C. J. SMITH.

Safety Stove for Railroad Cars.

No. 92,115. Patented June 29, 1869.

Fig. 1

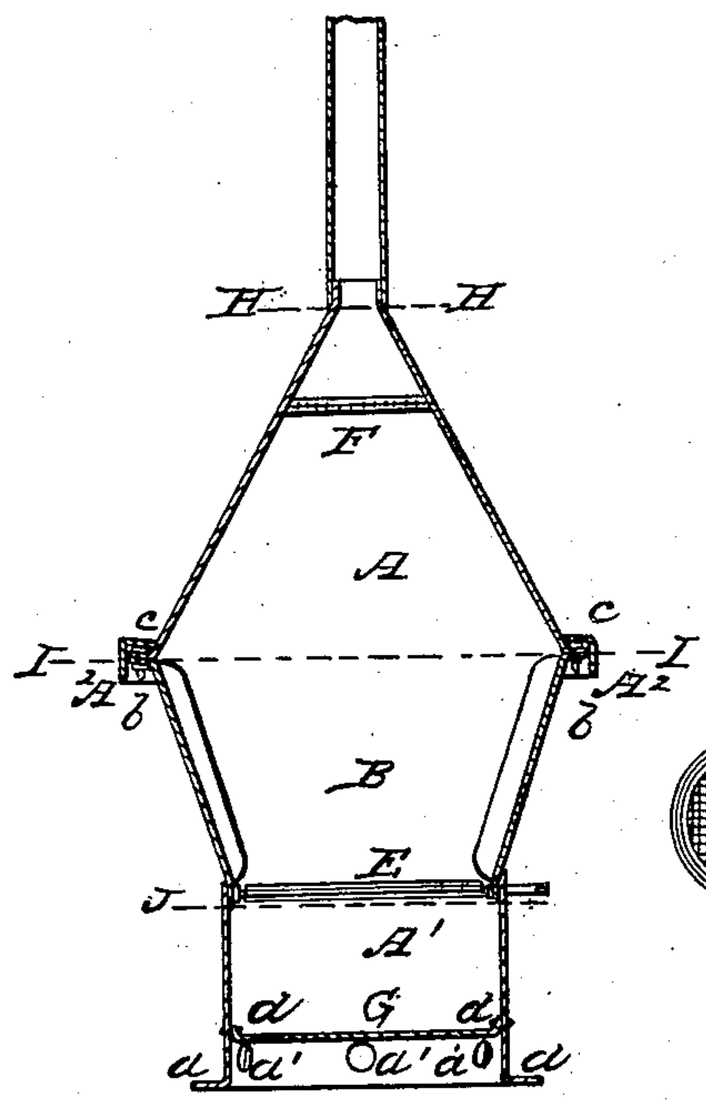


Fig. 4

Fig. 5,

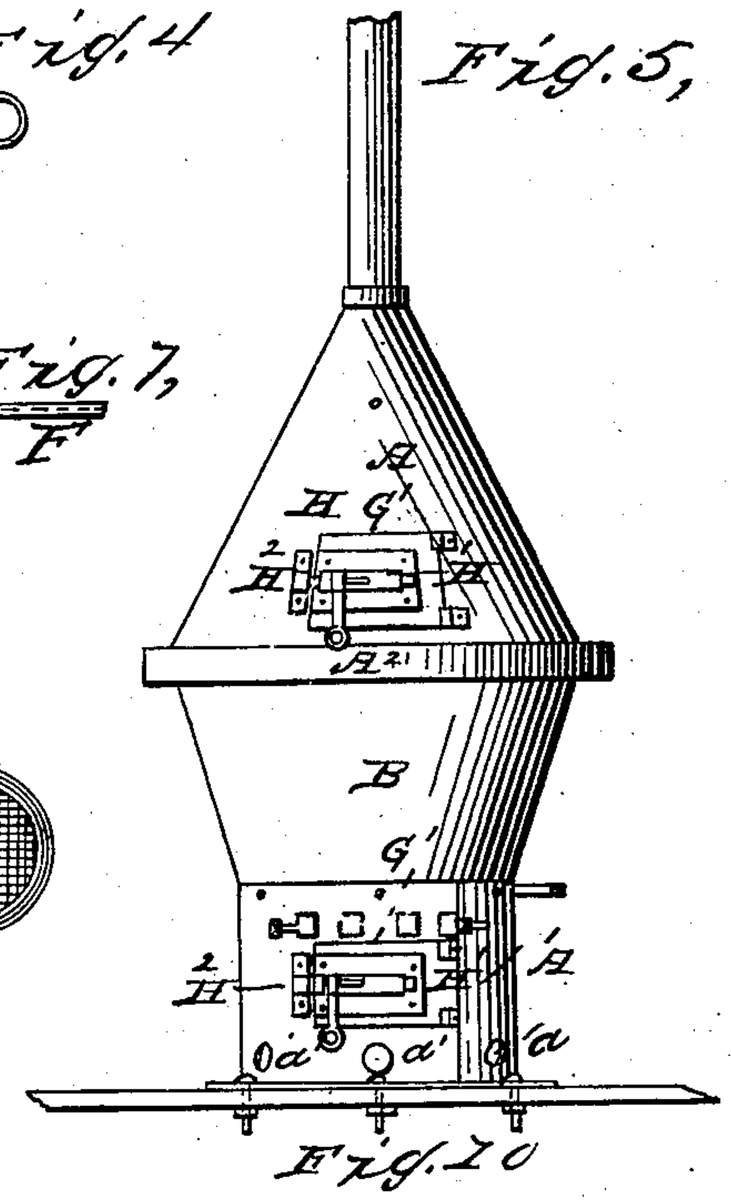


Fig. 7,

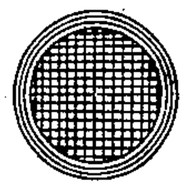
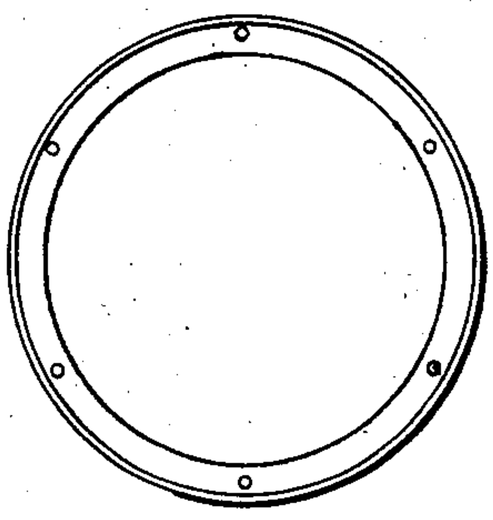


Fig. 10

Fig. 6



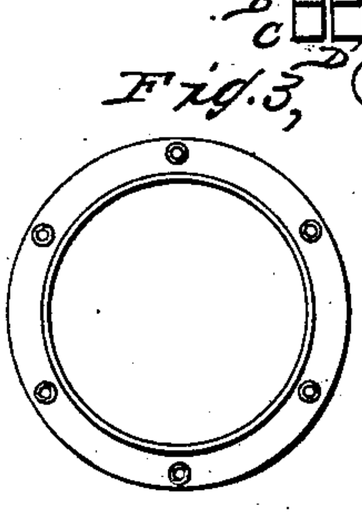


Fig. 3,

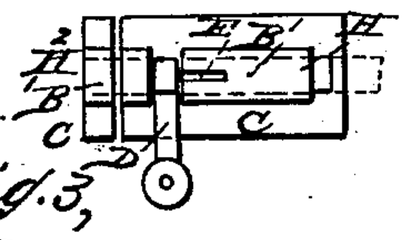
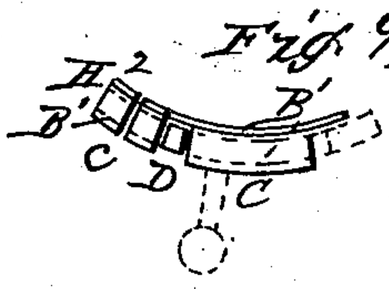


Fig. 8,

Fig. 9,



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United States Patent Office.

C. J. SMITH, OF NORFOLK, VIRGINIA.

Letters Patent No. 92,115, *dated June* 29, 1869.

SAFETY-STOVE FOR RAILROAD-CARS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, C. J. SMITH, of Norfolk, in the county of Norfolk, and State of Virginia, have invented certain new and useful Improvements in Safety-Stoves; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, making part of this specification, in which—

Figure 1 is a longitudinal sectional view.

Figure 2 is a transverse sectional view on the line I–I, fig. 1.

Figure 3 is a transverse sectional view on the line J–J, fig. 1.

Figure 4 is a transverse sectional view on the line H–H, fig. 1.

Figure 5 is a front view of the stove.

Figure 6 is a plan view of the wire guard in the upper portion of the combustion-chamber.

Figure 7 is an edge view of the same.

Figures 8, 9, and 10 are detailed views of the door-fastening, and the various features that compose the same.

This invention relates to a stove that is intended particularly for railroad-cars, but which can also be advantageously used for other purposes, especially on steamboats.

This stove can be used with perfect safety, and is so constructed that it will withstand any amount of rough usage, the fire all the while being maintained with perfect safety. Even should an accident occur of sufficient violence to completely overturn the stove, owing to the complete and perfect arrangement of the mechanism by which the door is fastened and held, it is impossible for the same to escape.

It is an admitted fact, that in most of the fearful railroad accidents which have occurred of late, the peculiar horrors that rendered the same so disastrous and distressing, were traceable solely and entirely to the fact that the violence of the concussion which threw the car from the track, owing to the style of stove used, caused it to empty and scatter its burning coals among the passengers, and the burning fuel thus poured out soon caused the wood-work of the car to ignite, and, as a necessary consequence, the entire car was soon destroyed.

While my stove is simple and practical in construction, still it can safely be used without the slightest fear of the result mentioned, no matter how sudden and violent the concussion which throws the car from the track may be.

To accomplish this, I use a stove constructed entirely of wrought metal, with a wire guard in the upper portion of the combustion-chamber, and a false bottom, which is secured in the ash-chamber below the grate. The door I securely fasten by means of a bolt, slide, and weighted handle, so arranged, that while they can be readily operated, still, when once fastened, no motion or overturning, no matter in what direction the latter may be, will free the same and allow the door to open.

To enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation.

A^1 is the ash-chamber, which is circular in form, and constructed with a flange, *a*, by means of which it is firmly bolted or otherwise secured to the floor. This ash-chamber is provided with a door and draught-openings. There is also in its lower section a series of holes, *a' a'*, to allow of the passage of a current of cold air between the bottom of the ash-pit and the floor.

B is the fire-pot, cone-shaped in form, and is seated in the ash-chamber A^1, and firmly bolted therein. It enters the ash-chamber A^1 such a distance, that when fastened, its lower edge is immediately above the draught-openings.

These draught-openings are opened and closed at pleasure by means of an ordinary valve-plate and handle.

The fire-pot B is constructed with a flange, *b*, on which rests the flange *c* of the combustion-chamber A, which is also cone-shaped in form.

By means of these flanges, *b c*, the two sections of the stove are firmly held together.

Over these flanges is placed a suitable cap-plate, A^2, which gives an exceedingly neat appearance to the stove.

The stove, thus formed, is constructed of wrought-iron, and its lower section lined with fire-clay.

G is a false bottom, and is constructed with a flange, *d*, by means of which it is secured in the lower section of the ash-chamber A^1. This false bottom, G, is sufficiently far above the openings *a' a'* to allow an unobstructed passage for the cold air between it and the floor.

E' is the fire-grate, and is constructed, inserted, and operated in the usual manner.

A little above midway of the combustion-chamber A is firmly secured a wire guard, F, whose diameter is exactly that of the portion of the stove where it is secured. In case of the stove being overturned, this wire guard prevents the fire from escaping in that direction, while the false bottom G will prevent its escape in the opposite direction.

G'. G' are two doors, and are firmly hinged to the stove in the usual manner, one closing an opening in the ash-pit, and the other closing a similar opening in the combustion-chamber, for the reception of fuel.

To each of these doors is secured a plate, on which rests and works the fastening, which is constructed as follows:

H^1 is a slotted casing, in which freely works the bolt B'.

This casing is so cut away at a given point, that when the door is fastened by the bolt being in the staple H^2, the weighted handle D can be freely moved up and down, but in no other direction, until brought in a line with the slot E, in the centre of the casing H^1. So it will be seen that when the bolt B′ is once inserted in the staple H^2, simply by dropping the weighted handle D, the door is securely fastened, all lateral play being impossible, so that, should the stove be overturned or thrown on its side, the door cannot be opened.

In the upper portion of the chamber A is a suitable opening, to which the pipe may be connected

Having thus fully described my invention,

What I claim therein as new, and desire to secure by Letters Patent of the United States, is—

1. The chamber A, fire-pot B, each cone-shaped in form, and united by flanges *b c*, and cap-plate A^2, ash-chamber A^1, false bottom G, openings *a′ a′*, and wire guard F, when the same are so combined and arranged as to form a safety-stove, substantially as described.

2. Securing the door by casing, bolt, and weighted handle, when the same is so arranged as to operate substantially as described, as and for the purpose specified.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

C. J. SMITH.

Witnesses:

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