

W. M. HILER.
 TRAIN PIPE COUPLING.
 APPLICATION FILED OCT. 8, 1908.

936,894.

Patented Oct. 12, 1909.

Fig. 1

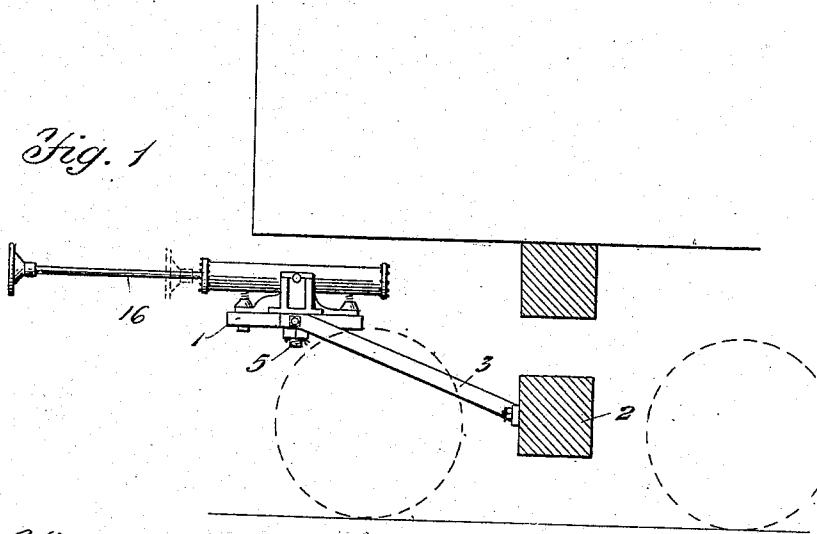


Fig. 2

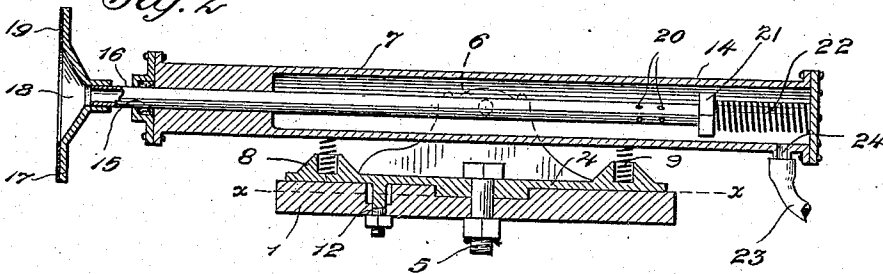


Fig. 3

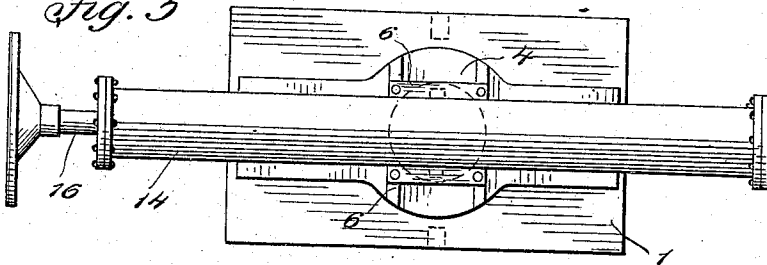
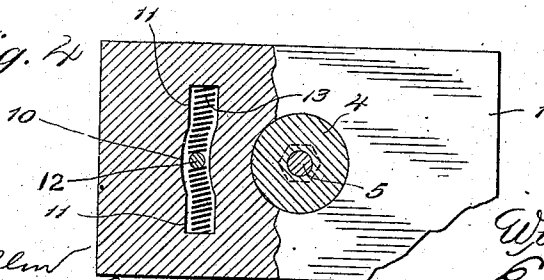


Fig. 4



Witnesses

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UNITED STATES PATENT OFFICE.

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TRAIN-PIPE COUPLING.

936,894.

Specification of Letters Patent.

Patented Oct. 12, 1909.

Application filed October 8, 1908. Serial No. 456,800.

To all whom it may concern:

Be it known that I, WILLIAM M. HILER, a citizen of the United States, residing at Quincy, in the county of Adams and State of Illinois, have invented certain new and useful Improvements in Train-Pipe Couplings; and I do hereby 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 air-brake train pipe couplings for use on railway cars, locomotives, etc.

One of the main objects of the invention is to provide simple and inexpensive means for supporting the two members of the coupling on the cars whereby they are always in proper position to be automatically coupled and to remain connected during the movements of the cars in transit and in rounding curves.

The members of the coupling are connected to the wheel trucks or bolsters of the cars whereby they are always arranged at a uniform height from the track even though the bodies of the cars are raised to different heights above the track. Each of said coupling members is pivoted to swing vertically on a turn table mounted upon a horizontal supporting plate. Means are provided for yieldingly holding said coupling member horizontal and for yieldingly retaining the turn table in a position on the supporting plate in which said member is arranged in alinement with the vertical longitudinal axis of the car.

The invention also consists in the features of construction and combinations of devices hereinafter described and specified in the claims.

In the accompanying drawing, illustrating the preferred embodiment of my invention: Figure 1 is a broken sectional view of one end of a car showing one member of the coupling in elevation and how it is secured to the wheel truck or bolster. Fig. 2 is an enlarged vertical longitudinal sectional view of the coupling member, turn table and supporting plate. Fig. 3 is a plan view of these parts, and Fig. 4 is a horizontal sectional view on the line $x-x$ of Fig. 2.

Referring more particularly to the drawing, 1 designates the horizontal supporting plate which is securely fastened to the wheel truck or bolster 2 by means of the rods 3.

The turn table 4 is revolvably secured on said plate 1 by the bolt 5. Said turn table is provided with two upstanding brackets 6 between which one member 7 of the train pipe coupling is pivoted so as to swing vertically.

At each end of the turn table and below the coupling member there are formed raised socketed knobs 8, one of which is arranged on each side of the pivotal axis of said member. Coiled springs 9 are seated in the sockets in said knobs and extend up into engagement with the coupling. These springs serve to yieldingly hold said member in a horizontal position.

An arcuate slot 10 is formed in the supporting plate 1 with straight socket extensions 11 at each end thereof. The turn table carries a downwardly projecting pin 12 which extends into said slot. Coiled springs 13 are seated in the sockets 11 and project therefrom into the slot for engagement with the opposite sides of said pin. The function of these springs is to yieldingly retain the turn table in a position on the supporting plate in which the coupling member is in alinement with the vertical longitudinal axis of the car.

My method of mounting the coupling members as above described permits them to adjust themselves automatically to each other, when they are coupled up and allows them to turn horizontally when the train is going around a curve. Although the securing of the coupling members to the wheel truck of the cars will insure their being at the same height from the track, if one member should be higher than the others, the springs 9 will allow said coupling members to swing vertically to suit one another.

The form of coupling member which I prefer to employ comprises a tubular casing 14 closed at its inner end and having a restricted opening 15 at its outer end. A pipe 16 is mounted in said opening and projects into the casing. A coupling head 17 is mounted on the outer end of said pipe and is preferably provided with a flared central opening 18 and a flat flange covered with rubber or other suitable material 19 which will make an air tight joint. Near its inner end ports 20 are formed in said pipe for admitting compressed air thereto from the interior of the casing. The inner end of the pipe is closed by a nut or cap 21 between which and the closed end of the casing there is arranged a coiled spring 22.

The position of the pipe when the device is uncoupled is shown in solid lines in Fig. 1. Said pipe is then extended by the spring 22 until it is stopped by the nut 21 abutting
 5 against the outer wall of the casing around the restricted opening. When in this position, the ports 20 are closed by the solid walls of the forward end of the casing around said restricted opening in the end of
 10 the casing and the compressed air is cut off from passing through the pipe. When the coupling members are engaged with one another, the pipe is retracted or pressed back into the casing as illustrated in dotted lines
 15 in Fig. 1, uncovering said ports and permitting the air to pass through said pipe to the other member of the coupling. Compressed air is supplied to the casing through a hose 23 connected around a port 24 in the
 20 side wall of said casing near its inner end.

While I prefer to use the construction of coupling particularly described herein, other suitable constructions may be employed in lieu thereof without departing from my
 25 invention. I am aware that other changes in details may be made without sacrificing the advantages of my invention. I, therefore, do not limit myself to the exact construction shown herein but reserve the right
 30 to make such changes or modifications as fairly fall within the scope of my invention.

I claim:

1. The combination, with a horizontal supporting plate, of a turn table mounted
 35 thereon and having upstanding brackets, one member of a train pipe coupling pivoted to swing vertically between said brackets, means for holding said coupling member yieldingly horizontal, means of supporting
 40 said plate on a car, and means for yieldingly holding said turn table in position with the coupling member in alinement with the vertical longitudinal axis of the car.

2. The combination, with a horizontal supporting plate suitably fastened to a car, of a
 45 turn table mounted on said plate and having upstanding brackets, one member of a train pipe coupling intermediately pivoted to swing vertically between said brackets,
 50 springs interposed between said turn table and coupling member at opposite sides of the pivot, and means for yieldingly holding said turn table in position with the coupling member in alinement with the vertical longitudinal axis of the car.

3. The combination, with a horizontal supporting plate suitably fastened to a car, of a
 55 turn table mounted on said plate and having

upstanding brackets, one member of a train
 pipe coupling intermediately pivoted to
 60 swing vertically between said brackets, said turn table also having raised socketed knobs at opposite sides of the pivot of said coupling member and below the latter, coiled
 65 springs seated in the sockets in said knobs and engaging said coupling member, and means for yieldingly holding said turn table in position with the coupling member in alinement with the vertical longitudinal axis
 70 of the car.

4. The combination, with a horizontal supporting plate suitably fastened to a car, of a turn table mounted on said plate and
 75 having upstanding brackets, one member of a train pipe coupling pivoted to swing vertically between said brackets, means for holding said coupling member yieldingly horizontal, said plate having an arcuate slot
 80 therein, a pin on said turn table extending into said slot, and springs housed in said slot and engaging opposite sides of said pin for the purpose specified.

5. The combination, with a horizontal supporting plate suitably fastened to a car, of a turn table mounted on said plate and
 85 having upstanding brackets, one member of a train pipe coupling pivoted to swing vertically between said brackets, means for holding said coupling member yieldingly horizontal, said plate having an arcuate slot
 90 therein, a pin on said turn table extending into said slot, straight sockets at the ends of said slot, coiled springs seated in said sockets and extending into said slot for engagement with the opposite sides of said pin for the
 95 purpose specified.

6. The combination, with a horizontal supporting plate suitably fastened to a car, of a turn table mounted on said plate and
 100 having upstanding brackets, one member of a train pipe coupling intermediately pivoted to swing vertically between said brackets, springs interposed between said turn table and coupling member at opposite sides of
 105 the pivot, said plate having an arcuate slot therein, a pin on said turn table extending into said slot, and springs housed in said slot and engaging opposite sides of said pin for the purpose specified.

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

WILLIAM M. HILER.

Witnesses:

JOHN EDWARD MEYER,
 RALPH E. DICKHUT.