(No Model.)

F. L. HORSPOOL.

LOCOMOTIVE TRAP DOOR.

No. 576,269. Patented Feb. 2, 1897.

Fig. 1.

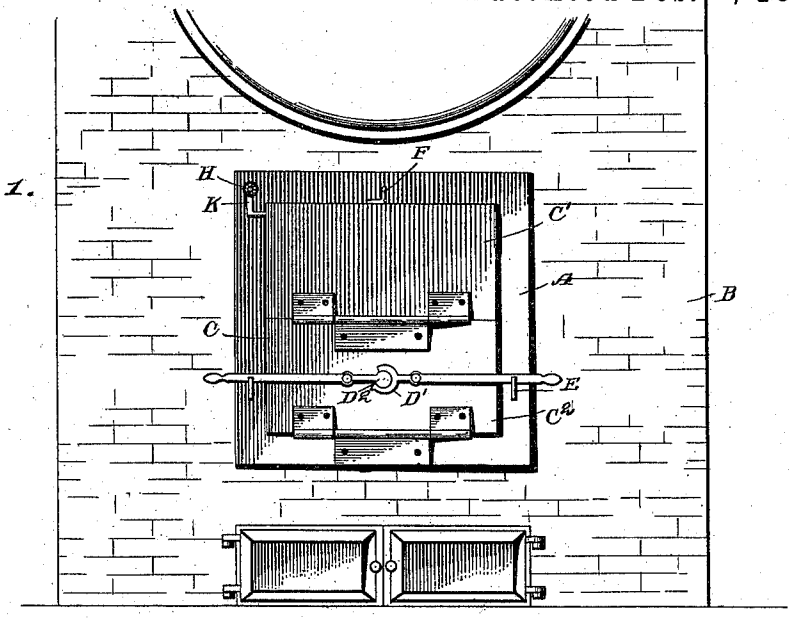


Fig. 2.

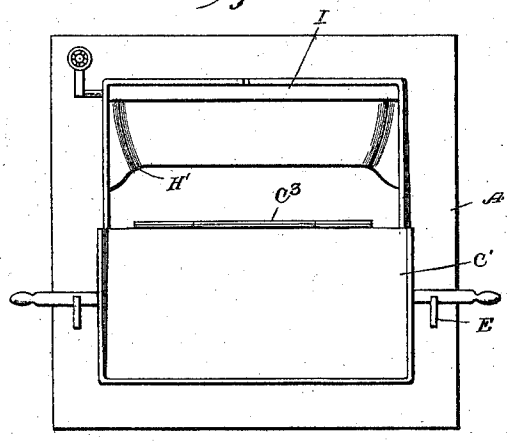


Fig. 3.

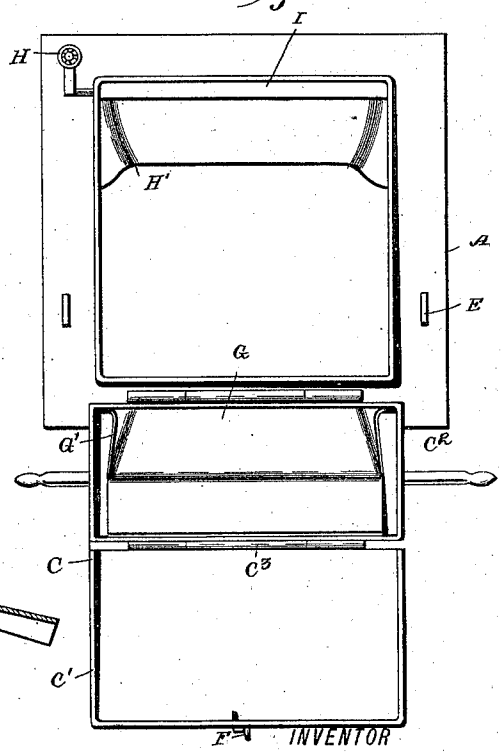
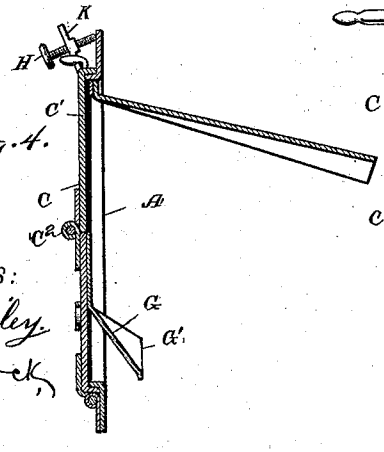


Fig. 4.



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LOCOMOTIVE TRAP-DOOR.

SPECIFICATION forming part of Letters Patent No. 576,269, dated February 2, 1897.

Application filed February 15, 1896. Serial No. 579,463. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS LEROY HORSPOOL, residing at Ogden, in the county of Weber and State of Utah, have invented a new and Improved Furnace-Door, of which the following is a specification.

This invention relates generally to an improved door for a locomotive fire-box and steam-boiler furnaces, and more particularly to one used in connection with a baffle or deflector plate.

The object of this invention is to provide a furnace-door which will save time and labor in firing a furnace and will also economize in the consumption of fuel, inasmuch as the door is made of sections capable of independent operation, whereby the door can be partially or wholly opened.

Another object is to provide a furnace-door which, when opened, will lie flat, out of the fireman's way.

Another object is to construct a furnace-door in combination with a baffle or deflector plate which will prevent the cold air from coming in contact with the crown-sheet of the fire-box or flues or tubes of the boiler.

Another object is to provide an improved locking means for securing the door, and a still further object is to provide a means for adjusting the deflector or baffle plate.

With these various objects in view my invention consists in the peculiar construction of the various parts and in their novel combination or arrangement of parts, all of which will be fully described hereinafter and then pointed out in the claims.

In the drawings forming a part of this specification, Figure 1 is a view showing the invention in use, the door being closed. Fig. 2 is a view showing the door partially open. Fig. 3 is a view showing the door entirely open. Fig. 4 is a longitudinal section of the front part of the fire-box, showing the relative arrangement of the door and deflector or baffle plate.

In carrying out my invention I employ a suitable frame A, which is secured in the opening of the fire-box B. Hinged to the bottom of said frame is a door C, said door comprising the upper section C′ and the lower section C^2, said sections being hinged together at C^3.

Locking-levers D are pivoted upon the outer face of the lower section, one of said levers being bifurcated, as shown at D′, while the opposite one has a head D^2, which enters the bifurcation D′, thereby making a connection between the two levers, so that when one is operated the other will be operated simultaneously in a similar direction. These levers project laterally beyond the sides of the door and engage catches E, attached to the door-frame, thereby securing the lower section of the door, and the upper section is provided with a suitable catch F, which engages the upper portion of the frame, so that both the upper and lower portions can be locked when desired, and it will also be seen that the upper section can be unlocked and turned down or open independent of the lower one.

The lower section or door has a metallic deflector-plate G, said plate being angular in shape and attached to the lower section of the door near the upper edge thereof, the other portion of said plate projecting downwardly and inwardly, and the side edge is bent upward, as most clearly shown at G′. The purpose of this plate is to prevent the lower section of the door from burning out too rapidly, and it also serves to check the draft and prevent the cold air getting in contact with the water-tubes of the boiler.

The deflector or baffle plate H is rigidly attached to a transverse bar I, which is journaled in the door-frame near the upper side, and at one end said bar is projected outwardly a short distance and carries a lever-arm K, through which passes a set-screw L, by means of which the deflector-plate can be adjusted at any desired angle.

The deflector or baffle plate is of a size substantially the same as the door-opening and normally rests in an inclined elevated position, the inner ends or corners of said plate being bent downward, as most clearly shown at H′, in order to concentrate the air or draft at the center of the fire-box.

By means of this construction it is clear that the cold air cannot pass directly to the crown-sheet of the fire-box or the water-tubes of the steam-boiler, inasmuch as the deflector-plate will prevent such action. It is also clear that by having the door made in the upper and lower sections independently mov-

able that the furnace can be fired without permitting the entrance of a great amount of cold air, and, furthermore, by having the door to fold or open horizontally instead of vertically, as is commonly the case, it will be out of the fireman's way and thereby facilitate his operation.

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

1. The combination with the door-frame, of the door hinged thereto and comprising the upper and lower sections hinged together, the locking-levers pivoted upon the lower section the inner ends of said levers connecting with each other, the catches carried upon the door-frame and adapted to engage the outer ends of the locking-lever and the locking-catch arranged upon the upper section of the door substantially as shown and described.

2. The combination with the door-frame and door, said door comprising the upper and lower sections, the deflector-plate G, permanently attached to the inner side of the lower section of the door, the adjustable deflector-plate H, attached to a transverse bar journaled in the door-frame substantially as shown and described.

FRANCIS LEROY HORSPOOL.

Witnesses:
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