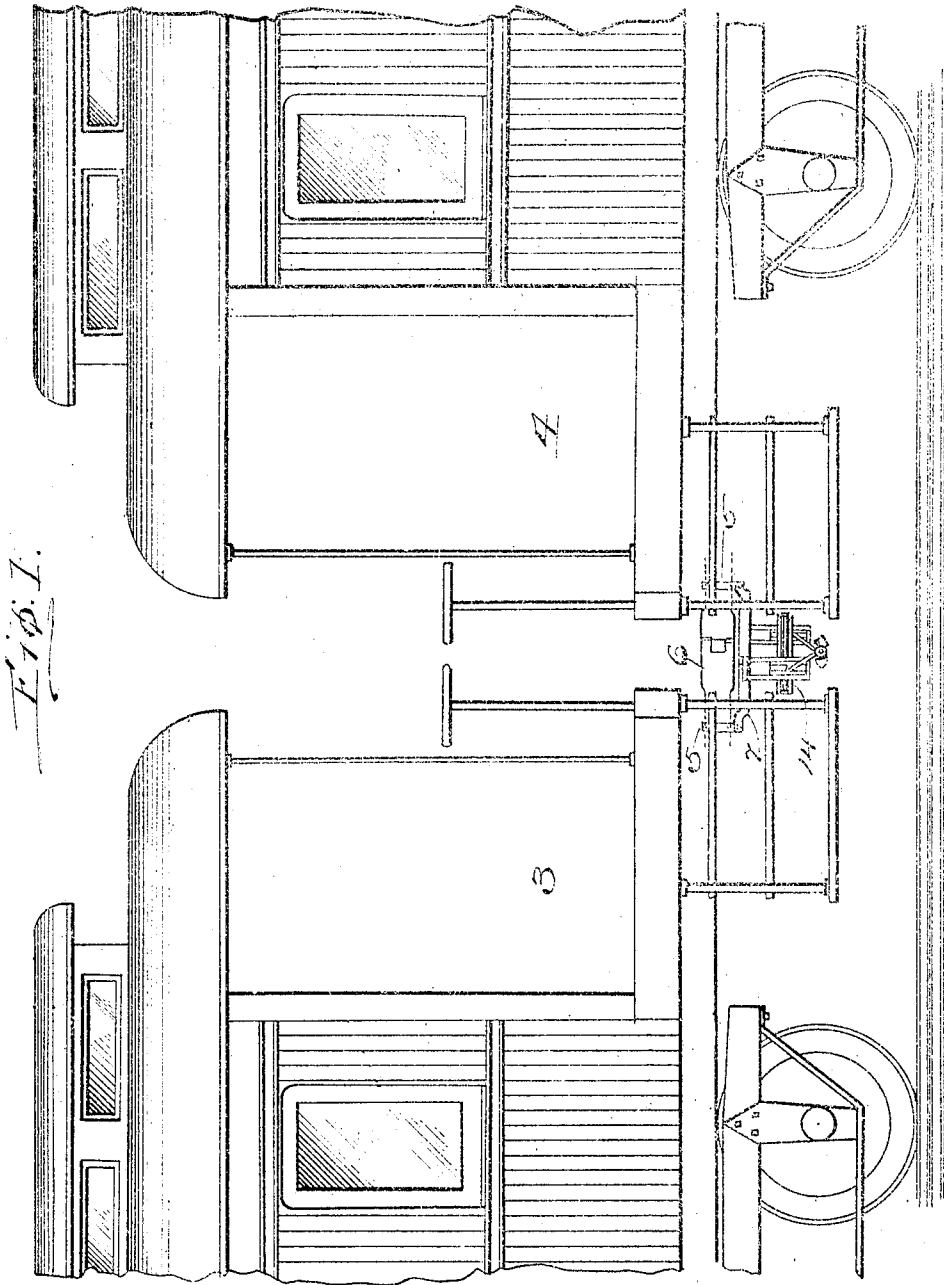


C. PLOPA & J. POPP.
TRAIN PIPE COUPLING.
APPLICATION FILED, SEPT. 22, 1910.

1,036,330.

Patented Aug. 20, 1912.
3 SHEETS—SHEET 1.



Witnesses

J. M. Fowler Jr.
H. Strauss

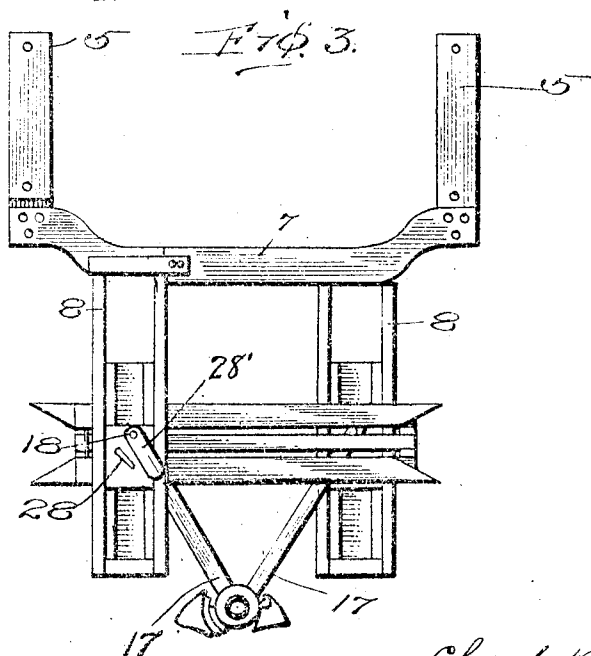
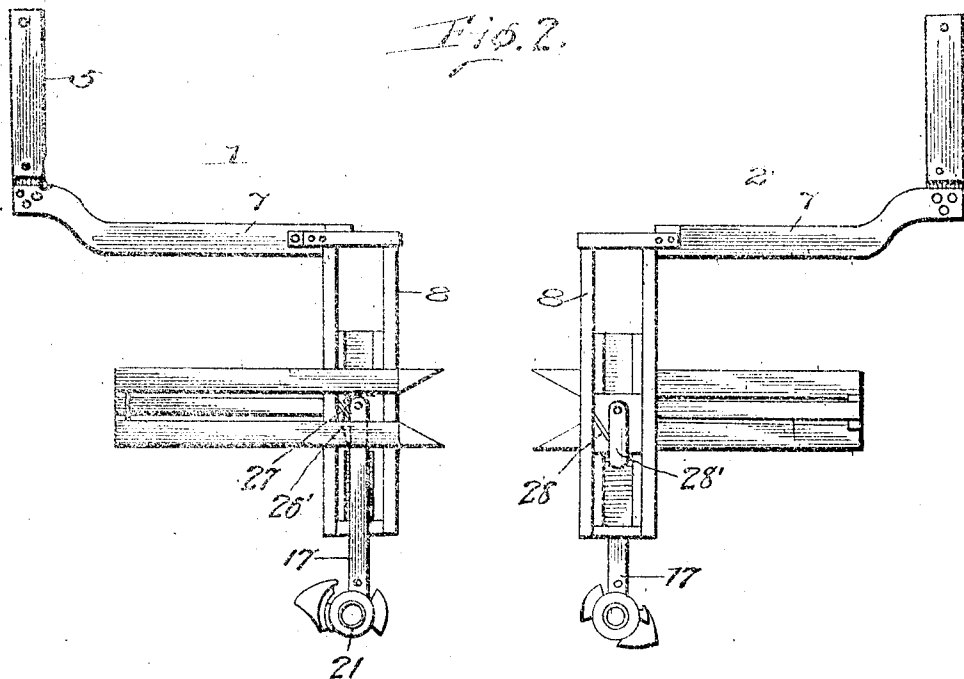
Charles Plopa Inventors
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 APPLICATION FILED SEPT. 23, 1910.

1,086,830.

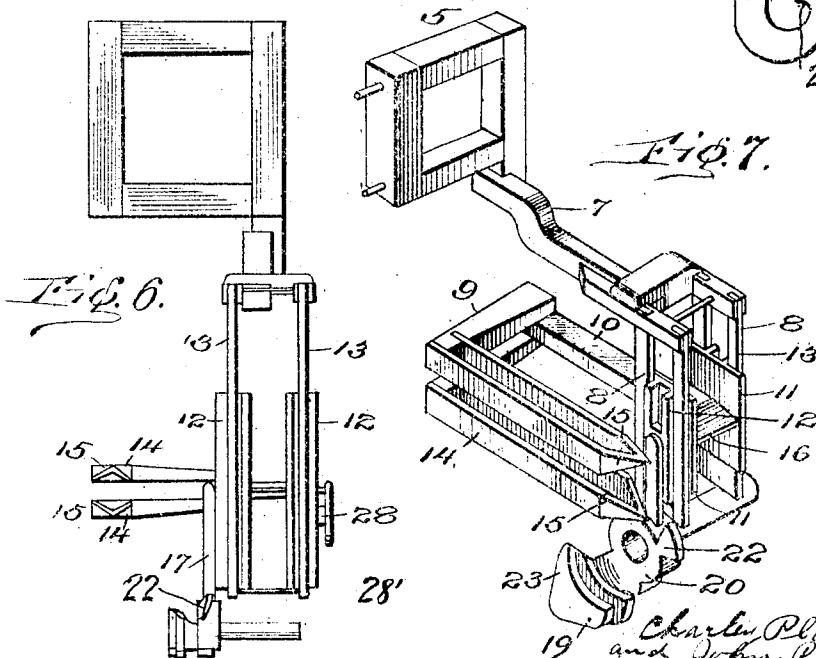
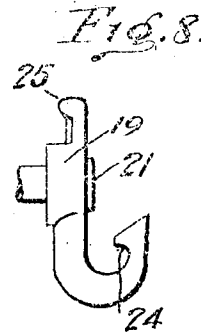
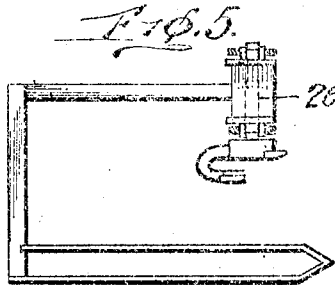
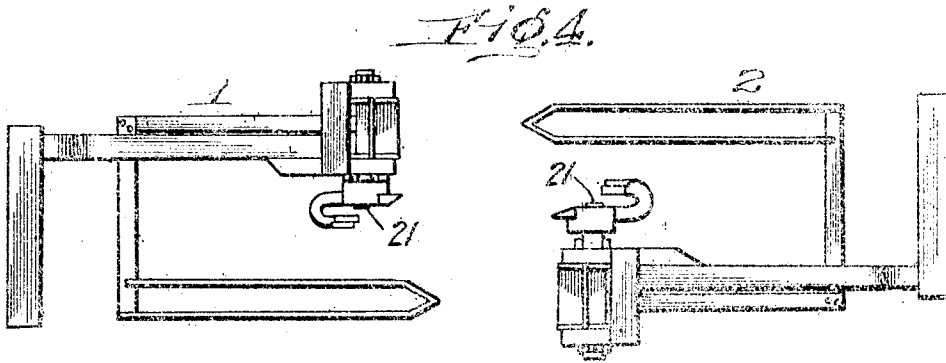
Patented Aug. 20, 1912.
 3 SHEETS—SHEET 2.



Witnesses

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UNITED STATES PATENT OFFICE.

CHARLEY PLOPA AND JOHN POPP, OF PORTAGE, PENNSYLVANIA.

TRAIN-PIPE COUPLING.

1,036,330.

Specification of Letters Patent. Patented Aug. 20, 1912.

Application filed September 22, 1910. Serial No. 583,319.

To all whom it may concern:

Be it known that we, CHARLEY PLOPA and JOHN POPP, citizens of the United States, residing at Portage, in the county of Cambria and State of Pennsylvania, have invented certain new and useful Improvements in Train-Pipe Couplings, of which the following is a specification.

This invention relates to new and useful improvements in train pipe couplings.

The primary object of this invention is to provide a coupler of this character that will automatically couple and uncouple itself, thus making it unnecessary for the brakeman to go between the cars and risk being maimed or killed.

A further object of this invention is to provide a train or air pipe coupling in which provision is made to take up the usual vertical or rectilinear motion between the adjacent cars and which allows the required lateral play between the two respective sections of the coupler when the cars are rounding a curve.

With the foregoing and other objects in view this invention consists in the novel features of construction, combination and arrangement of parts illustrated in the drawings and more particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a side elevation, showing portions of two adjacent cars with the two respective sections of the coupler in coupled relation. Fig. 2 is an elevation of the two sections of the coupler as arranged in juxtaposition. Fig. 3 is a similar view, with the coupler sections in coupled relation. Fig. 4 is a plan view of the sections shown in Fig. 2. Fig. 5 is a plan view of a section of one of the coupler members, with parts shown in section. Fig. 6 is a front elevation of one of the coupler members. Fig. 7 is a perspective view of the same. Fig. 8 is a detail view of one of the locking heads.

Referring to the accompanying drawings for a more particular description of the invention and which drawings are for illustrative purposes only and are therefore not drawn to scale, the coupler comprises two corresponding members 1 and 2, carried by the adjacent cars 3 and 4 in the manner shown.

Each of the respective members of the coupler comprises an attaching frame 5 which receives the corresponding drawbar

6 of the car and a supporting arm 7 which extends outwardly from the attaching frame in an approximately horizontal plane. The outer ends of the supporting arms 7 carry the oppositely disposed laterally spaced supporting yokes 8 which support the interlocking members 9 of the coupler. The members 9 consist, each, of a supporting arm 10 provided at its outer end and at opposite edges with the vertically disposed guide plates 11 formed upon their outer faces with the bearing flanges 12 which fit and work against the inner edges of the side pieces 13 of the yokes 8. From the foregoing it will be readily seen that the yokes 8 are capable of a vertical sliding action or movement with respect to the interlocking members 9 which allows for the usual vertical or rectilinear movement between the adjacent cars. Each of the interlocking members 9 further comprises a pair of vertically spaced guide bars 14 which receive the arms 10 of the opposite member of the coupler when said members come together. The outer ends of the bars 14 are beveled outwardly, as at 15, and the corresponding ends of the bars 10 beveled upon opposite faces, as at 16, to insure the engagement of these parts when the coupler members come together. Each of the coupler members further comprises the swinging arm 17, pivoted at its upper end, as at 18, by means of a shaft 26. The lower ends of the arms above mentioned are provided with the interlocking heads 19, comprising the circular bearing portions 20 in which are arranged the rubber gaskets or washers 21, the purpose of which is to prevent any air leakage when the coupler members are in coupled relation. Each of the interlocking heads 19 is provided with the offset locking ear 22 at one point and with the ear receiving flange 23 at an opposite point. The flanges 23 are provided in their inner faces with arcuate recesses 24 which receive corresponding ribs 25 formed upon the inner faces of the locking ears 22. When the two members of the coupler are apart, as shown in Figs. 2 and 4, the arms 17 are held in a depending position by the flat springs 26. When the cars come together, however, the pivotal connections 18 pass each other the heads 19 interlock and cause the arms to swing up into the position indicated in Fig. 3 under which conditions the bearing heads and gaskets 21 fit tightly against each other

and connect the air or train pipe between the cars.

The upper ends of the arms 17 are connected with shafts 26 which extend through the guide plates 11 and the outer ends of the supporting arms 10, as shown, and are mounted to turn in their bearings. Cams 27 and 28 are arranged on the outer faces of the guide plates 11. The cams 27 work against the inner faces of the upper ends of the swinging arms 17 and the cams 28 against the arms 28' carried by the axles 26. The purpose of the cams 27 is to force the ears 22 and heads 23 into effective locking engagement when the cars come together. As the arms swing from the vertical position to that indicated in Fig. 3, the arms 17 ride up on the cams 27, thereby forcing the heads 19 laterally toward each other. The purpose of the cams 28 and arms 28' is to shift the heads 19 laterally in opposite directions to separate the heads. When the couplings are separated, the arms 28' will swing from the position shown in Fig. 3 to the vertical position. In so doing, they will ride up on the cams 28 to shift the heads laterally as described. It is to be noted that cams 28' shift the heads in a direction opposite to that of cams 27.

From the foregoing description taken in connection with the drawings, it is thought that the construction and operation of this invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportions and minor details of construction may be resorted to without departing from the principles or sacrificing any of the advantages of this invention as defined in the appended claims.

Having described this invention, what is claimed as new, is:—

1. A coupler of the class described comprising a pair of supporting members adapted for attachment to adjacent cars, depending supporting yokes carried by said members, interlocking members to hold the two sections of the coupler in coupled relation when the cars come together, swinging arms

carried by the interlocking members, and interlocking heads carried by the lower ends of the arms adapted to interlock as the arms pass each other to thereby couple the two sections of the train or air pipe coupler together when the cars come together.

2. A coupler of the class described comprising a pair of supporting members adapted for attachment to adjacent cars, guiding members adapted to interlock when the cars come together and hold the two sections of the coupler in coupled relation, supporting yokes depending from the supporting members and having a sliding engagement with the guiding members, swinging arms pivoted to the guiding members, interlocking heads at the lower ends of the arms, means of interlocking engagement between the heads, cams to force and hold said heads in effective locking engagement when the cars come together, and other cams to break the engagement between said heads when the cars move apart whereby the two sections of the coupler will automatically uncouple.

3. A coupler of the class described comprising a pair of supporting members adapted for attachment to adjacent cars, guiding members adapted to interlock when the cars come together and hold the two sections of the coupler in coupled relation, supporting yokes depending from the supporting members and having a sliding engagement with the guiding members, swinging arms pivoted to the guiding members, interlocking heads at the lower ends of said arms, means of interlocking engagement between the heads consisting of offset ears and ear receiving flanges, means to force and hold said heads in effective locking engagement when the cars come together and means to break said engagement when the cars move apart or separate.

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

CHARLEY PLOPA.
JOHN POPP.

Witnesses:

J. WALLACE PAUL,
WM. F. BOYD.