

F. Tudor,
Screw Bolt,
N^o 83,225, Patented Oct. 20, 1868.

Fig. 1

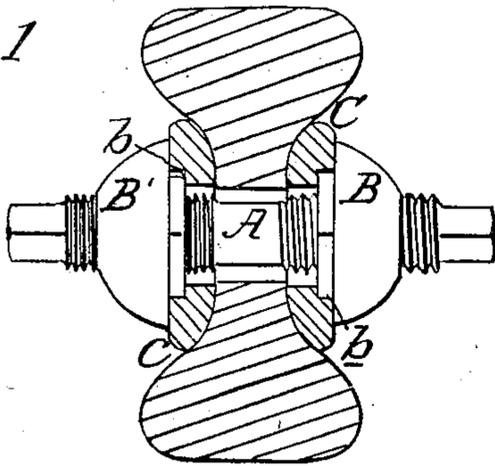


Fig. 2.

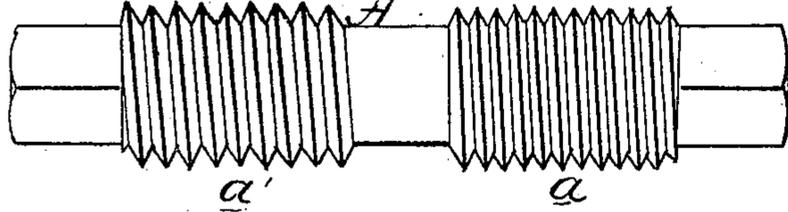
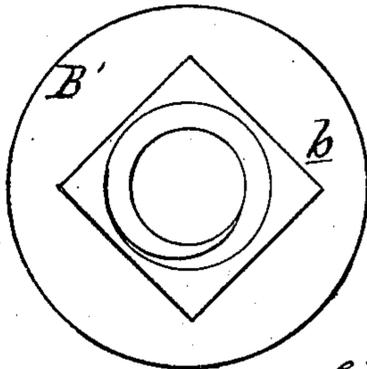
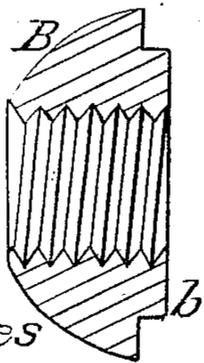


Fig. 3.



Witnesses
Frank Trigg
John Bulkeley

Inventor
F Tudor
By his attorney
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United States Patent Office.

FREDERIC TUDOR, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 83,225, dated October 20, 1868.

IMPROVEMENT IN SCREW-BOLT.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, FREDERIC TUDOR, of Boston, Massachusetts, but at present residing in the city of Paris, in the Empire of France, have invented an Improved Screw-Bolt for Rail-Couplings, and other purposes; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention consists of a bolt having two screw-threads of different pitches or gauges, but running in the same direction; the said bolt to be used for coupling rails, and for other purposes, where ordinary bolts are liable to be shaken loose by vibration, all of which is fully described hereafter.

In order to enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation, reference being had to the accompanying drawing, which forms a part of this specification, and in which—

Figure 1 is a transverse sectional view of my improved bolt, showing its application to a rail-coupling.

Figures 2 and 3, enlarged detached views of the bolt, and of the nuts which may be used in connection with the same.

Similar letters refer to similar parts throughout the several views.

At one end of the bolt A is cut a screw-thread, *a*, and at the opposite end a thread, *a'*, the latter running in the same direction as, but having a different pitch or gauge from, the thread *a*, the bolt being squared at each end, as shown at *d*, so that it may be readily turned by means of a screw-wrench.

This bolt, when applied to a rail-coupling, is passed through openings in the clips or coupling-plates C, and through an opening in the rail, as shown in fig. 1, and upon one end of the bolt is screwed a nut, B, having an internal thread corresponding to the thread *a*, and upon the other end a similar nut, B', having a thread corresponding to the thread *a'*.

The nuts B B' are in the present instance semi-spherical in shape, and are prevented from turning with the bolt by square projections, *b*, which enter recesses formed for their reception in the plates C.

When the bolt A is turned, the nuts B B' will be caused to travel upon it in the same direction, but at different rates of speed, for, as the thread *a'* has the greater pitch, it will be evident that the nut B' will move faster than the nut B on the thread *a*, and will

either approach or recede from the latter, according to the direction in which the bolt is turned. Consequently, by operating the bolt, the plates C, against which the nuts bear, may be drawn together, and caused to firmly embrace the ends of the two rails, or they may be withdrawn from the same, at pleasure.

When the coupling-plates are connected by ordinary bolts and nuts, or by double bolts, having both right and left-handed threads, the nuts are drawn quickly together, and although they at first firmly bind the plates, they are soon loosened by the continual vibrations to which they are subjected. The coupling consequently becomes imperfect until the nuts are again tightened. This great objection is entirely obviated by my invention, as the nuts in this case, though drawn together somewhat slowly, are so firmly jammed that any ordinary vibrations will fail to loosen them upon the bolt.

I am aware that a compound screw, (or a screw greater in diameter at one end than at the other, and having at the opposite ends threads varying in pitch or gauge,) has been used for imparting motion to slides or plates which it is required to force with great pressure against any object, and I therefore lay no claim to such a screw, or to its use for such a purpose. It will be seen, however, that the within-described bolt, with its different threads and nuts, and detached from other devices, is an article of manufacture complete in itself, and is therefore a substitute for an ordinary bolt and nut, and may be sold without reference to the special use to which it may be applied. While my improved bolt can be employed in almost every instance where the ordinary bolt and nut can be used, it is superior to the latter, as neither the bolt nor its nuts will be turned by the jarring of the parts to which they are attached, and as these parts can be subjected to a pressure which could not otherwise be readily obtained.

I claim as my invention, and desire to secure by Letters Patent—

The within-described screw-bolt as an article of manufacture.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

FREDERIC TUDOR.

Witnesses:

E. RICHARD,
JAMES HAND.