

B. WOLHAUPTER.
 MEANS FOR INSULATING RAIL JOINTS.
 APPLICATION FILED APR. 2, 1912.

1,034,180.

Patented July 30, 1912.

3 SHEETS—SHEET 1.

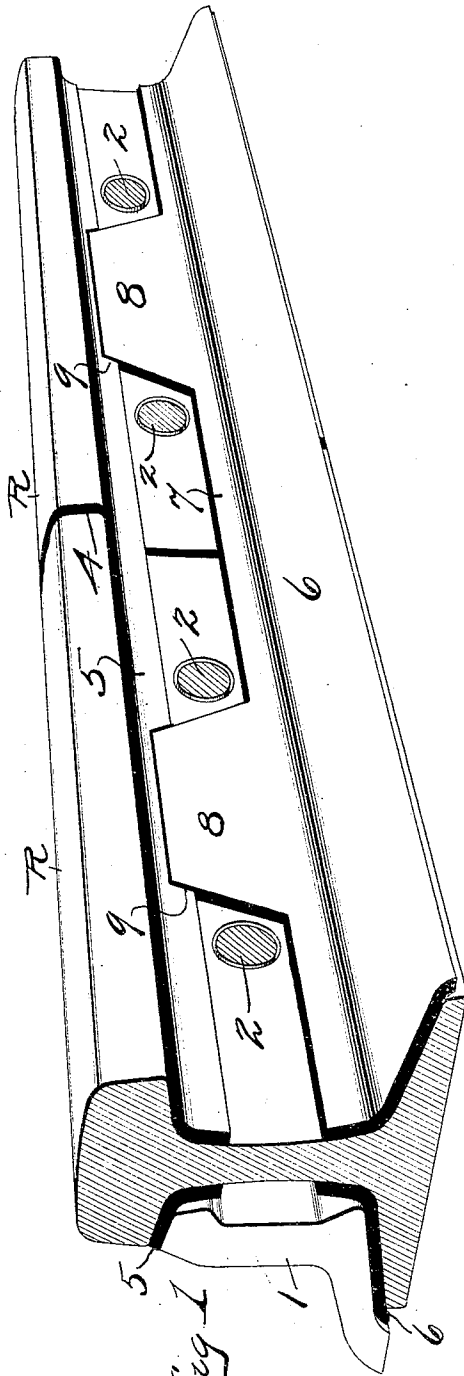


Fig. 1

Witnesses
H. H. Moore
Emory L. Groff.

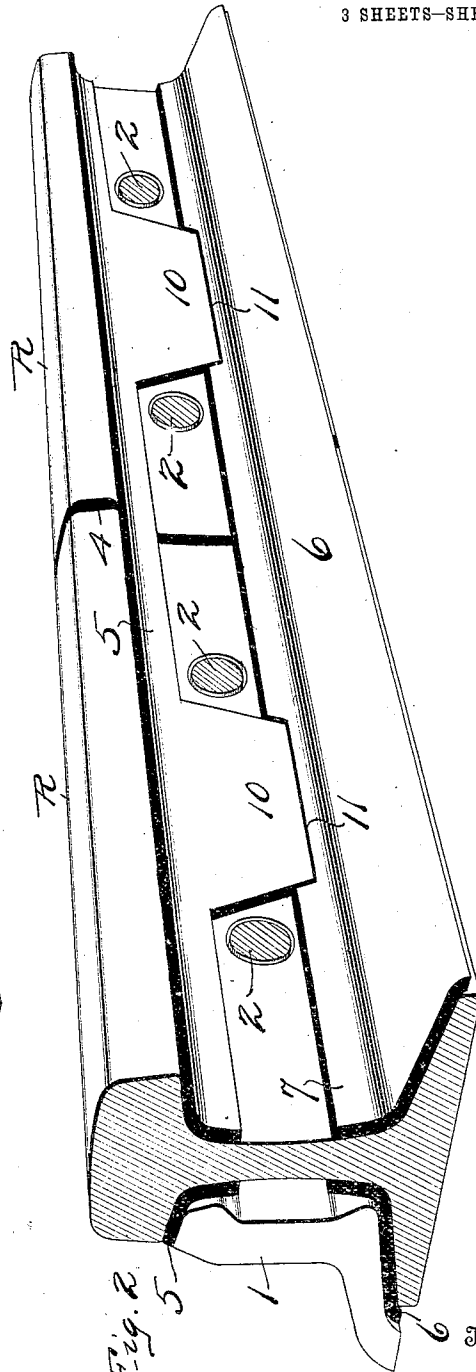


Fig. 2

Inventor
Benjamin Wolhaupter.
 By *S. P. Wolhaupter.*
 his Attorney

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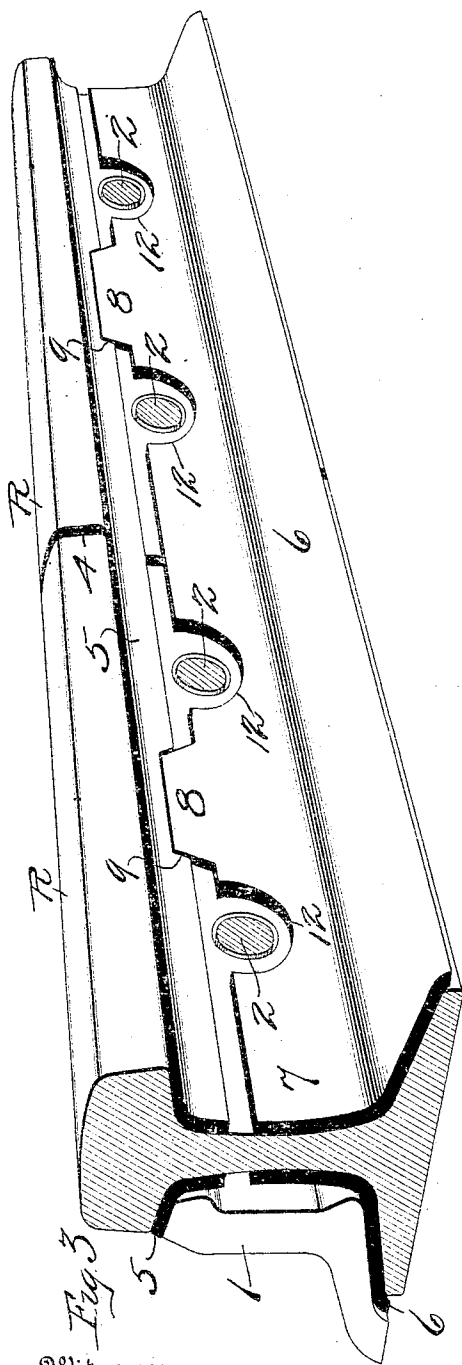


Fig. 3
 Witnesses
 T. H. Moorman
 Emory L. Groff.

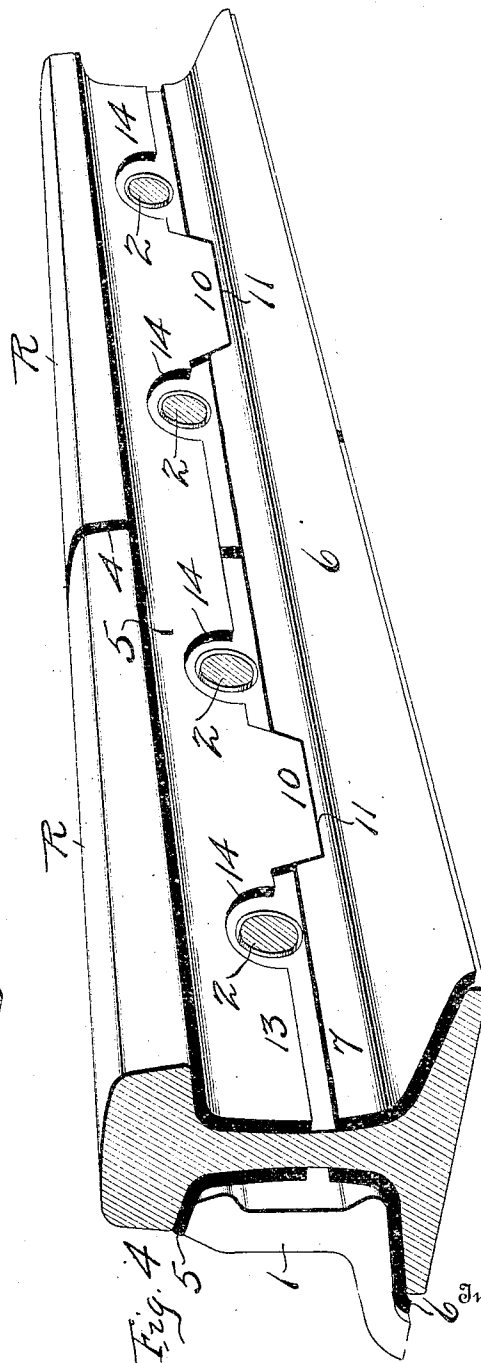


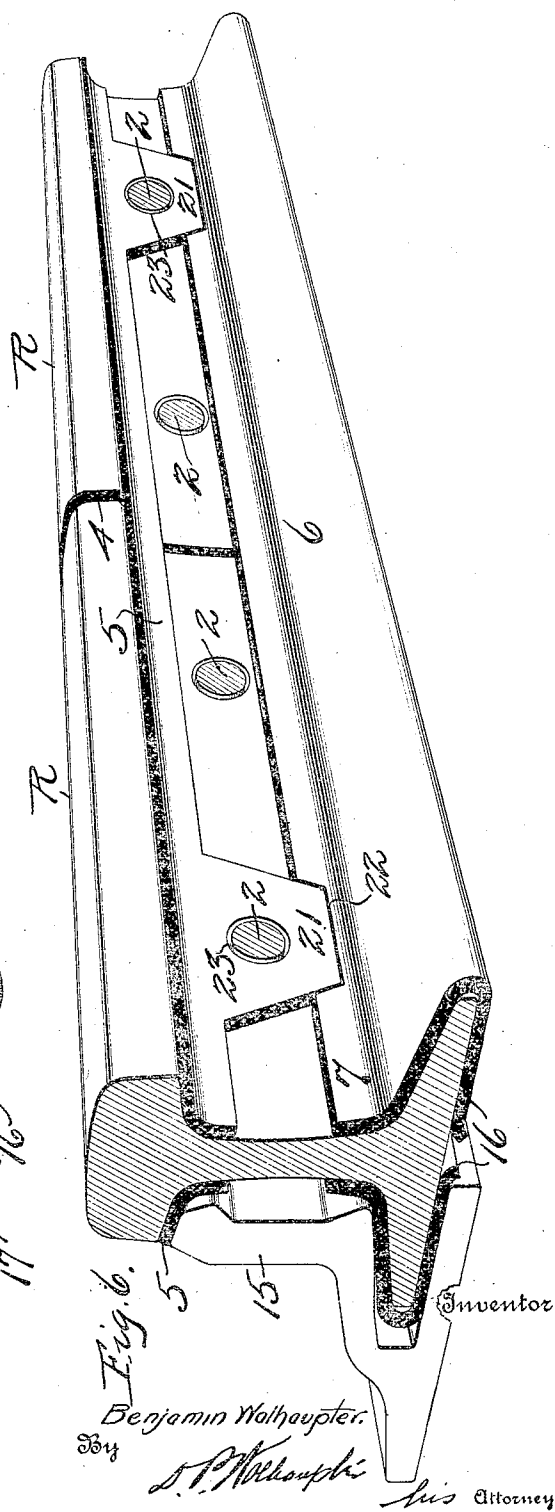
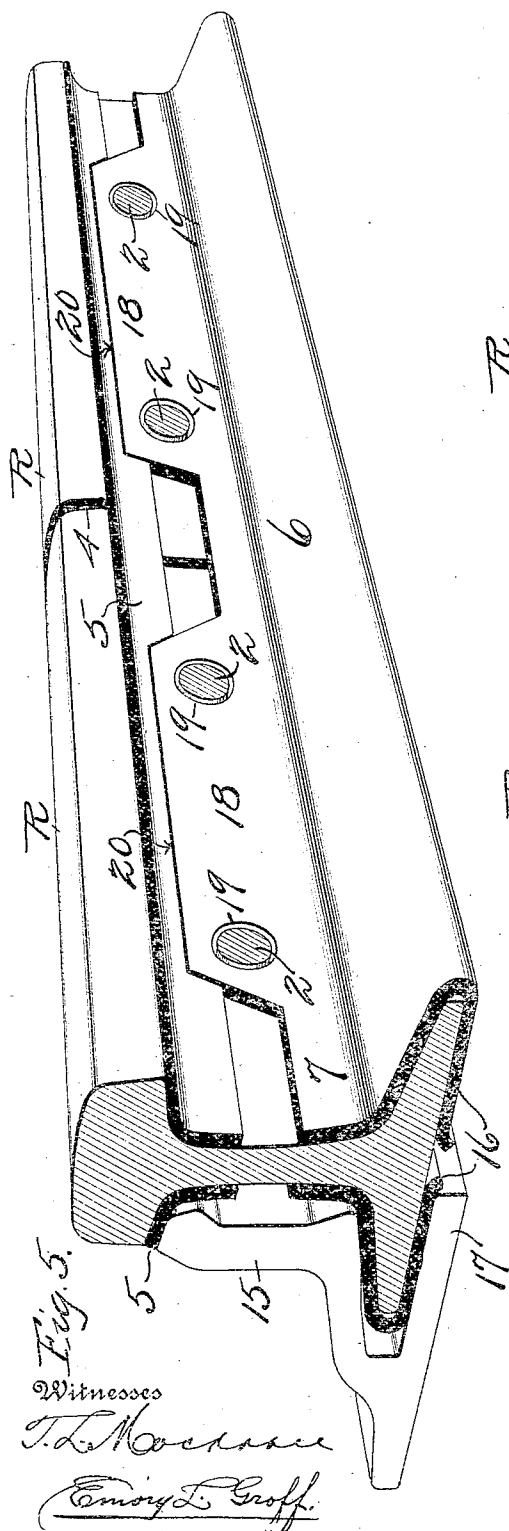
Fig. 4
 Inventor
 Benjamin Wolhaupter.
 By S. P. Wolhaupter
 his Attorney

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3 SHEETS—SHEET 3.



UNITED STATES PATENT OFFICE.

BENJAMIN WOLHAUPTER, OF NEW ROCHELLE, NEW YORK, ASSIGNOR TO THE RAIL JOINT COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK

MEANS FOR INSULATING RAIL-JOINTS.

1,034,180.

Specification of Letters Patent.

Patented July 30, 1912.

Application filed April 2, 1912. Serial No. 688,106.

To all whom it may concern:

Be it known that I, BENJAMIN WOLHAUPTER, a citizen of the United States, residing at New Rochelle, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Means for Insulating Rail-Joints, of which the following is a specification.

This invention relates to insulation for rail joints of the insulated type, and more particularly to that character of rail-joint insulation known as "divided-fiber", wherein the insulation is in two parts, respectively for the head and base flange portions of the rails, whereby a minimum amount of insulating material may be used to the best advantage both electrically and mechanically, and admitting of the ready removal and replacing of worn-out pieces of insulation without disturbing or affecting the remaining good or unworn insulation.

The object of the present invention is to provide novel and practical means for effecting a locking in place of the separate pieces or sections of insulation in order to secure them against relative displacement or creeping under load conditions imposed thereon, thus contributing to the life of the insulation and maintaining its proper insulating relation to the rails and to the joint bars.

To this end, the present invention contemplates an improved means for interlocking the separate pieces or sections of two-part insulation for rail joints, primarily by a direct interlock between the two.

With these and many other objects in view which will more readily appear as the details of the invention are fully understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

Though susceptible of embodiment in various types of rail joints, and adaptable for use with any form of joint bar or splice that may be employed in an insulated rail joint, a few practical embodiments of the invention are shown for illustrative purposes in the accompanying drawings, in which—

Figures 1, 2, 3, and 4 of the drawings are similar perspective view of an insulated rail joint provided with insulation constructed

and arranged in accordance with the present invention, and respectively showing different modifications thereof; the several views omitting one of the side joint bars to fully expose the novel insulation. Figs. 5 and 6 are similar views of other modifications of the invention, and illustrating the same employed in connection with joint bars of the continuous type, thereby illustrating the adaptability of the improvements to various kinds of rail joints.

Like references designate corresponding parts in the several figures of the drawings.

The improved insulation expedients forming the subject matter of this application are intended to be applicable to various kinds of rail joints, and hence available for use with fish plates, plain angle bars, angle bars of the continuous type, channel bars, or any of the divers forms of splices which connect the rails and extend across the joint between them. In all of its applications, the invention possesses the same utility and subserves the same functions.

As above indicated, the present invention relates to novel means for interlocking the two sections or pieces of divided-insulation for rail joints. This divided-insulation is usually in two parts, respectively for the head and base flange portions of the rails. These separate sections are separately renewable and replaceable, and by way of illustrating the application of my invention thereto, reference is first made to Fig. 1 of the drawings, wherein is shown an insulated rail joint including the rails R, R, side joint bars 1, the usual joint bolts 2 which are insulated from the joint bars by any of the approved and well known bolt insulating expedients (not appearing in the present drawings), an insulating end post 4 between the rail ends, and divided or two-part side insulation between the rails and the joint bars, said insulation comprising an upper head section 5, and a lower base section 6.

The sections of insulation 5 and 6 are made of the usual fiber sheets, or other well known insulating material, and each of the same may extend the entire length of the joint, or be of less extent, without affecting the improvements claimed herein. As plainly shown in Fig. 1, the head section of

insulation 5 is arranged above the line of joint bolts 2 and occupies an insulating position between the under side of the rail heads and the bearing head of the adjoining joint bar, while the lower or base section of insulation 6 is arranged over the base flange of the rails between the latter and the foot flange of the joint bar 1, said base section of insulation 6 also including at its inner edge an upstanding flange portion 7 arranged next to the webs of the rails to effectually insulate the bottom inside corners of the joint bars from the rails.

A distinctive feature of the present invention, resides in providing a direct interlock between the head and base sections of the insulation 5 and 6 so as to prevent relative longitudinal displacement of said two sections, or downward displacement of the head section of insulation. Various expedients may be utilized for accomplishing this desirable result. For instance, as suggested in Fig. 1 of the drawings, the flange portion 7 of each base section of insulation 6 may be provided with one or more upstanding extension pieces designated by the numeral 8, and constituting locking tongues that have a registering interlocking engagement within keeper sockets 9 formed in the lower edge of the head section of insulation 5. According to this design, these locking tongues or extension pieces 8 project upward through spaces between pairs of the joint bolts 2, whereby the latter serve as stops to check longitudinal movement or creeping of the base section of insulation 6, while the latter being directly interlocked with the head section of insulation 5, effectually secures the latter against both longitudinal and downward movement.

A modification of the construction shown in Fig. 1 is illustrated in Fig. 2 and consists in reversing the construction above described by forming each head section of insulation 5 with downwardly projecting extension pieces or tongues 10, which register in, and interlock with, keeper sockets or notches 11 provided in the upper edge of the flange portion 7 of the base section of insulation 6. In this case, the joint bolts secure the head section 5 against longitudinal displacement, while the head piece in turn prevents longitudinal displacement or creeping of the base section of insulation 6.

A further modification of the invention as shown in Fig. 3 of the drawings, consists in combining, with the construction and arrangement of parts shown in Fig. 1 of the drawings, the additional feature of extending the flange portion 7, of the base section of insulation 6, into the line or horizontal plane of the joint bolts 2, and providing such flange portion in its upper edge with a series of bolt-receiving recesses 12, through which the joint bolts 2 extend. Accord-

ingly, this construction provides means for directly interlocking the base section of insulation 6 with the joint bolts to check and prevent longitudinal displacement or creeping of the said base section of insulation 6, while the latter in turn performs a similar function in connection with the upper or head section of insulation 5. Likewise, a modification of the construction and arrangement of parts shown in Fig. 2 of the drawings that may be resorted to is shown in Fig. 4 of the drawings, wherein the head section or piece of insulation 5 is illustrated as having its depending web or flange 13 extended into the line or horizontal plane of the joint bolts 2 and provided in its lower edge with a series of bolt-receiving recesses 14 through which the joint bolts extend and prevent the head section of insulation from longitudinal displacement or creeping, while the head section of insulation in turn performs a similar function for the base section of insulation.

By way of illustrating the wide range of modification that may be resorted to, as well as the adaptability of the improvements to various kinds of joints and joint bars, there is shown in Fig. 5 of the drawings a rail joint including a joint bar 15 of the well known continuous type, and to adapt the invention to this type of joint bar, the base section of insulation 6 is provided with a bottom piece or member 16 that is interposed between the bottom of the rails and the rail supporting base plate 17 of the joint bar. Furthermore, it will be observed that in Fig. 5 of the drawings, there is suggested the expedient of providing the base section of insulation 6 with wide upstanding extension pieces or tongues 18 having bolt openings 19 that receive a pair of joint bolts, said extensions or tongues 18 interlocking within keeper sockets or notches 20 formed in the lower edge of the head section of insulation 5, which construction secures the positive locking of one section of insulation against longitudinal displacement, while the said section of insulation locks the other section of insulation against longitudinal displacement or movement.

A variation in the form of the invention suggested in Fig. 5 of the drawings is shown in Fig. 6 and may consist in forming one of the sections of insulation with single locking tongues or extensions 21 engaging keeper sockets or notches 22 in the other section of insulation, and provided with single bolt holes 23 for receiving one of the joint bolts. For illustrative purposes, these locking tongues or extensions 21 are shown as being projected downwardly from the upper section of insulation 5.

Various other modifications, and various changes in the form, proportion and minor details of construction may be resorted to

without departing from the spirit or sacrificing any of the advantages of the invention.

I claim:

5 1. In an insulated rail joint, the combination with the rails and the splices therefor, of separate head and base sections of insulation, and locking means, including a separable connection between said sections, for
10 holding both sections of insulation against longitudinal movement.

2. In an insulated rail joint, the combination with the rails and the splices therefor, of separate head and base sections of insulation, and means for interlocking the two sections of insulation and preventing longitudinal movement thereof.

3. In an insulated rail joint, the combination with the rails and the splices therefor, of separate head and base sections of insulation, and means for directly interlocking the two sections of insulation and preventing longitudinal movement thereof.

4. In an insulated rail joint, the combination with the rails and the splices therefor, of separate head and base sections of insulation, means for interlocking the two sections of insulation, and means for preventing longitudinal movement of said sections.

5. In an insulated rail joint, the combination with the rails and the splices therefor, of separate head and base sections of insulation, means for interlocking the two sections of insulation, and means, including the joint bolts, for preventing longitudinal movement of said sections.

6. In an insulated rail joint, the combination with the rails and the splices therefor, of separate head and base sections of insulation, means for separably interlocking one section of insulation with the other, and means, including the joint bolts, for preventing longitudinal movement of said sections.

7. In an insulated rail joint, the combination with the rails and the splices therefor, of separate head and base sections of insulation, means for separably and directly interlocking one section of insulation with the other, and means, including the joint bolts, for preventing longitudinal movement of said sections.

8. In an insulated rail joint, the combination with the rails and the splices therefor, of separate head and base sections of insulation, one of which sections is provided with locking members separably interlocked with the other section of insulation, and cooperating means between the joint bolts and one of said sections for arresting longitudinal movement of said section.

9. In an insulated rail joint, the combination with the rails and the splices therefor, of separate head and base sections of insulation, one of which sections is provided therein with keeper notches, and the other of which sections is provided with locking tongues interlocking with said notches.

10. In an insulated rail joint, the combination with the rails and the splices therefor, of separate head and base sections of insulation, one of which sections is provided with keeper notches, and the other of which sections is provided with locking tongues interlocking within said notches and adapted to have a stop engagement with the joint bolts.

11. In an insulated rail joint, the combination with the rails and the splices therefor, of separate head and base sections of insulation, one of which sections is provided with keeper sockets, and the other of which sections is provided with locking tongues projecting between joint bolts and interlocking with said sockets.

12. In an insulated rail joint, the combination with the rails and the splices therefor, of separate head and base sections of insulation arranged respectively above and below the line of joint bolts, the head section having keeper sockets in its edge, and the base section of insulation having upstanding locking tongues interlocking with said sockets and adapted to have a stop engagement with the joint bolts.

13. In an insulated rail joint, the combination with the rails and the splices therefor, of separate head and base sections of insulation having a direct separable interlocking engagement therebetween, and cooperating means between one of said sections of insulation and the joint bolts to arrest longitudinal movement.

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

BENJAMIN WOLHAUPTER.

Witnesses:

E. F. SCHERMERHORN,
K. McNALLY.