April 15, 1924.

1,490,655

M. A. BARBER

TRAIN PIPE COUPLING

Filed Oct. 1, 1920

2 Sheets-Sheet 1

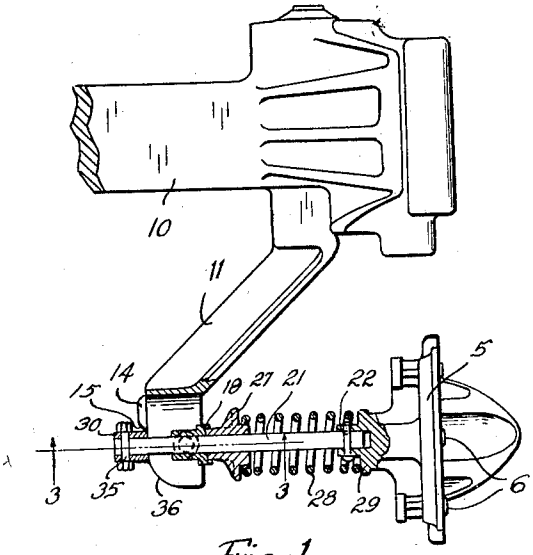

Fig.-1

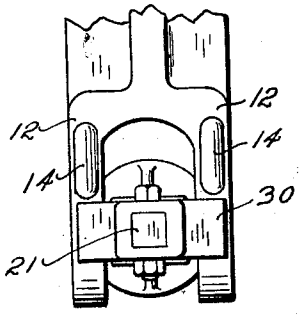

Fig.-2

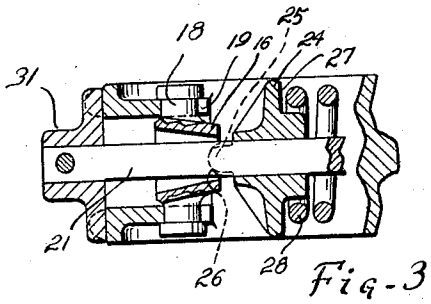

Fig-3

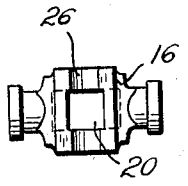

Fig.-4

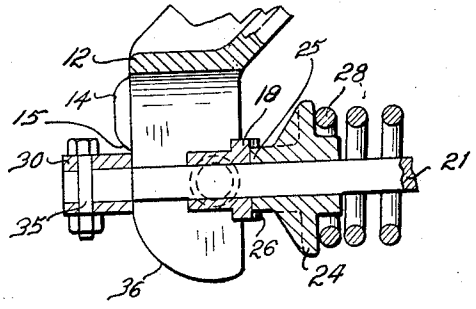

Fig.-5

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TRAIN PIPE COUPLING

Filed Oct. 1, 1920 2 Sheets-Sheet 2

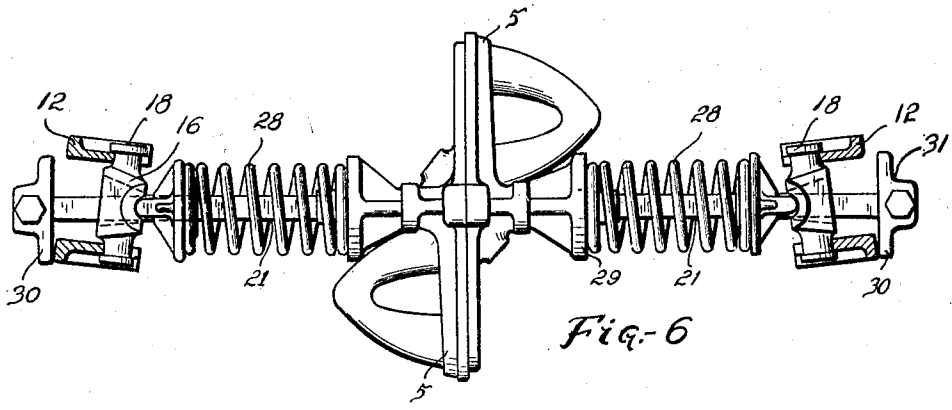

Fig.-6

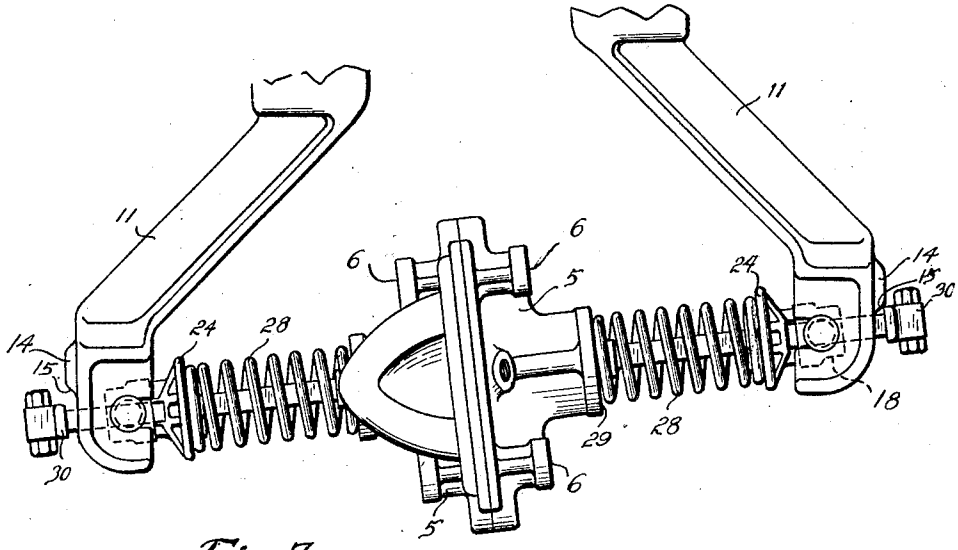

Fig.-7

INVENTOR
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Patented Apr. 15, 1924. 1,490,655

UNITED STATES PATENT OFFICE.

MARTIN A. BARBER, OF CLEVELAND, OHIO, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE AMERICAN AUTOMATIC CONNECTOR COMPANY, OF WYOMING, DELAWARE, A CORPORATION OF DELAWARE.

TRAIN-PIPE COUPLING.

Application filed October 1, 1920. Serial No. 414,136.

To all whom it may concern:

Be it known that I, MARTIN ALLIN BARBER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Train-Pipe Couplings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

This invention relates to automatic train pipe couplings and has reference to a novel means for supporting a coupler head when in uncoupled position.

The principal object of the invention is to provide an improvement over the construction described in my prior Patent No. 1,347,986, granted July 27, 1920. This patent shows means for pivotally supporting the connector head by means which include a universal joint. In order to limit the forward movement of the coupler when in uncoupled position I provide, according to my prior patent, a T-shaped projection which has engagement with the rear of the supporting bracket. This projection is a special casting and necessarily rather expensive. I have found that by using a projection or stop block of novel form and providing a cam on a coupler bracket for cooperation with this stop block, I can do away with this T projection.

The features of the invention will be apparent from the description taken in connection with the accompanying drawings, in which Fig. 1 is a side elevation, with parts in section, of a coupler constructed according to my invention; Fig. 2 is an end view of the train pipe coupler; Fig. 3 is a section on the line 3—3, Fig. 1, looking in the direction of the arrows; Fig. 4 is a plan of the trunnion; Fig. 5 is an enlarged sectional view showing my improved stop block and co-operating cam; Fig. 6 is a plan partly in section of a pair of engaged couplers; Fig. 7 is an elevation of the parts shown in Fig. 6.

As shown in the drawings the automatic coupler 5, which may have the usual train pipe orifices 6, is secured to the car coupler 10 by means of a bracket 11. At its lower end the bracket is provided with a pair of spaced arms 12 having lugs 14 thereon. The latter are shown as provided with cam surfaces 15 for a purpose presently to be described.

To support the coupler a pivot block 16, having trunnions 18 which are mounted in slots 19 in the bracket 11, is provided. This block is provided with an aperture 20, which may be rectangular in cross section, and is adapted to receive a shank 21 shown as connected to the coupler head by a pin 22. A seat 24 is provided with a pair of spaced ribs 25, which are seated for pivotal movement in seats carried by the pivot block 16. The seat 24, opposite the ribs 25 is provided with a flat portion 27, which affords a bearing surface for one end of a spring 28, having the other end bearing at 29 against a projection on the rear of the head 5. It will be noted that the seat 24 is apertured to receive the shank 21, which, as shown, extends thru the seat and thru the pivot block 16. The shank is provided upon its rear end with a stop block 30, shown as comprising a rectangular block cut away as at 31 and having an aperture to receive the shank 21.

The stop block and the shank 21 are both shown as perforated to receive a fastening means 35, shown as a bolt, altho other means could, of course, be used.

The stop block extends an equal distance above and below the axis of the shank 21 and thus exerts a uniform pressure on the rear of the bracket when the coupler is uncoupled.

When the coupler head is raised, the block 30 moves down onto a curved portion 36 on the bracket 11, while a downward movement of the coupler head causes the stop block 30 to ride up the cam surface 15 of the lug 14. The latter movement will cause the shank 21 to move rearwardly as the stop block rides up the cam and thereby compress the spring, and thus cause the latter to resist the movement. It will thus be seen that altho the coupler head moves readily upward, the movement downward is resisted to some extent by the tension of the spring.

My new construction is advantageous, in that instead of using a T-shaped projection at the rear, which must be specially made, I use a short length of rectangular block upon which the only necessary operations may be that of punching out the portions 31 and

punching the aperture, or drilling it to receive the fastening means. The lugs 15 are merely projections cast on the bracket 11.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In an automatic train pipe coupling, a supporting bracket, a coupling head having a shank, a stop block on said shank, and a pair of spaced shoulders on the bracket above the stop block and co-operating therewith.

2. In an automatic train pipe coupling, a coupling head having a shank mounted thereon, a stop block on said shank extending equal distances above and below the axis of said shank, and a shoulder having a curved portion with which the stop block cooperates to sustain the coupling head.

3. An automatic train pipe coupling comprising a bracket, a coupling head having a train pipe orifice therein, a shank secured to said head and extending thru a universal support mounted on said bracket, a stop block having a flat upper surface mounted on the end of the shank, and a cam surface on the bracket above said stop block.

4. A bracket for an automatic train pipe coupling, comprising a main portion, a pair of spaced arms depending therefrom, a curved bearing on said arms, a flat portion on said arms in the rear of said bearing portion, and lugs having cam surfaces thereon above said flat portions.

5. An automatic train pipe coupling comprising a coupling head having a train pipe orifice therein, a pivotally mounted shank secured to said head and extending thru said bracket, a stop block mounted on the end of the shank, and spaced cam surfaces on the bracket above said stop block.

6. A bracket for an automatic train pipe coupling, comprising a supporting member, a curved bearing surface on said member, a substantially plane surface in the rear of said bearing surface and a cam surface above said flat surface.

7. In an automatic train pipe coupling the combination of a supporting bracket, and a coupler head, the bracket having two spaced arms depending from the lower end thereof, a pair of lugs having cam surfaces on the rear of said bracket, a connector head having a shank pivoted for universal movement on the bracket, and extending therethru, a stop block on the shank normally bearing upon the rear of said bracket and adapted to co-operate with said cam surfaces when said head is moved.

8. In an automatic train pipe coupling, the combination of a supporting bracket, and a coupler head, the bracket having spaced arms depending therefrom, each arm having a cam surface thereon, a connector head having a shank pivoted for universal movement on the bracket arms and extending therethru and a stop block on the shank normally bearing upon the rear of said bracket.

In testimony whereof, I hereunto affix my signature.

MARTIN A. BARBER.