

C. A. SIMMONS.
 TRAIN PIPE COUPLING.
 APPLICATION FILED OCT. 16, 1911.

1,100,331.

Patented June 16, 1914.

Fig. 1.

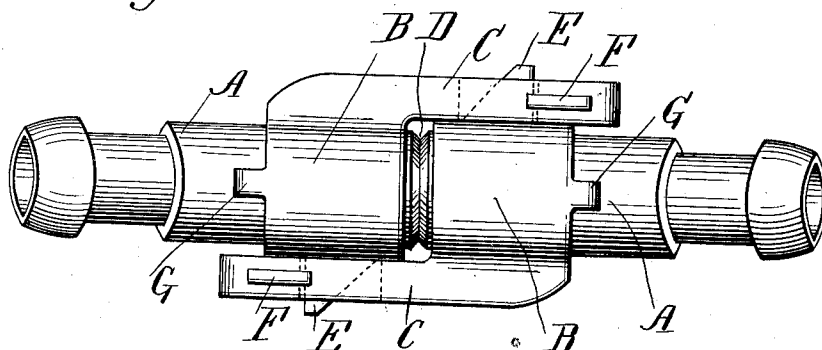


Fig. 2.

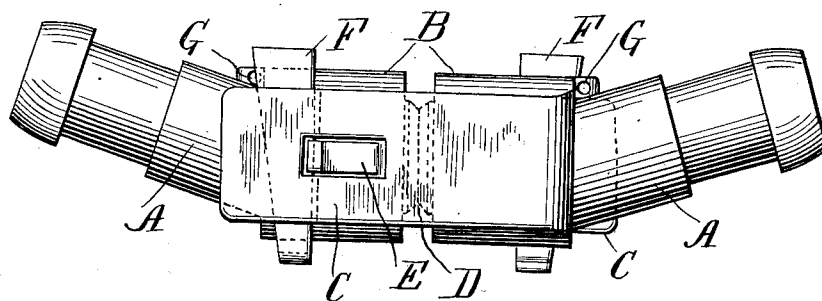
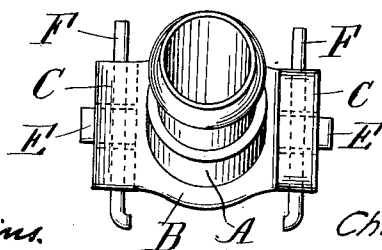


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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TRAIN-PIPE COUPLING.

1,100,331.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES A. SIMMONS, a citizen of the United States, and residing at 19 Broadway, Rensselaer, county of Rensselaer, State of New York, have invented certain new and useful Improvements in Train-Pipe Couplings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements in the construction of couplings for the fluid conducting pipes of railway trains, and is more particularly directed to improved twin coupling heads for the steam hose and air hose universally employed for the connection between cars of the steam and air pipe system of a train.

An object of the invention is to prolong the life of the hose by providing a practical coupling which does not require that the hose be subjected to excessive bending in order that the two coupling heads be engaged. Heretofore, in those types of hose couplings which required that the heads be first placed at a considerable angle to one another and then engaged by a straightening or angular movement a considerable flexure of the hose was necessary, which, in time caused kinking and destroyed it at those points where the kinking occurred while the major portion remained perfectly good but had to be discarded. This deterioration due to kinking is hastened by a frozen condition of the hose which is met with throughout a considerable portion of the year in some localities.

The construction herein illustrated is particularly applicable to the steam pipe or air pipe of a train system; but it will be understood that the spirit of the invention may be presented in various other constructions to good advantage.

In the accompanying drawings: Figure 1 is a plan view of a pair of engaged coupling heads embodying my invention; Fig. 2 represents in side elevation the same pair of engaged couplings; and Fig. 3 is an end view in elevation of the same.

Similar letters of reference indicate similar parts throughout the several views.

The coupling members on adjacent cars

are designed to be homologous counterparts of each other and are connected in like manner to the hose sections extending from the ends of the car pipes.

Referring to the drawing, each head is provided with an upwardly inclined bulbed throat A to receive the end of the flexible hose (not shown) and this throat A projects from the rear end of a substantially tubular head B. The transverse face of each of the heads B is provided with a composition gasket D of the well-known type. An arm C projects laterally from the left side of each of the heads B and extends forwardly to lie alongside and parallel with the other head B of the coupling when the two parts are engaged. Each of the arms C has slots into which a lug E projecting from the side of the opposite head B projects when the two parts of the coupling are engaged. The rear edges of the lugs E are at right angles to the heads B and their forward edges are inclined outwardly to facilitate their engagement with the slots in arms C. It will now be seen that the two parts of the coupling may be engaged with one another by bringing them into alinement by a transverse movement equal to the length of one of the lugs E, this movement being practically a movement of translation requiring substantially no flexure of the hose. This engagement, however, would not of itself produce a tight joining of the coupling nor would the heads remain interlocked. I therefore provide taper wedges F mounted in taper slots in the outer ends of the arms C in such manner that their rearward edges will be perpendicular to the center line of the coupling and will engage grooves in the rearward edges of the lugs E when the two parts of the coupling are engaged. The downward movement of the wedges D will first enter the grooves in the lugs E and prevent the separation of the coupling sideways and then force the lugs E backward in their slots drawing the two parts of the coupling together and forming a tight joint between the gaskets D. The smaller ends of the wedges F are turned over to prevent their entire removal from their slots and an eye member G is provided upon each of the heads B by which it may be supported on a hook or the like when the head is not in use.

In practice when the coupling is to be effected the wedges F are lifted, the heads are placed parallel to one another sidewise and at a distance apart only equal to the length of the lug E and brought together by a transverse movement requiring practically no flexure of the hose. The taper wedges F are then tapped down by a hammer and the coupling is secure. The taper of the wedges F and their slots should not be so great that the wedges may loosen with the ordinary jarring to which the coupling is subjected. When it is desired to uncouple the parts, the lower ends of the wedges F are tapped upwardly by a hammer, lifted, and the parts separated sidewise.

Having thus described my invention, what I claim is:

1. A train pipe coupling comprising heads and wedging means, each of said heads having an integral longitudinally extending arm on one side thereof and a laterally extending lug on the other side thereof, which arm is provided with a transverse slot, said lugs being adapted to enter the slots in said arms by transverse movement and the wedging means for engaging surfaces on the lugs and arms in order to draw the heads together in a longitudinal direction and in order to prevent the separation of said heads by a longitudinal movement when the heads are assembled.

2. A train pipe coupling comprising companion heads and wedge members, each head being provided at one side thereof with an integral longitudinally extending arm having a transverse slot therein and at the other side a longitudinally extending lug, the lug on one of the heads being arranged to enter the slot in the arm on the other head so as to prevent the heads from being separated by longitudinal movement and the wedge members engaging the arms and lugs so as

to draw the heads together in a longitudinal direction.

3. A train pipe coupling comprising heads each having an integral longitudinally and forwardly extending arm upon one side thereof, said arm being provided with a pair of intersecting transverse slots, and a laterally extending lug upon the other side thereof, the lug on one of said heads being adapted to enter one of the slots in the arm on the other of said heads by transverse movement of the heads, and wedges mounted in the remaining slots in said arms, and adapted to be interposed between each lug and arm to draw the heads together longitudinally whereby the abutting faces which extend laterally to the heads will be forced longitudinally against each other; substantially as described.

4. A train pipe coupling comprising heads which are adapted to abut one another axially, each of said heads having a forwardly extending arm upon one side thereof, said arm being provided with a diametral slot, and a laterally extending notched lug upon the other side thereof, a lug on one of said heads being adapted to enter the said slot in the arm of said other head by transverse movement of the heads, a taper slot in each of said arms intersecting said diametral slots, and wedges mounted in said taper slots and adapted to engage the notches in said lugs to prevent disengagement of the heads by transverse movement and to draw the heads together axially; substantially as described.

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

CHARLES A. SIMMONS.

Witnesses:

CHARLES J. TOBIN,
JOHN L. MOURNIGHAN.