

No. 759,784.

PATENTED MAY 10, 1904.

R. J. WEKEN.

AUTOMATIC TRAIN PIPE COUPLING FOR AIR BRAKES.

APPLICATION FILED JAN. 28, 1904.

NO MODEL.

2 SHEETS—SHEET 1.

FIG. 1.

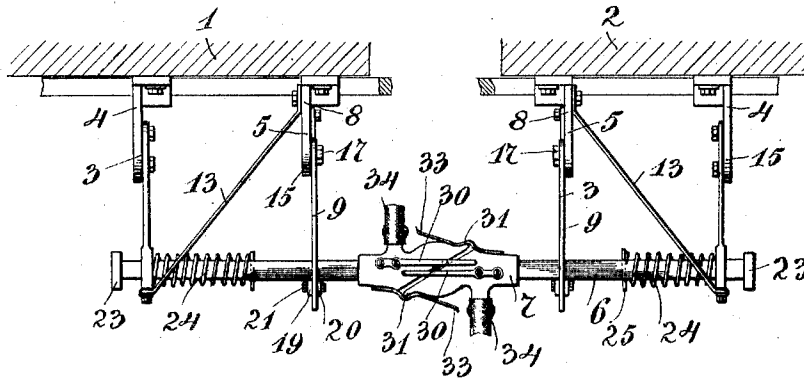


FIG. 2.

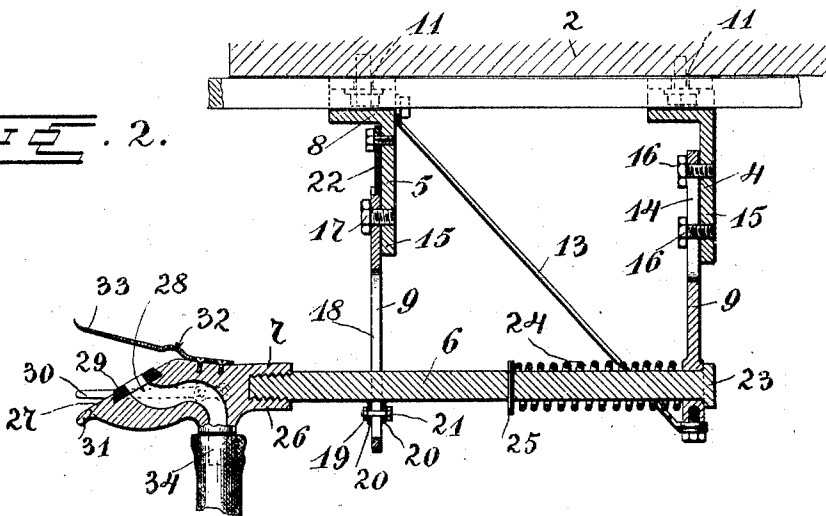
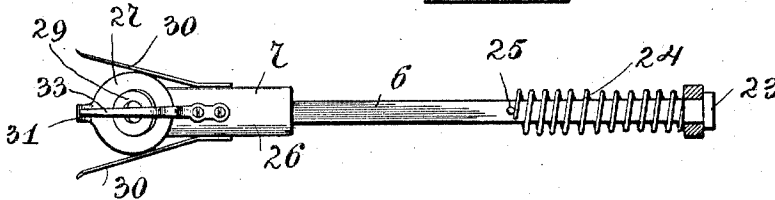


FIG. 3.



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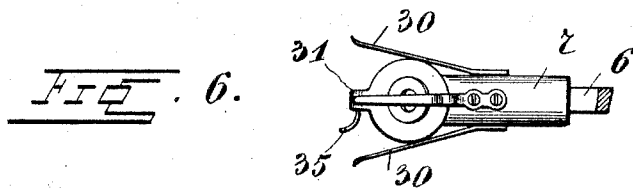
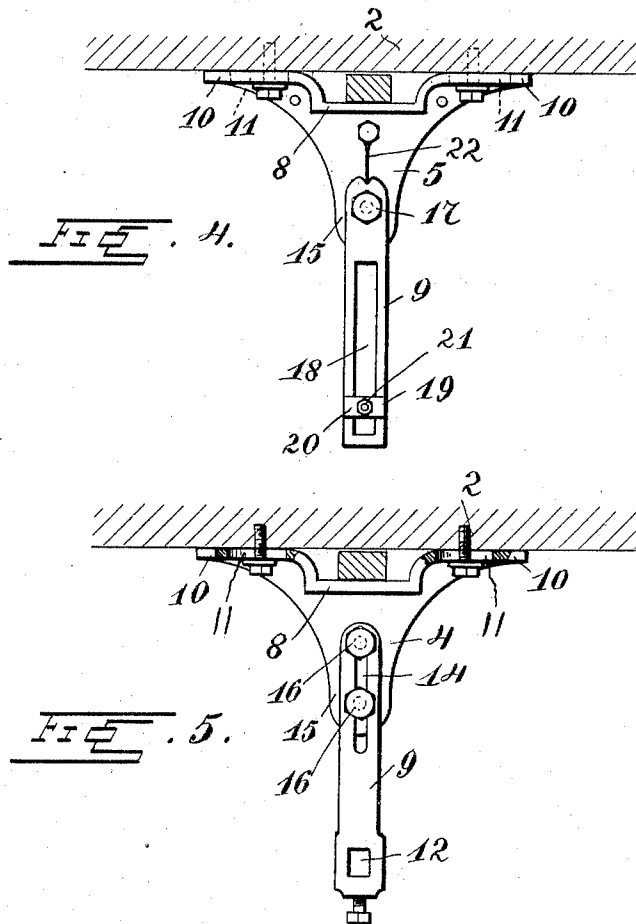
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2 SHEETS—SHEET 2.



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AUTOMATIC TRAIN-PIPE COUPLING FOR AIR-BRAKES.

SPECIFICATION forming part of Letters Patent No. 759,784, dated May 10, 1904.

Application filed January 28, 1904. Serial No. 191,044. (No model.)

To all whom it may concern:

Be it known that I, RICHARD J. WEKEN, a citizen of the United States, residing at Everett, in the county of Snohomish and State of Washington, have invented certain new and useful Improvements in Automatic Train-Pipe Couplings for Air-Brakes; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in automatic train-pipe couplings for air-brakes.

The object of my invention is to provide an apparatus of this character which will be simple in construction, durable in use, efficient in operation, and comparatively inexpensive of production.

With this and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a side elevation of my improved pipe-coupling apparatus in its coupled position on the adjacent ends of two railway-cars. Fig. 2 is a vertical longitudinal sectional view, on an enlarged scale, of the coupling apparatus on one end of a car. Fig. 3 is a face view of one of the pipe-coupling heads or members. Fig. 4 is a front elevation of one of the front hangers for the coupling apparatus. Fig. 5 is a similar view of one of the rear hangers for the coupling apparatus. Fig. 6 is a detail view of a modified form of coupling head or member.

Referring to the drawings by numeral, 1 and 2 denote adjacent end portions of the bottom frames of two railway-cars, upon the under side of each of which my improved train-pipe, coupling apparatus 3 is suspended centrally and at an equal distance from the track. Since the apparatus 3 on both cars is identical in construction and operation, I will describe but one.

Suspended by means of hangers 4 and 5 beneath the central bumper of the car or beneath the car-coupler and its draw-bar is a

longitudinal bar 6, having at its outer end a coupling head or member 7, which is adapted to be engaged by the similar head or member on the adjacent end of the adjoining car. Each of said hangers 4 and 5 comprises a stationary member 8 in the form of a Y-shaped casting and a suspending member 9. The arms of said castings, which preferably straddle the draw-bar of the car-coupler, as seen in Fig. 5, are formed with slots 11, through which bolts are passed to secure the castings to the car-bottom frame and to permit them to be adjusted transversely or horizontally. The suspending member 9 of the rear hanger 4 has its lower enlarged end formed with a polygonal opening 12, which is preferably square and of sufficient size to permit the longitudinal coupling-bar 6 to slide freely therein. The upper portion of said member 9 of the hanger 4 is formed with a long slot 14, through which 4 bolts, screws, or the like 16 are passed to secure said member to the casting and to permit it to be adjusted vertically upon the same. In order to strengthen the hanger 4, I provide diagonal brace-rods 13, which extend from the lower end of its member 9 to the casting 8 of the other hanger 5, as shown. The suspending member 9 of the front hanger 5 has its upper end pivoted, as at 17, to the depending portion 15 of its casting 8 to permit it to swing transversely. The lower portion of the said member 9 is formed with an elongated opening or slot 18, the width of which is equal to that of the longitudinal bar 6, so that the latter may slide longitudinally and be adjusted vertically. To support the bar 6 at the desired elevation in said opening 18, I provide an adjustable clip or clamp 19, upon which said bar rests. Said clip preferably comprises two plates 20, placed upon opposite sides of the said members 9 and connected at their centers by a bolt or screw 21, which binds them upon said member. In order to hold said member 9 of the hanger 5 normally in a vertical or perpendicular position, I secure one end of a flat spring 22 to the upper end of said member 9 and its other end to the casting 8, as shown in Fig. 5. The bar 6 is

mounted in the hangers and is adapted to slide longitudinally, as previously stated. At its inner end is a fixed head or collar 23, which serves as a stop to limit its outward movement under the action of a stiff spring 24, coiled about the same and confined between the rear hanger 4 and a cross-pin 25, as shown. The outer end of said bar is reduced and screw-threaded to screw into a screw-threaded socket 26, formed at the rear end of the coupling head or member 7. The said coupling 7, which is preferably a hollow casting, as shown, has its outer end beveled or inclined, as at 27, and formed with an opening 28, surrounded by a gasket or ring 29, of rubber or the like. The couplings 7, upon the adjacent ends of two cars, have their outer faces or ends in beveled opposite directions, so as to coact with each other and permit their gaskets 29 to contact and effect an air-tight connection between the couplings. In order to guide the two coupling-heads into proper engagement with each other when they are brought together and are not in axial alinement, I provide them with forwardly and outwardly projecting fingers 30, and in order to retain them in their coupled position I provide the outer end of the beveled face of each coupling with a curved lip 31, which is adapted to hook under a projection 32 upon the inner end of a forwardly and outwardly projecting spring 33, secured to the coupling adjacent to the inner end of its beveled face, as shown. Each coupling 7 has an angularly-projecting tube or connection 34, to which the flexible hose of the train-pipe is connected.

The operation of the apparatus is as follows: When two cars equipped with my improved couplings 7 are brought together, the beveled or inclined faces of the same will be forced tightly together against the tension of the springs 24, which normally hold said couplings 7 out slightly beyond the car-couplers. Should the couplings 7 upon the two cars be out of axial alinement, their beveled faces or ends and the guide-fingers 30 will guide them properly until the projections 32 on the springs 33 spring over the lips 31, as will be readily understood. Owing to the manner in which the bars 6 are mounted, the couplings when engaged may swing laterally as the cars move around a curve, and they also have a slight vertical movement to allow for the vertical movement of the cars in passing over uneven places and in running up and down hill, the clips or clamps 19 on the front hangers being preferably so adjusted that the front ends of the bars 6 and their couplings 7 hang down somewhat when they are uncoupled. When the cars separate, the couplings also separate, the lips 31 slipping from under the projections 32 on the springs 33, and the springs 24 forcing the couplings outwardly.

In Fig. 6 of the drawings I have shown a

hook 35 upon the lip 31 to engage and hold the well-known form of train-pipe coupling now in general use, should it be desired to attach one to my improved coupling.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a coupling for train-pipes, the combination of laterally-adjustable hangers, a sliding bar mounted in said hangers and having a coupling head or member at one end, and means for adjusting said bar vertically in said hangers, substantially as described.

2. In a coupling for train-pipes, the combination of a rear hanger, a front hanger comprising a stationary member and a suspending member pivotally secured to said stationary member, a longitudinal bar slidably mounted in said rear hanger and said suspending member of the front hanger, and a coupling-head upon said bar, substantially as described.

3. In a coupling for train-pipes, the combination of a rear hanger, a front hanger comprising a stationary member, a pivotally-mounted suspending member and a spring for holding said suspending member in a perpendicular position, a longitudinal bar slidably mounted in said rear hanger and said suspending member of the front hanger, and a coupling-head upon said bar, substantially as described.

4. In a coupling for train-pipes, the combination of a rear hanger comprising a laterally-adjustable stationary member and a vertically-adjustable suspending member, a front hanger comprising a laterally-adjustable stationary member, a pivotally-mounted suspending member and a spring for holding said suspending member in a perpendicular position, a longitudinal bar slidably mounted in the said suspending members of said hangers, a clamp for adjusting said bar in the suspending member of the front hanger, and a coupling member upon the front end of said bar, substantially as described.

5. In a coupling for train-pipes, the combination of suitable hangers, a longitudinal bar slidably mounted in said hangers and a coupling head or member upon said bar having a beveled or inclined outer end or face formed with an opening, a lip upon the outer end of said face and a spring upon the inner end of said face provided with a projecting portion, substantially as described.

6. In a coupling for train-pipes, the combination of suitable hangers, a slidably-mounted longitudinal bar in said hangers, and a coupling head or member upon said bar comprising a hollow casting formed with an apertured beveled outer end or face and a hose connection, a gasket surrounding the aperture in said beveled face, a lip upon the outer end of said beveled face, a spring upon the inner end of said beveled face, a projection

upon said spring, and guide-fingers upon said head, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

RICHARD J. WEKEN.

Witnesses:

H. L. OLDFIELD,
E. A. STRONG.