

(No Model.)

A. THAYER & M. J. CONNELLY.

COMPRESSED AIR BRAKE.

No. 283,534.

Patented Aug. 21, 1883.

Fig. 1.

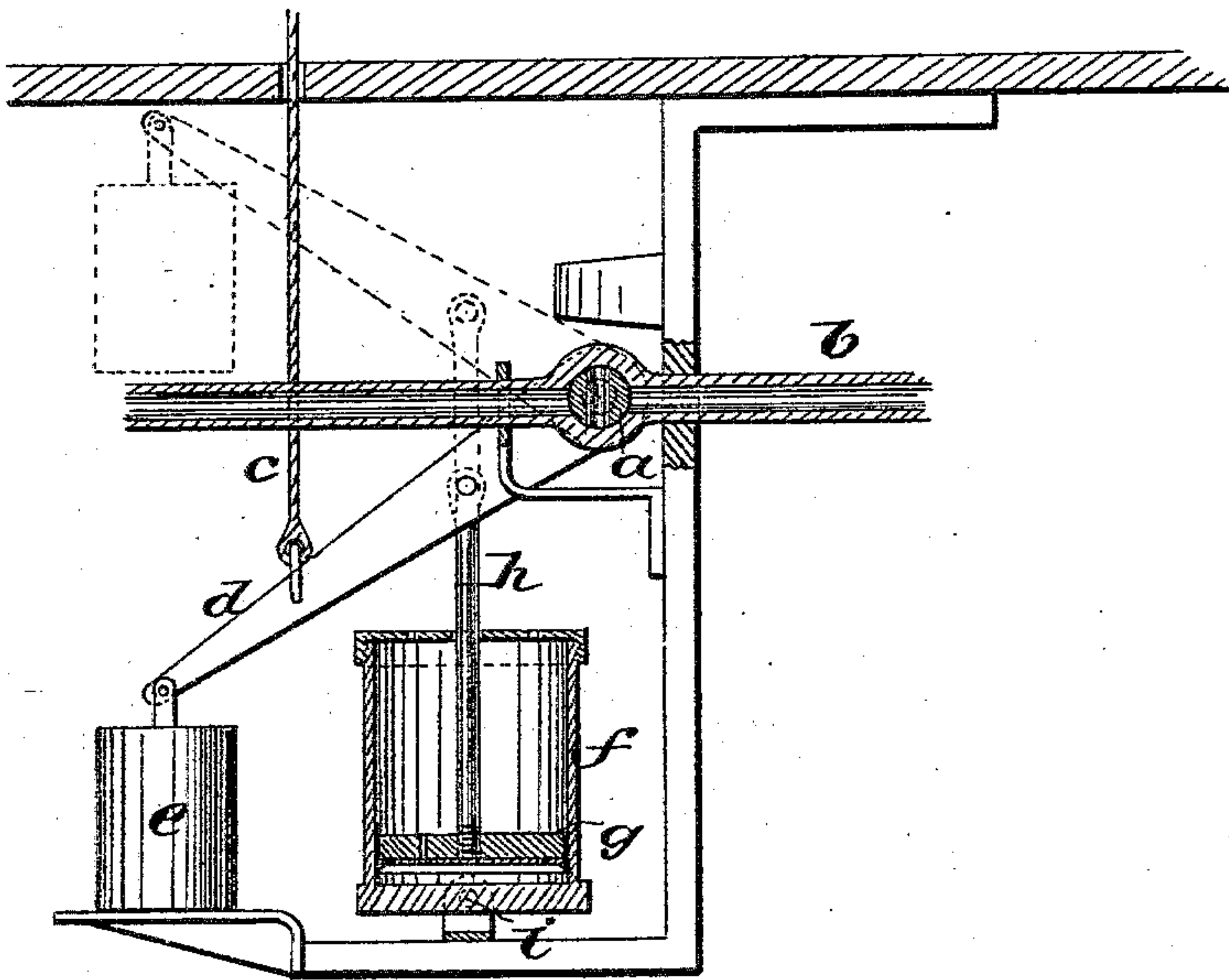
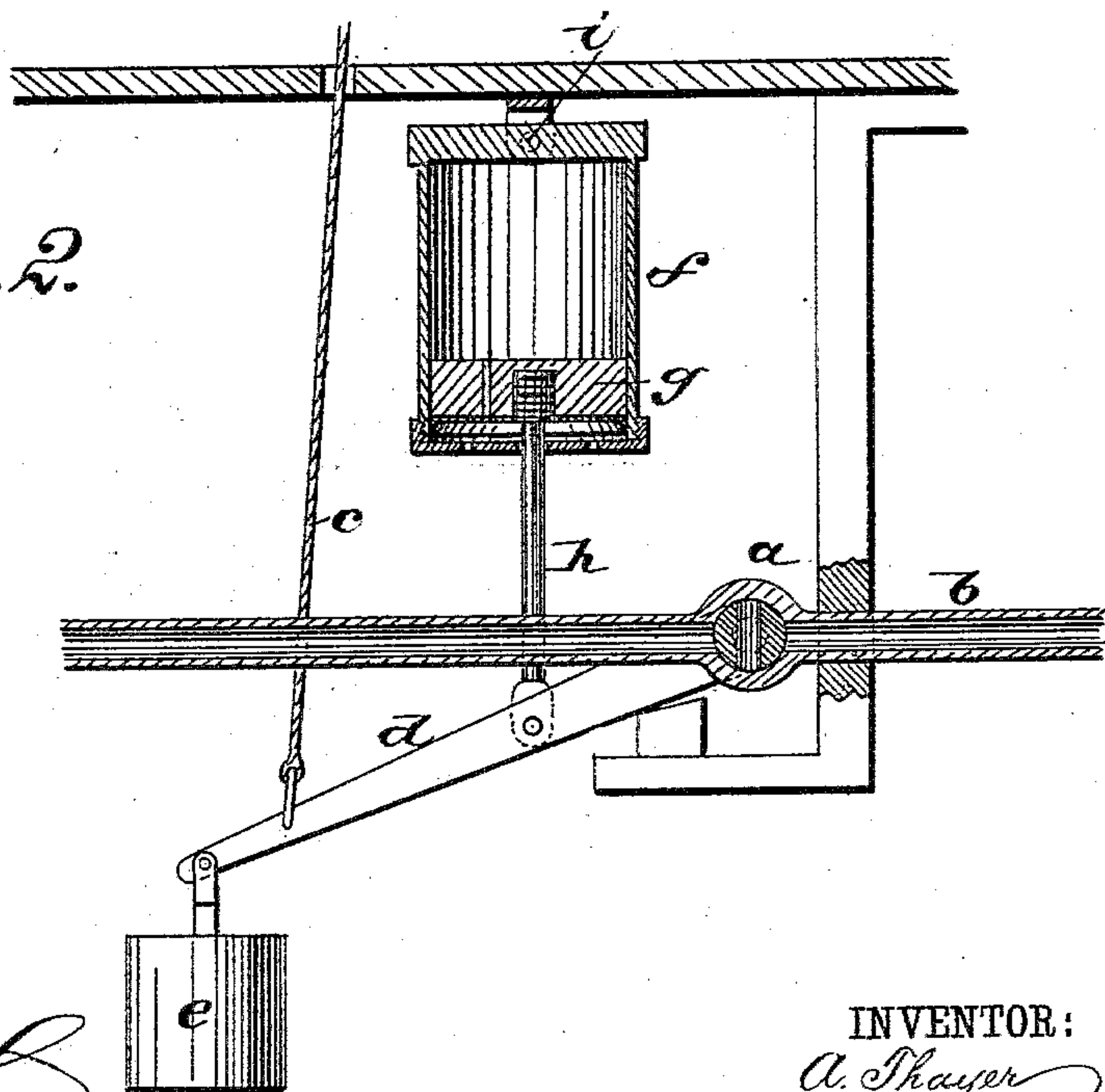


Fig. 2.



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ALBERT THAYER AND MARTIN JOSEPH CONNELLY, OF ROXBURY, MASS.

COMPRESSED-AIR BRAKE.

SPECIFICATION forming part of Letters Patent No. 283,534, dated August 21, 1883.

Application filed July 7, 1883. (No model.)

To all whom it may concern:

Be it known that we, ALBERT THAYER and MARTIN J. CONNELLY, of Roxbury, Suffolk county, Massachusetts, have invented a new and useful Improvement in Compressed-Air Brakes, of which the following is a full, clear, and exact description.

Our invention consists of a time-closing device for the "conductor's" valve or cock of the Westinghouse compressed-air brake, so contrived that when the said cock or valve has been opened to stop the train the said device will allow the cock or valve to remain open a sufficient length of time to stop the train, and will then automatically close the cock to shut off the air-pressure, and thereby shortly enable the brakes to be released or "let off," so that the train will be ready to move on again without further attention to said valve or cock, and thus the trouble of closing the cock again before the train can proceed will be avoided, which must be done as now arranged if a cock is used; or, if a self-closing valve is used, it has to be held open until the train stops, which is also avoided by our device, which consists, essentially, of a weighted lever applied to the cock to close it, with a retarder consisting of a pneumatic piston and cylinder working either by compression or vacuum, all as hereinafter described.

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

Figure 1 represents a sectional elevation of our device in which the retarder works by compression. Fig. 2 is a sectional elevation of the same in which the retarder works by vacuum.

On the pressure-pipe of the Westinghouse automatic brake, at some convenient place in each car, is placed sometimes a valve, sometimes a cock, with a line running from it, which, being pulled, releases the air-pressure from the pipe and applies the brake to the whole train. In case of a valve, it must be held open by the operator, or the brake will not remain set. If it is a cock, the train will stop, but will be delayed until the train-men close the cock, the engineer being unable to release the brakes until the cock is closed. Delay resulting in collision is likely to occur when, in the night, the train-men are unable to find readily a cock that has been pulled by

drunken or careless passengers, as was the case in the late Spuyten Duyvil disaster. We therefore propose to employ a cock, *a*, in the pressure-pipe *b*, with the pull-cord *c* attached to a lever, *d*, fitted to said cock for opening it to let the air flow out of the pressure-pipe, and to this lever we apply a weight, *e*, for closing the cock, with a retarder consisting of a cylinder, *f*, and a piston, *g*, either working by compression, as in Fig. 1, or by a vacuum, as in Fig. 2, to resist the closing of the valve for a time, that will allow the train to stop before the cock is closed, but closing the same soon after the train stops, so that not much time will be lost before the train may go on again.

The piston is connected to the lever by its rod *h* directly, and the cylinder is fitted on pivots *i* for a simple contrivance; but in this respect the arrangement may be as preferred. In Fig. 1 the piston has bucket or cup leather packing, which works loosely upward to allow the piston to rise readily, but works tightly downward and resists the fall of the weight by compression until the air leaks through a small adjustable vent-hole in the piston, the size of which governs the time it will take the weight to close the cock, the cylinder being open at the top and closed at the bottom. In Fig. 2 the piston and packing are arranged the same as in Fig. 1; but the cylinder is open at the bottom and closed at the top, so that in this case it is the vacuum that retards the weight.

We do not abandon or dedicate to the public any patentable features set forth herein and not hereinafter claimed, but reserve the right to claim the same either in a reissue of any patent that may be granted upon this application or in other applications for Letters Patent that we may make.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

The combination, with the conductor's valve or cock in the pressure-pipe of the "Westinghouse brake," of an automatic time-closing device, consisting of a weight and a pneumatic retarder, substantially as described.

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Witnesses:

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