(No Model.)

W. H. BROOKS.

LOCK FOR METALLIC PLATES.

No. 491,206. Patented Feb. 7, 1893.

Fig. 1.

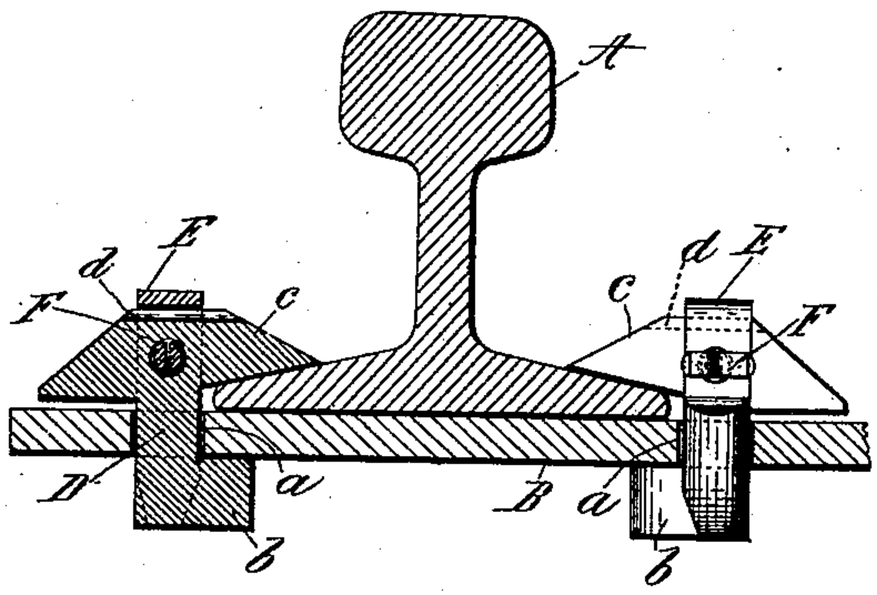


Fig. 2.

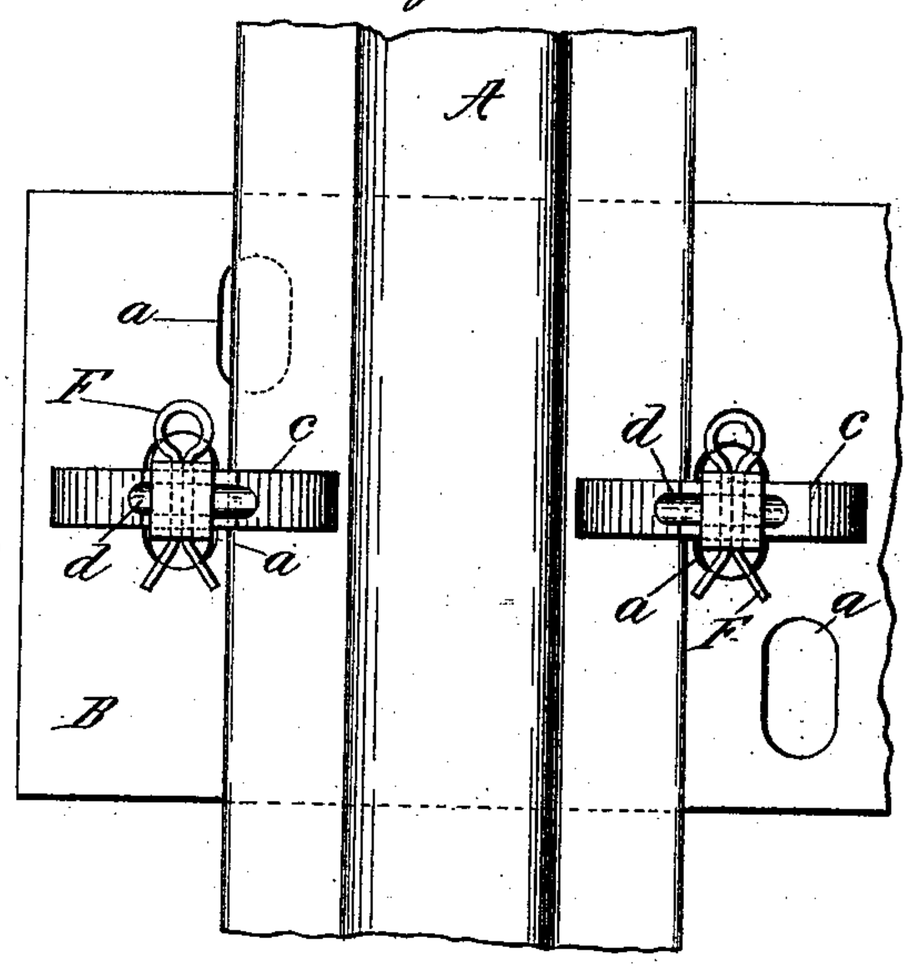


Fig. 3.

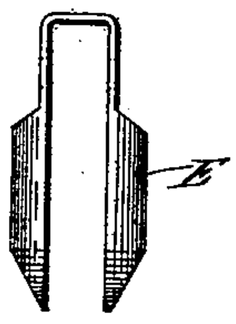


Fig. 4.

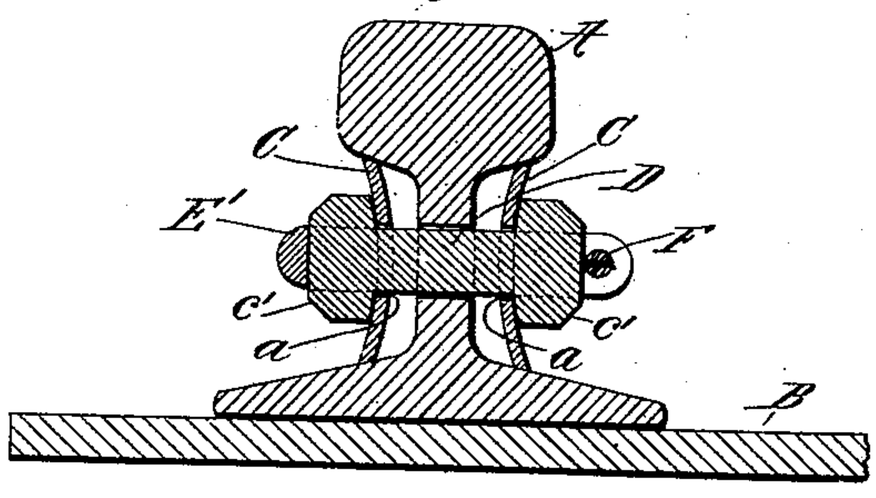
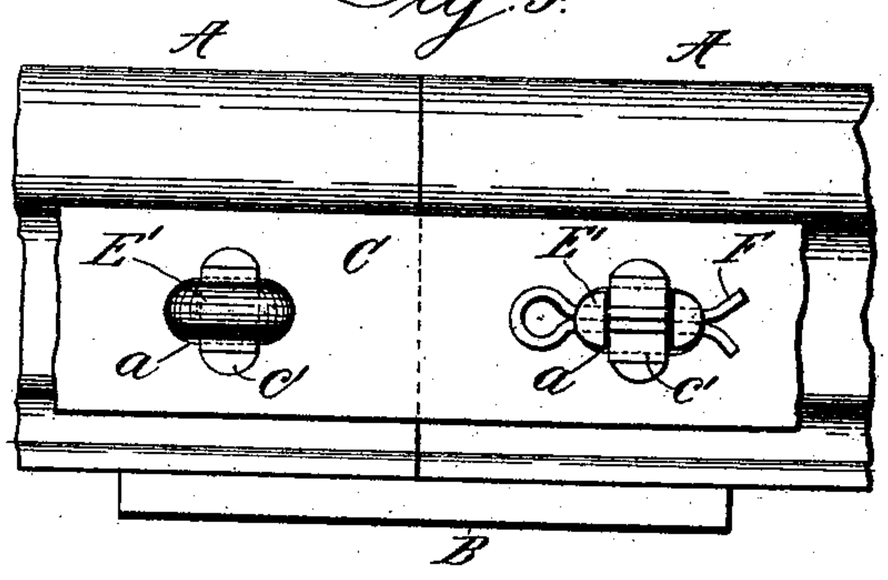


Fig. 5.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM H. BROOKS, OF WEST POINT, NEW YORK.

LOCK FOR METALLIC PLATES.

SPECIFICATION forming part of Letters Patent No. 491,206, dated February 7, 1893.

Application filed March 4, 1892. Serial No. 423,785. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. BROOKS, of West Point, county of Orange, and State of New York, have invented certain new and useful Improvements in Locks for Metallic Plates, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to means for locking metallic plates and has for its object the production of a simple, efficient, easily applicable and inexpensive lock, obviating the use of the common threaded bolt and nut, or the wedge shaped slot and key, but capable of securing the parts with all desired firmness and with entire freedom from accidental disarrangement. To accomplish all of this and to secure other and further advantages in the matters of construction, operation and use, my improvements involve certain new and useful features of invention as will be herein first fully described and then pointed out in the claims.

My improved device is peculiarly applicable in connection with railway rails, but manifestly it may be used in other situations where similar locking capabilites are required, and while I have shown it only as applied upon or in connection with a railway rail or rails, I desire it understood that the invention or improvement is by no means limited to that particular use.

In the drawings Figure 1 is a view partly in section and partly in elevation, illustrating my improved lock as applied for securing a rail upon a metallic cross tie, and Fig. 2 is a top or plan view corresponding with Fig. 1. Fig. 3 is a side elevation of the clevis key represented in previous figures but detached from other parts. Fig. 4 is a sectional view and Fig. 5 is a side view showing the improved lock applied in connection with the fish plates of a railway rail.

Like letters of reference, wherever they occur indicate like parts in all the figures.

A. A. are railway rails or portions thereof, B. B. are metallic cross ties, and C. C. are fish plates, all of which stand in the place of any metallic plates or parts which it may be desired to lock together. The parts, whatever they may be, are provided with oblong perforations as *a a* to admit of the insertion of the bolt or main piece of the lock. The lock is composed of three parts, the bolt, the clevis key, and the securing pin.

D is the shaft of the bolt carrying two heads of greater length than width, the shaft being of length suitable to bring the heads to a bearing on the plates. In Figs. 1 and 2 the shaft is provided with heads *b* and *c*, of which *b* extends only on one side of the shaft. One of the heads is passed through the perforations *a* and then turned across the axis thereof. The clevis key E is then inserted in the perforations *a* so as to fill the space not occupied by the shaft, and thus it serves to prevent the bolt from turning. Being thus located, the split pin F is driven through perforations in the clevis and in the bolt and its ends spread. Thus the lock is made perfectly secure against any accidental disarrangement.

In fastening the rails to a tie, the clevis key is placed over the bolt because it would be inconvenient to locate it in any other way. Its lower points are sharpened so that they will easily enter the ballast, otherwise the springing of the tie might bear the clevis up against the securing pin. The groove *d* is merely to facilitate insertion of any suitable implement to raise the clevis in case it should become rusted to place.

In the plan view, Fig. 2, the additional perforations in the tie indicate the manner in which a rail secured by my improved lock is to be adjusted. The locks are first removed, the rail shifted to the new position and then secured by entering the lock bolt through the new perforations. When the clevis key is placed over the bolt the bolt is perforated to permit the pin to pass through it. This is not necessary when both ends of the bolt are accessible, for the clevis key may reach over one head of the bolt while the pin reaches over the other. Both heads of the bolt may be of like form or extend on both sides beyond the shaft. Thus the heads *c' c'* in Figs. 3 and 4 are of like form. The bolt is passed through the fish plates and through the rail and then turned in the oblong perforations as above explained. The fish plates being slightly dished, the turning of the bolt will crowd them up to their final bearing as will be readily understood. Then the clevis E' is

located and the split pin inserted, as indicated, the pin in this case requiring no perforation in the bolt. These explanations will be sufficient to enable one to adapt the improved form of lock in any desired situation.

The reduced portion of clevis E as shown in Figs. 1 and 3 is merely for the purpose of saving in metal and consequently in cost of construction. The security of the lock from accidental disarrangement and the facility with which it may be applied especially recommend it for use upon railroads, and in this and other situations it will be found to answer all the purposes and objects of the invention previously set forth. All the parts may be easily and cheaply made by drop forging, or by other process if desired.

Having now fully described my invention what I claim as new herein and desire to secure by Letters Patent, is:—

1. The combination with two or more metallic plates or parts having oblong perforations, of a double headed bolt, a clevis key located in the perforations to prevent the bolt from turning, and a securing pin passing through the clevis, substantially as explained and for the purposes set forth.

2. The herein described lock for metallic plates, the same composed of the double headed bolt, a clevis key, and the securing pin passing through the clevis, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of two witnesses.

WILLIAM H. BROOKS.

Witnesses:
JOHN G. PAVER,
HENRY T. ALLEN.