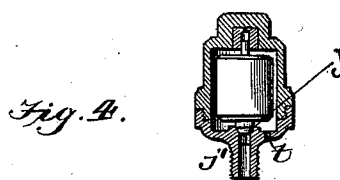
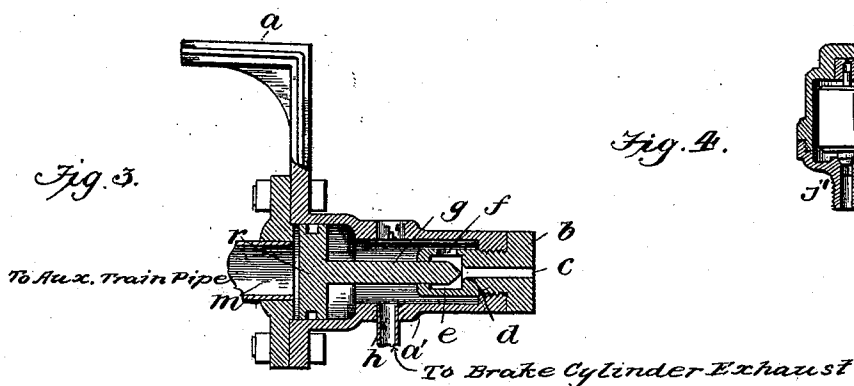
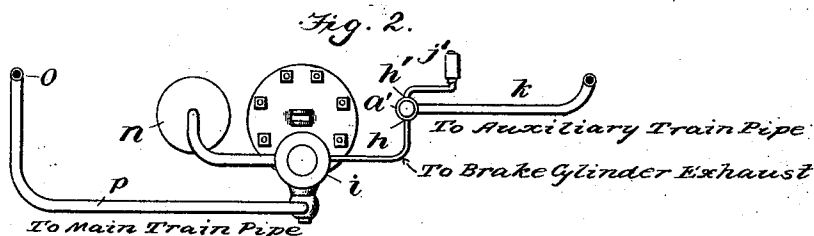
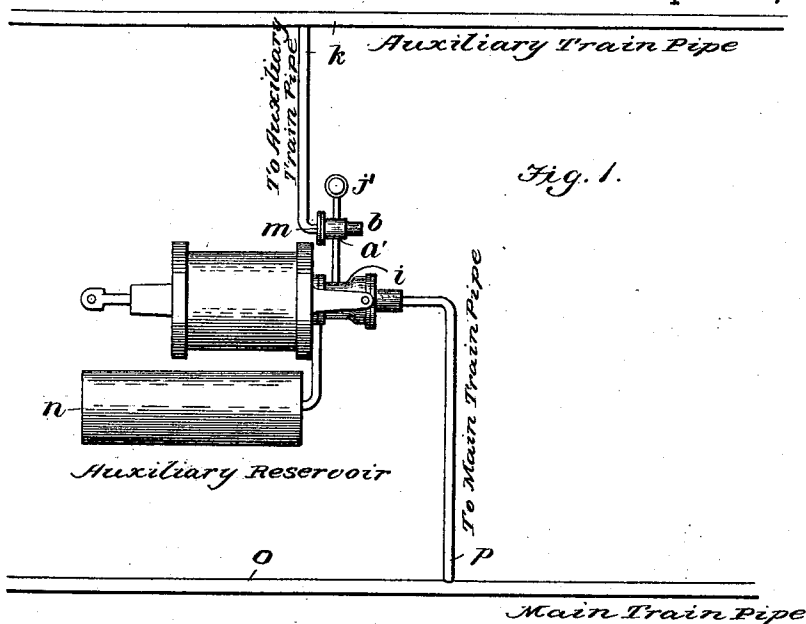


(No Model.)

F. THALMUELLER, Jr.
FLUID PRESSURE BRAKE.

No. 517,901.

Patented Apr. 10, 1894.



Witnesses
Frank H. Whateker
M. G. Griffin

By

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UNITED STATES PATENT OFFICE.

FRANK THALMUELLER, JR., OF HUNTINGBURG, INDIANA.

FLUID-PRESSURE BRAKE.

SPECIFICATION forming part of Letters Patent No. 517,901, dated April 10, 1894.

Application filed January 28, 1892. Serial No. 419,536. (No model.)

To all whom it may concern:

Be it known that I, FRANK THALMUELLER, Jr., a citizen of the United States of America, residing at Huntingburg, in the county of Dubois and State of Indiana, have invented certain new and useful Improvements in Fluid-Pressure Brakes, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to fluid operated brakes; and it consists in substituting a fluid operated valve for the hand-valve or three-way-cock at present in use and located between the exhaust port of the brake cylinder and the pressure retaining valve, and in further providing an auxiliary train pipe to operate said valve.

The object of my invention is to place the pressure retaining valve under the control of the engineer or to dispense with that device altogether, and to retain the full brake pressure by closing the exhaust valve port of the brake cylinder, or to regulate the pressure in the brake cylinder by venting air from the auxiliary train pipe.

In the accompanying drawings forming a part of this specification: Figure 1 is a plan view of an ordinary auxiliary reservoir and brake cylinder with pressure retaining valve and train pipe connections, showing my valve and auxiliary train pipe attached. Fig. 2 is an end view of the same. Fig. 3 is an axial section of my improved valve. Fig. 4 is a detail sectional view showing the weighted valve.

In the drawings, the same reference letters indicate corresponding parts.

Referring to the several parts by letters of reference, *a* indicates an angle plate or hanger, formed integral with the valve shell *a'*; the hanger *a* may be attached to the bed of the car or to such other part as may be best suited to the purpose by means of bolts, screws, or other attaching devices; and the hanger may be perforated or made of any suitable form to adapt it to the means of fastening provided. The shell *a'* is fitted at one end with a threaded plug *b* which is provided with a port or passage *c*, terminating inwardly in a conical valve seat *d* and communicating by means of an enlargement or chambered part *e* and an opening *f* with the bore of the shell *a'* which is fitted with a piston *r* provided

with a stem *g* which enters the chamber *e* from the inner end of the plug *b*; the stem *g* has a conical end adapted to fit the seat *d* and close the port or passage *c*. The shell *a'* is provided with two ports *h, h'*, the port *h* communicating by means of a pipe with exhaust from the brake cylinder *i*, and the port *h'*, by means of a pipe *j* with the casing *j'* of a weighted valve *J* which casing exhausts through a port *t*. The shell *a'* is connected at the opposite end from the plug *b* with an auxiliary train pipe *k*, as at *m*, by means of which, pressure may be exerted upon the piston so as to drive it against the pressure of the exhaust from the brake cylinder and close the port *c*, by seating the end of the piston stem at *d*. This movement of the piston will cut off the exhaust by way of the port *c* and direct it through the casing *j'* of the weighted valve by way of the port *h'*, thus regulating the pressure in the brake cylinder to correspond to the weight or pressure that keeps the valve closed. It will be seen that if thought advisable, the port *h'* may be closed permanently and the engineer can then control the exhaust by varying the pressure in the auxiliary pipe *k*, in which case the entire brake pressure may be maintained.

The main train pipe *O* connects by means of a pipe *p*, with the auxiliary reservoir *n*, in the usual way.

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

The combination with the train-pipe, brake cylinder, triple valve, and reservoir, of a fluid-pressure brake, and an auxiliary train-pipe, of a valve or casing connected with the brake-cylinder exhaust and with the auxiliary train-pipe, and having two outlet ports, a weighted valve controlling one of said ports, and a positively operated valve controlling the other port and seated by pressure from the auxiliary train-pipe, substantially as set forth.

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

FRANK THALMUELLER, JR.

Witnesses:

C. C. FORBES,
L. L. BROTHERS.