

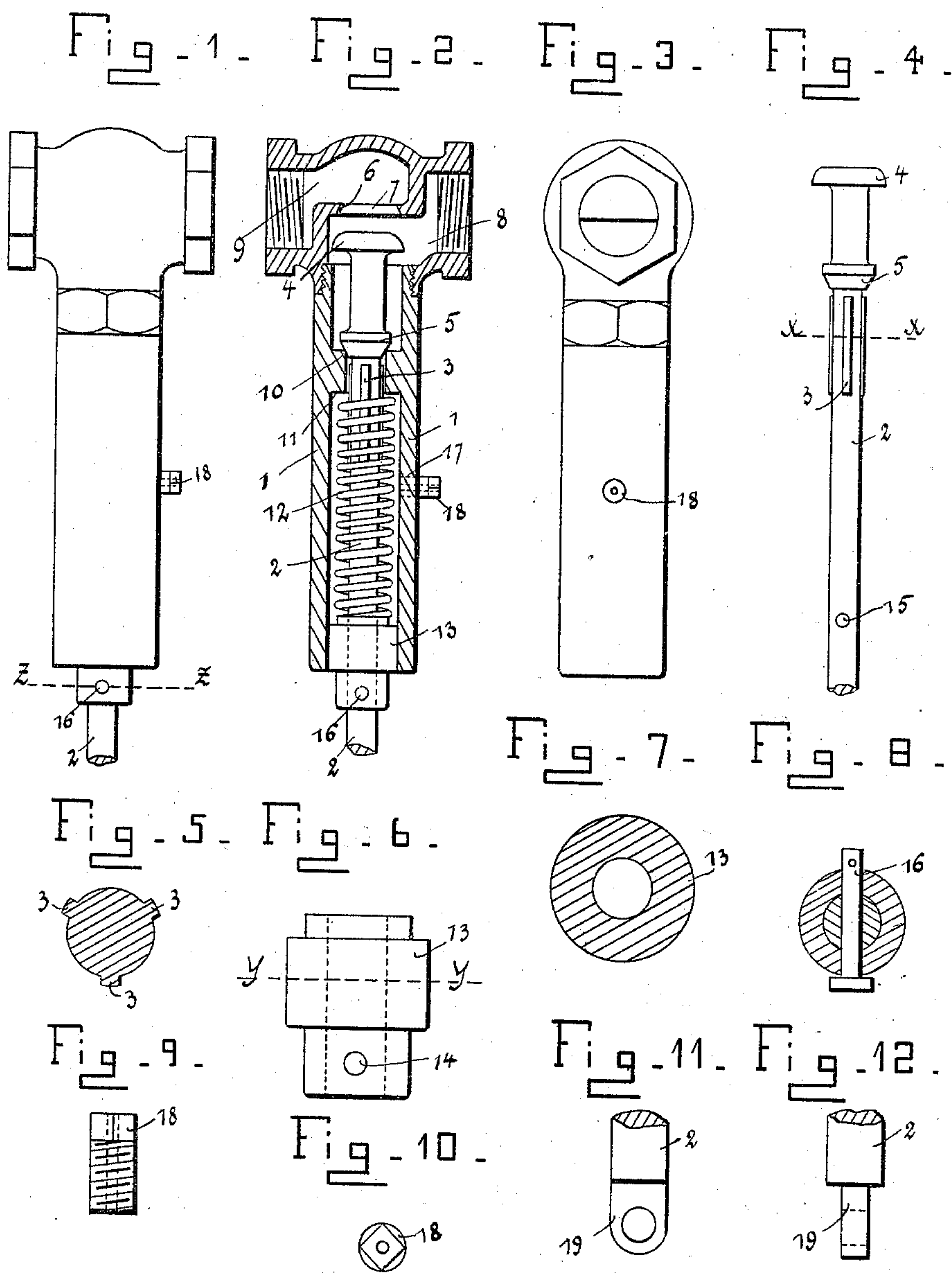
(No Model.)

2 Sheets—Sheet 1.

C. HOLTSMANN.
AIR VALVE.

No. 544,978.

Patented Aug. 20, 1895.



WITNESSES:
W. E. Elbers
C. L. Reese

INVENTOR
Charles Holtmann
BY
Henry C. Everett
ATTORNEY.

(No Model.)

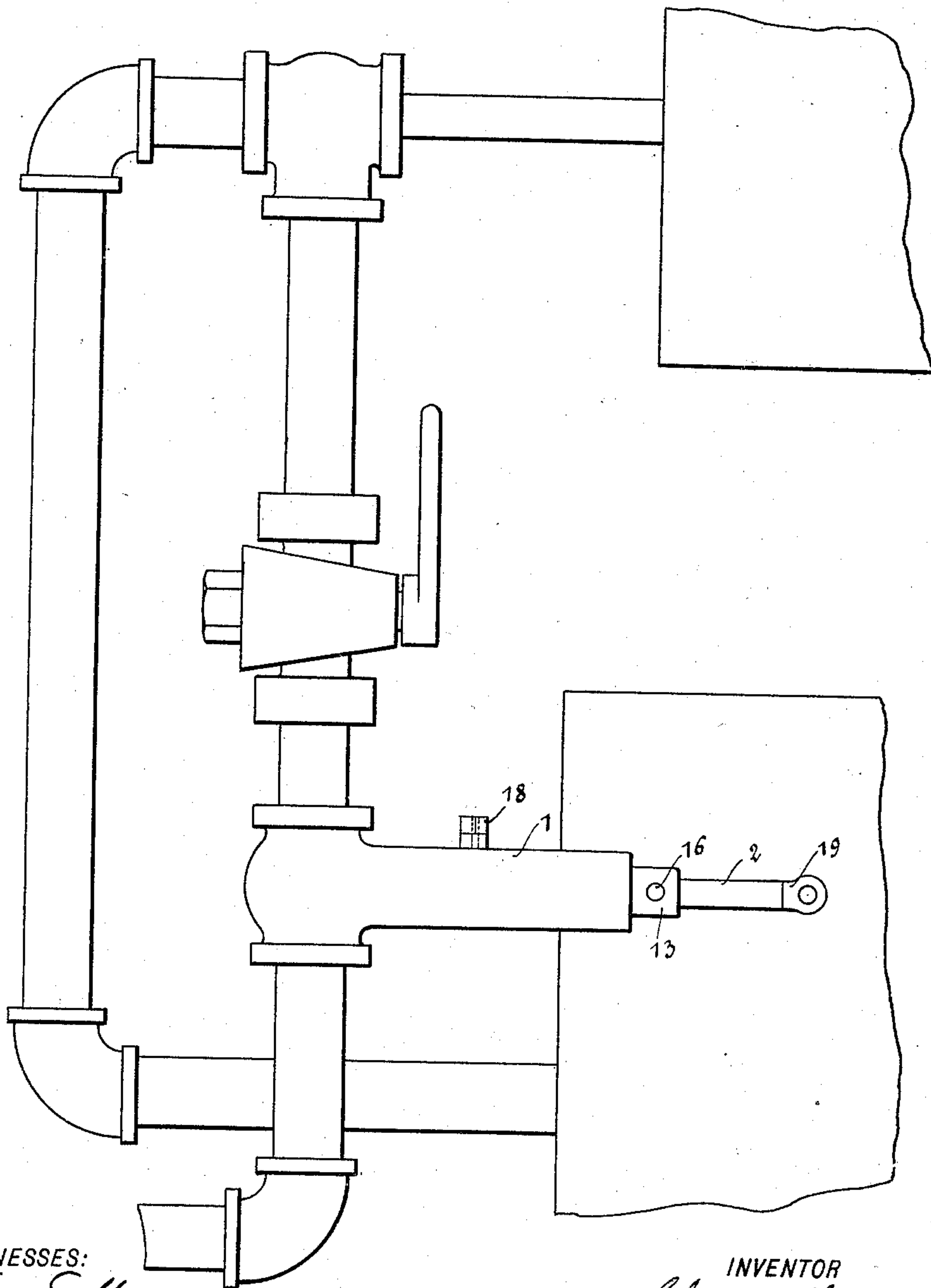
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Fig. 13.



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UNITED STATES PATENT OFFICE.

CHARLES HOLTMANN, OF PITTSBURG, PENNSYLVANIA.

AIR-VALVE.

SPECIFICATION forming part of Letters Patent No. 544,978, dated August 20, 1895.

Application filed May 24, 1895. Serial No. 550,555. (No model.)

To all whom it may concern:

Be it known that I, CHARLES HOLTMANN, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Air-Valves, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention relates to certain new and useful improvements in valves, and relates more particularly to that class known as "air-valves."

15 The invention has for its object the provision of novel means whereby a valve of the above-referred-to class may be controlled automatically and apply the air-brakes of a railway-train.

20 Furthermore, the device is particularly designed to operate in conjunction with an air-brake and to act in case of an emergency and to prevent railroad collisions.

25 The invention has for its further object to design a device for the above purpose that will be quick acting, extremely simple in its construction, durable, and effectual in its operation.

30 With the above and other objects in view the invention finally consists in the novel construction, combination, and arrangement of parts, to be hereinafter more particularly described, and specifically pointed out in the claims.

35 In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like figures of reference indicate similar parts throughout the several views, in which—

40 Figure 1 is a side elevation of the valve. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a front view of the same. Fig. 4 is a front view of the valve-stem and valve proper. Fig. 5 is a horizontal sectional view taken on the line X X of Fig. 4. Fig. 6 is a front elevation of the collar. Fig. 7 is a horizontal sectional view of the same, taken on the line Y Y of Fig. 6. Fig. 8 is a similar view taken on line Z Z of Fig. 1. Fig. 9 is a detail view of the escape-port. Fig. 10 is a plan view of the same. Fig. 11 is a side view of the lower

section of the valve-stem, showing an apertured lug. Fig. 12 is a front view of the same. Fig. 13 is a diagrammatic plan view showing one mode of application of the valve.

55 In the drawings, 1 indicates the valve-casing; 2, the valve-stem, carrying guides 3 and provided at its upper extremity with a valve 4, and at a distance below with a valve 5. A valve-seat 6 is arranged above the valve 4, forming an opening 7, connecting the air-in- 60 let port 8 with the air-outlet port 9. A seat 10 is arranged within the casing for the valve 5, the central bore being of less diameter and forming an annular flange 11, engaging the guides 3. A spiral spring 12 encircles the 65 valve-stem and extends between the flange 11 and collar 13, arranged to the valve-stem at the lower portion of the casing. Said collar is provided with an aperture 14, the valve-stem being likewise apertured at 15 for the 70 reception of the pin 16, which serves to lock the collar to the valve-stem. The casing is provided with a screw-threaded aperture 17 for the reception of the air-exhaust valve 18.

75 The reference-numeral 19 represents the apertured lug at the lower extremity of the valve-stem, which is adapted to receive a lever or other suitable operating mechanism. The valve is connected to the air-brake, as shown in Fig. 13 of the drawings, and the ac- 80 tion of the valve controlled by an electric circuit adapted to be completed through the rails and the axle and wheels of the truck, (fully described and claimed in a patent granted to myself and Nickolaus Schmidt 85 jointly, bearing date July 10, 1894, No. 522,757,) and the present invention should be considered in connection with said patent and is an improvement of the same.

90 The operation of the device is as follows: In case of danger, or when two trains enter the same block, the valve being in its normal position, as shown in Fig. 2 of the drawings, the electric magnet, through the medium of a lever, will actuate the valve-stem, carrying 95 the same upwardly and closing the upper valve simultaneously, the lower valve will be opened and allow the air to escape by way of the exhaust. This action will apply the brakes and bring the train to a standstill and 100

prevent an accident and collision, that would otherwise occur. The entire operation will be quick-acting and entirely automatic.

5 It will be noted that various changes may be made in the details of construction of my improved valve without departing from the general spirit of my invention.

10 Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

15 1. A valve, consisting of a casing, a valve stem carrying guides and provided with a double valve and seats, an air exhaust, together with a collar and aperture through said collar and shaft for the reception of a pin, in combination with a spring and suitable means

to automatically operate said valve substantially as described, and for the purpose set forth.

20 2. A valve, consisting of a casing, a valve stem carrying guides and provided with a double valve, and seats formed in the casing, and air exhaust arranged with said casing, in combination with a removable collar and spring and suitable means to automatically operate said valves, substantially as described. 25

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

CHARLES HOLTSMANN.

Witnesses:

H. C. EVERT,

H. E. SEIBERT.