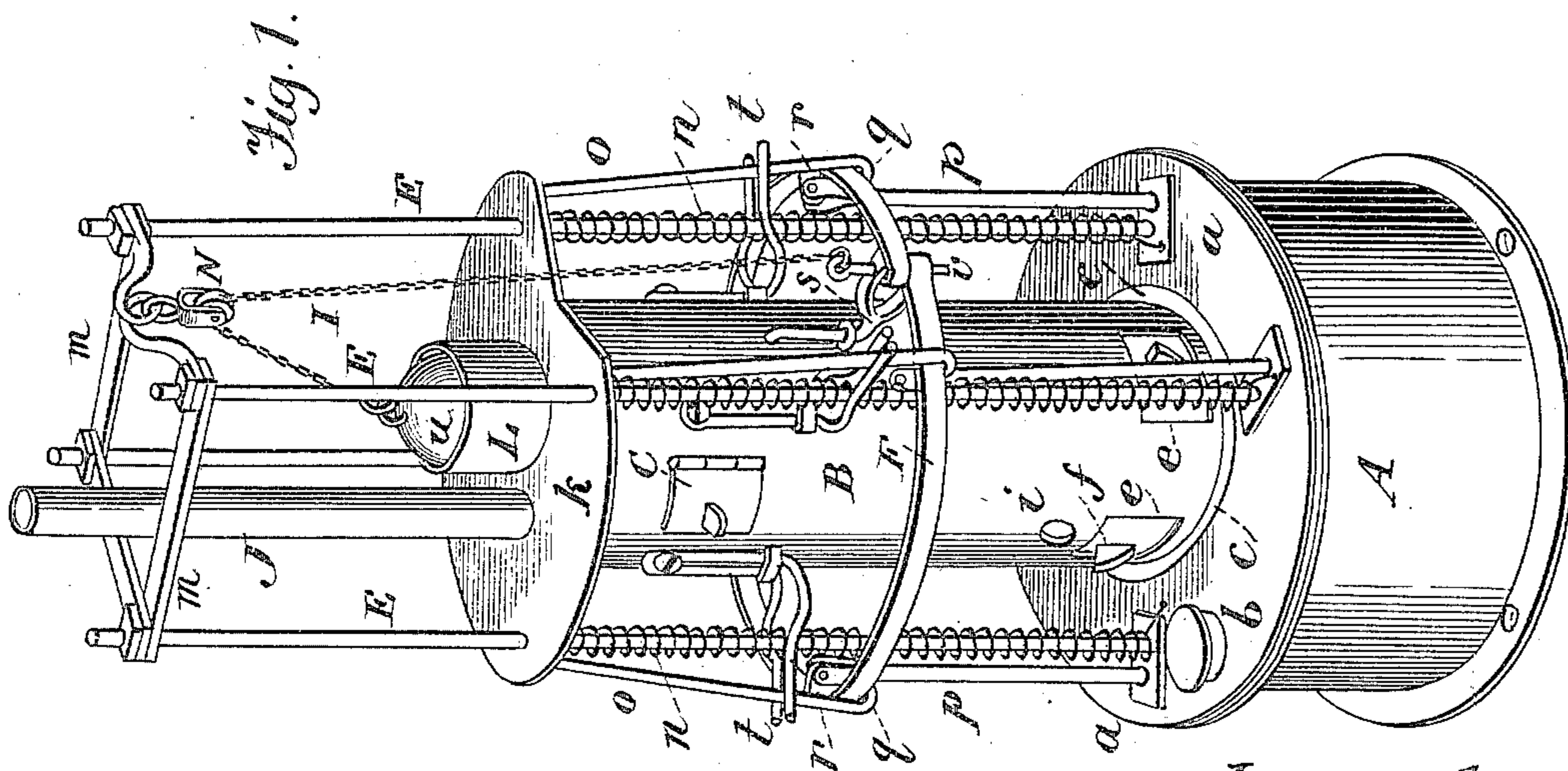
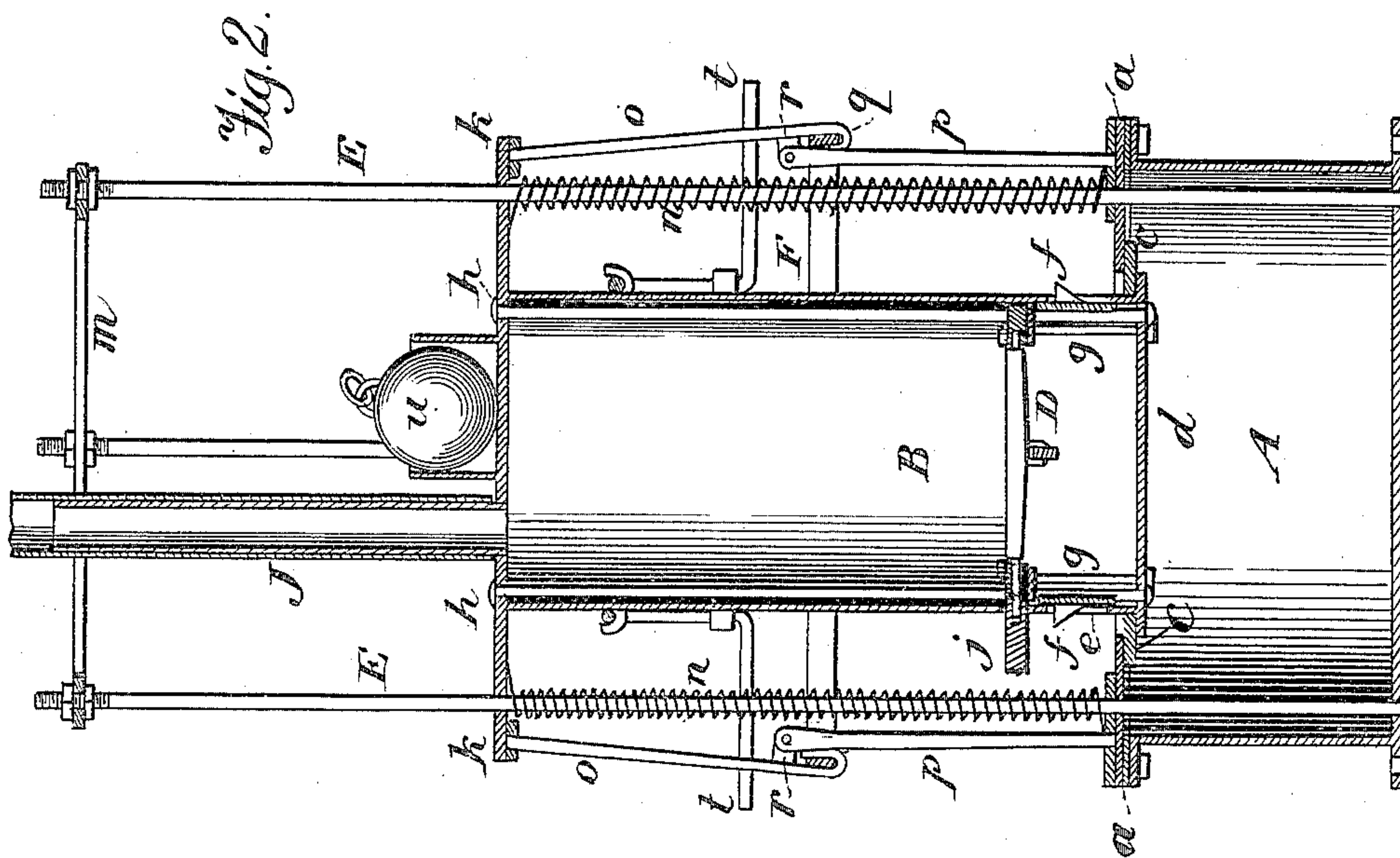


(No Model.)

R. F. HARRIS.
STOVE FOR HEATING CARS.

No. 446,517.

Patented Feb. 17, 1891.



Witnesses.
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Inventor.
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Per
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UNITED STATES PATENT OFFICE.

ROBERT F. HARRIS, OF EAST SHARON, PENNSYLVANIA.

STOVE FOR HEATING CARS.

SPECIFICATION forming part of Letters Patent No. 446,517, dated February 17, 1891.

Application filed June 14, 1890. Serial No. 355,480. (No model.)

To all whom it may concern:

Be it known that I, ROBERT F. HARRIS, a citizen of the United States, residing at East Sharon, in the county of Potter and State of Pennsylvania, have invented certain new and useful Improvements in Stoves for Heating Cars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to stoves for heating cars; and it consists in certain improvements in the construction of the same, as hereinafter described and claimed, the object of the invention being to provide against damage by fire in case of accidents or derailment of cars on railways.

In the accompanying drawings, Figure 1 represents a perspective view of a car-heater provided with my improvements. Fig. 2 is a vertical section of the same.

A designates a water-tank forming the base of the device, said tank being flanged at the top and provided with packing to make a tight joint with the top plate *a*. In the said top plate is a central circular opening to admit the stove B, as hereinafter stated. Suitable packing *c* is secured to the plate *a* about said central opening, so that the latter fits the cylindrical body of the stove. The tank is also flanged at the bottom, the flange being perforated, so that it may be secured to the floor of the car. The tank may be filled through an inlet which is closed by a screw-plug *b*.

The cylindrical stove B is provided with a flange *d* at the bottom, which extends somewhat under the top plate *a*, and thus connects the stove with the tank, the stove being in position to sink in the tank, as hereinafter stated. The stove is provided with a door C and with draft-openings *e* near its bottom, said draft-openings being provided with doors which open inwardly and are hung on friction-hinges to keep them in the desired position. The said doors are also provided with inclined projections *f* to impinge against the top plate of the tank when the stove sinks therein and thus push the doors open.

The grate D rests on an inner flange of the stove a short distance above the draft-open-

ings and is secured in place by the hooks *g*, which extend from the bottom of the stove to which they are secured. The said grate is formed of a rim with grate-bars pivotally mounted therein, the said bars being loosely connected at their lower edges with a cross-piece, and the central bar being extended and squared to receive a key *j*, which may be applied thereto through a key-hole *i* for the purpose of shaking the grate. The securing-rods *h* extend from the top to the bottom of the stove, as shown.

The standards or guide-rods E are secured at their lower ends to or within the tank A and extend upward through the flange *k* at the top of the stove. At their upper extremities the said guide-rods are provided with braces *m*. The spiral springs *n* are placed one on each of the rods E and are severally connected with the tank A and with the flange *k* of the stove, the said springs being intended to draw the stove down in the tank when the supports of the stove are displaced, as hereinafter stated.

The stove B is held in its raised position, as shown in Fig. 1, by means of a series of removable braces, each of which consists of two rods *o* and *p*, which are coupled together at *r*, one being provided with an eye or loop *q*. When the said removable braces are adjusted in position, supporting the stove, the upper end of each rod *o* is in a recess or socket in the flange *k* at the top of the stove and the lower end of the rod *p* rests in a socket in the top of the tank. The rods *o* and *p* are prevented from displacement outwardly by a spring-band F, which is passed through the loops *q* of rods *o* and extends around the stove, the ends of said band being looped and secured to a forked arm *s*, which is fixed to and extends from the casing of the stove B. The ends of the spring-band are thus secured by means of a pin *v* on the end of a chain I, the pin being passed through the prongs of arm *s* and the loops on the ends of the band. The rods *o* *p*, forming the jointed braces, are prevented from lateral movement by the arms *t*, which are fastened to and extend from the stove-casing. The chain I is connected with a ball or weight *u*, which is placed loosely in a cup or vessel L, secured to or formed on the top plate of the stove, and said chain is passed over a sheave

or pulley N, connected with one of the braces *m* at the upper ends of the guide-rods E.

When the stove is in position, supported by the jointed supports formed of the rods *o p*, with the band F adjusted about them and secured by the pin *v*, should an accident occur and the car become derailed or inclined in position the ball *u*, being shaken from the vessel L, falls, withdrawing the pin *v* from the band F, thus releasing the jointed braces, the rods *o p* giving way, when the stove B is immediately drawn down, so that the water in the tank rushes in through the draft-openings and extinguishes the fire.

J indicates a smoke-pipe, which extends from the top of the stove and has one section of it secured to the top of the car. This pipe is constructed to be automatically extended or contracted after the manner of a telescope.

I claim—

1. The combination, with a tank provided with a central opening in the top, of a stove in position in said opening, a series of removable jointed braces adapted to support said

stove, a band connected with and extending about said braces, the extremities of said band being detachably connected, and a series of springs adapted to draw said stove downward, substantially as and for the purposes described.

2. The combination, with the tank provided with a central opening, of a stove B, provided with flanges at its top and bottom and draft-openings, guide-rods with springs thereon, a series of jointed rods *o p*, adapted to support the stove in its raised position, a band F, connected with said rods and provided with a securing-pin *v*, and a weight loosely mounted in a vessel on said stove and provided with a chain which is passed over a pulley and connected with said securing-pin, substantially as and for the purposes described.

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

ROBERT F. HARRIS.

Witnesses:

A. B. MANN,

JOSEPH MENSCHER.