J. W. JACKSON.

AUTOMATIC TRAIN LINE COUPLING.

APPLICATION FILED SEPT. 24, 1908.

938,585.

Patented Nov. 2, 1909.

2 SHEETS—SHEET 1.

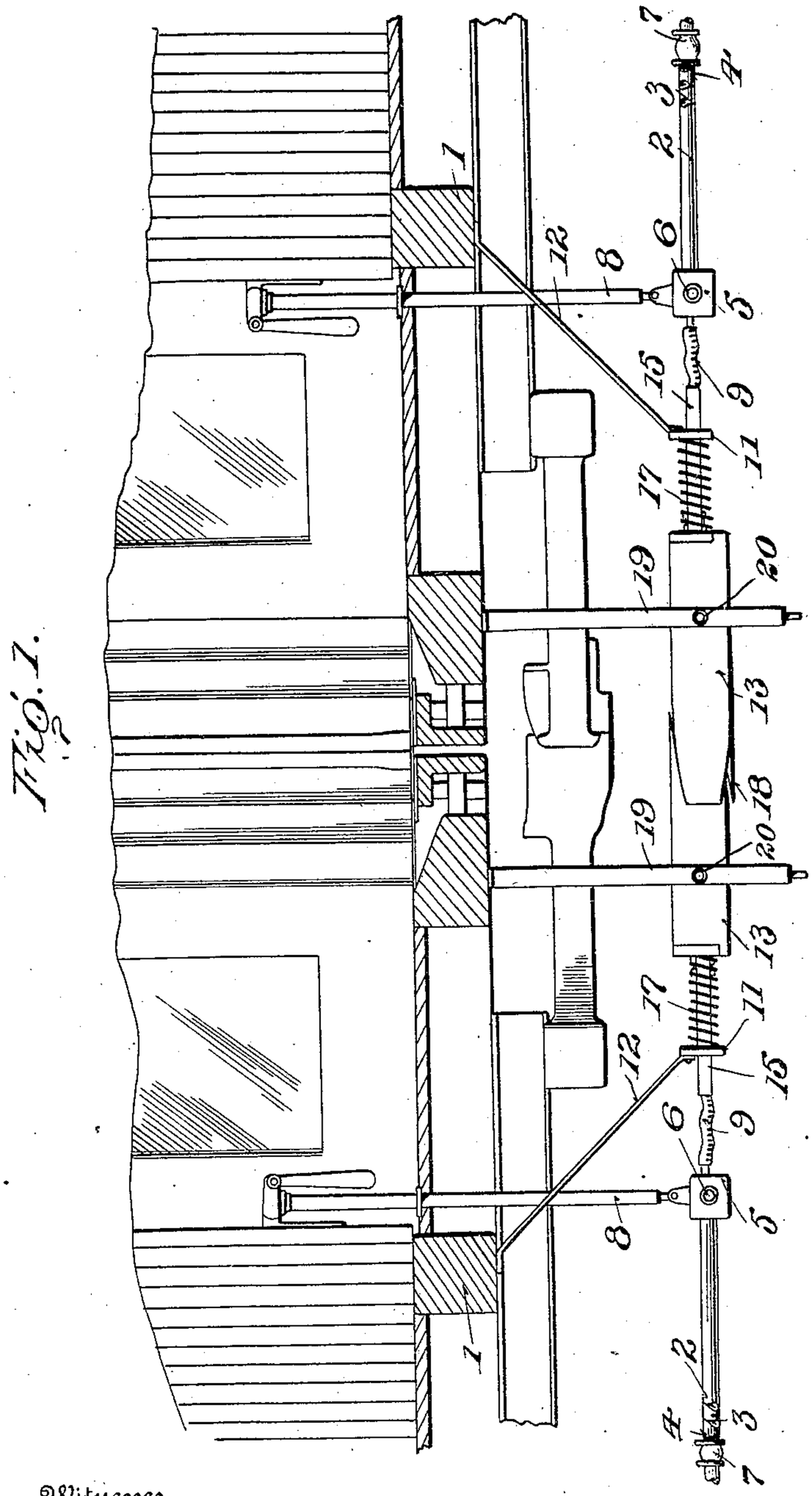

Fig. 1.

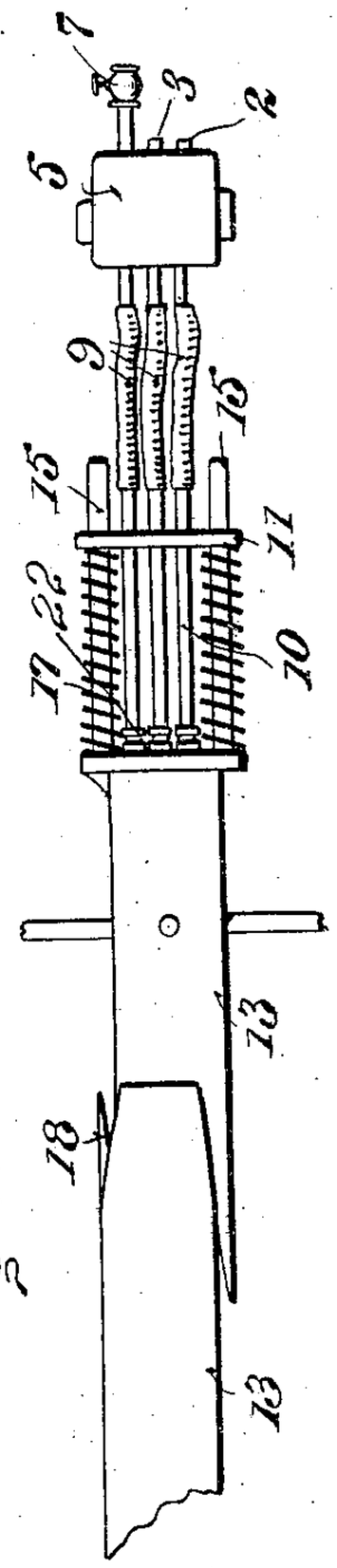

Fig. 2.

Witnesses.

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2 SHEETS—SHEET 2.

Fig. 3.

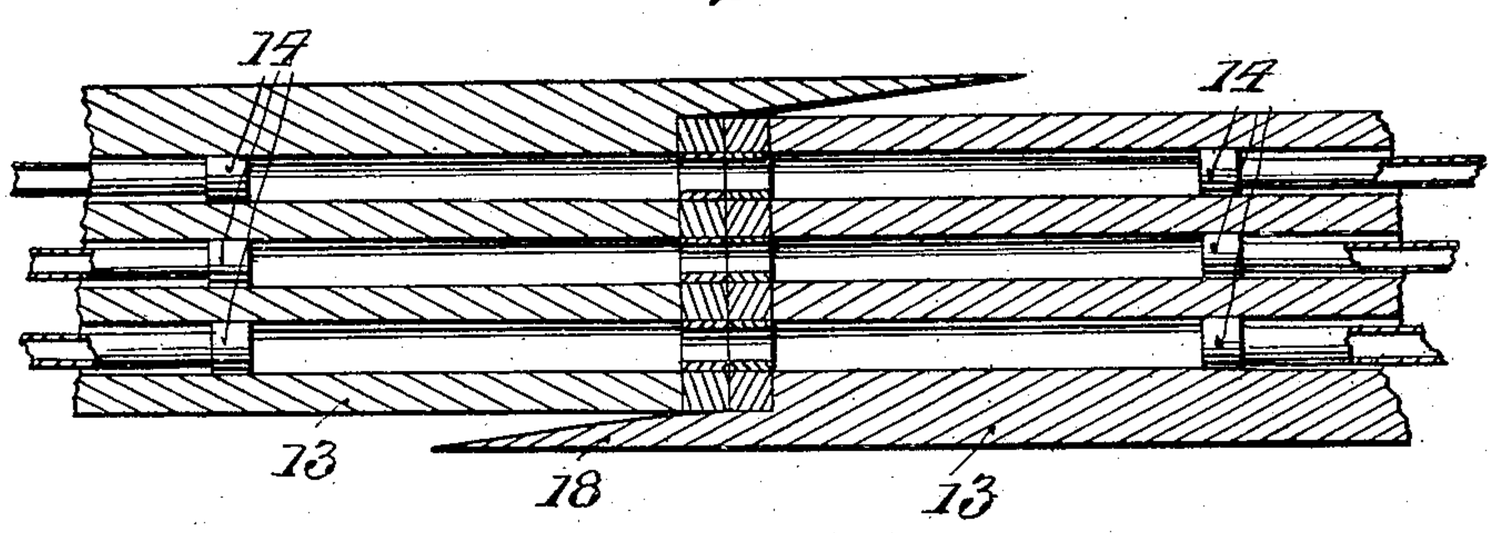


Fig. 4.

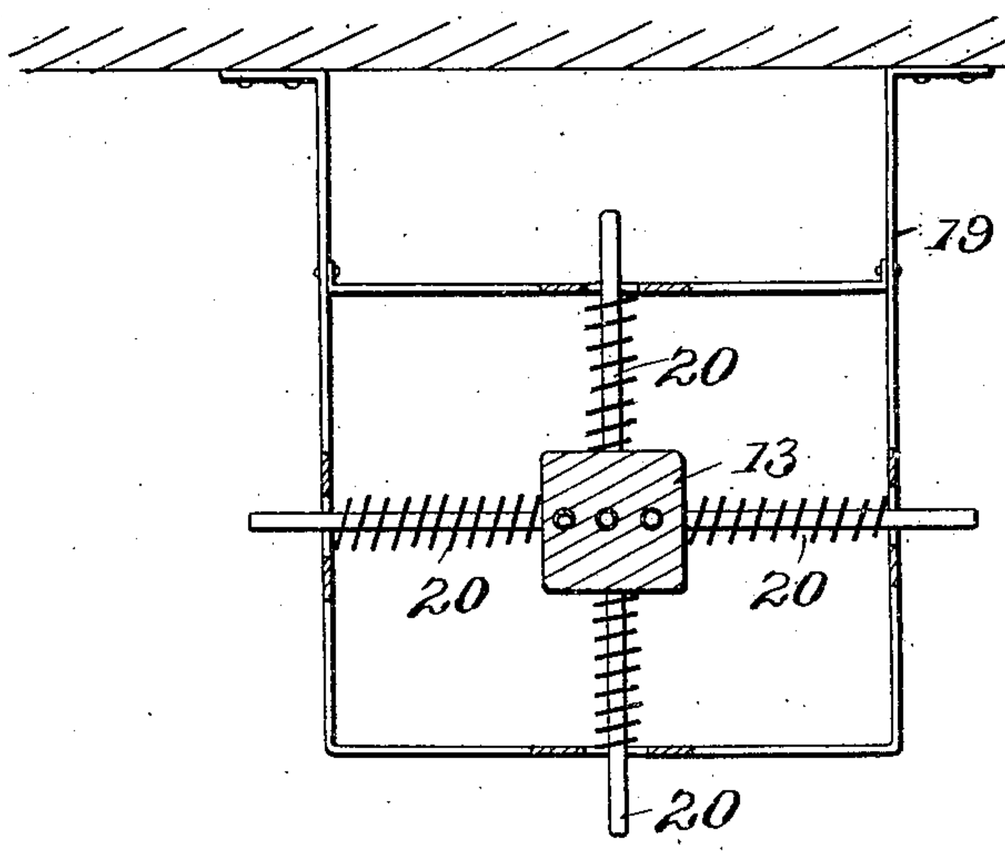
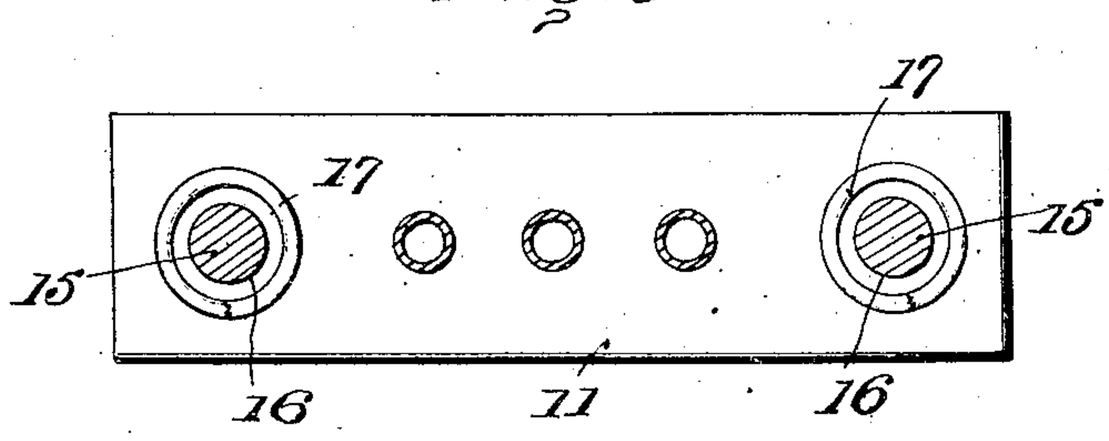


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOHN W. JACKSON, OF UHRICHSVILLE, OHIO.

AUTOMATIC TRAIN-LINE COUPLING.

938,585. Specification of Letters Patent. **Patented Nov. 2, 1909.**

Application filed September 24, 1908. Serial No. 454,493.

To all whom it may concern:

Be it known that I, JOHN W. JACKSON, citizen of the United States, residing at Uhrichsville, in the county of Tuscarawas and State of Ohio, have invented certain new and useful Improvements in Automatic Train-Line Couplers, of which the following is a specification.

This invention comprehends certain new and useful improvements in pipe couplers, and relates particularly to an automatic coupler for train line pipes.

The invention has for its primary object, a simple, durable, inexpensive and efficient construction of an automatic train line coupling device which will automatically serve to connect the train pipes of two adjoining cars when said cars are coupled together and which will securely hold the train pipes in proper communication so long as the cars remain coupled.

With these and other objects in view, as will more fully appear as the description proceeds, the invention consists in certain constructions, arrangements and combinations of the parts that I shall hereinafter fully describe and claim.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawings in which:

Figure 1 is a side elevation of two adjoining portions of a car equipped with the improvements of my invention. Fig. 2 is a detail top plan view of a portion of the apparatus. Fig. 3 is a longitudinal sectional view through two adjoining coupler heads; Fig. 4 is a transverse sectional view through one of the coupler heads; and, Fig. 5 is a detail enlarged view of one of the spring plates employed.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawings by the same reference characters.

Referring to the drawings, the numeral 1 designates a cross sill of a car under which the main portions 2, 3, and 4 of the train pipes extend, said pipes being respectively for the air brake line, air signal line, and steam line. These pipes 2, 3 and 4 extend through a valve casing 5 in which a valve 6 is mounted to control the passage of air and steam through the several pipes, 2, 3 and 4, the steam pipe being preferably provided in addition to this valve, with a globe valve 7 so that the steam may be shut off from any one or more cars as desired. The valve 6 is controlled by means of a handle 8 which preferably extends up through the platform of a car if the equipment be applied to a passenger coach or up alongside the body of the car, if the equipment be applied to a freight car.

The ends of the pipes 2, 3, and 4 project forwardly beyond the valve casing 5 and are connected to relative long flexible pipes or tubes 9 of rubber which are coupled together in any desired way to the several pipes 10 that pass forwardly through a spring plate 11, said plate being secured to the car bolster 1 by means of brace rods 12 of any desired number and character. Pipes 10 extend forwardly into the rear end of a coupler head 13 and are provided at their forward ends with collars 14 designed to snugly fit in longitudinally extending openings formed in said coupler head so as to permit a longitudinally sliding movement of said pipes 10. Rods 15 are secured to and project rearwardly from the rear end of the coupler head 13 and pass through openings 16 formed in the spring plate 11, and helical springs 17 are coiled around the rods 15 and act expansively between the spring plate 11 and the rear end of the head 13, having a tendency to force said head forwardly. The head 13 is formed with a scoop like front end 18 designed to engage with the corresponding end of a complemental head when two cars are brought together for coupling, it being understood that when two cars are coupled together the two coupler heads 13 will be forced backwardly on the tubes 10, against the action of the coil springs around the rods 15, so as to maintain a tight joint between the train pipes of the two adjoining cars. Sufficient movement of these coupler heads in a longitudinal direction is provided for, so as to always insure a proper joint or connection between their abutting ends, in the backward and forward movement of the drawbars of the car couplers, and sufficient length is given to the hose 9 to provide for the cars going around curves.

19 designates supporting frames which are secured to the lower sides of the end walls of the cars and which are provided with spring pressed pins 20 for the purpose of permitting the coupler heads to adjust themselves either up or down or to one side

so that if one car is lower than the other the coupler can be adjusted and not have any strain on the cast coupling heads.

The gasket plates at the end of the coupler heads are preferably fastened in place by counter-sunk bolts, and can be removed, if desired, so that any ordinary air hose may be attached if necessary, provided there are cars on the train line that are not equipped with the coupler of my invention. As best seen in Fig. 2, the coupler heads are provided at their rear ends with stuffing boxes 22 through which the pipes 10 extend, these stuffing boxes being provided to prevent any leakage.

Having thus described the invention, what is claimed as new is:

1. The combination of a car provided with a train line pipe, of a coupler head therefor, a spring plate, rods secured to said coupler head and working through said plate, a support on the car for said spring plate, spring encircling said rods and bearing against the coupler heads and spring plate, a pipe mounted to slide longitudinally in said coupler head and extending through the spring plate, a valve casing secured to the train line pipe, and a flexible connection between said train line pipe and the pipe that is mounted in the coupler head.

2. The combination with a car embodying a cross sill and a train line pipe extending under said sill, of a valve casing secured to said train line pipe, a spring plate, brace rods connecting said spring rods to the sill, a pipe extending through said spring plate and having a flexible connection with said train line pipe, a coupler head formed with an opening in which said pipe is designed to slide, and a yielding connection between said coupler head and said train pipe.

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

JOHN W. JACKSON. [L. S.]

Witnesses:
JAMES B. WESTHAFEN,
SAMUEL ROSS.