Feb. 21, 1933. W. BAWDEN 1,898,283

HOSE COUPLING

Original Filed May 14, 1930

Fig. 1.

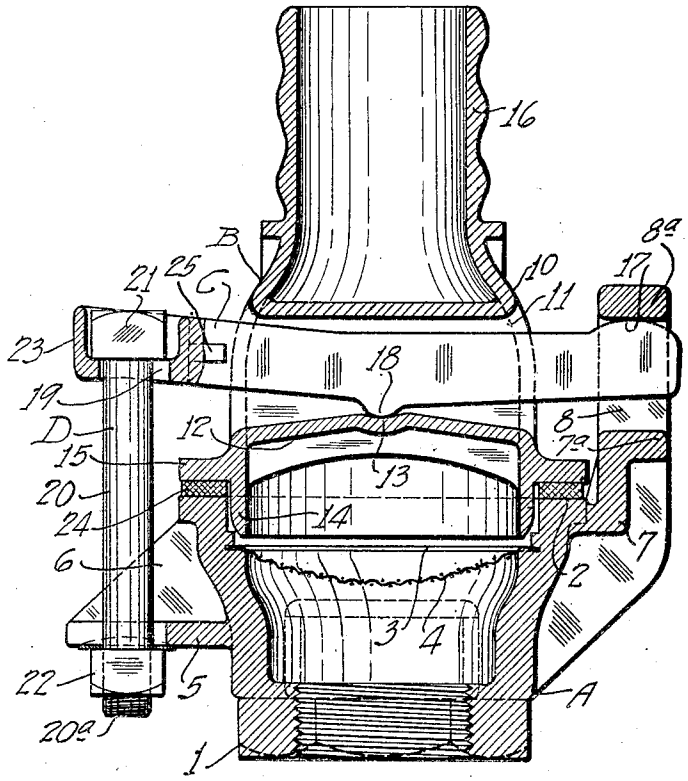
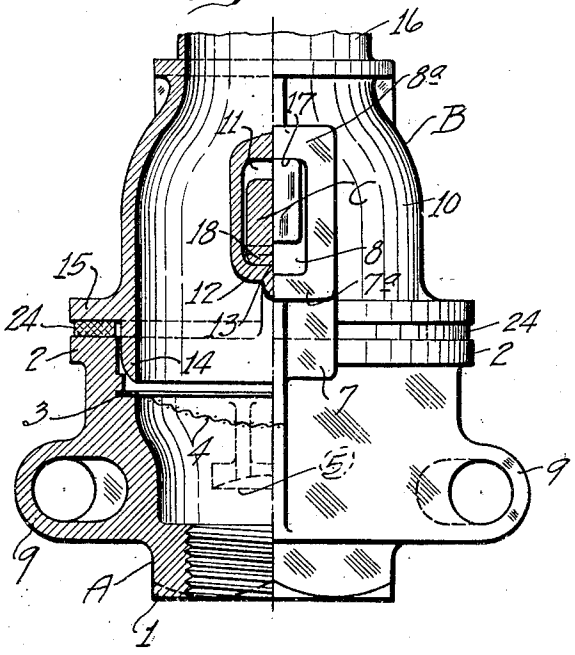


Fig. 2.



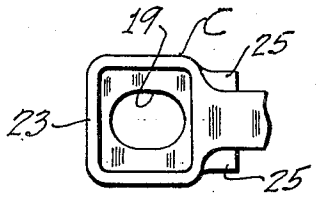


Fig. 3.

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WILLIAM BAWDEN, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO CLOICE B. BAKER, OF ST. LOUIS, MISSOURI

HOSE-COUPLING

Application filed May 14, 1930, Serial No. 452,230. Renewed November 21, 1932.

This invention relates generally to hose-couplings. More particularly, my invention relates to a certain new and useful improvement in hose-couplings adapted especially, though not exclusively, for utilization in the tubular connections between a locomotive and tender.

Such connections generally comprise a metallic pipe carried by the locomotive and a section of flexible tubing carried by the tender, and my invention has for its chief object the provision of a conveniently manipulated coupling whereby the adjacent or meeting ends of said pipe and tubing may not only be readily, easily, and quickly connected or disconnected, but also a water-tight joint provided therebetween capable of efficiently withstanding the jolting and vibrations to which the coupling may be subjected in service.

And with the above and other objects in view, my invention resides in the novel features of form, construction, arrangement, and combination of parts hereinafter described and pointed out in the claim.

In the accompanying drawing,—

Figure 1 is a longitudinal sectional view of a hose-coupling embodying my invention;

Figure 2 is a view partly in plan and partly in longitudinal section of the coupling, taken approximately at right angles to Figure 1; and

Figure 3 is a fragmental detail view illustrating the head of the coupling-lever.

Referring now more in detail and by reference characters to the drawing, which illustrates a preferred embodiment of my invention, the coupling includes a rigid preferably metallic tubular shell A, which in contour is substantially hemispherical, and which is provided with an internally threaded neck or nipple 1 for engagement and communication with the locomotive feed-pipe, not shown.

Formed within the shell A adjacent its rim 2, is an annular flange 3 adapted to provide a seat for the rim of a disk-shaped strainer 4 of perforated metal or suitable wire mesh, the end face of the rim 2 being relatively broad, as shown, for purposes shortly appearing. Formed on the one, or so-called top, side of the shell A, is a radially outwardly projecting bifurcated lug 5, marginally strengthened and re-enforced by webs 6; and formed on the diametrically opposite, or so-called underside of the shell A, is an ear or lug 7 having a portion 7*a* which projects forwardly beyond the plane of the shell-rim 2, and which, for purposes presently appearing, is provided transversely with an opening or aperture, as at 8, whose bore is disposed approximately at right angles to the bore of the shell A.

Annularly intermediate the lugs 5 and 7, shell A is preferably also formed with diametrically opposite outwardly presented radial bored portions or lugs 9 for engagement with the shell A of suitable bars or rods, not shown, carried by the locomotive for securely retaining the shell A on the locomotive feed-pipe with the lugs 5 and 7 disposed in vertical alignment for ready engagement with or disengagement from a second or complementary tubular shell B.

Shell B, which is preferably a casting and whose main or body-portion 10 is somewhat longitudinally elongated to possess the approximate bowl shape or contour best seen in Figure 2, is, for purposes also presently appearing, formed diametrically therethrough with a way, as at 11, opening at its ends to diametrically opposite sides of the shell body 10, and whose walls divide the bore of the shell B into approximately parallel channels, as shown, for the free flow of fluid therearound to the discharge end of the shell. The one or forward wall 12 of the way 11 is preferably of somewhat arched contour, as shown, and provided at its crown, or more specifically at a point along the longitudinal axis of shell B, with a shallow recess, as at 13.

At its rim 14, the shell B is of somewhat reduced diametrical dimension relatively to shell A, so as to projectingly fit therein, as shown, when the shells A and B are endwise coupled for communication, and formed on the shell B adjacent its rim 14, is an outwardly presented annular flange 15 adapted for flatwise abutting co-operation with the

rim 2 of shell A, shell B being also formed with a tubular extension 16 preferably peripherally corrugated, as shown, for convenient attachment to the flexible supply pipe, also not shown, of the tender.

Adapted for endwise projection through and to partly operatively reside within the way 11, is a lever C provided at its one or so-called lower end with an enlargement 17 adapted for bearing engagement with the rear wall 8*a* of the opening or aperture 8 of the stationary abutment provided by the lug 7. The lever C is also preferably somewhat arched longitudinally and intermediate its ends is formed upon a face thereof with a centering projection 18 adapted to fit as a fulcrum upon the way-wall 12 at its said recess 13. At its other or upper end, the lever C is transversely apertured, as at 19, to accommodate the shank 20 of a bolt D, the head 21 of bolt D engaging the lever C, as best seen in Figure 1.

The bolt-shank 20 is of a length to fit adjacent its opposite end in the bifurcation of the lug 5 and is threaded, as at 20*a*, to receive a fastening-nut 22 for lever-rocking and bolt-tightening engagement with the lug 5, the lever C being formed around its opening 19 with a wall, as at 23, of configuration corresponding to the configuration of bolt-head 21 for retaining the bolt D from turning movement during tightening or loosening manipulation of the nut 22.

In use and operation, when the two parts or shells A and B are to be connected, the shells A and B are brought into endwise registration, with the rim 14 of shell B fitting within the shell A and with its flange 15 abutting against an interposed packing-ring or gasket 24 seated on the rim 2 of shell A. The bolt D is now engaged with the lever C and lug 5, and the nut 22 adjustably threaded on the bolt D to tightly engage the lug 5. Such manipulation of nut 22 causes the lever C to fulcrum or rock on the lug or centering point 18, thereby exerting pressure centrally upon the shell B, causing the same, in turn, to seat uniformly throughout the perimeter of its flange 15 against the rim 2 of shell A, a water-tight joint between shells A and B, through compression of the packing-ring 24, being thereby effected.

To disconnect the parts or shells A and B of the coupling, the nut 22 is loosened and bolt D disengaged from the lug 5. Pressure on the shell B through the lever D is thereby removed, when the shell B may be readily separated from the shell A, the lever D being preferably provided with opposed lugs 25 for engaging the shell B adjacent its way 11 for loosely suspending the lever D when the shells A and B are disconnected.

The coupling is relatively simple in structure, has few parts, may be economically and inexpensively manufactured, may be conveniently installed, is readily operable, and is exceedingly efficient in the performance of its intended functions.

While, as I have stated, my new coupling is particularly adapted for use in completing the tubular connections between a locomotive and tender, it will be understood that the coupling may with equal convenience, facility, and efficiency be employed between the adjacent ends of tubes, pipes, or the like wherever a readily detachable coupling is desired, and that changes in the form, construction, arrangement, and combination of the several parts of the coupling may be made and substituted for those herein shown and described without departing from the nature and principle of my invention.

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

A hose coupling including, in combination, a first shell having an outwardly presented annular end-flange, a second shell extended longitudinally to fit endwise within the first shell and having an outwardly presented annular end-flange for seating upon the end-flange of the first shell, the second shell being formed diametrically adjacent its flanged end with a walled way dividing the bore thereof, and means for separably securing the shells in communicating end to end relation, said means including a fixed radial abutment on the first shell, a second fixed abutment on the first shell in diametrically opposed relation to the first abutment, the second abutment having an apertured extension projecting longitudinally beyond the flanged end of the first shell, a lever loosely disposed endwise through said way and projecting at its forward end into the aperture of said abutment-extension, the lever being removably fulcrumed intermediate its ends on a wall of said way to impingingly bear at its forward end against the wall of said abutment-aperture, and a device comprising a lever-pulling bolt having detachable engagement with said first abutment and with the rear end of the lever for removably fastening the lever at its forward end to the first shell.

In testimony whereof, I have signed my name to this specification.

WILLIAM BAWDEN.