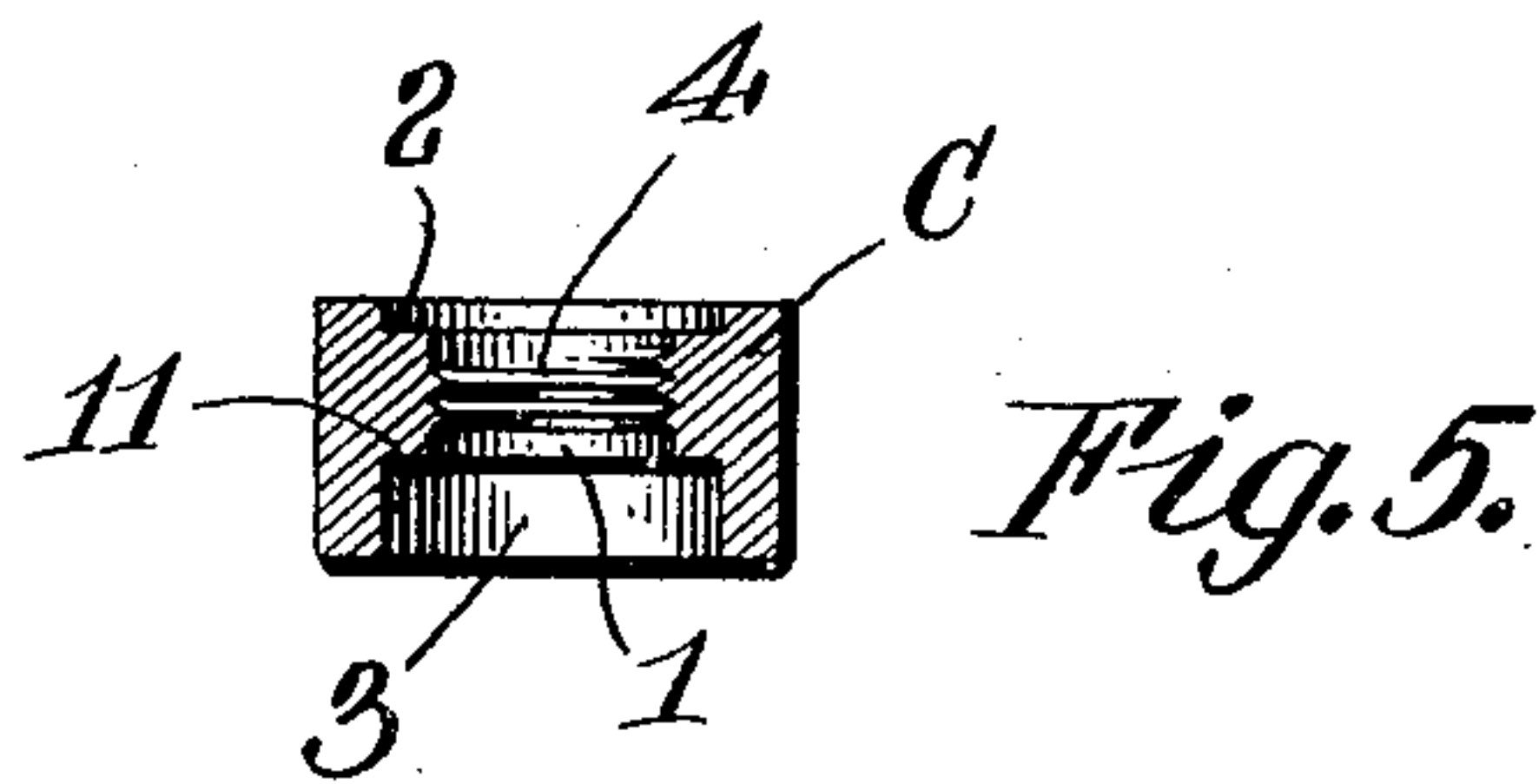
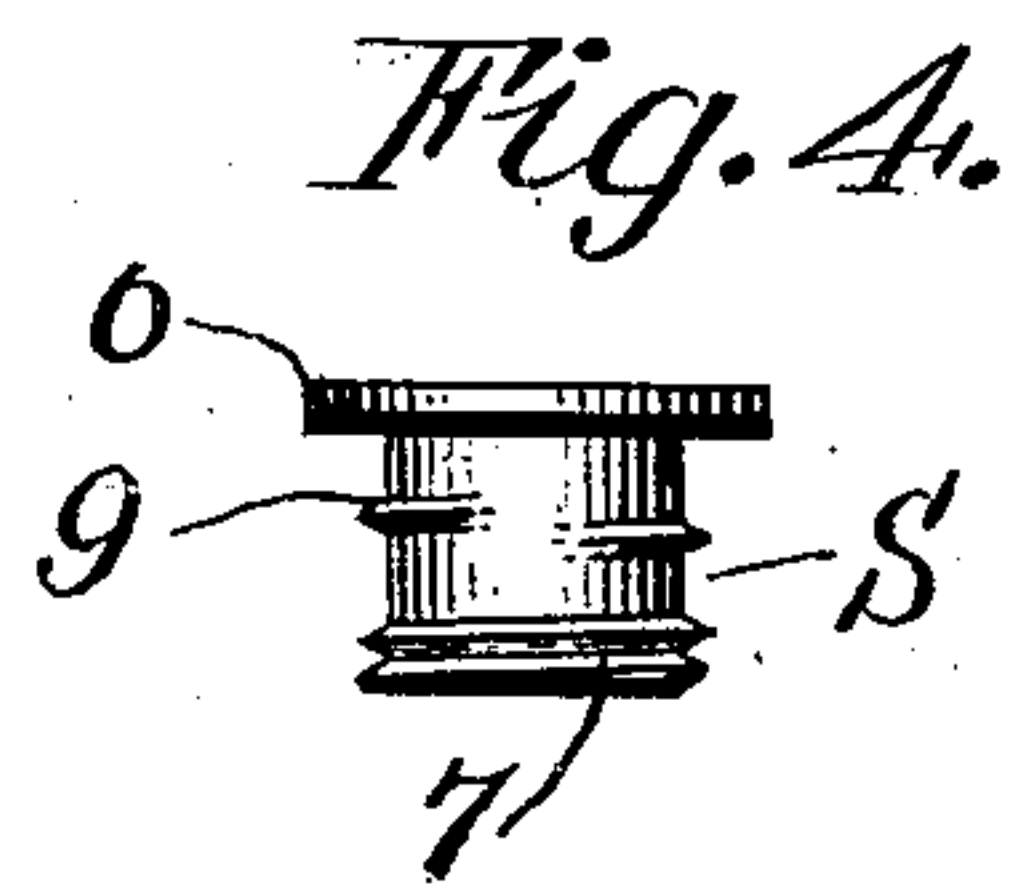
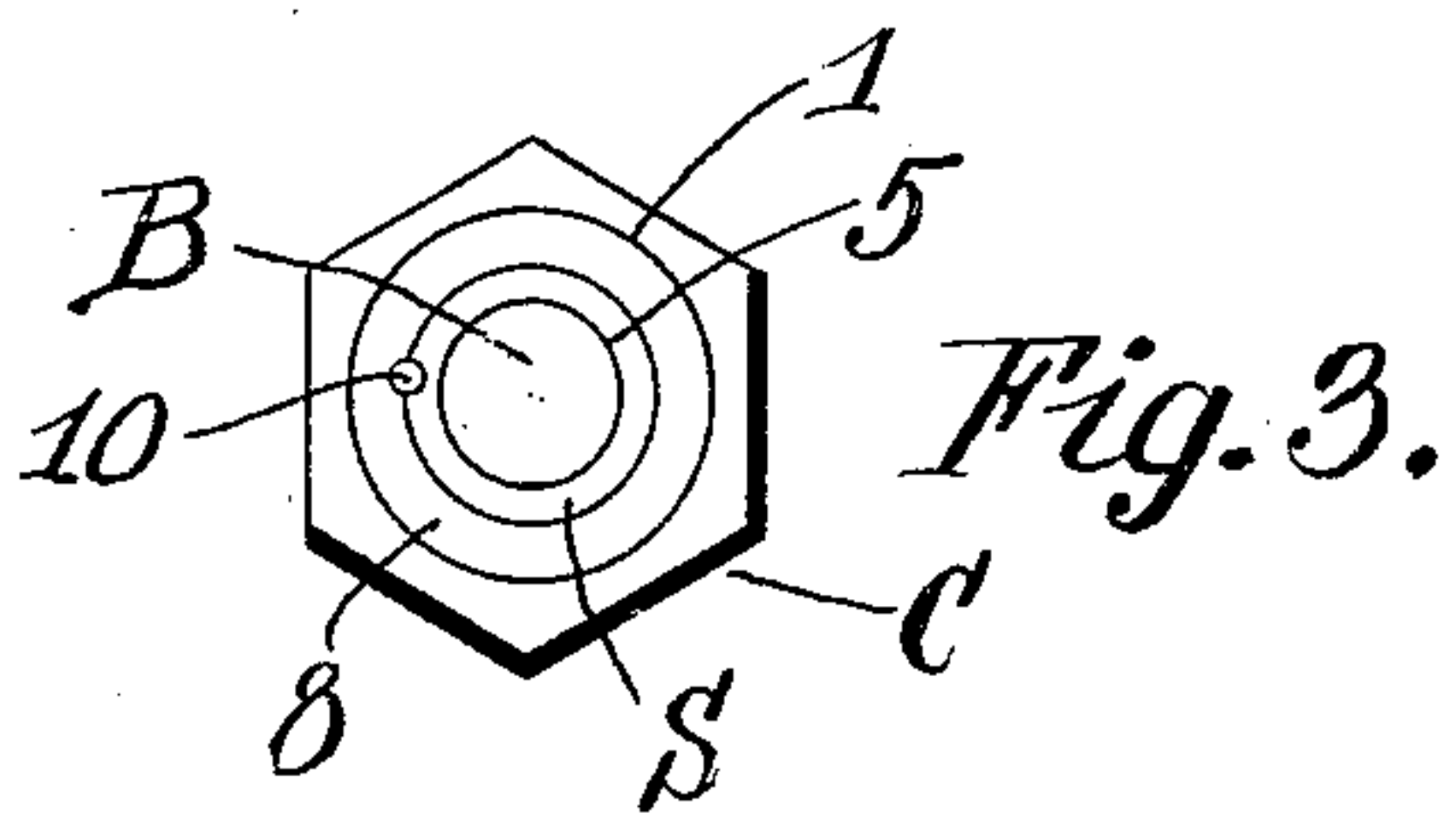
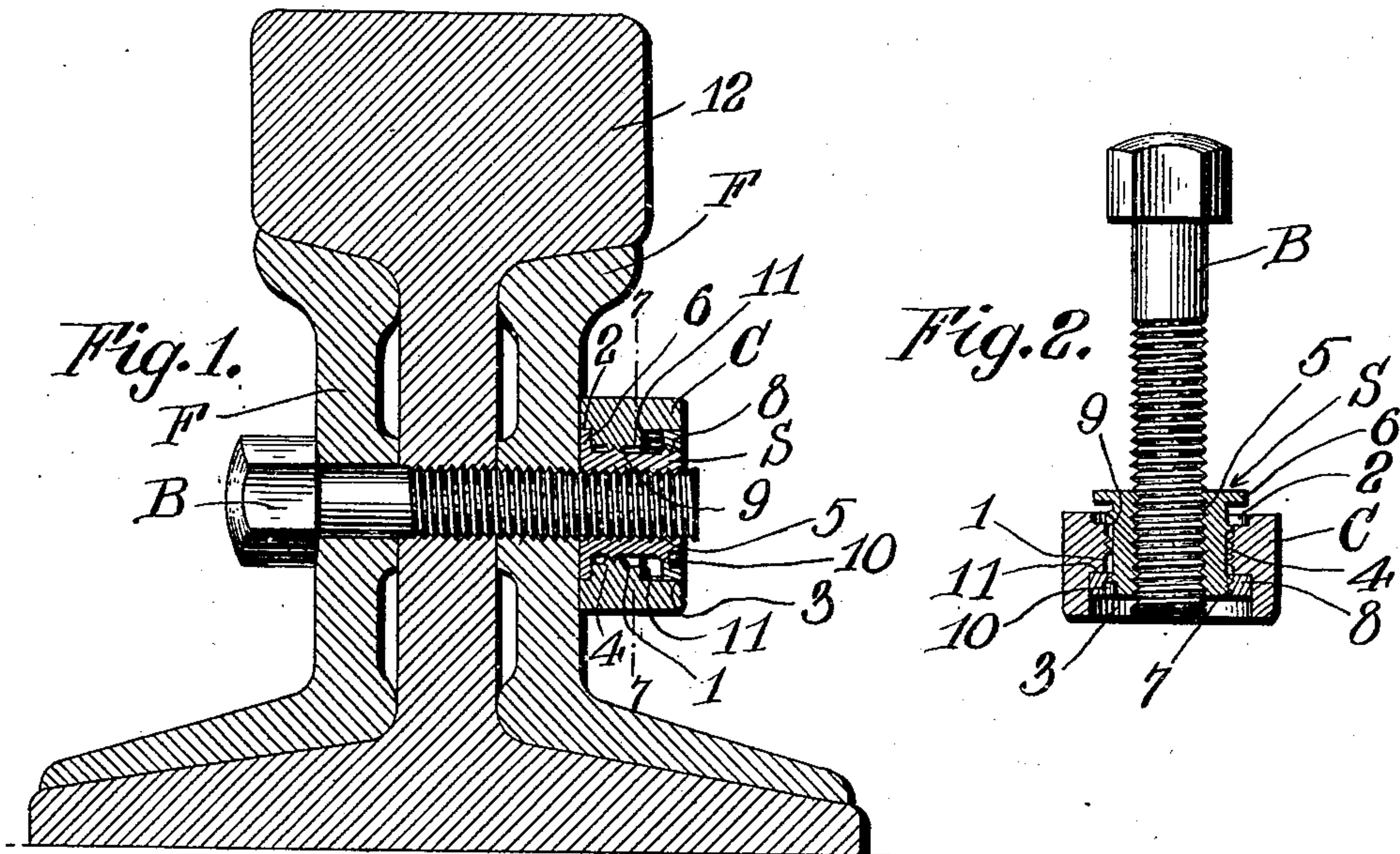


No. 875,561.

PATENTED DEC. 31, 1907.

D. VERNA,  
NUT LOCK.

APPLICATION FILED SEPT. 10, 1907.



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Witnesses:  
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# UNITED STATES PATENT OFFICE.

DANIEL VERNA, OF PHILADELPHIA, PENNSYLVANIA.

## NUT-LOCK.

No. 875,561.

Specification of Letters Patent.

Patented Dec. 31, 1907.

Application filed September 10, 1907. Serial No. 392,091.

*To all whom it may concern:*

Be it known that I, DANIEL VERNA, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Nut-Locks, of which the following is a specification.

This invention relates to nut locks; and it has for its object to provide an improved construction whereby the nut, after being tightened in the usual manner, shall be rendered incapable of removal by ordinary means, thus preventing tampering with or removal of nut and bolt fastenings equipped with or constructed in accordance with the invention.

With these and other ends in view which will readily appear as the nature of the invention is better understood, the same consists essentially in the improved construction of the nut, the same being composed of two parts or members, one of which engages the bolt in the usual manner, while the other part is loosely connected with the first member so that, when turned, in a reverse direction, as in the act of unscrewing or removing the nut from the bolt, it will rotate loosely and freely without effecting separation of the nut from the bolt.

The invention further consists in the improved construction, and novel arrangement and combination of parts which will be hereinafter fully described and particularly pointed out in the claims.

In the accompanying drawing has been illustrated a simple and preferred form of the invention; it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the invention may be resorted to when desired.

In the drawing, Figure 1 is a vertical sectional view showing the invention applied to a railroad rail joint. Fig. 2 is a vertical sectional view taken longitudinally through the bolt, and nut, and showing the position occupied by the parts when an attempt is made to remove the nut. Fig. 3 is an end view of the bolt with the nut in position. Fig. 4 is a side elevation of the inner member of the nut with the ring at the outer end of the same, detached. Fig. 5 is a sectional detail view of the outer member of the nut. Fig. 6

is a sectional detail view of the ring. Fig. 7 is a sectional detail view taken on the plane indicated by the line 7—7 in Fig. 1.

Corresponding parts in the several figures are denoted by like characters of reference.

The improved nut is composed of an exterior member or casing C and an inner member or sleeve S.

The casing C is of polygonal shape, the side walls thereof affording seats for an ordinary wrench whereby the device may be manipulated. Said casing is provided with a longitudinal bore or aperture 1, the inner and outer ends of which are enlarged, to form recesses or cavities 2 and 3; the bore 1 is provided intermediate the ends thereof with a female thread 4 of limited extent.

The sleeve S is provided with a female threaded bore or aperture 5 adapted for engagement with threads of the bolt B in connection with which the improved nut is to be used; said sleeve is provided at one end thereof with an annular flange 6 adapted to be seated in the recess 2 at the inner end of the bore in the casing C; the outer end of the sleeve has a screw thread 7 adapted for engagement with an interiorly threaded ring 8 which, when fitted upon the thread 7 is adapted to be seated in the recess 3 at the outer end of the bore in the casing C; the flange 6 and ring 8 thus constitute stop-members to prevent the separation of the sleeve from the casing. The sleeve S is furthermore provided, intermediate the ends thereof, with a male thread 9 preferably extending only about three-fourths the perimeter of the sleeve, said thread being for engagement with the female thread 4 in the bore of the casing. The threads 7 and 9 are made of the same pitch, so that the thread 7 may be carried through and beyond the female thread 4 of the casing.

In assembling the parts of the improved nut, the sleeve S is inserted endwise into the casing C from the inner end of the latter, the thread 7 being carried beyond the female thread 4 and the thread 9 being placed in engagement with said female thread; when the parts are thus positioned, the flange 6 will be seated in the recess or cavity 2. The ring 8 is now adjusted upon the thread 7 at the outer end of the sleeve S, where it may be securely locked by means of a locking pin or plug 10, thus preventing the removal of the



sleeve from the casing; the recess or cavity 3 is however of greater depth than the thickness of the ring 8, thus permitting the casing to be turned upon the sleeve until the female thread 4 is disengaged from the male thread 9 upon the sleeve; the ring 8 will now constitute a flange or stop which prevents the separation of the casing from the sleeve by engaging the shoulder 11 at the inner end of the recess or cavity 3; at the same time the casing C may rotate freely upon the sleeve, without disturbing the position of the latter.

In the drawing, the device has been shown applied in operative position upon an ordinary rail joint; 12 designating the rail and F—F the fish plates or splice bars; the bolt B passing through the rail and fish plates after which the nut is applied and tightened in the usual manner. While the nut is being tightened, the shoulder at the inner end of the cavity 2 engages the flange 6 of the sleeve S, said flange forming a stop to prevent the casing from moving inwardly upon the sleeve beyond a point at which the inner faces of said sleeve and casing are approximately flush, or disposed in the same plane; the inner faces of said sleeve and casing will thus simultaneously engage the bearing surface,—in this case formed by one of the fish plates or splice-bars. Thus, the casing will be first turned up, or tightened upon the sleeve, and the nut formed by the casing and sleeve, jointly, will then be turned up and tightened upon the bolt. After the nut has been tightened upon the bolt, any tendency of the sleeve S to work loose upon the bolt, under the influence of jarring or rattling, will be counteracted by the thread 9 of the sleeve engaging the female thread 4 of the casing, which, being of larger pitch than the thread of the sleeve engaging the thread of the bolt, will move at a different speed, thus having a locking effect or tendency. Any attempt to remove the nut will simply result in disengaging the female thread 4 of the casing from the short or three-quarters male thread upon the sleeve S, and the casing will thus revolve loosely on the sleeve while the latter remains tightly in locking engagement with the nut. It will thus be seen that any tampering with or unauthorized removal of the nut will be positively prevented.

The device is simple, inexpensive, and

thoroughly efficient for the purposes for which it is provided.

Having thus fully described the invention, what is claimed as new is:—

1. A nut comprising an exterior casing, a sleeve longitudinally movable in said casing and having threaded engagement therewith intermediate the ends thereof, and means for securing the sleeve in the casing against endwise removal, said sleeve and casing having coinciding bearing or engaging faces at their inner ends.

2. A nut comprising an exterior casing and a longitudinally apertured and threaded bolt engaging sleeve movable longitudinally of the casing and having threaded engagement therewith intermediate the ends thereof, said sleeve and casing having coinciding bearing or engaging faces at their inner ends.

3. A nut comprising a polygonal casing having a longitudinal bore enlarged to form terminal recesses, and a female thread intermediate said recesses in combination with a bolt engaging sleeve having a short male thread engaging the female thread of the casing and provided at the ends thereof with stop-members engaging the terminal recesses at the ends of the bore through the casing.

4. A nut comprising a bolt engaging sleeve, an exterior casing having a limited threaded engagement with the sleeve, and terminal stop-members upon the sleeve adapted for engagement with the casing to prevent separation of the sleeve and casing, said sleeve and casing having coinciding bearing or engaging faces at their inner ends.

5. A nut comprising a polygonal casing having a longitudinal bore enlarged to form terminal recesses, and a female thread intermediate said recesses, in combination with a bolt engaging sleeve having a short male thread engaging the female thread of the casing, one end of said sleeve being provided with an annular flange and the other end with a female thread, and a threaded ring engaging the female thread of the sleeve to secure the latter within the casing.

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

DANIEL VERNA.

Witnesses:

A. F. RUSSELL,  
H. HAMMOND.