Sept. 6, 1927. 1,641,839

L. H. CAIN ET AL

TANK HOSE COUPLING

Filed Oct. 8, 1925

FIG. 1.

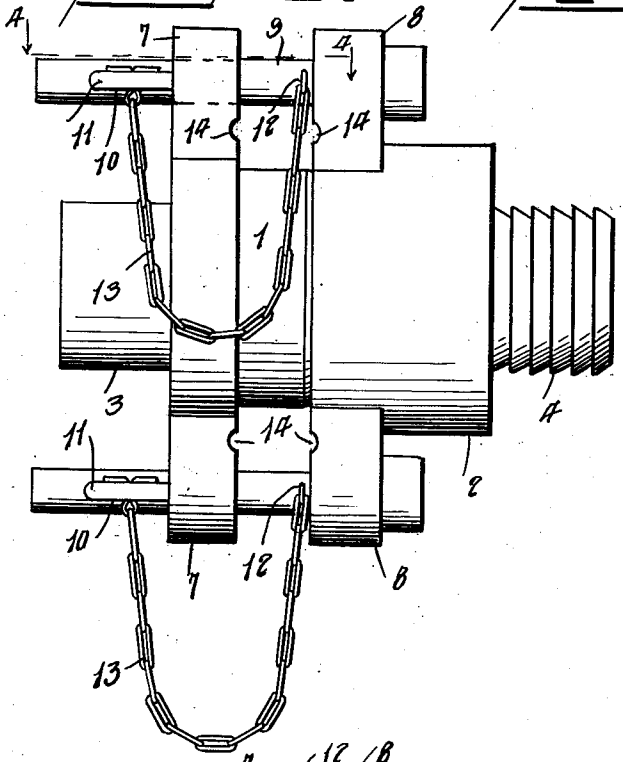


FIG. 2.

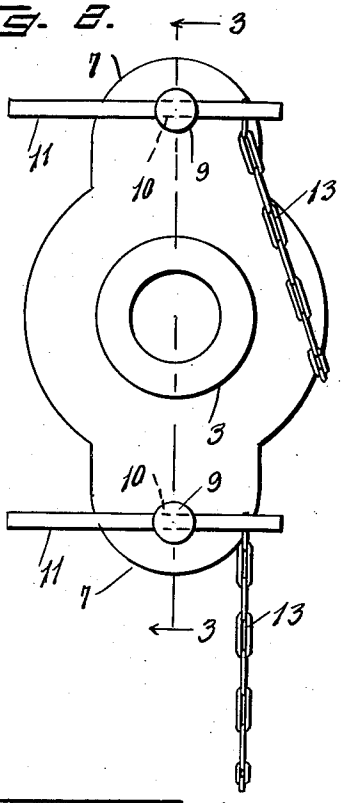


FIG. 4.

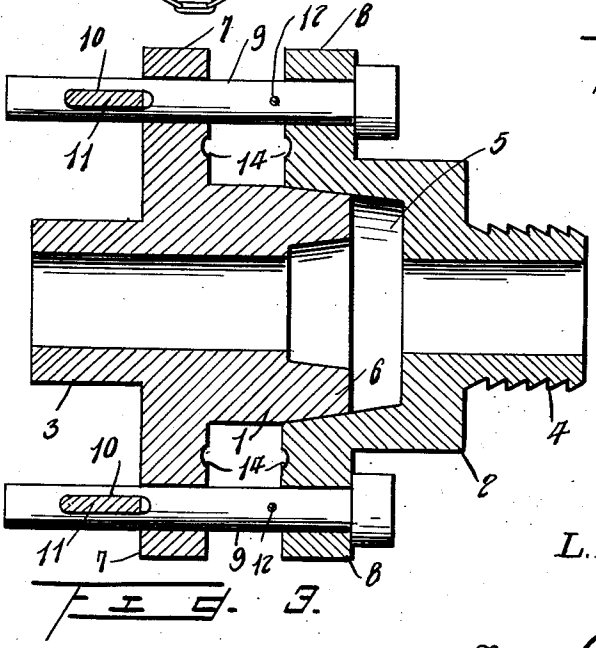
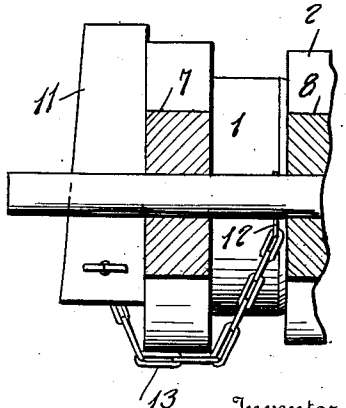


FIG. 3.



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UNITED STATES PATENT OFFICE.

LOYD H. CAIN, JOHN HUNTER BROGAN, AND CHARLES J. BROGAN, OF TYLER, TEXAS.

TANK-HOSE COUPLING.

Application filed October 8, 1925. Serial No. 61,275.

This invention relates to couplings for the feed pipes of locomotives and the tank hose of tenders, and has for one of its objects to improve and simplify the general construction of devices of this character and to provide one which shall embody members or sections of such construction that a liquid-tight connection may be established between them without the use of gaskets.

A further object of the invention is the provision of a coupling of the character stated wherein the members of sections thereof shall be adapted to be connected without the aid of bolts and nuts.

A further object of the invention is the provision of a coupling of the character stated wherein the member or section connecting means shall comprise draw pins carried by one member or section and draw keys contacting with the other member or section and passing through the draw pins.

A still further object of the invention is the provision of a coupling of the character stated wherein the members or sections thereof shall be adapted to be separated by the draw keys after their removal from engagement with the draw pins.

The foregoing and other objects are attained by the construction, combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawing, wherein:

Figure 1 is a view in side elevation of the coupling;

Figure 2 is a view in end elevation of the coupling;

Figure 3 is a sectional view taken on the plane indicated by the line 3—3 of Figure 2, and

Figure 4 is a detail sectional view taken on the plane indicated by the line 4—4 of Figure 1.

Corresponding and like parts are referred to in the following description and designated in the several views of the drawing by similar reference characters.

The coupling comprises a member 1 adapted to be connected to the feed pipe of a locomotive and a member 2 adapted to be connected to the tank hose on the tender of the locomotive. The member 1 is provided with a nipple 3 to permit it to be connected to the feed pipe and the member 2 with a circumferentially ribbed nipple 4 to permit it to be connected to the tank hose. The member 2 is provided with a conical socket 5 for the reception of a conical end 6 of the member 1, said end being adapted to have such a snug fit in said socket as to establish a liquid-tight connection between the parts without the aid of gaskets. Radial ears 7 are carried by the member 1 and similar ears 8 by the member 2 for the reception of headed draw pins 9 which are provided with slots 10 for the reception of wedges or draw keys 11.

The pins 9 and keys 11 constitute the means by which the coupling members 1 and 2 are connected or secured together. The heads of the pins 9 contact with the outer sides of the ears 8 and the keys 11 contact with the outer sides of the ears 7. This means permits the members 1 and 2 to be drawn into and held in firm contact with each other. To prevent their loss the pins 9 are retained within the ears 8 by pins 12, and the keys 11 are connected by chains 13 to the pins 12 in order to prevent their loss.

In practice the member 1 is secured to the feed pipe of a locomotive and the member 2 to the tank hose on the tender of the locomotive. The members 1 and 2 are then brought together to position the conical end 6 of the member 1 in the conical socket 5 of the member 2 and to position the pins 9 through the ears 7. The keys 11 are then supplied. Due to the fact that they pass through the pins 9 and contact with the ears 7, the keys 11 are adapted to be employed to draw the members 1 and 2 into and hold them in such firm contact as to prevent their accidental separation and establish a liquid-tight connection between the same. The keys 11 may, after they have been withdrawn from the pins 9, be used for the purpose of separating the members 1 and 2, and when so used they are inserted between the ears 7 and 8 in grooves 14. The grooves 14 are formed in the inner faces of the ears 7 and 8 inwardly beyond the pins 9 and are arranged at an angle to the pins. When the members 1 and 2 are in full engagement, the ears 7 and 8 are spaced apart for a distance greater than the width of the smaller ends of the keys 11, so as to permit said ends of the keys to be inserted in the grooves 14 preparatory to the separation of the members by the keys.

While we have described the principle of operation of the invention, together with the device which we now consider to be the best embodiment thereof, we desire to have it understood that the device shown is

merely illustrative, and that such changes may be made when desired as are within the scope of the invention as claimed.

What is claimed is:

1. A coupling of the character set forth, comprising inter-engaging members having ears provided in their inner sides with grooves, headed pins passing through the ears, and wedge keys passing through the pins and contacting with certain of the ears to draw the members together, said wedge keys being adapted to be used for separating the members, the ears of one member being spaced from those of the other for a distance greater than the width of the smaller ends of the wedge keys to permit the insertion of the wedge keys in the grooves preparatory to separating the members.

2. A coupling of the character set forth, comprising a member having a conical end and provided with ears, a member having a conical socket for the reception of said end and provided with ears, pins secured to the ears of one of the members and passing freely through the ears of the other member, the ears being provided in their inner sides and inwardly beyond the pins with grooves and wedge keys passing through the pins and contacting with the outer sides of the ears of said other member to draw the members together, said wedge keys being adapted to be used for separating the members, the ears of one member being spaced from those of the other for a distance greater than the width of the smaller ends of the wedge keys to permit the insertion of the wedge keys in the grooves preparatory to separating the members.

In testimony whereof we affix our signatures.

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