

No. 622,980.

Patented Apr. 11, 1899.

M. F. SINCLAIR.
COUPLING FOR AIR PIPES OF RAILWAY CARS.

(Application filed Nov. 5, 1898.)

(No Model.)

Fig. 1.

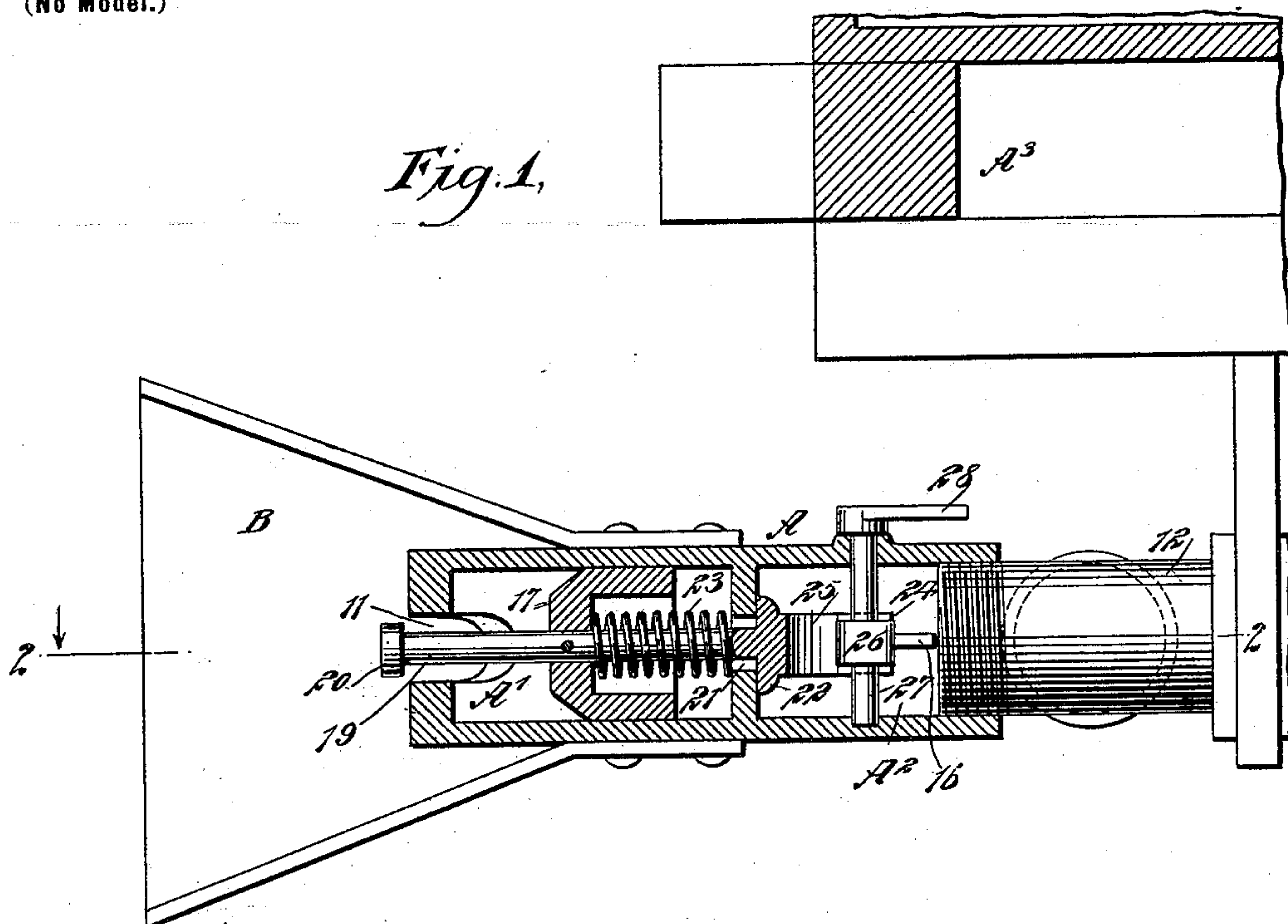
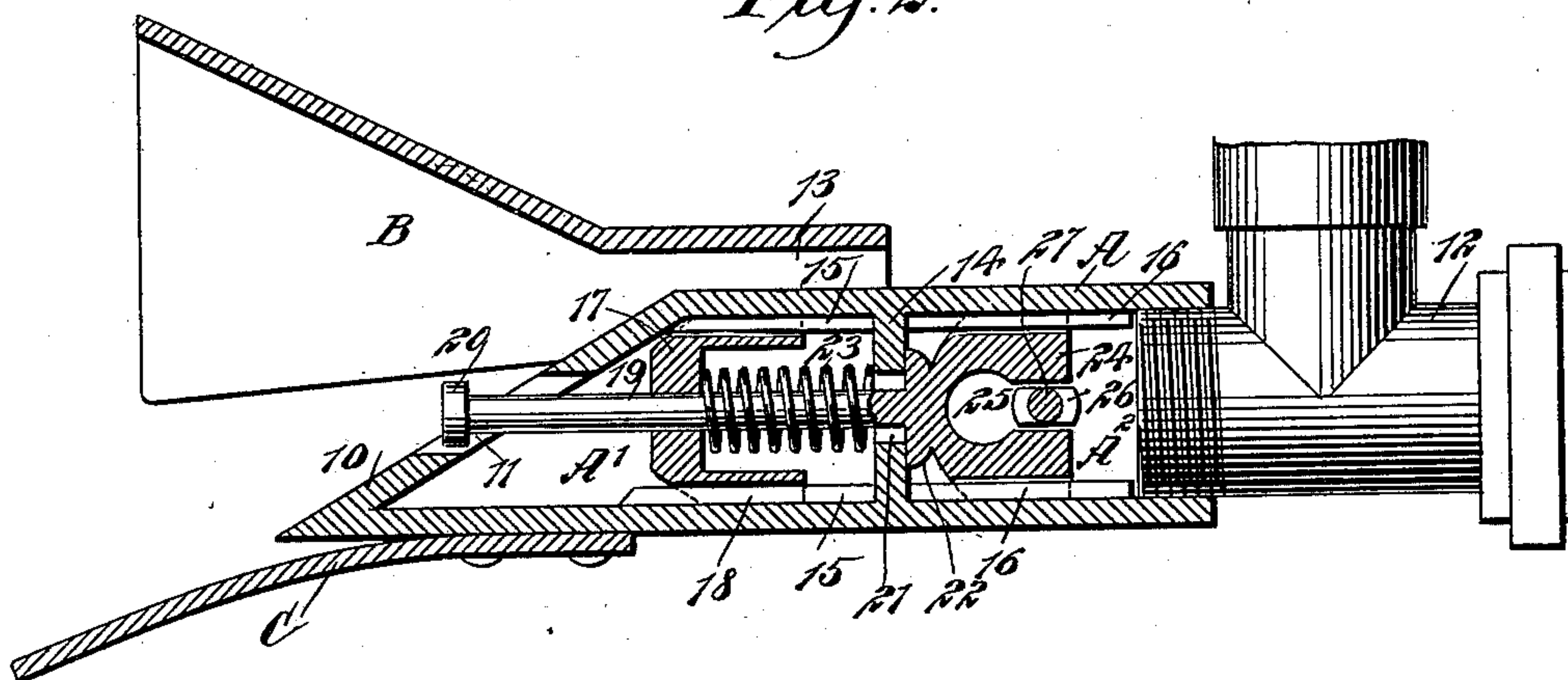


Fig. 2.



WITNESSES:

Edward Thorpe
[Signature]

INVENTOR
Millard F. Sinclair.
BY [Signature]
ATTORNEYS.

UNITED STATES PATENT OFFICE.

MILLARD F. SINCLAIR, OF HUMBOLDT, TENNESSEE, ASSIGNOR OF ONE-HALF TO JAMES GILLEN, OF SAME PLACE.

COUPLING FOR AIR-PIPES OF RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 622,980, dated April 11, 1899.

Application filed November 5, 1898. Serial No. 695,594. (No model.)

To all whom it may concern:

Be it known that I, MILLARD F. SINCLAIR, of Humboldt, in the county of Gibson and State of Tennessee, have invented a new and useful Coupling for the Air-Pipes of Railway-Cars, of which the following is a full, clear, and exact description.

The object of my invention is to provide an improvement upon the coupling for which application for Letters Patent was made by me May 3, 1898, Serial No. 679,590, and allowed October 1, 1898.

A further object of the invention is to so construct the coupling that angle-cocks may be dispensed with upon the cars, and whereby also the dummy couplers will not be needed, since when the cars are uncoupled the safety-valves in the couplers will automatically close and shut off the air.

Another object of the invention is to so construct the coupling that should any car of a train break loose from said train the body of the train may proceed at its usual speed, while the brakes upon the detached cars will be automatically applied, thus obviating a tail-end collision.

The invention consists in the novel construction and combination of these several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both figures.

Figure 1 is a vertical longitudinal section through the improved coupling, and Fig. 2 is a horizontal section taken substantially on the line 2 2 of Fig. 1.

A represents the coupling-head, which is supported in any suitable or approved manner beneath the car-sill A³. The coupling-head is provided with a front inclined wall 10, the inclination being from one side in direction of the other, and in the inclined front of the said head an opening 11 is provided. At the rear of the coupling-head an air-pipe 12 is introduced in any suitable or approved manner.

At that side of the coupling-head facing the inclined front 10 a hood B is secured, which

flares laterally in a reverse direction to the inclination of the front of the head, and at the opposite side of the head a spring-tongue C is secured. Where the hood B connects with the straight side of the coupling-head, a channel 13 is provided, adapted to receive the spring-tongue C of an opposing coupling.

A partition 14 divides the coupling-head into two chambers A' and A², and at each side of the coupling-head, within the chamber A', longitudinal guides 15 are formed, while similar guides 16 are similarly located in the rear chamber A². A slide 17, preferably of cup shape, is located in the forward chamber A', and this slide is provided with fins 18, that travel between the guides 15, the guides in each chamber at each side being two in number. The slide 17 is secured to a piston-rod 19, one end whereof extends out through the opening 11 at the front of the coupling-head and is provided with an enlargement or a head 20, as shown in both of the figures. The piston-rod 19 passes loosely through an opening 21 made in the partition 14, and at the rear end of the piston-rod 19 a valve 22 is secured, adapted to be seated against the rear face of the partition 14 and to normally close the opening 21 in said partition, the valve being kept thus seated by means of a spring 23, coiled around the piston-rod and having bearing against the front face of the partition 14 and the inner end wall of the slide 17.

A second slide 24 is attached to or constitutes an extension of the valve 22, the slide 24 having fins which are adapted to travel between the guides 16, as shown particularly in Fig. 2. The slide 24 is usually flat, as shown in Fig. 1, and is provided with a keyhole-slot 25, that extends through its rear end. A button 26, of elongated form, is entered into the slot 25 of the rear slide, and the said button is secured upon a shaft 27, journaled in the coupling-head, as shown in Fig. 1, the said shaft being provided at its outer end with a crank 28, that serves as a handle.

In operation when the cars are coupled the heads 20 of the piston-rods of opposing cars will be brought together as the coupling is effected and the piston-rods will be forced inward, thus opening the valves 22 and per-

mitting the air to pass readily through the couplings. The valve of the forward coupling of each car is locked in its open position, which is accomplished by simply turning the
 5 buttons 26, working in the keyhole-slots of the slides 24 of said valves, crosswise of the straight portions of said slots. Thus in the event a train should break the valve in the coupling of the last car of the first section
 10 will automatically close, preventing the escape of air, while the valve in the forward car of the detached section of the train will remain open, permitting the escape of air, thereby reducing the pressure and setting the
 15 brakes: In this manner the main body of the train may proceed at its usual rate of speed, while the detached cars will be stopped after traveling but a short distance.

It is obvious that in uncoupling the cars
 20 when the keys or buttons 26 are not turned in a direction to lock the valves open the valves will automatically close the coupling-heads and prevent any possible escape of air.

Having thus described my invention, I
 25 claim as new and desire to secure by Letters Patent—

1. In a coupling for air-pipes of railway-cars, a hollow coupling-head, a spring-controlled valve located in said head and adapted
 30 to control the passage of air therethrough a piston connected with said valve and extending out through the front of the coupling-head, guides in the coupling-head, a slide connected with the valve and fitted to move
 35 in said guides and a key adapted to engage with said slide whereby to lock the valve open, as and for the purpose set forth.

2. In a coupling for the air-pipes of railway-cars, the combination with the hollow coupling-head formed with a partition provided
 40

with an opening therethrough, a spring-pressed piston held to slide in said head, said piston having one end normally extending through the front of said head and the other end extending through the opening in the partition, a valve connected with said piston and normally held thereby against the partition whereby to close the opening therein, the said valve being provided with an extension having a keyhole-slot therein, and a shaft journaled in the head and having a button arranged to enter the slot in the said extension whereby to hold the valve away from the partition as and for the purpose set forth.

3. In a coupling for air-pipes of railway-cars, a hollow coupling-head, a spring-controlled valve located in said head, adapted to normally cut off the communication between the front and rear of the head, a piston connected with said valve and extending out
 60 through the front of the said coupling-head, a guide connected with the valve, and a key for locking said guide, for the purpose set forth.

4. In couplings for the air-pipes of railway-cars, a coupling-head having an opening in its front wall, and an interior partition provided with an opening, a valve arranged to normally close the opening in the partition, a tension device for the valve, having a tendency to seat said valve, guides for the valve, a piston attached to the valve and extending out through the front opening in the coupling-head, and a locking device for the valve, as set forth.

MILLARD F. SINCLAIR.

Witnesses:

J. F. WARREN,
 G. W. WADE.