

(No Model.)

2 Sheets—Sheet 1.

C. F. BANE.
DEVICE FOR AUTOMATICALLY OPENING VALVES IN
AIR BRAKE COUPLINGS.

No. 514,405.

Patented Feb. 6, 1894.

Fig. 1

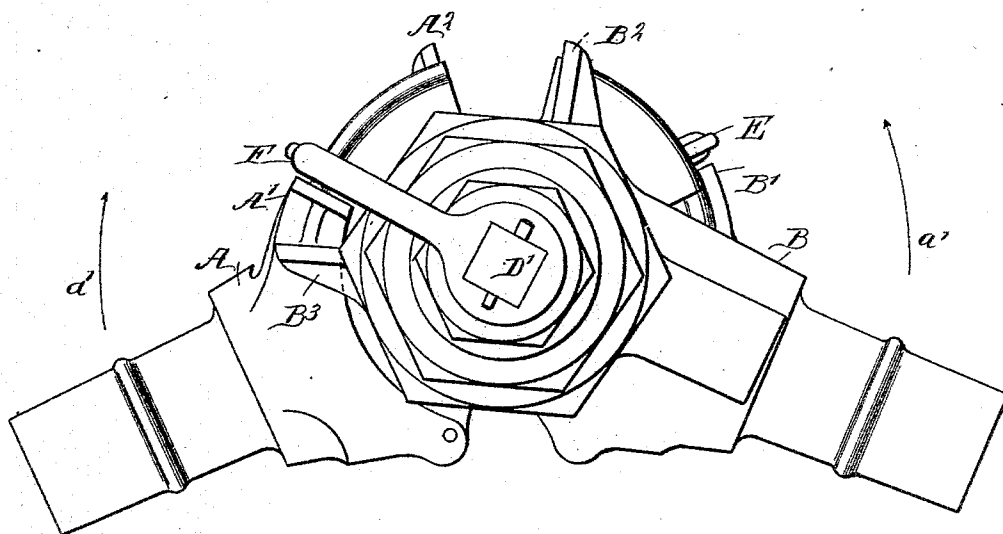
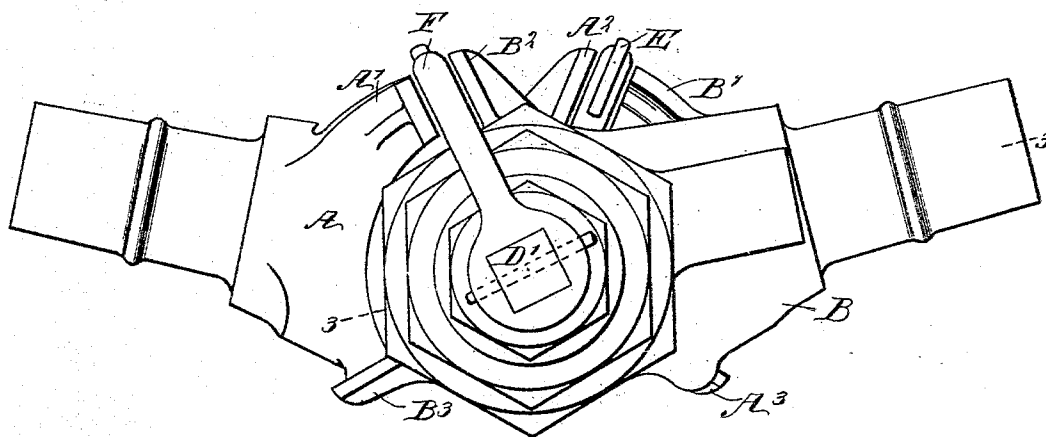


Fig. 2



WITNESSES:

J. a. Bergstrom
J. Sedgwick

INVENTOR

C. F. Bane

BY

Munn & Co.
ATTORNEYS.

(No Model.)

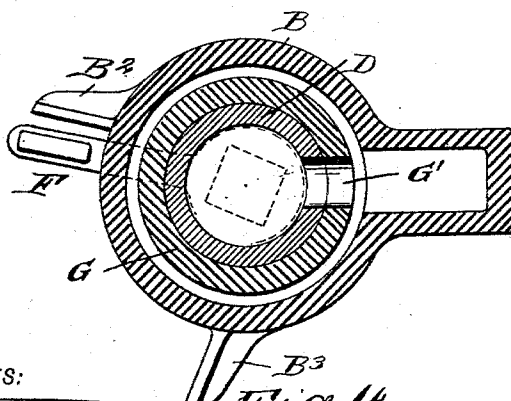
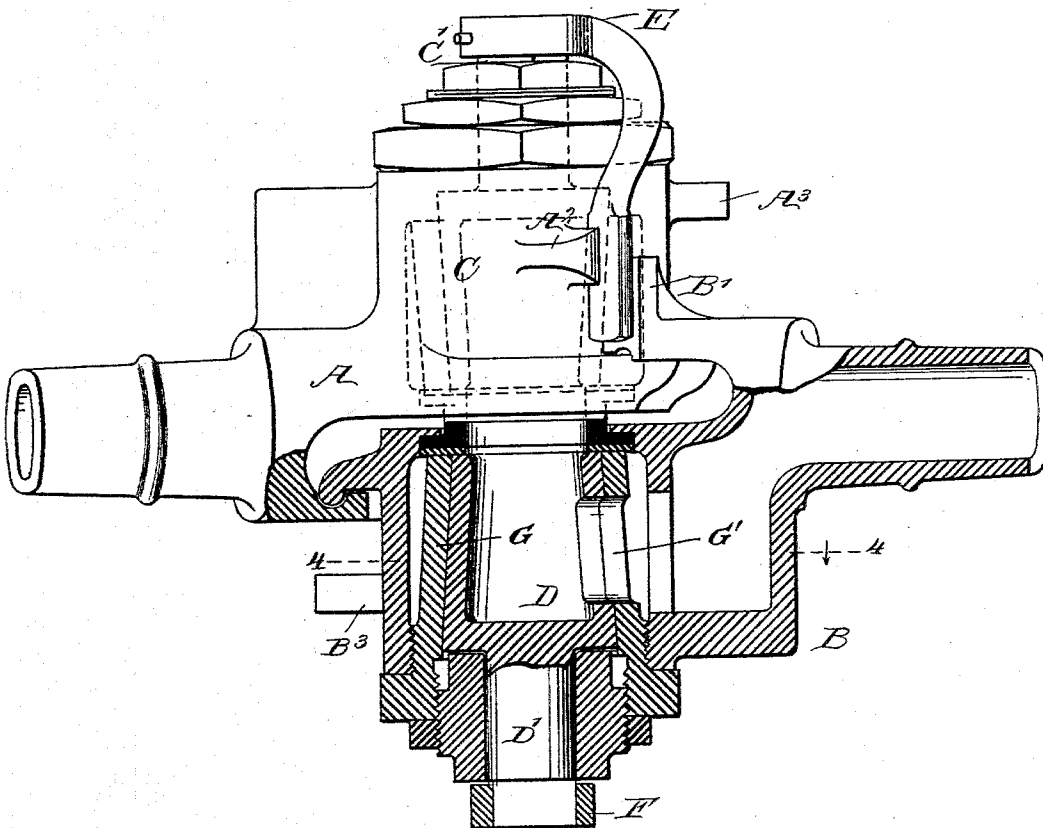
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Fig. 3



WITNESSES:

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Fig. 4

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UNITED STATES PATENT OFFICE.

CHARLES F. BANE, OF LAFAYETTE, INDIANA.

DEVICE FOR AUTOMATICALLY OPENING VALVES IN AIR-BRAKE COUPLINGS.

SPECIFICATION forming part of Letters Patent No. 514,405, dated February 6, 1894.

Application filed October 10, 1893. Serial No. 487,714. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. BANE, of Lafayette, in the county of Tippecanoe and State of Indiana, have invented a new and Improved Device for Automatically Opening Valves in Air-Brake Couplings, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved device for automatically opening the valves in air brake couplings whenever the coupling members are united, so as to form an uninterrupted passage for the air in the train pipes on adjacent cars.

The invention consists of certain parts and details, and combinations of the same, as will be hereinafter described and then pointed out in the claims.

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

Figure 1 is a side elevation of the improvement showing the sections in the act of coupling. Fig. 2 is a similar view of the same as coupled. Fig. 3 is a plan view of the same with part in section on the line 3—3 of Fig. 2; and Fig. 4 is a sectional side elevation of one of the coupling sections, on the line 4—4 of Fig. 3.

The coupling on which the device is applied is of the usual construction and is provided with the two sections A and B, each of which is formed with the usual catches by which the sections are united and held in coupled relation. In the sections A and B are mounted to turn the ported valves C and D respectively, which, when the sections are united are opened so as to establish an uninterrupted passage through the coupling. Each of the valves C and D is inclosed within a sleeve or socket G provided with a port G' adapted to register with the port of the valve. The socket G is in close contact with the valve, at least adjacent to the port G', so that the compressed air will come in contact only with the inner surface of the valve when the latter is open, and thus the valve seat will be relieved from pressure. In order to accomplish this automatically, I provide the outer ends of the valve stems C' and D' respectively, of the said valves with arms E and F respectively, bent close to the sides of the sections,

as plainly shown in Fig. 3, so that the free ends of the arms are adapted to be engaged by lugs B' and A', respectively, formed on the sections B and A, respectively, at the time the sections are united. Now, it will be seen that when the two sections are to be united as illustrated in Figs. 1 and 2, then the arms E and F stand in such a position that the valves C and D respectively, are closed, and when the two sections are now united by their catches and the sections turned in the direction of the arrows a', shown in Fig. 1, then the lug A' engages the arm F and the lug B' engages the arm E, so that the said arms are carried around by the moving lugs and consequently, the valves C and D are likewise turned in their seats. Now, when the sections are finally coupled, the valves have sufficiently turned to be in a completely open position, and a continuous passage is thus formed through the coupling, as will be readily understood by reference to Fig. 2. In order to hold the arms E and F in position after the valves are turned into an open position, I provide the sections A and B with stop lugs A² and B² respectively, so that the arm E is locked between the lugs B' and A² and the arm F is locked between the lugs A' and B². (See Fig. 2.) Now it will be seen that when the sections are uncoupled, the valves remain in an open position and consequently, the brakes will be applied and a signal given to the engineer. Hence the operator in uncoupling the sections must turn the arms E and F to prevent escape of air from the heads and ends of the train pipes.

In order to limit the movement of the arms about the pivots C' and D' respectively when the sections are uncoupled, I provide the sections A and B with additional lugs A³ and B³ respectively.

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

1. A hose coupling, comprising two movable interlocking sections, each provided with a lug and two stop lugs, a ported valve within each section, and an arm on the stem of each valve having limited movement between the stop lugs of its own section and adapted to be engaged by the lug on the section carrying the other valve to be moved against one of the

stop lugs of its own section, substantially as shown and described.

2. A hose coupling comprising two movable interlocking sections each provided with a lug
5 and a stop lug extending approximately into the plane of travel of the lug of the other section, a ported valve in each section and an
10 arm connected to the stem of each valve and extending between the stop lug of its own section and the lug of the other section so as to
be engaged by the said lugs on opposite sides,
as and for the purpose set forth.

3. A hose coupling comprising two ported
15 valves the stems whereof are connected with arms adapted to rotate therewith, two inter-

locking sections in which the respective valves are mounted to turn, each of the sections being provided with a lug arranged in the path of travel of the arm connected to the valve of the other section, and with a stop lug arranged
20 in the path of travel of the arm connected to the valve of the same section, so that each arm will be adapted to collide with the stop lug of its own section and with the lug of the other section, as and for the purpose set forth. 25

CHARLES F. BANE.

Witnesses:

HARRY HERRMAN,

JOHN E. BANE,

ROBERT H. MCGRATH.