

E. E. GOLD.
 COUPLING.
 APPLICATION FILED SEPT. 4, 1908.

947,280.

Patented Jan. 25, 1910.

2 SHEETS—SHEET 1.

FIG. 1.

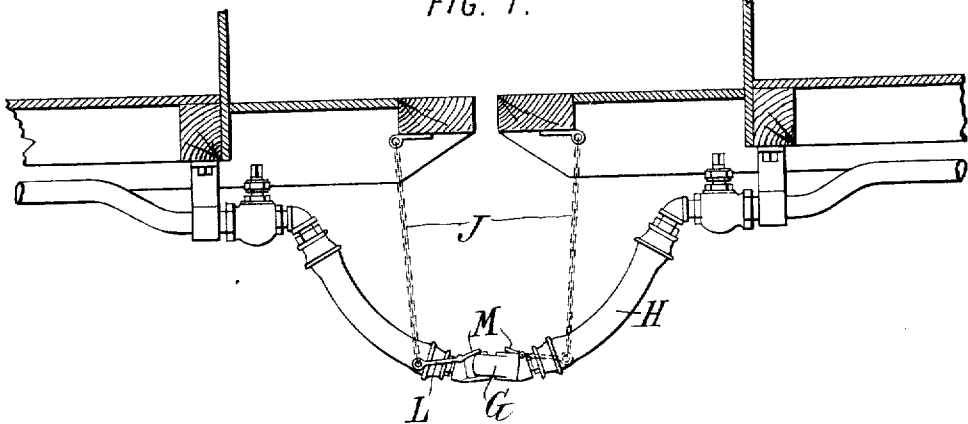


FIG. 2.

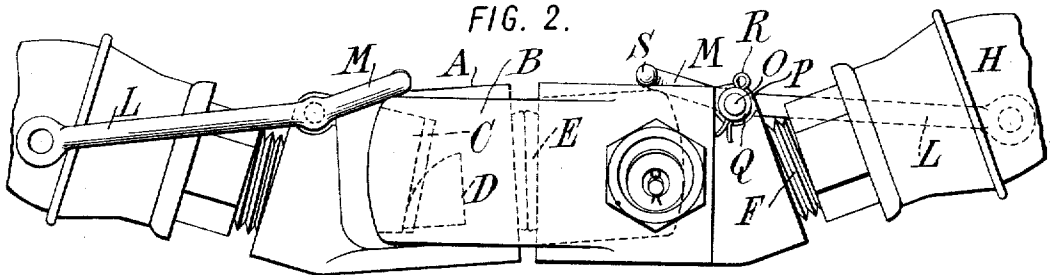
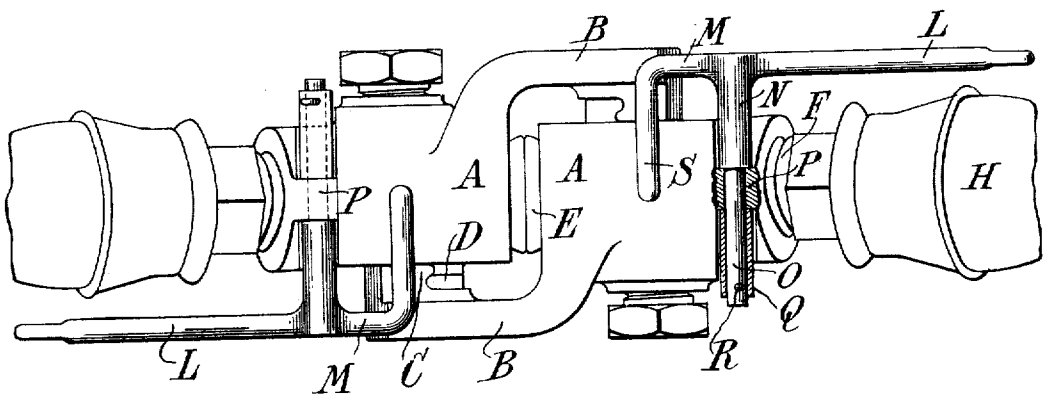


FIG. 3.



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2 SHEETS—SHEET 2.

FIG. 4.

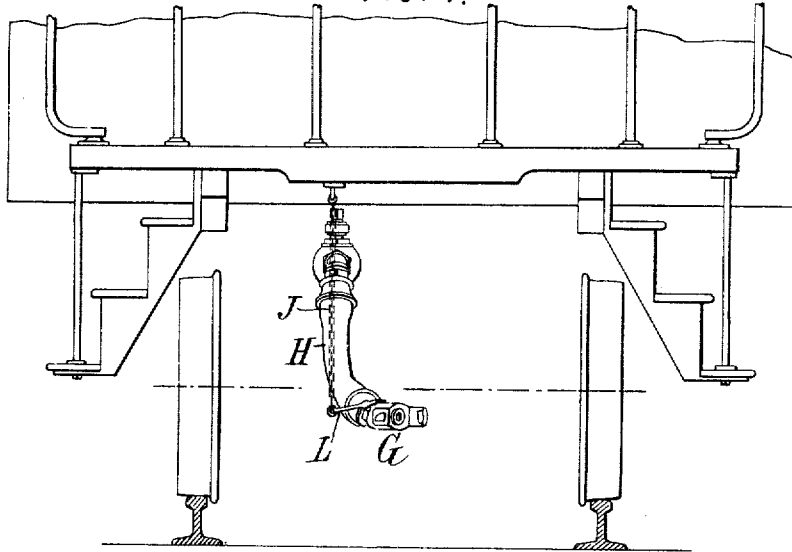
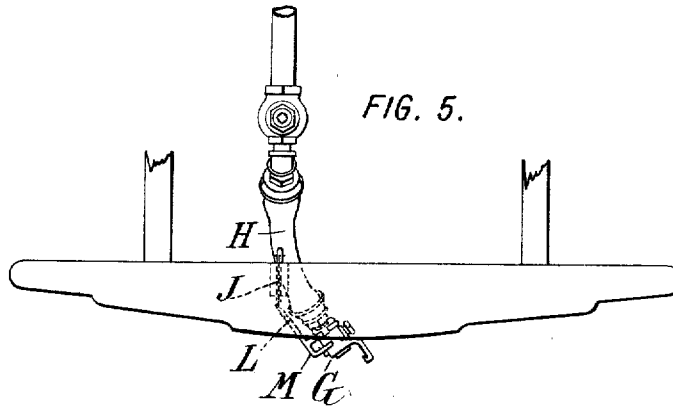


FIG. 5.



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EDWARD E. GOLD, OF NEW YORK, N. Y.

COUPLING.

947,280.

Specification of Letters Patent.

Patented Jan. 25, 1910.

Application filed September 4, 1908. Serial No. 451,751.

To all whom it may concern:

Be it known that I, EDWARD E. GOLD, a citizen of the United States, residing in the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Couplers, of which the following is a specification.

This invention aims to provide an improvement in couplers, especially adapted to hose couplers such as are used for connecting flexible hose of train-pipes carrying steam or other fluid, such couplers being arranged to intercouple with each other under the action of gravity and the stiffness of the hose, in a well known manner.

It has been found difficult to insure the couplers remaining in perfect engagement during use, and various means have been proposed for reducing or eliminating the liability of the couplers to become accidentally disengaged from each other. In previous applications (No. 421,263, of March 14, 1908, and No. 442,242, of July 6, 1908) I have described means for utilizing the same force which has always been used namely, the weight of the couplers, and applying it in such a way as to secure a stronger resistance to uncoupling. The present invention provides a modified device of the same general class, but having certain advantages in construction and in operation.

The accompanying drawings illustrate an embodiment of the invention.

Figure 1 is a side elevation of a pair of hose sections and couplers mounted on the ends of a pair of cars in the coupled position. Fig. 2 is a side elevation of the engaged couplers on a larger scale. Fig. 3 is a plan of Fig. 2. Fig. 4 is a diagrammatic end elevation of a car, showing the position of the coupler with the present improvement applied thereto. Fig. 5 is a plan of the same.

Referring to the embodiment of the invention illustrated, an end-port coupler of the ordinary Gold type is shown, having a body A and a forwardly projecting arm B by the downward movement of which the couplers are intercoupled, the arm B having an overhanging flange C which engages a corresponding projection D upon the side of the mating coupler; so that by the downward movement of the arms B the gaskets E are drawn close together and lateral

movement of one coupler relatively to the other is also prevented. Ordinarily the couplers stand in the substantially or approximately horizontal position of Fig. 2 when they are intercoupled, and they are provided with necks F projecting upwardly at an angle and upon which the hose sections are applied; so that when the couplers hang down their weight and the stiffness of the hose tend to turn the arms B downward, and so that when the hose is stretched to an approximately horizontal line as in the accidental uncoupling of the cars there is a tendency to throw the arms B upwardly to uncouple.

In Figs. 1, 4 and 5 the coupler is indicated as a whole by the letter G. The hose is indicated at H. A chain J or any other suitable supporting device is attached at its upper end to the under side of the platform K of the car, or to any other suitable point of support, and at its lower end to a lever for pressing or locking the couplers forcibly into engagement and resisting accidental uncoupling.

To the extent above indicated the present improvement corresponds to the generic invention described in my application No. 421,263, above referred to. The particular construction shown, however, embodies certain departures in the shape and arrangement of the locking lever and chain. The inner arm L of the lever is arranged to move in a plane (approximately or substantially vertical) which is outside of the hose, so that it may be set at any desired angle in this plane of movement and may be brought nearly or exactly to a position at right-angles with the pull of the chain in the running position so as to secure the greatest efficiency. In the illustrations it is shown approximately normal to the direction of the chain. Furthermore by arranging the plane of movement of the arm L outside of the hose, this arm may be made as long as desired, so as to secure any desired degree of efficiency. These determinations of angle and length of the arm are not interfered with at all by the hose, because of the movements of the arm in a plane entirely outside of the hose. Where an old hose length is coupled with a newer and stiffer hose length, the old hose bends sharply close to the point at which it is connected to its coupler, and is liable to bend upward an ab-

normal extent, so as to interfere with any locking lever arranged in the same vertical plane with the hose.

The locking arm M extends over the arm B of the mating coupler, the arms L and M of the lever being preferably in the same vertical plane, and being both carried upon the end of a shank N which is provided with a reduced pivot portion O passing through a lug P in the angle between the neck and the head of the coupler, and held in place by a sleeve Q fastened on the pivot by means of a cotter pin R. The sleeve Q and the shank N practically fill the angle at the back of the head of the coupler, so as to secure a long bearing of the lever against the coupler head, which insures the durability of the device in good condition for accurate operation. The downward movement of the outer arm M when the couplers are uncoupled is limited by a projection S which is adapted to strike the head of the coupler to prevent excessive movement beyond that necessary for locking the couplers together.

The construction described provides an extremely simple shape for the locking lever, and one which can be easily forged and made of any desired strength, and one which furthermore can be attached to ordinary couplers practically without the need of any tool (the lug P being commonly provided on all couplers nowadays).

In connection with the lock described there may be provided supplemental springs, horizontal movements, and other modifications, as described in detail in my application No. 421,263.

The chain J may be arranged to extend laterally as well as upwardly from the point of attachment to the locking lever to a point of support under the car platform at the opposite side of the center line of the car, so as to pull the coupler over to its proper coupling position along this center line while also holding up the coupler to prevent its striking obstructions on the track. Or the chain may be supported from any other suitable point as in the vertical arrangement shown by Figs. 4 and 5. The chains may also be provided with springs, adjusting means, and other modifications as described in my application No. 421,263, aforesaid; and the particular style of lever is useful with or without a chain as part of a lock applicable to couplers of this general type.

The operation of the invention is as follows: The couplers are brought together and coupled in the usual way. The couplers are lifted in order to bring them to a correct angle, and in this lifted position the angular and heavier arms L of the locking levers hang downwardly, so that there is no inter-

ference with the coupling operation. When the coupling is effected the couplers are dropped, and at approximately the point of perfect contact of the gaskets the chains J are drawn taut and press the locking arms M down upon the coupler arms. Any tendency to uncouple in the present position is strongly resisted by the locking levers. If the cars become uncoupled without the couplers being separated by hand, the drawing of the cars apart will bring the looped hose lengths up to an approximately horizontal position, which will immediately slacken the chains so that there will be no greater opposition to automatic uncoupling of the hose lengths than with the ordinary style of couplers.

What I claim is:—

1. In combination, a hose, a chain, a hose coupler adapted to be supported alternatively from said hose and from said chain, and locking mechanism actuated by the weight of the coupler and acting with a greater efficiency when the coupler is supported from the chain than when it is supported from the hose, said locking mechanism having a portion projecting rearwardly of the coupler and moving in a plane outside of the hose.

2. A hose coupler having an arm engaging the mating coupler by a downward movement, and a lock operated by a supporting chain and holding said arm down, said lock having a portion extending rearwardly of the coupler and moving in a plane entirely outside of the hose.

3. A hose coupler having an arm engaging the mating coupler by a downward movement, and a locking lever connected to said coupler having one arm adapted to overlie a portion of the coupler arm of the mating coupler, and having another arm extending rearwardly of the coupler and alongside of the hose and supported from overhead.

4. A coupler provided with a locking lever having an arm M adapted to overlie an arm of the mating coupler, and having an arm L extending rearwardly alongside the hose and adapted to be connected to an overhead support.

5. A hose coupler, in combination with a transversely pivoted lever having a forwardly extending arm adapted to swing down over the opposite coupler arm, and a rearwardly extending arm moving in a plane outside of the hose.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

EDWARD E. GOLD.

Witnesses:

DOMINGO A. USINA,
THEODORE T. SNELL.