J. HANSEN.

RAIL FASTENER.

APPLICATION FILED JUNE 20, 1917.

Patented May 7, 1918.

2 SHEETS—SHEET 1.

1,265,327.

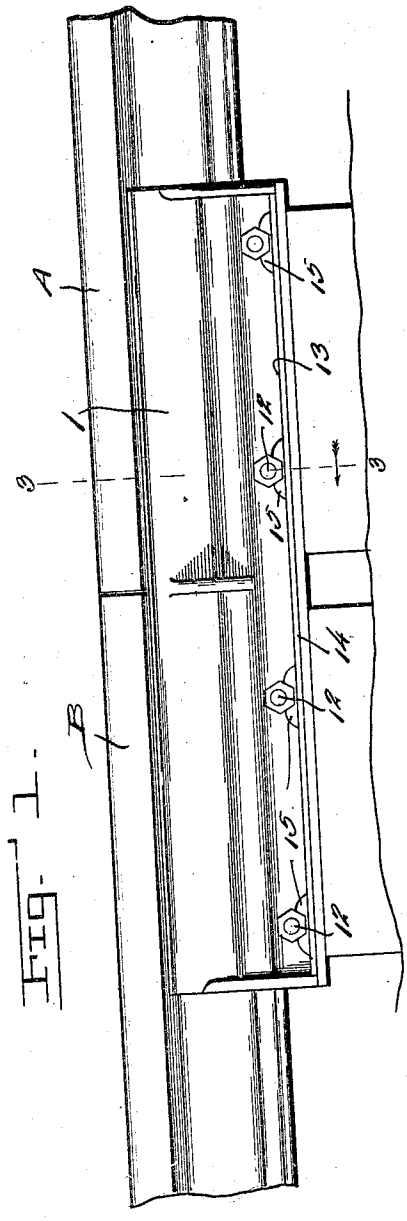

Fig. 1.

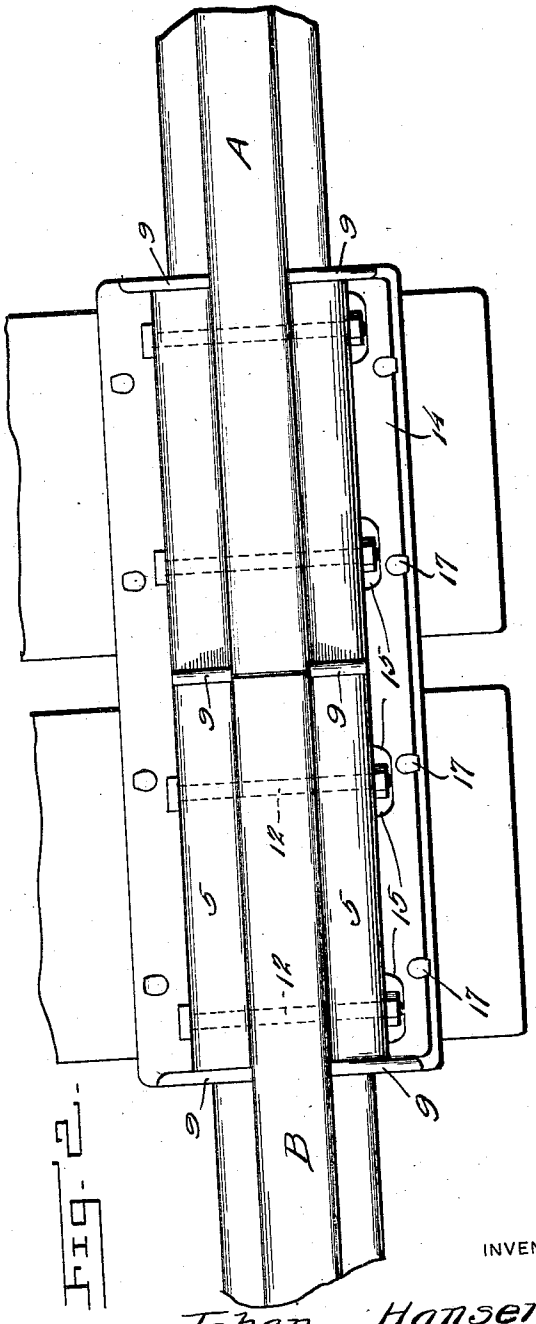

Fig. 2.

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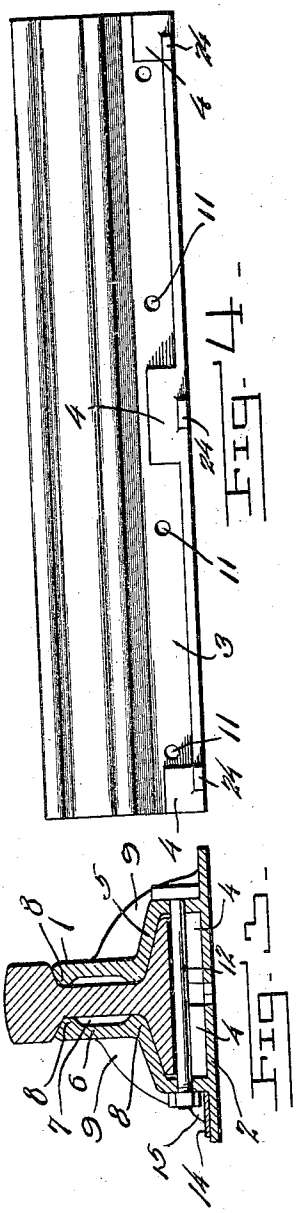

Fig. 4.

Fig. 2.

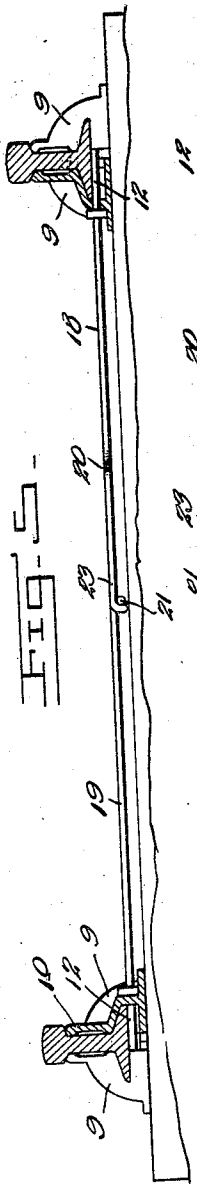

Fig. 5.

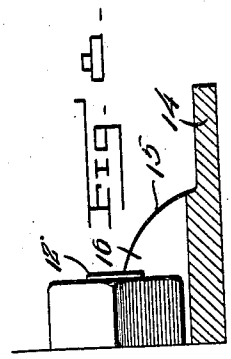

Fig. 3.

Fig. 6.

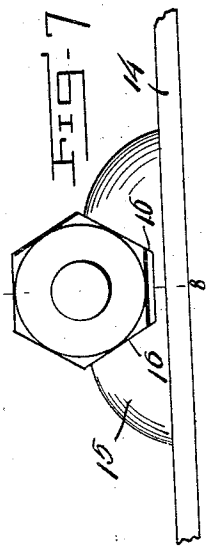

Fig. 7.

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UNITED STATES PATENT OFFICE.

JOHAN HANSEN, OF TONOPAH, NEVADA.

RAIL-FASTENER.

1,265,327. Specification of Letters Patent. Patented May 7, 1918.

Application filed June 20, 1917. Serial No. 175,910.

To all whom it may concern:

Be it known that I, JOHAN HANSEN, a citizen of the United States, residing at Tonopah, in the county of Nye and State of Nevada, have invented certain new and useful Improvements in Rail-Fasteners, of which the following is a specification.

This invention relates to a rail fastener and more particularly to a device for retaining the meeting ends of railway rails in their proper positions whereby vertical movement of the ends will be prevented for eliminating the unevenness on the top of the rails and for preventing lateral movement of the rails with respect to each other.

One of the objects of the invention is to provide a device of this character that will elevate the rails so that the meeting end portions will not contact with the railroad ties and whereby the base flanges of the rail will contact with suitable metallic supporting members designed to rigidly retain the rails in their proper positions and prevent the movement which often occurs when the rails are mounted on the ordinary wooden tie.

A further object of the invention is the provision of a rail fastener of this character which includes the provision of flange members acting in unison to perform the functions common to the ordinary fish plate, and fastened in a manner that will eliminate the use of bolt-holes in the web of the rail or any other portion thereof.

Another object of the invention is the provision of co-acting rail engaging members having fastening bolts associated with the members in a manner that will prevent loosening of either the bolts or the said members through the provision of locking means engaged with portions of the said rail engaging members.

The invention also includes a pair of rail engaging members designed to tightly embrace the meeting ends of the rails and having portions adapted to contact beneath the rail so that the rail engaging portions will be held in the proper spaced relation should any unevenness occur in the structure of the meeting ends of the rails.

A further object of this invention is the provision of a rail fastener which consists of comparatively few parts and is simple in construction, but durable and well adapted to withstand the rough usage to which devices of this character are ordinarily subjected.

For a full description of the invention and the advantages and merits thereof, reference is to be had to the following description and the accompanying drawings, wherein is illustrated the preferred form of my invention, in which;

Figure 1 is a side elevation.

Fig. 2 is a top plan.

Fig. 3 is a section on the line 3—3 of Fig. 1.

Fig. 4 is an elevation of the inside of one of the rail engaging members.

Fig. 5 is a vertical transverse section through two railway rails showing the invention applied thereto.

Fig. 6 is a detail view of a portion of the invention.

Fig. 7 is an elevation of a fragmentary portion of the nut locking element.

Fig. 8 is a section on the line 8—8 of Fig. 7.

Referring to the drawing, wherein is illustrated the preferred form of my invention, and in which like numerals of reference indicate corresponding parts throughout the several views, the meeting ends of the two railway rails A and B are placed in close proximity as shown by Figs. 1 and 2 of the drawing. Arranged on each side of the rails is a rail engaging member 1, both of which are identical in construction. Each rail engaging member includes a base plate 2 which may be of any desired length and is of a width sufficient to permit their proximate longitudinal edges to be slightly spaced apart when the members are in applied position. Integrally formed with the base plate and extending longitudinally is a vertical wall 3. At each end of the base plate and intermediate the ends thereof is a rail seat 4 the top surface of which is perfectly horizontal so that the base flange of the rail may rest upon the rail seats and be supported in a position above the rail tie upon which the base plates are mounted. These rail seats are integrally formed with the rail engaging member and extend from the inner surface of the wall to the inner edge of the plate 2. A longitudinally extending retaining flange 5 is integrally formed with the upper edge of each vertical wall 3 and contacts with the top surface of the base flange of the rail when the rail is

seated upon the rail seats 4. Each retaining flange 5 carries a clamp flange 6 which acts in the same capacity as the ordinary fish plate commonly employed for holding the rails together. In this instance, however, the proximate surfaces of the clamp flanges 6 are recessed as at 7 so that the ribs 8 are provided for each flange 6. These ribs contact with the upper and lower portions of the web of the rail as clearly shown by Fig. 3 of the drawing. The upper marginal edge of the flange 6 of each rail engaging member snugly fits beneath the head of the rail.

For bracing the flanges 5 and 6 and the wall 3, I have provided the flanges 9 integrally formed with the said flanges.

The walls 3, of each pair of rail engaging members are provided with openings 11 for receiving the fastening bolts 12, and the openings are arranged low enough to permit the bolts to extend across the space beneath the base flange of the rail without making contact therewith. These meeting ends of the rails are free from the common expedient of bolt-holes and when the bolts are in proper position the clamp flanges 6 will be held tightly in their respective positions. One end of each bolt 12 is provided with a relatively large square head one edge of which engages the top surface of the base plate 2 so that the bolt is prevented from turning after being placed in position. Suitable nuts, preferably of the hexagonal type, are mounted on the opposite ends of the bolts and these nuts are prevented from accidental displacement by a locking element 13 comprising a longitudinal plate 14 adapted to rest upon the top surface of the base plate 2. As shown in detail in Figs. 7 and 8, this plate is provided with the integrally formed lugs 15 having their central portions cut out to provide the nut receiving recesses 16 adapted to fit the particular type of nut employed upon the bolts 12. After the nuts have been placed upon the bolts it is merely necessary to slide this plate 14 into its proper position and the same is then held tightly to the base plate by the spikes 17 which are projected through suitable openings formed in the base plate 2 of each rail engaging member. The heads of the spikes, however, overlap the marginal edge of the plate 14 thereby holding the same in fixed position.

In order that the rails may be prevented from spreading I have provided at tie rod 18 which includes the two interlocking members 19 and 20. The member 19 is formed by an extension of one of the bolts 12. The other member 20 is also formed by an extension of one of the bolts 12 mounted in the opposite rail engaging member at the other side of the track. The proximate ends of the members 19 and 20 are held together through the medium of a T-head 21 extended through an opening or slot 22 formed in the enlarged end 23 of the member 21. When the nuts on the outer ends of the bolts 12 which form a part of the tie rod, are tightened the T-rod will be drawn into tight engagement with the end of the head 23 thereby forming a brace and maintaining the rails at each side of the track in proper position.

The proximate edges of each pair of base plates are provided with tongues 24 which are formed at the same points at which are positioned the rail seats 4. These tongues have their meeting ends adapted to contact with each other at a point in vertical alinement with the center of the rail. When the bolts 12 are tightened the tongues of each pair of rail engaging members will be moved into engagement and the proper positions of the flanges 6 which engage the webs of the rails will thereby be determined. Furthermore these tongues prevent distortion of the lower portions of the rail engaging members when an excessive strain is placed upon the bolts 12.

From the foregoing it will be observed that a very simple and durable rail fastener has been provided, the details of which embody the preferred form. I desire it to be understood however, that slight changes in the minor details of construction may be made without departing from the spirit of the invention or the scope of the claims hereunto appended.

I claim:

1. A rail fastener comprising a pair of rail engaging members including base plates of a combined width considerably greater than the width of the base flange of the rail, whereby the marginal edges of the base plates are extended beyond the marginal edges of the base flange of the rail, the proximate edges of the base plates being provided with prongs projecting laterally and adapted for contact with each other, a vertical wall integrally formed with each base plate and extending longitudinally thereof, and provided with longitudinally spaced openings, bolts extended through the openings and engageable with the said walls for drawing the said walls toward each other to force the said tongues into tight engagement, and means carried by the walls and engageable with the webs of the rails at their meeting ends, for maintaining alinement of the rails and holding the said tongues in engagement with each other.

2. A rail fastener comprising a pair of rail engaging members including base plates of a combined width considerably greater than the width of the base flange of the rail, whereby the marginal edges of the base plate are extended beyond the marginal edges of the base flange of the rail, the prox-

imate edges of the base plates being provided with tongues projecting laterally and adapted for contact with each other, a vertical wall integrally formed with each base plate and extending longitudinally thereof, and provided with longitudinally spaced openings, bolts extended through the openings and engageable with the said walls for drawing the said walls toward each other to force the said tongues into tight engagement, and means carried by the walls and engageable with the webs of the rails at their meeting ends, and brace flanges extending from the said extended marginal edges of the base plates to the said web engaging means.

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

JOHAN HANSEN.

Witnesses:
E. E. DUBREUIL,
GEORGE COSSLETT.