

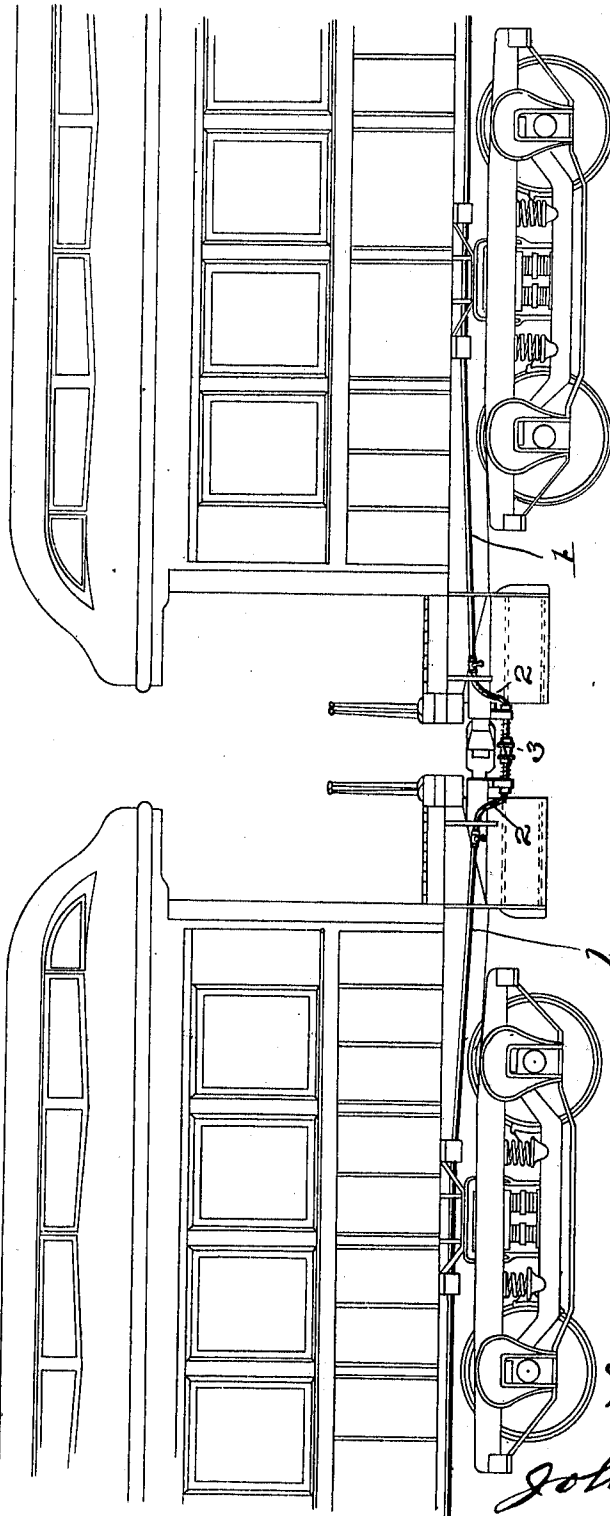
J. MILLIGAN & A. M. & J. T. MORTON.
AUTOMATIC TRAIN PIPE COUPLING.
APPLICATION FILED NOV. 8, 1910.

993,703.

Patented May 30, 1911.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses
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2 SHEETS—SHEET 2.

FIG. 2.

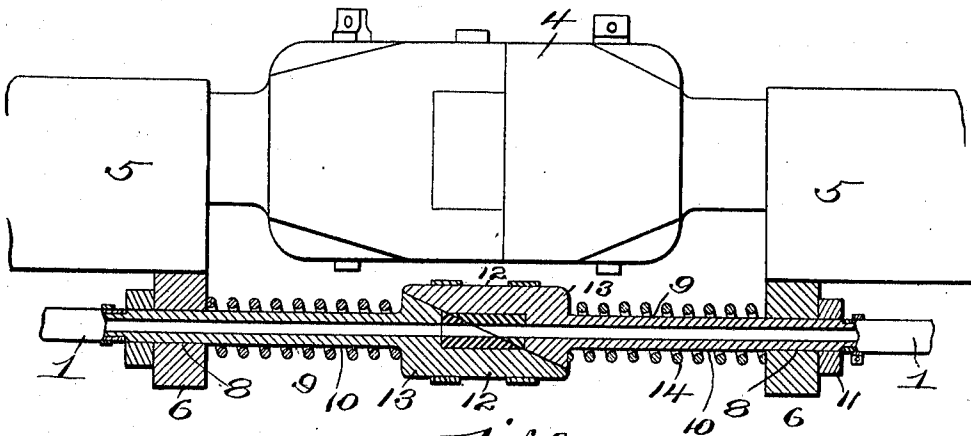


FIG. 3.

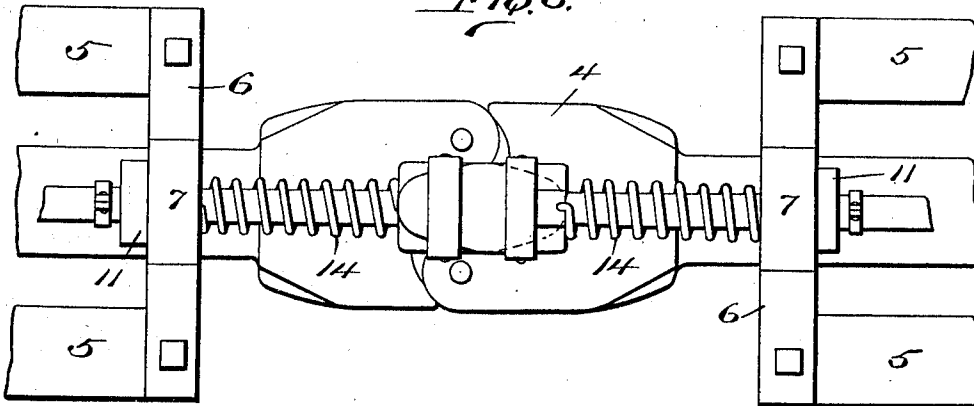
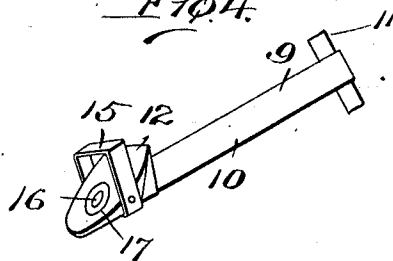


FIG. 4.



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UNITED STATES PATENT OFFICE.

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AUTOMATIC TRAIN-PIPE COUPLING.

993,703.

Specification of Letters Patent.

Patented May 30, 1911.

Application filed November 8, 1910. Serial No. 591,274.

To all whom it may concern:

Be it known that we, JAMES MILLIGAN, ALFRED M. MORTON, and JOHN T. MORTON, citizens of the United States, residing at Little Rock, in the county of Pulaski and State of Arkansas, have invented certain new and useful Improvements in Automatic Train-Pipe Couplers, of which the following is a specification.

Our invention has relation to new and useful improvements in automatic air couplers for trains and the main object thereof is to produce a device of this nature that will be efficient in operation. This device may be used either on a passenger or freight train.

A further object of our invention is to place the air coupler directly below the automatic car coupler so that the coupling of one will be coincident with the coupling of the other.

With the foregoing and other objects in view our invention consists in the novel construction, combination and arrangement of parts as are described in this specification, illustrated in the accompanying drawings forming a part thereof and particularly pointed out in the appended claims.

Reference being had to the drawings: Figure 1 is a side elevation of two cars of a train to which our automatic air coupler has been applied. Fig. 2 is an enlarged side elevation of a car coupler of any type adapted for the purpose, together with a vertical, longitudinal, sectional view of our automatic train pipe coupling connected therewith. Fig. 3 is a bottom, plan view of a car coupler of the same type as illustrated in Fig. 2, together with our automatic train pipe coupling connected therewith. Fig. 4 is a perspective view of one member of the coupling device employed in constructing our train pipe coupling.

Referring more particularly to the drawings in which like numerals designate like parts throughout, our invention, in detail, is described as follows:

The train pipe 1 is preferably constructed of iron, as usual, but may be made of any other material suitable for the purpose. The train pipe 1 is interrupted between each coach of the train by a pair of rubber hose 2 and coupler 3. The automatic car coupler 4 is of any well known construction adapted to be used in conjunction with our train pipe coupling. The car coupler 4 is secured in

position to the under sides of the adjacent coaches by the longitudinal beams 5. Secured to the outer ends of each pair of longitudinal beams 5 is a transverse beam 6 which is provided with a sem-circular enlarged portion 7, in each of which portions is a hole 8 through which extends the annular reduced portion 9 of the corresponding coupling member 10. Each of the coupling members 10 is provided with an enlargement 11 at its inner end which contacts with the inner face of its respective transverse beam 6 and secures said member against further forward movement.

The head 12 of each coupling member is so shaped that its longitudinal section forms a triangle as shown in Fig. 2, so that when the heads contact with each other they will form a compact coupling head 13 rectangular in shape. Encircling each reduced portion 9 of each coupling member 10, is a coil or helical spring 14 which is interposed between the head 12 and the outer face of the adjacent transverse beam 6. The object of this coil or helical spring is to hold or secure the heads 12 forming the coupling head 13 compactly together after being coupled. Surrounding each head 12 is a rectangular frame 15 which receives the smaller end of the opposite head and holds said heads in such relation to each other that the longitudinal opening 16 passing through each coupling member 10 will coincide or register, to permit the ready flow of compressed air or steam therethrough.

It will be seen that when the coaches are uncoupled the air coupler will automatically uncouple also as the heads 12 will simply stay in contact with each other so long as the adjacent coaches are held together by means of the automatic car coupler 4. Of course, it is obvious that the helical or coil spring 14 may be made of any strength desired, but, however, as will be seen, there being no tendency on the part of the steam or compressed air to force the coupling members apart, the springs need be only of sufficient strength to form a compact joint. We have inserted or countersunk in each head 12 a packing ring 17 which is for the purpose of aiding in forming a compact joint between the coupling members 10.

Although we have specifically described the construction, combination and arrangement of the several parts of our invention,

yet we do not confine ourselves to such specific construction, combination and arrangement of parts but reserve and may exercise the right to make such changes therein as do not depart from the spirit of the invention or the scope of the claims hereunto appended.

Having described our invention, what we claim as new and desire to secure by Letters Patent, is:

1. In a device of the nature described the combination with two pair of longitudinal beams and two transverse beams each of the latter having a semi-circular enlarged portion provided therefor, with a pair of coupling members, said enlarged portion of each transverse beam provided with a hole therein, each of the coupling members extending through the hole of its respective transverse beam, an enlargement provided on the outer end of each coupling member forming a head the longitudinal section of which forms a triangle, said heads when coupled forming a rectangular shaped coupling head, a frame encircling the head of each coupling member, which frames receive the smaller end of the head of the opposite coupling member, resilient means interposed between the head of each coupling member and its corresponding transverse beam securing the heads of the coupling members in coupled position, said coupling members each provided with a longitudinal opening therethrough, and means comprising a hose to connect the outer end of each coupling member with the adjacent end of the train pipe.

2. In a device of the nature described, the

combination with two pair of longitudinal beams and two transverse beams each transverse beam having a semi-circular enlarged portion provided therefor, of a pair of coupling members, said enlarged portion of each transverse beam provided with a hole therein, each of the coupling members extending through the hole of its respective transverse beam, an enlargement provided on the inner end of each coupling member securing each member against further outward movement, each coupling member provided with a head the longitudinal section of which forms a triangle, said heads when coupled forming a rectangular shaped coupling head, a frame encircling the head of each coupling member, which frames receive the smaller end of the head of the opposite coupling member, a coil spring encircling each coupling member and interposed between the head thereof and its respective transverse beam, packing rings inserted in the mouth of the head of each coupling member to form a compact joint, when coupled, said coupling members provided with longitudinal openings there-through and means comprising a hose to connect the outer end of each coupling member with the adjacent end of the train pipe.

In testimony whereof we affix our signatures in presence of two witnesses.

JAMES MILLIGAN,
ALFRED M. MORTON.
JOHN T. MORTON.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."