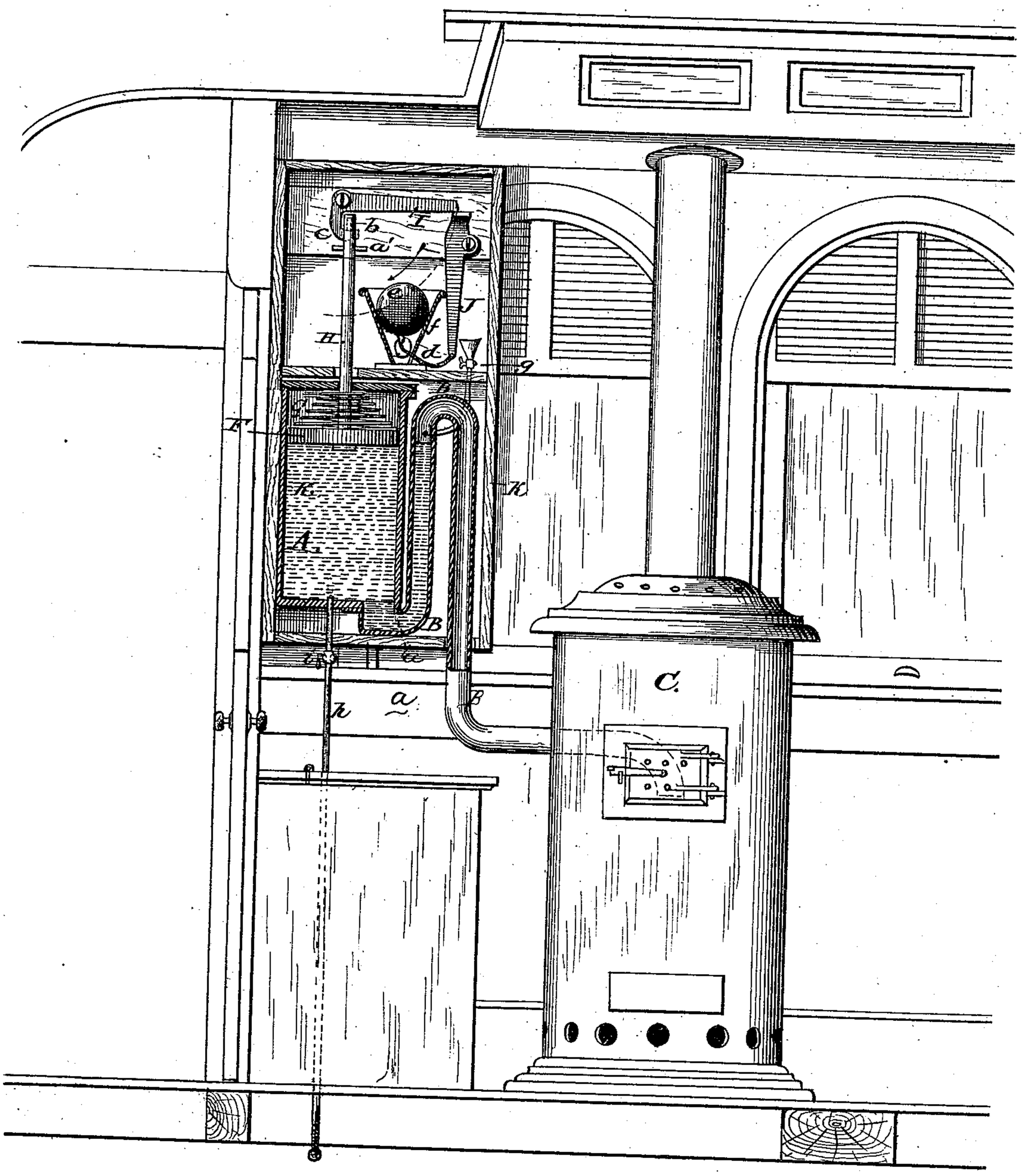
L. O. ROOT & L. I. BAKER.

APPARATUS FOR EXTINGUISHING FIRES IN CAR-STOVES.

No. 195,234. Patented Sept. 18, 1877.



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UNITED STATES PATENT OFFICE.

LAWRENCE O. ROOT AND LEWIS I. BAKER, OF EAST MINNEAPOLIS, MINN.

IMPROVEMENT IN APPARATUS FOR EXTINGUISHING FIRES IN CAR-STOVES.

Specification forming part of Letters Patent No. **195,234**, dated September 18, 1877; application filed March 17, 1877.

To all whom it may concern:

Be it known that we, LAWRENCE O. ROOT and LEWIS I. BAKER, of East Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Apparatus for Extinguishing Fires in Stoves of Railroad-Cars, of which the following is a specification:

This invention relates to certain improvements in devices for extinguishing the fires in heating-stoves of railroad passenger-cars in case of accident to the latter; the object of the invention being to provide a simple, effective, and reliable apparatus, which will perform its functions with absolute certainty.

The invention consists of a water reservoir or vessel, connected by a tortuous passage with the stove, said reservoir being provided with a piston or follower, acted upon by a spring, the piston being held up in its normal position against the pressure of the spring by means of a trigger device, which is constructed to be released in case the car is subjected to any unusual jarring, thereby permitting the spring to force the piston toward the opposite end of the reservoir, and cause the water to flow through the tortuous passage into the stove and extinguish the fire.

In the accompanying drawing, the figure represents a sectional elevation of our invention applied to a railroad passenger-car.

In the drawing illustrating our invention, A represents a cylinder or other suitably-constructed vessel, which forms the water-reservoir, closed at its top and bottom; and B represents a tortuous passage, communicating at one end with the lower part of the reservoir, as at *a*, and extending vertically along said reservoir to its top, where it branches off and connects with the stove C.

The cylinder or vessel is securely attached in position, in any suitable manner, near one end of the car, or near where the stove is located, it being in the present instance arranged above the fuel-box. Within the cylinder or vessel A is arranged a piston or follower, F, fitting snugly in the cylinder, so as to form a water-tight joint; and between the upper face of the piston and the upper end of the cylinder is arranged a suitable spring, in the present example consisting of an ordinary steel spiral spring, G. To the center of the piston is attached a rod, H, which passes upward through the end of the water-reservoir, and having its upper end placed within a suitable guide, *a'*. The upper end of the rod H is provided with an aperture, *b*, which is adapted to receive the bent end *c* of a trigger or arm, I, pivoted near one end, and its other end resting upon the upper end of a pivoted rod, J, to the lower end of which rod is attached a cord or chain, *d*, the other end of the cord or chain being connected with suitable weight, which weight consists, in this case, of a ball, *e*, arranged in a suitable cup, *f*, secured to the upper end of the cylinder A, or in other suitable place, in such manner that when the car is unusually jarred—such, for instance, as when thrown from the track or it collides with another train—the ball *e* is thrown from its cup *f*, and, jerking the rod J, releases the end of the arm I, and its heavier end dropping will release the bent end *c* from the opening *b* in the rod H, and thereby permit the spring G to force the follower F toward the other end of the cylinder, compelling the water contained in the latter to pass out in the tortuous passage B, through the same into the stove, extinguishing the fire contained, whereby all liability of a conflagration, due to the scattering of the fire in case of accidents, is avoided.

The water-reservoir and the operating devices of the apparatus are concealed from view and protected by means of a cylindrical or other shaped casing, K, which can be removed, when necessary, or which can be fixed, and provided with a door when it is necessary to gain access to the apparatus. This casing K can be ornamented and shaped in any preferred appearance to present an attractive appearance to the car.

The tortuous passage B is provided with a pipe and funnel, *g*, for replenishing the cylinder with water, the amount of water supplied to the reservoir being indicated by the same rising in the tortuous passage B, as the height of water in the two will always be on the same line.

The water-reservoir is provided at its bottom with a pipe, *h*, having a cock, *i*, whereby the cylinder can be emptied of water, when desired.

The apparatus, as thus constructed, will be found most effectual in operation. It is simple in construction and not liable to get out of order; and, by means of a spring-impelled piston, the water in the reservoir is compelled to pass rapidly into the stove through the tortuous passage, no matter what position the water-reservoir assumes, if the car is tipped over.

What we claim, and desire to secure by Letters Patent, is—

1. A water-reservoir adapted to be secured within a railroad-car, provided with a tortuous passage connected with the reservoir, and adapted to communicate with the interior of a stove, in combination with a spring-impelled piston within the reservoir, and a trip mechanism for holding the piston up until released by any unusual movements of the car, substantially as described.

2. The water-reservoir A and tortuous passage B, adapted to communicate with the interior of a stove, in combination with the piston F, spring G, rod H, arm I, rod J, and weight *e*, connected with the rod J, substantially as described.

In testimony that we claim the foregoing we have hereunto set our hands in the presence of the subscribing witnesses.

LAWRENCE O. ROOT.
LEWIS I. BAKER.

Witnesses:
P. D. McMILLAN,
F. E. BALDWIN.