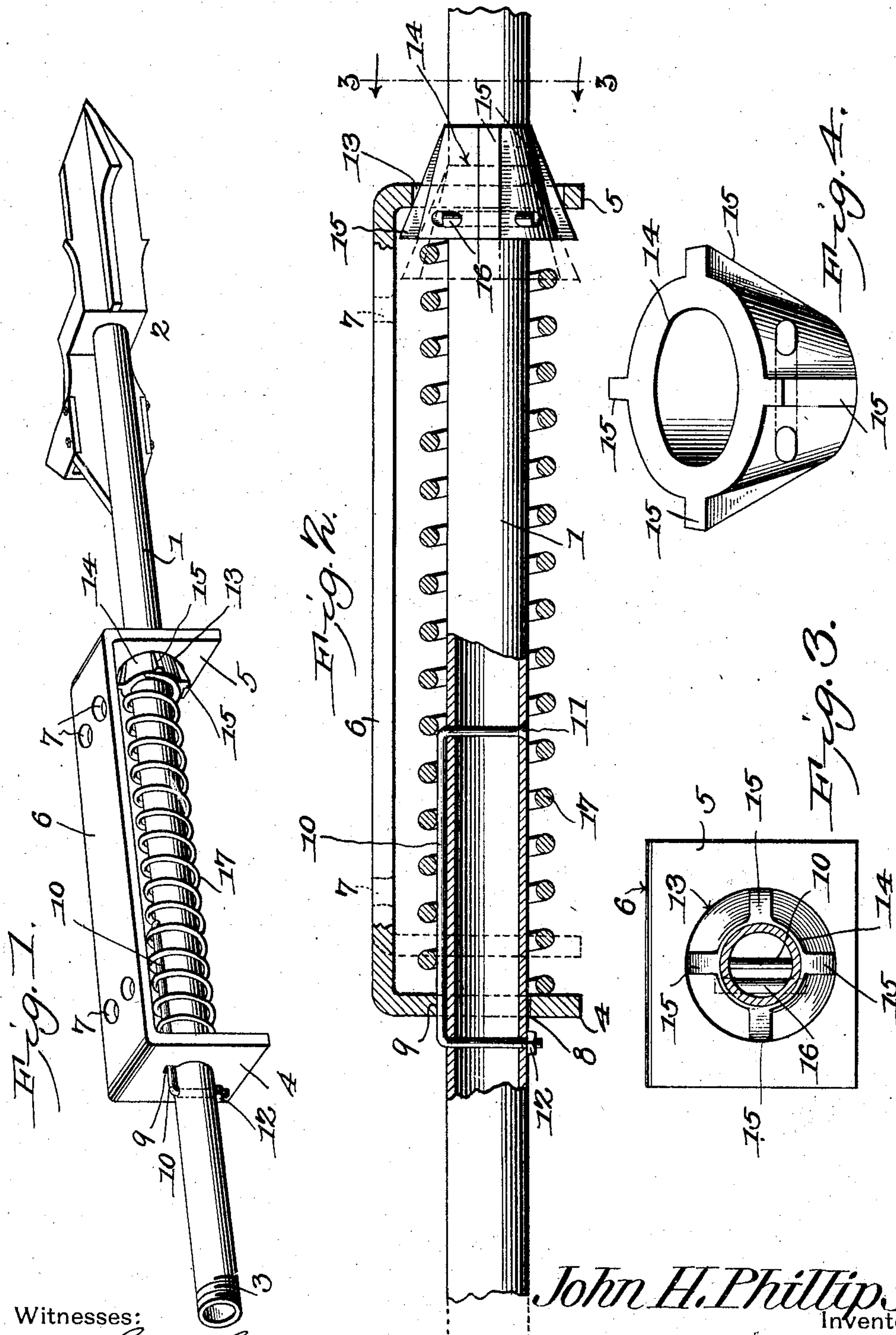


No. 791,110.

PATENTED MAY 30, 1905.

J. H. PHILLIPS.
AIR BRAKE PIPE COUPLING.
APPLICATION FILED MAR. 1, 1905.



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UNITED STATES PATENT OFFICE.

JOHN H. PHILLIPS, OF POTTSVILLE, PENNSYLVANIA.

AIR-BRAKE PIPE-COUPLING.

SPECIFICATION forming part of Letters Patent No. 791,110, dated May 30, 1905.

Application filed March 1, 1905. Serial No. 247,957.

To all whom it may concern:

Be it known that I, JOHN H. PHILLIPS, a citizen of the United States, residing at Pottsville, in the county of Schuylkill and State of Pennsylvania, have invented a new and useful Air-Brake Pipe-Coupling, of which the following is a specification.

This invention relates to air-brake pipe-couplings.

The objects of the invention are in a ready and practical manner, while trains are running upon a straight stretch of track, to cause the train-pipes positively to be held in alignment, thereby to insure the proper application of the brakes; to permit such pipes to yield when the train is passing around a curve, thereby to insure positive operative coaction between the terminals of the train-pipes; to insure the proper centering of the train-pipes relatively to each other when the train again assumes a straight stretch of track; and generally to simplify the manner of supporting the train-pipe from the train, and also to reduce liability of damage, as from strains or jars, to a minimum.

With the above and other objects in view, as will appear as the nature of the invention is better understood, the same consists in the novel construction and combination of parts of an air-brake pipe-coupling, as will be hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which like characters of reference indicate corresponding parts, there is illustrated one form of embodiment of the invention capable of carrying the same into practical operation, it being understood that the elements therein exhibited may be varied or changed as to shape, proportion, and exact manner of assemblage without departing from the spirit thereof, and in the drawings—

Figure 1 is a view in perspective of the coupling. Fig. 2 is a view in vertical longitudinal section. Fig. 3 is a view in transverse section, taken on the line 3-3, Fig. 2, and looking in the direction of the arrow thereon. Fig. 4 is a perspective detail view of the pipe-centering device.

The train-pipe 1 is of the usual or any pre-

ferred construction and is provided at one end with a coupling-head 2 of any preferred design and at its other end with threads 3 to be engaged by a pipe leading to the air-reservoir. At this point, it may be stated, that while the improvements herein described are stated as being employed in connection with an air-brake pipe-coupling, it is to be understood that they are equally adaptable for use in connection with train steam-pipes, and as the method of application of the latter use of the invention will be readily understood and will be substantially the same as that herein shown detailed illustration thereof is deemed unnecessary.

The train-pipe is supported for free longitudinal and limited lateral movement in a pair of hangers 4 and 5, which are carried by a plate 6, secured to the under side of the car, preferably to one of the floor-timbers thereof, by means of bolts passing through orifices 7, provided for the purpose. The orifice in the hanger 4 is slightly larger than the pipe in order to permit the latter to have a limited lateral movement or swing to allow the sections of the train-pipe to compensate for the angular position assumed by the cars when passing around a curve. The orifice 8 in the hanger 4 is provided with a keyway 9, which is engaged by a key 10, secured to the train-pipe, the key being constructed in such manner as to permit of its being readily replaced in case of damage or breakage. To effect this result, the ends of the key, which is made of ordinary bar metal, are passed through the pipe, and one of the ends is upset, as at 11, and the other end is threaded and carries a nut 12, by which the key is secured in position. In case of damage it will only be necessary to remove the nut, prize the key from position, and replace it by a new one.

The hanger 5 is provided with an orifice 13 of considerably greater diameter than the pipe and is designed to be engaged by a centering member 14, the same being approximately cone-shaped and provided with wings or ribs 15 to engage with the walls of the orifice 13, the object of this arrangement being to prevent any danger of the member binding within the orifice, which would pre-

vent the train-pipe from yielding to pressure and to the jolting of the train, and thus destroy the proper coaction between the series of train-pipes. The centering member is held
 5 upon the pipe by a cross-pin 16, which may be readily removed when desired.

The centering member is held in coactive relation with the walls of the orifice by a coil-spring 17, which surrounds the pipe and bears
 10 at one end against the hanger 4 and at its other end against the centering member 14. This spring will readily yield to the movements of the train, and where a curve is passed the centering member will be pushed out of the
 15 orifice, as indicated by dotted lines in Fig. 2, thereby to allow the pipe to swing laterally a distance sufficient to compensate for the angular displacement of the train; but as soon as the train again reaches a straight-stretch
 20 track the spring will again force the centering device to position, thereby causing all of the pipes of the train to aline, and thus be operative for the purposes designed.

It will be seen from the foregoing description that by the provision of the hanger-plate
 25 a positive and simple form of guide is provided for the train-pipe and one that will be effective in maintaining all of the pipes in alinement, and by making this part of the invention in a single piece instead of a plurality
 30 of pieces, as heretofore, the proper positioning of the train-pipes relatively to each other is effected and danger of derangement in use is reduced to a minimum.

35 Having thus described the invention, what is claimed is—

1. An air-pipe coupling embodying a train-pipe carrying a centering device, a plate including a pair of orificed hangers through

which the pipe projects, one of the orifices 40 being engaged by the centering device, and means for preventing the pipe from having any rotary movement relatively to the hangers.

2. An air-brake coupling embodying a 45 train-pipe carrying a centering device and a key, and a plate including a pair of orificed hangers through which the pipe projects, one of the orifices being engaged by the centering device and the other having a keyway en- 50 gaged by the key.

3. An air-brake coupling embodying a plate including a pair of hangers, provided with orifices of different diameters, the smaller of which is provided with a keyway, and a 55 train-pipe projecting through the orifices and carrying a key to engage the keyway and a winged centering device to engage the larger orifice.

4. An air-brake coupling embodying a 60 plate including a pair of hangers provided with orifices of different diameters, the smaller of which is provided with a keyway, a train-pipe projecting through the orifices and carrying a detachable key to engage the keyway 65 and a winged centering device to engage the larger orifice, and a coiled spring encircling the pipe and bearing at one end against one of the hangers and at its other end against the centering device. 70

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN H. PHILLIPS.

Witnesses:

J. H. JOCHUM, Jr.,
 J. ROSS COLHOUN.