I. SEIDEL.

AUTOMATIC PIPE COUPLING.

APPLICATION FILED FEB. 21, 1910.

966,131.

Patented Aug. 2, 1910.

2 SHEETS—SHEET 1.

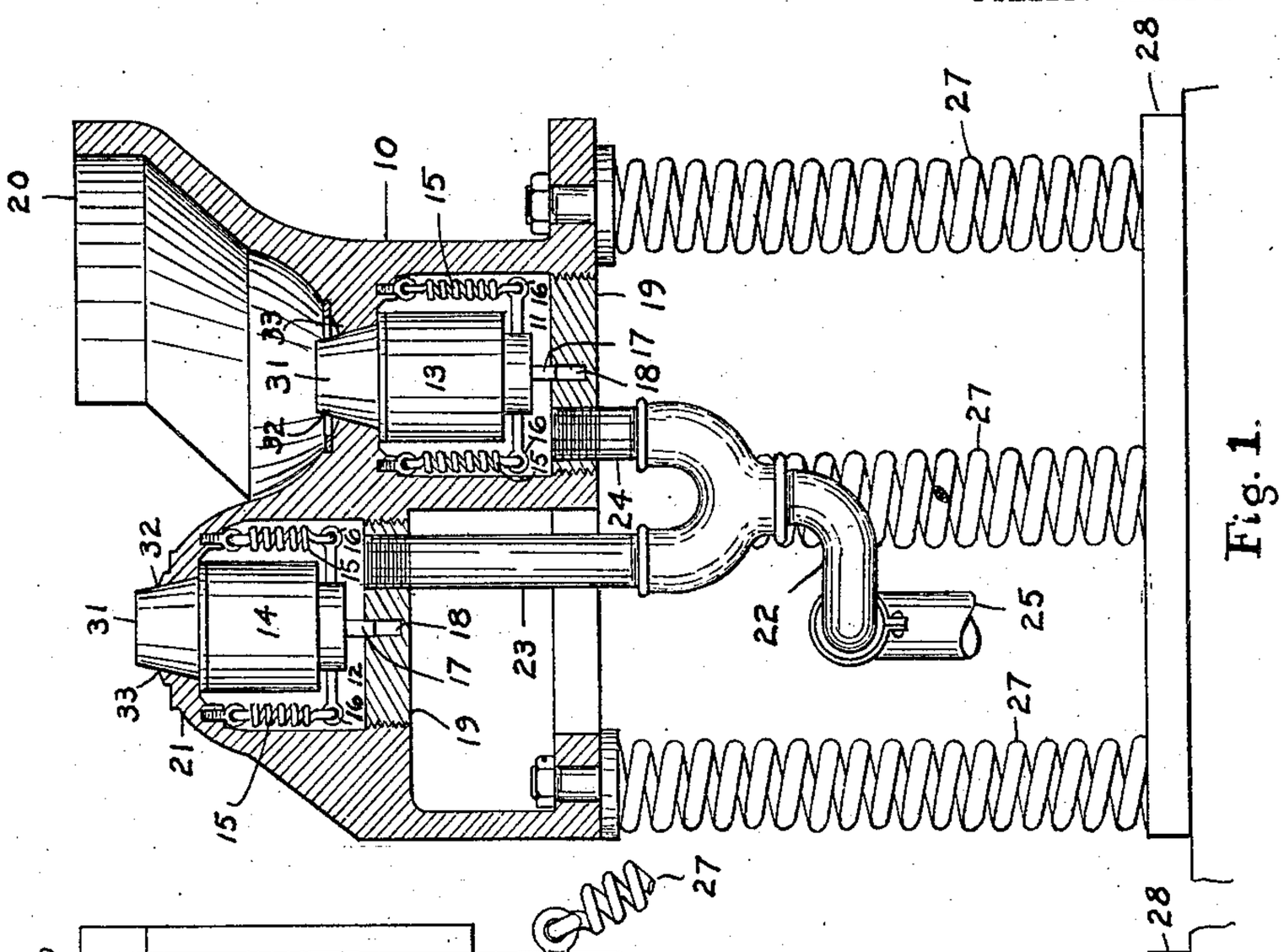

Fig. 1.

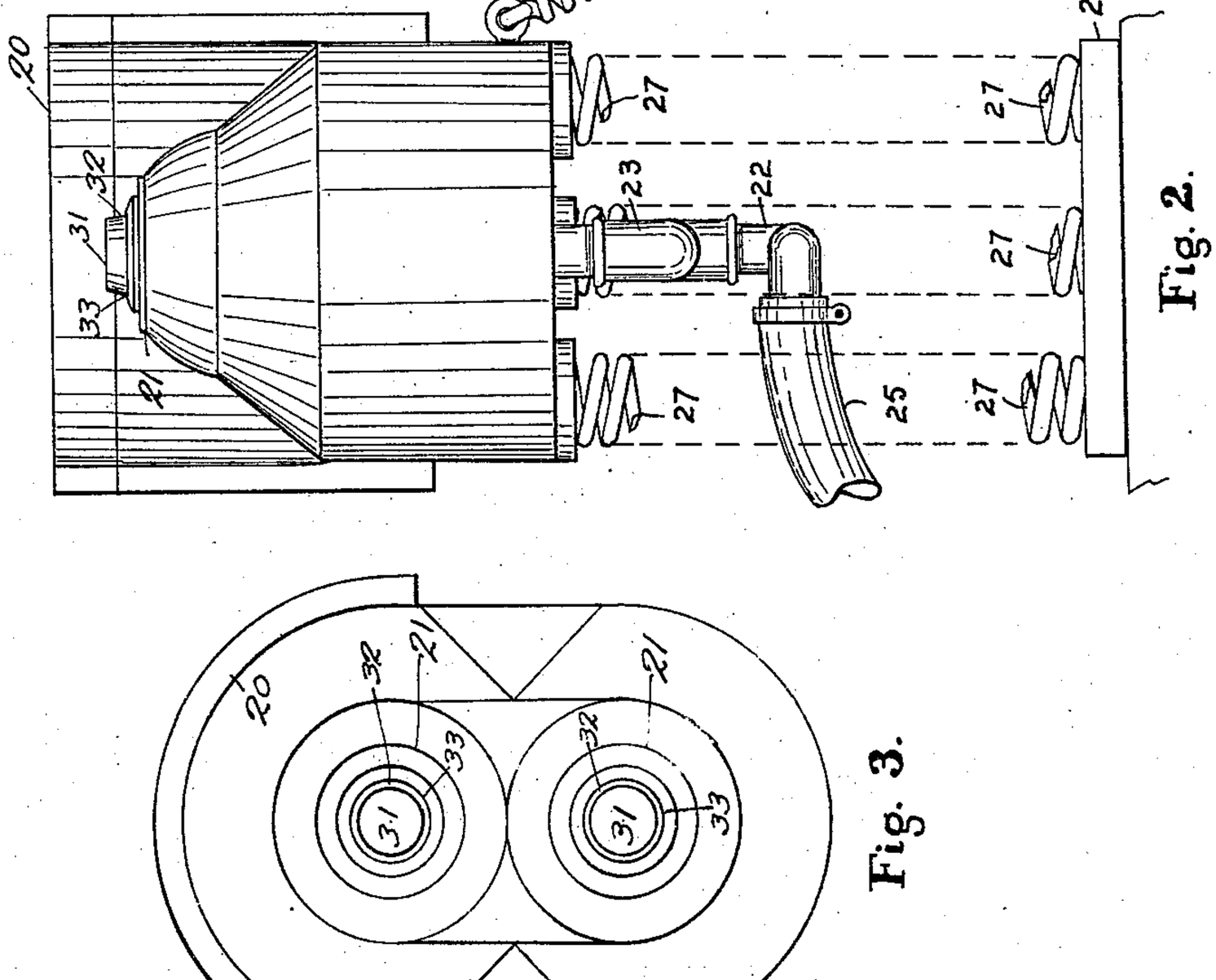

Fig. 2.

Fig. 3.

WITNESSES

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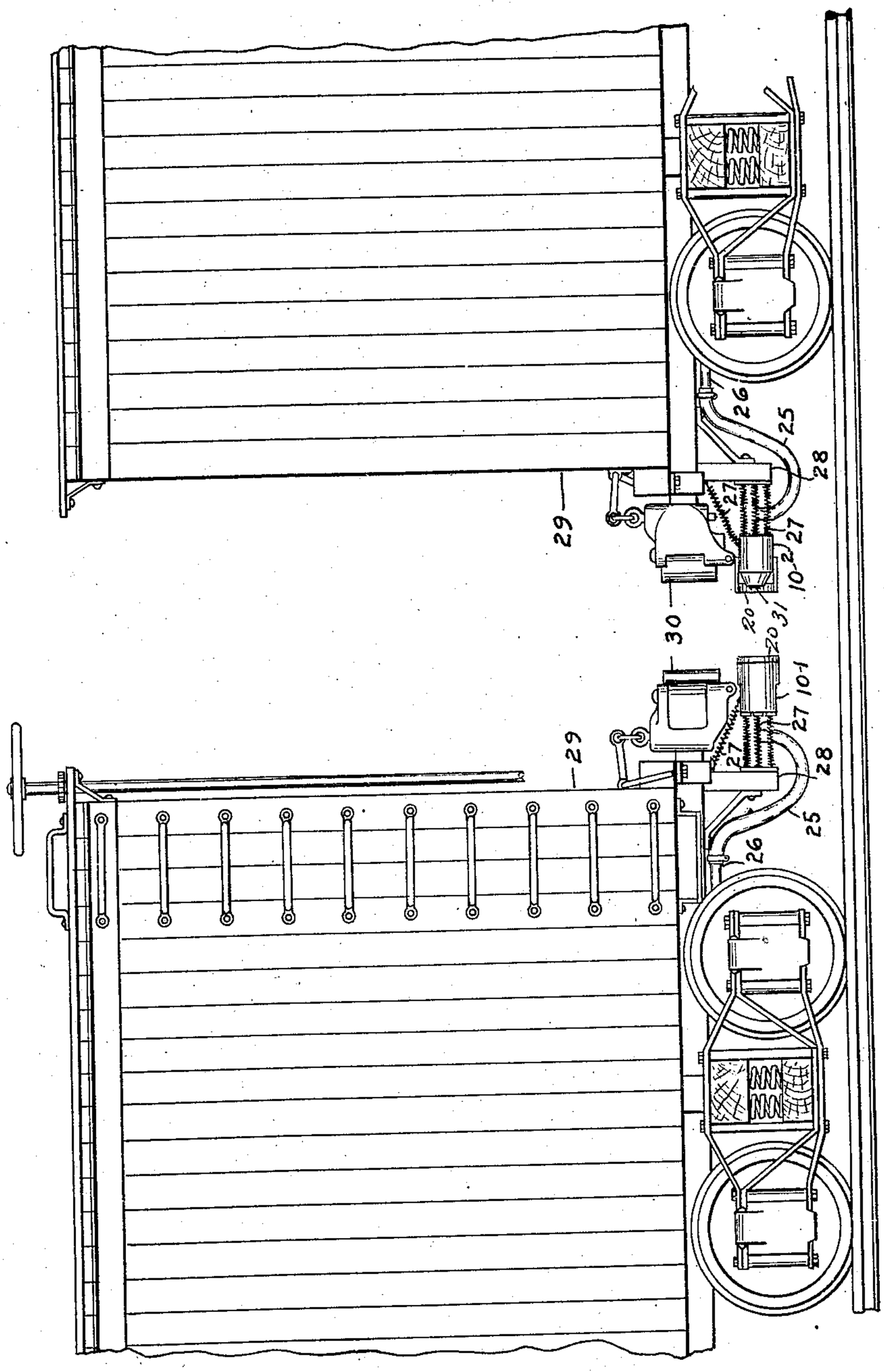

Fig. 4.

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UNITED STATES PATENT OFFICE.

ISADORE SEIDEL, OF CLAYTON, WASHINGTON.

AUTOMATIC PIPE-COUPLING.

966,131. Specification of Letters Patent. Patented Aug. 2, 1910.

Application filed February 21, 1910. Serial No. 545,020.

To all whom it may concern:

Be it known that I, ISADORE SEIDEL, a citizen of the United States, residing at Clayton, in the county of Stevens and State of Washington, have invented certain new and useful Improvements in Automatic Pipe-Couplings, of which the following is a specification.

This invention relates to certain new and useful improvements in automatic pipe couplings, and is particularly designed for coupling the air pipes arranged to carry compressed air from one car to another in a railway train for the purpose of operating brakes and the like.

Particular objects of the invention are to provide a coupling that will automatically unite when the ends of two cars are brought to coupling engagement with each other and that will automatically separate with the separation of the cars either by design or accident and close the air passages.

Other and further special objects will be disclosed in the specification hereinafter and by the drawings accompanying the same, in which—

Figure 1, is a top plan view of one of the coupling parts, the casing however, being shown in section, Fig. 2, is a side view of the same, Fig. 3, is an end view of the same, and Fig. 4, shows a side view of the two coupling parts together with plan and means of attaching the same to the car ends.

The coupling proper is made in two similar parts, but when attached to the ends of the cars are oppositely arranged, for instance a casing 10 is provided with two chambers 11 and 12, occupied by cylinders 13 and 14 respectively, the cylinders being suspended in the chambers 11 and 12 by means of springs 15 attached at one end to the casing 10 and at the other end to projecting pins 16 attached to the cylinders 13 and 14 and by means of pins 17 reaching into the openings 18 of the removable cylinder heads 19. A graduated funnel guide 20 leads to the outer end of the cylinder 13, while the outer walls of the chamber 12 inclosing the cylinder 14 are convex and adapted to fit a graduated guide similar to guide 20 above described, and being a component part of the portion of the coupler to be attached to the end of the opposite car, while the portion of the coupler to be attached to the end of the opposite car also contains as a component part thereof a convex surface similar to the convex surface 21 adapted to be received by the graduated funnel guide 20. It being understood that the parts on the coupling portion to be attached to the end of the opposite car are similar in all respects to the parts shown in Fig. 1, but oppositely arranged so as to bring the two together into effective operation.

A bifurcated pipe 22 has one fork 23 leading to chamber 12 and one fork 24 leading to chamber 11, while the same is connected at the other end with a hose 25 leading to the train pipe 26.

The apparatus is connected by means of springs 27 to plates 28 attached to the center of the ends of the cars 29 directly underneath the car coupling 30. It will be observed that the coupling parts for the train pipes 26 extend out a distance at the end of the cars 29, beyond the parts of the car coupling 30, the reason for which will be hereinafter explained.

It is designed that the air pipe coupling parts 10^1 and 10^2 shall be brought in contact with each other as the cars approach each other, in advance of the car coupling parts 30, in order that the coil springs 27 and 15 may be compressed and held in that position by the mere fact of the cars 29 being coupled and that when the cars 29 are uncoupled, the same will resume the position shown in Fig. 1. The compression of the springs 15 is occasioned by the cylinders on the opposite end of the coupler similar to cylinders 13 and 14 coming in contact with the outer ends 31 of cylinders 13 and 14 and which drives back the cylinders 13 and 14 to the lower ends of the chambers 11 and 12 and leaves openings between the beveled sides 32 of the cylinders 13 and 14 and the outer end 33 of the chambers 11 and 12. This opens up a passage way complete between the train pipes 26, the air passing into the hose 25, thence into the pipe 22, thence into the forks 23 and 24 thereof, thence into and through the chambers 11 and 12 and to and through the chambers, pipes and hose of the coupling portion attached to the end of the opposite car. When the cars are uncoupled, the springs 15 are permitted to resume the position shown in Fig. 1, and the air passages leading from the chambers 11 and 12 through the openings 33 are closed by the beveled sides 32 of the cylinders 13 and 14 resuming the positions shown in Fig. 1. The resiliency and

strength of the springs 27 are designed to keep the coupling parts in proper contact while the cars are coupled together and also to keep the parts properly adjusted in spite of the shifting of the cars while in motion, and the changes of position in turning curves and the like.

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

A pipe coupling composed of two parts, each similarly arranged and each consisting of a casing provided with two chambers with an opening in one end of each, such chambers containing cylinders suspended therein by means of coil springs and a pivot and having beveled ends adapted to close the openings into the chambers, a graduated funnel shaped guide reaching to the opening in one chamber, a convex surface to the end of the outer wall of the other chamber incasing the beveled end of the cylinder therein, adapted to penetrate a graduated guide leading to the beveled end of a cylinder upon the other component part of the coupler, pipe connections extending into each of said chambers connected with hose to the train pipe and coil springs connecting the said casing with a plate attached to and suspended from the end of the car, substantially as described.

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

ISADORE SEIDEL.

Witnesses:

EUGENE B. FAVRE,

MARY SHOLDERER.