No. 708,103. Patented Sept. 2, 1902.

H. H. WARNER.

COUPLING MECHANISM FOR RAILWAY STEAM OR AIR PIPES.

(Application filed Nov. 7, 1901.)

(No Model.) 2 Sheets—Sheet 1.

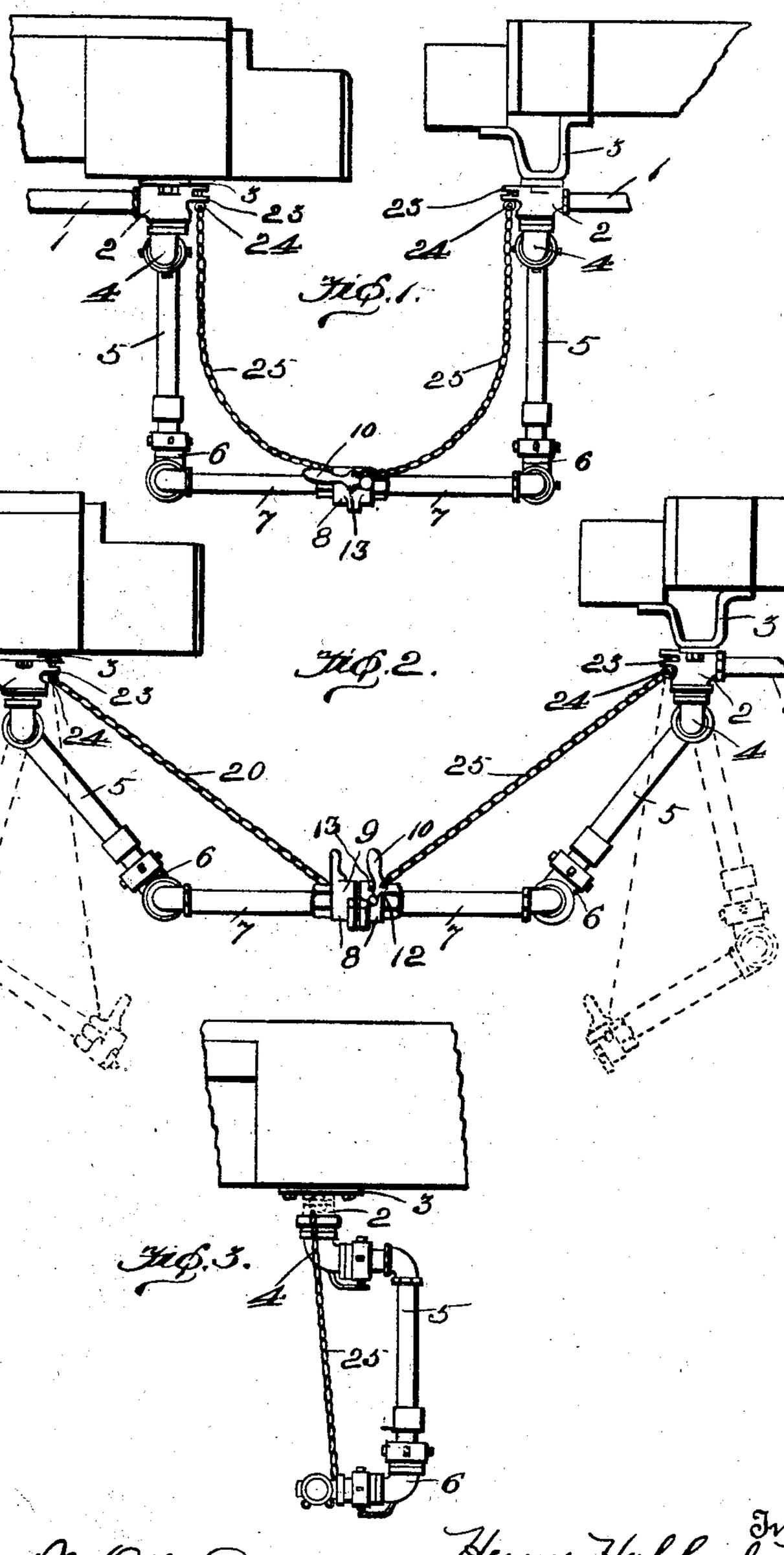

Fig. 1.

Fig. 2.

Fig. 3.

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Fig. 4.

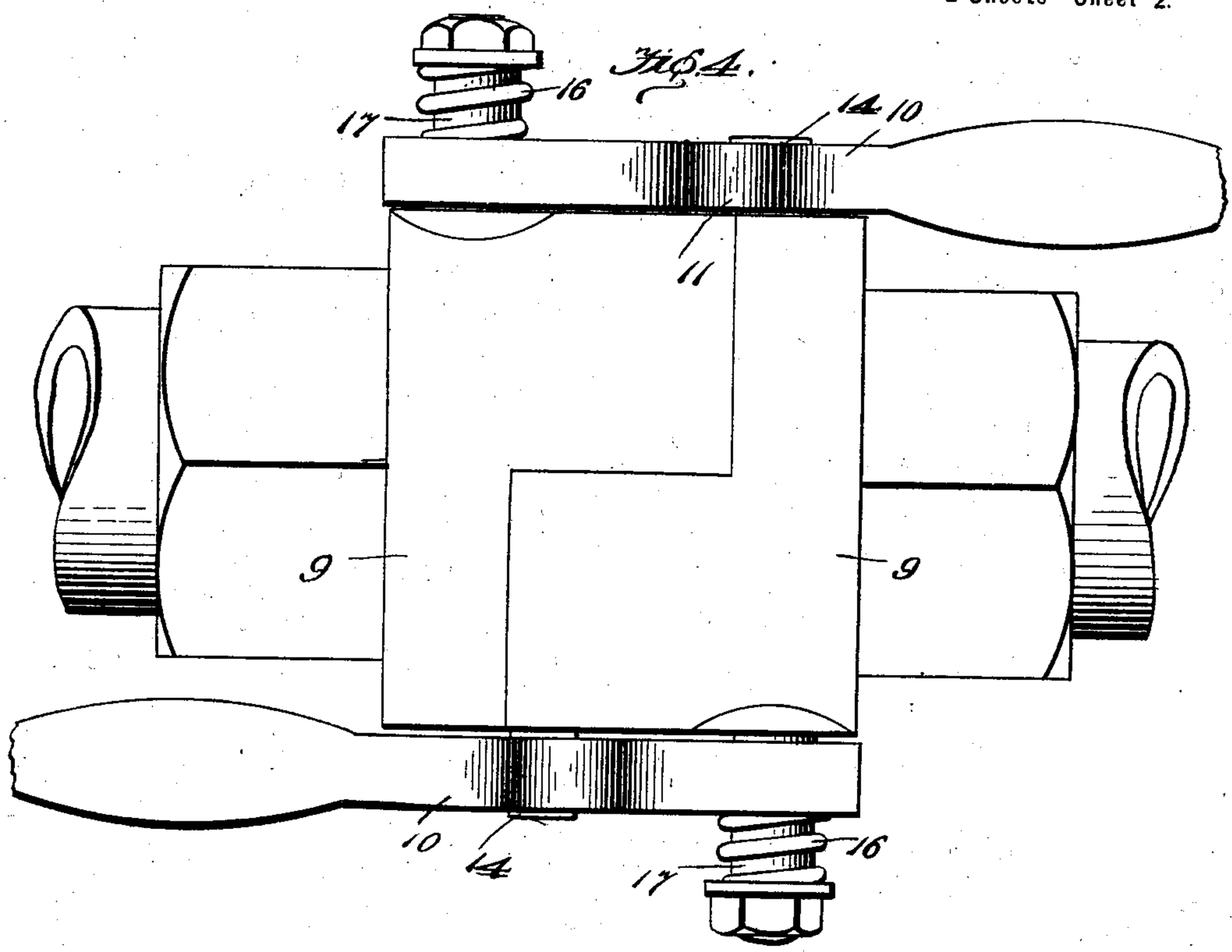


Fig. 5.

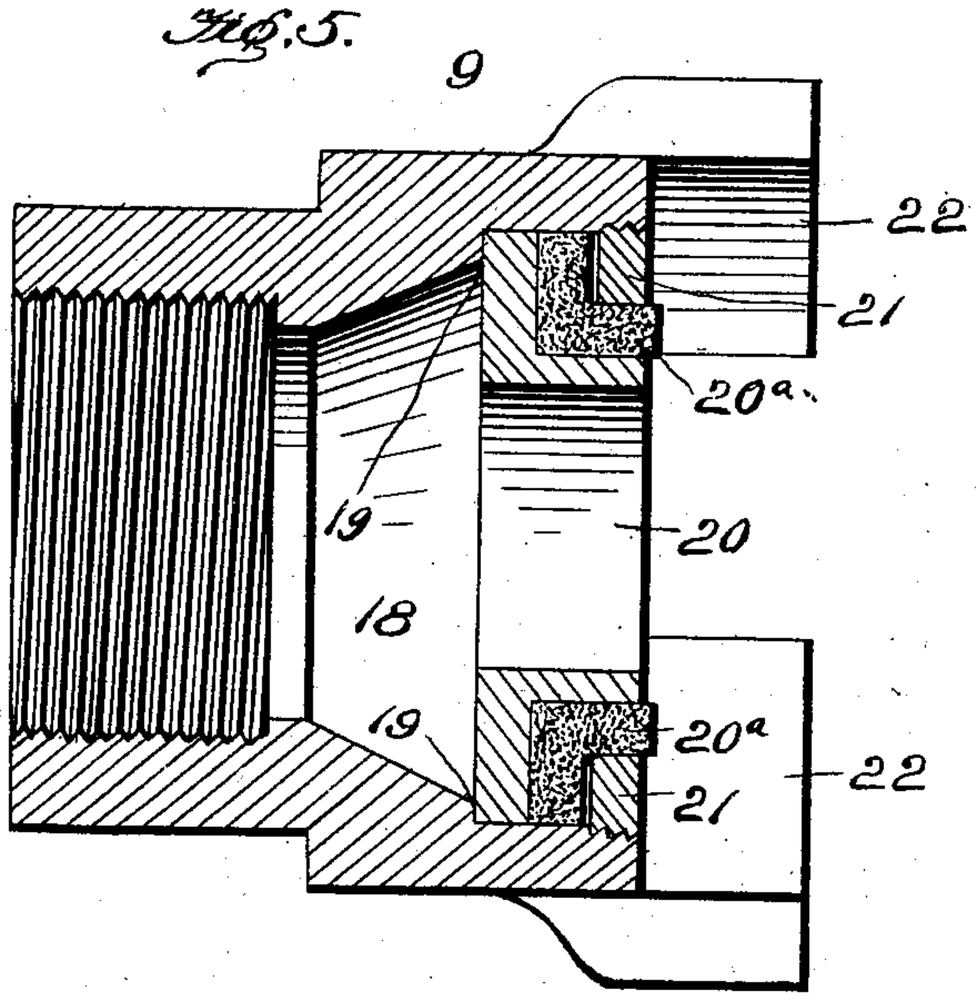
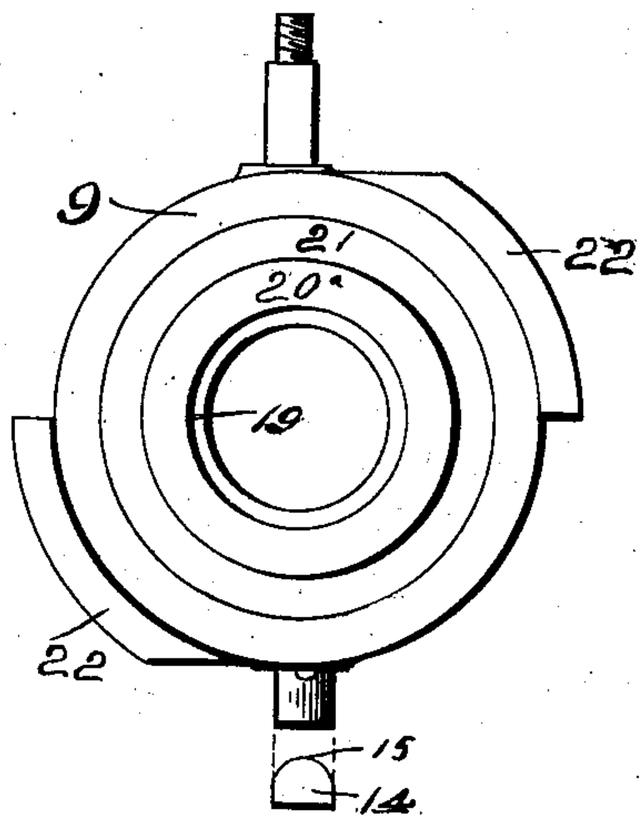


Fig. 6.



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UNITED STATES PATENT OFFICE.

HENRY H. WARNER, OF TACOMA, WASHINGTON.

COUPLING MECHANISM FOR RAILWAY STEAM OR AIR PIPES.

SPECIFICATION forming part of Letters Patent No. 708,103, dated September 2, 1902.

Application filed November 7, 1901. Serial No. 81,426. (No model.)

To all whom it may concern:

Be it known that I, HENRY HUBBARD WARNER, a citizen of the United States, residing at Tacoma, in the county of Pierce and State of Washington, have invented certain new and useful Improvements in Coupling Mechanisms for Railway Steam or Air Pipes, of which the following is a specification.

This invention relates to improvements in flexible steam, air, and liquid pipe joints and means for connecting and automatically disconnecting the same, said joint being especially adapted for connecting pipes of railway-cars; and the main object of my invention is the provision of a connection which is suspended from the pipes of the engine-tender or the cars that is easily and quickly connected and will when the cars are uncoupled automatically uncouple when the adjacent ends of the cars have reached a certain distance apart.

To attain the desired objects, the invention consists of a coupling mechanism and joint for pipes of railway-cars embodying novel features of construction and combination of parts, substantially as disclosed herein.

In the drawings, Figure 1 is a side elevation of a portion of a tender and the end of a car with my invention in use thereon. Fig. 2 is a similar view illustrating the automatic operation of the device. Fig. 3 is an end view of a portion of a car with one member of the invention applied. Fig. 4 is a top plan view of the coupling. Fig. 5 is a sectional view of one of the coupling members, and Fig. 6 is a front end view of one of the members.

Referring by numeral to the drawings, the numeral 1 designates the pipe of a railway car or tender, this pipe being connected to the casting or joint 2, supported in the hanger 3 upon the under side of the car or tender frame. Swiveled so as to have a swinging motion to the right-angled arm or pipe 4 is the pipe 5, to whose lower end is also connected the swiveled joint 6. Swingingly connected to the outer end of this joint is another pipe 7, which is adapted when the couplings 8 are secured together to lie substantially parallel with the rails. These couplings 8 each consist of the members 9, to each of which is pivoted the hand-lever 10, which is provided with the rounded abutment 11, through which is provided an opening 12. Upon the opposite side of this lever is formed the arm or catch 13, which is adapted when the members are together to engage the projection or pin 14, which is provided with the semicircular portion 15. To hold this lever in the proper position against the surface of the member, I employ the coil-spring 16, which surrounds the pin 17, forming a pivot for the lever. I provide the ends of the members with the inclined mouth 18, having a shoulder 19, upon which is fitted the gasket cup-case 20, carrying the ring or gasket 20^a, which is right angular in cross-section and has its outer edge extending beyond the outer edge of the other gasket. I form threads upon the inner side of the coupling, so that the releasing-plate 21 may be secured in place to compress the rubber gasket closely upon the cup-case, because when the two members come together the lugs 22 engage similar lugs upon the other member to prevent any twisting of the coupling, besides centering the members. In this position the projecting rubber rings or gaskets are compressed together and form a tight joint. Upon the forward portion of the casting 2 I provide lugs 23, to which is connected by means of the pin 24 the chain 25, whose lower end is connected to the opening 12 of the coupling-members' levers.

From this description, taken in connection with the drawings, the operation of my improved coupling pipe and joint for steam and air pipes is readily understood and its numerous advantages fully appreciated; but, briefly stated, it is as follows: When the cars are coupled together, the coupling members of the device are made firm by operating the hand-levers, as the lugs have properly centered the members, the levers causing, when they are pulled, the members to be brought tightly together, where they are held. By means of the upper and lower swivel joints the two lower pipes lie substantially parallel with the tracks, while the upper pipes are at right angles thereto, the chains at this stage being loose, as shown in Fig. 1. When the cars are uncoupled, it is not necessary to operate the hand-levers by hand, because as the cars sever the lower pipes begin to rise, the

upper pipes inclining until the chains become taut and pull upon the hand-levers, causing the joint to be uncoupled and allowing the members to fall apart, when the pipes assume the position shown in dotted lines, Fig. 2.

It is evident that I provide a very simple, durable, and inexpensive flexible connection for steam and air pipes for railway-trains and one by reason of its easy and quick coupling and its automatic uncoupling features is thoroughly efficient and practical in use.

What I claim is—

1. A coupling device for steam and air pipe connections for railway-cars, comprising two members, each of said members having two oppositely-arranged lugs projecting beyond the inner ends of the members and adapted to interlock when the two members have their outer edges together, a cylindrical pin mounted upon one side of the exterior of the members, a pivoted lever mounted upon said pin, a coil-spring surrounding the pin outside the lever, means to hold the spring in place, and an oppositely-arranged pin carried by each member having a flat and a curved side.

2. A coupling device for steam and air pipe connections for railway-cars, comprising two members, each of said members having two oppositely-arranged lugs projecting beyond the inner ends of the members, a cylindrical pin mounted upon one side of the interior of the members, a pivoted lever mounted upon said pin, means to yieldingly hold the lever upon the pin, and an oppositely-arranged pin carried by each member to be engaged by the lever of the other member; in combination with pipe connections and means for operating the levers when the cars are a certain distance apart to uncouple the members.

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

HENRY H. WARNER.

Witnesses:
RUPERT SCHULTHEISS,
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