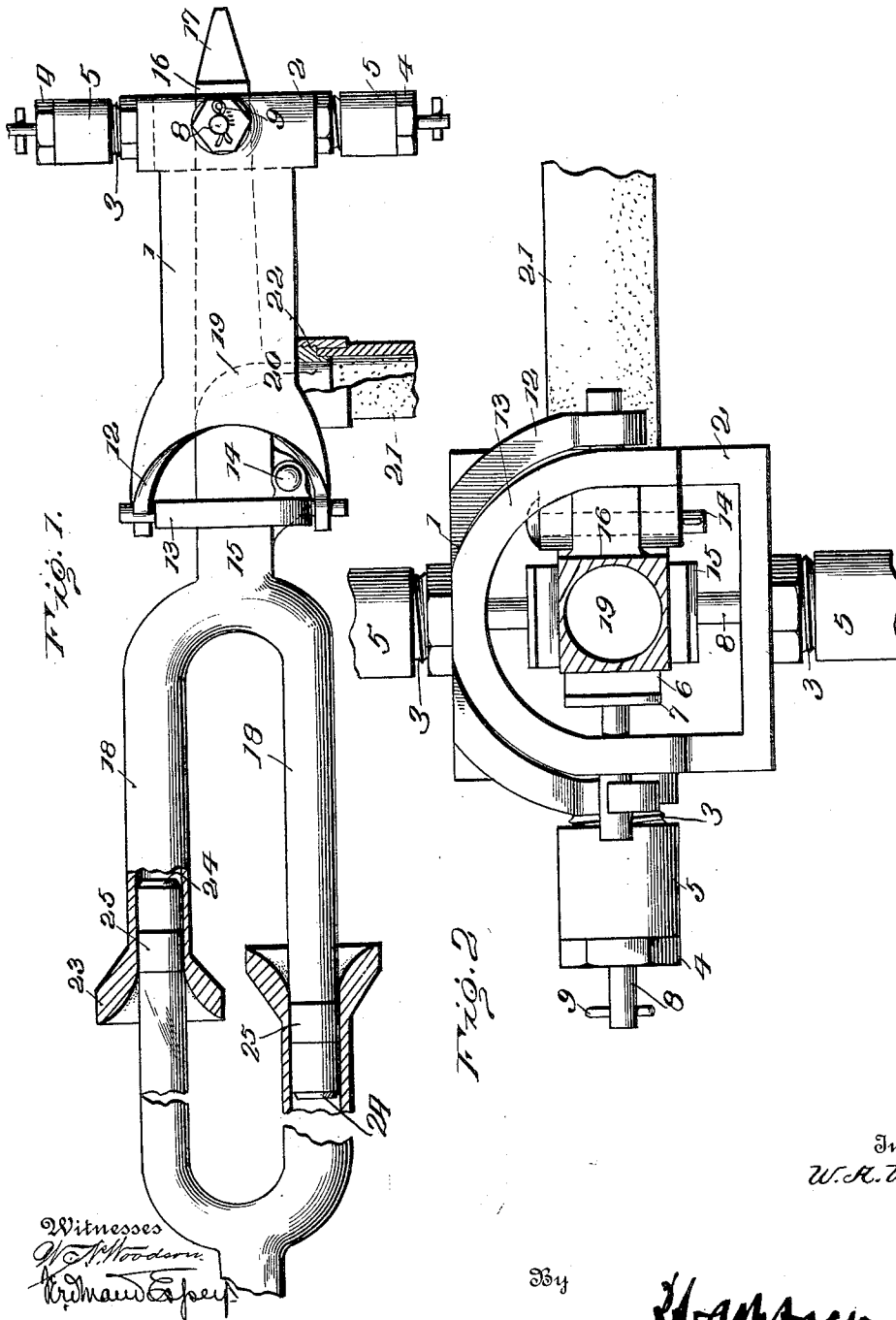


2 SHEETS—SHEET 1.



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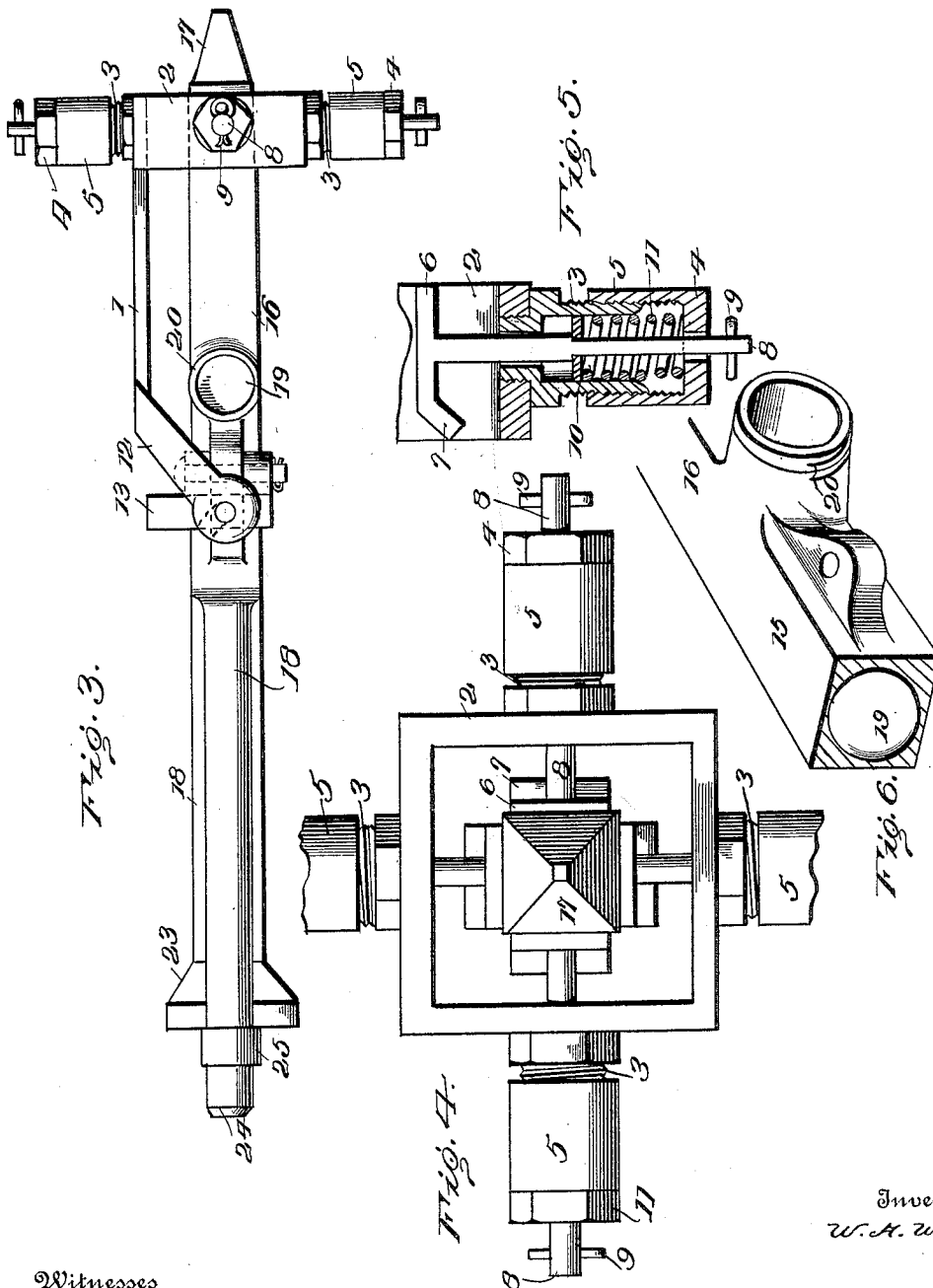
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 AUTOMATIC AIR HOSE COUPLING.
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1,047,352.

Patented Dec. 17, 1912.

2 SHEETS-SHEET 2.



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UNITED STATES PATENT OFFICE.

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AUTOMATIC AIR-HOSE COUPLING.

1,047,352.

Specification of Letters Patent.

Patented Dec. 17, 1912.

Application filed February 14, 1912. Serial No. 677,485.

To all whom it may concern:

Be it known that I, WILLIAM A. WEIL, citizen of the United States, residing at Findlay, in the county of Hancock and State of Ohio, have invented certain new and useful Improvements in Automatic Air-Hose Couplers, of which the following is a specification.

This invention relates to automatic air hose couplings, and has for its object to provide a coupling of simple form adapted to be applied to the ends of cars, whereby the air brake systems are automatically coupled at the time that the cars are coupled.

A further object of the invention is to provide means for resiliently holding the coupling head approximately in a predetermined position with relation to the central longitudinal plane of the car and also with relation to the top of the track, so that the couplings upon two cars may readily engage each other even should one or the other or both become slightly displaced from their predetermined or normal positions.

With these objects in view the structure includes a bracket adapted to be applied to the drawbar of the draft coupling, said bracket carrying a series of resiliently supported opposed shoes. A yoke is pivoted in the outer end of the bracket and is provided with a pivot pin at a right angle to the pivots of the said yoke. A coupling head is pivotally mounted upon the said pivot pin and is provided with a shank which normally lies between the said shoes, whereby the said shoes serve as guides for the said head. The head is provided with an end consisting of spaced hollow branches which at their inner ends are connected with the train hose. One of the branches is provided with a flared outer extremity, and the other branch is provided with a reduced extremity and at a point within the said extremity with a peripheral packing. When the coupling upon one car is in engagement with the coupling upon another, the branch on one car having the reduced extremity is received within the branch upon the other car having the flared extremity.

For a full understanding of the invention reference is to be had to the following description and accompanying drawings, in which—

Figure 1 is a top plan view of the coupling; Fig. 2 is an end view of the same with parts in section the section being taken in

front of the yoke; Fig. 3 is a side view of the same; Fig. 4 is an inner end view of the same; Fig. 5 is a detail sectional view of parts of the same; and, Fig. 6 is a detail view in section of a part of the same.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawings by the same reference characters.

The air hose coupling includes a bracket 1 which is adapted to be applied to the drawbar of the draft coupling of a car. Formed at the inner end of the bracket 1 is a rectangular frame 2. Cylinders 3 are mounted at the opposite sides of the frame 2, and nuts 4 having annular flanges 5 are screw threaded upon the peripheries of the said cylinders. Shoes 6 are located within the frame 2 and are provided with angularly disposed outer or forward ends 7. Each shoe is provided with a shank 8 and the said shanks 8 pass through the sides of the frame 2, and each cylinder 3 receives one of the said shanks. The outer ends of the shanks 8 pass through the nuts 4 and are provided in the vicinity of their extremities with keys 9. A shoulder or stop 10 is fixedly mounted upon the intermediate portion of each shank 8 and coil springs 11 are interposed between the nuts 4 and the said stops 10. The springs 11 are under tension with a tendency to hold the shoes 6 toward each other. By adjusting the nuts 4 upon the cylinders 3, the tension of the springs 11 may be increased or diminished, and by increasing the tension of one spring 11 more than another one of the shoes 6 may be more positively held toward normal position than the other shoes, for a purpose which will be hereinafter explained.

The bracket 1 is provided at its outer end with spaced arms 12 between which is pivotally mounted a yoke 13. The axes of the pivots of the yoke 13 are horizontally disposed, and the said yoke carries at one of its end portions a vertically disposed pivot pin 14. A coupling head 15 is pivotally mounted upon the pin 14 and is provided with a shank 16 which is rectangular in transverse section and which terminates in a pyramidal extremity 17. The rectangular shank 16 rests between the shoes 6, and by reason of the fact that the head 15 is pivotally supported the shoes 6 under the influence of the springs 11 will hold the heads 15 in desired relation to the body of the car and

also with respect to the top of the track. By increasing the tension of one or more of the springs 11 the said head 15 may be supported at the desired relative position after the parts have been mounted upon a car. The head 15 is provided at its outer end with spaced branches 18. These branches are hollow and communicate with a channel 19 which extends through the outer portion of the shank 16 and which terminates in a laterally disposed nipple 20 provided upon the intermediate portion of the said shank 16. The air hose 21 is connected with the said nipple by means of a union 22 in the usual manner. One of the branches 18 is provided with a beveled extremity 24 and the other branch is provided with a flared bell mouth extremity 23. That branch 18 which is provided with a beveled extremity is also provided with a peripheral packing 25 located at an intermediate point of the said branch.

From the above description it is obvious that when cars are equipped with the air hose coupling, as the cars are brought together and the members of the draft coupling engage each other, the branches 18 having the beveled ends will slide into the branches 18 having the flared ends, and the packing 25 will fit tight within the branches 18 having the flared ends, and thus an air tight coupling is effected. Inasmuch as the heads 15 are mounted upon the members having pivots at right angles, the outer ends of the branches 18 may have universal movement, but the said branches are held approximately in predetermined relations or positions with respect to the body of the car by the shoes 6 and the spring influence over the same.

If after use the branches should become displaced vertically or laterally, one or more of the nuts 4 may be adjusted upon the cylinders 3 to exercise stress through the springs 11 and shoes 6 upon the shank 16 of the head 15 to hold the branches 18 in desired positions. If at any time it should be desired to remove one head 15 and substitute another in its stead, this may be readily done by removing the pivot 14 and disconnecting the union 22 from the nipple 20. The entire head 15 may then be drawn from under the bracket 1, and when this is done the springs 11 will force the opposed shoes 6 toward each other and the keys 9 will come in contact with the outer faces of the nuts 4 and limit the inward movement of the said shoes. Thus there will be some space left between the inner faces of the shoes, and the shank 16 of a new head 15 may be passed under the bracket 1 the pyramidal end 17 being readily inserted between the angularly disposed portions 7 of the shoes 6 and as the

end is pushed between the shoes the shoes are spread against the tension of the springs 11 until the rectangular shank is located between their end faces. The pivot 14 is then replaced in the new head, the hose 21 is connected with the nipple 20 by means of the union 22 and the new assemblage of parts is effected.

Having thus described the invention, what is claimed as new is:

1. An air hose coupling comprising a bracket carrying a frame, resiliently supported shoes mounted at the opposite sides of the frame, a yoke pivoted to the bracket, and a head pivoted to the yoke and having a shank which is received between the said shoes.

2. An air hose coupling comprising a bracket provided with a frame, spring pressed shoes carried by the opposite sides of the frame, means for independently adjusting the tension of said springs, a yoke pivoted to the bracket, and a head pivoted upon the yoke and having a shank which is received between the shoes.

3. An air hose coupling comprising a bracket provided with a frame, cylinders mounted at the opposite sides of the frame, nuts adjustably mounted upon the cylinders, shoes located within the frame, stems carried by the shoes which pass through the sides of the frame and through the cylinders and nuts, keys carried at the outer ends of the stems, springs located within the cylinders and bearing at their outer ends against the nuts and at their inner ends against stops carried by the stems, a yoke pivoted to the bracket, and a head pivoted upon the yoke and having a shank received between the shoes.

4. An air hose coupling comprising a bracket provided with a frame, resiliently supported shoes located at the opposite sides of the frame and having angularly disposed outer extremities, a yoke pivoted to the bracket, and a head pivoted to the yoke and having a shank received between the shoes, said shank having a pyramidal inner extremity.

5. An air hose coupling comprising a bracket, a yoke horizontally pivoted to the bracket, a vertical pivot carried by the yoke, a head pivoted upon said vertical pivot and having a shank, and resiliently supported shoes carried by the bracket and engaging said shank.

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

WILLIAM A. WEIL. [L. s.]

Witnesses:

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G. C. HEADWORTH.