C. F. Jauriet.

Steam-Boiler Attachment.

No. 82,843. Patented Oct. 6, 1868.

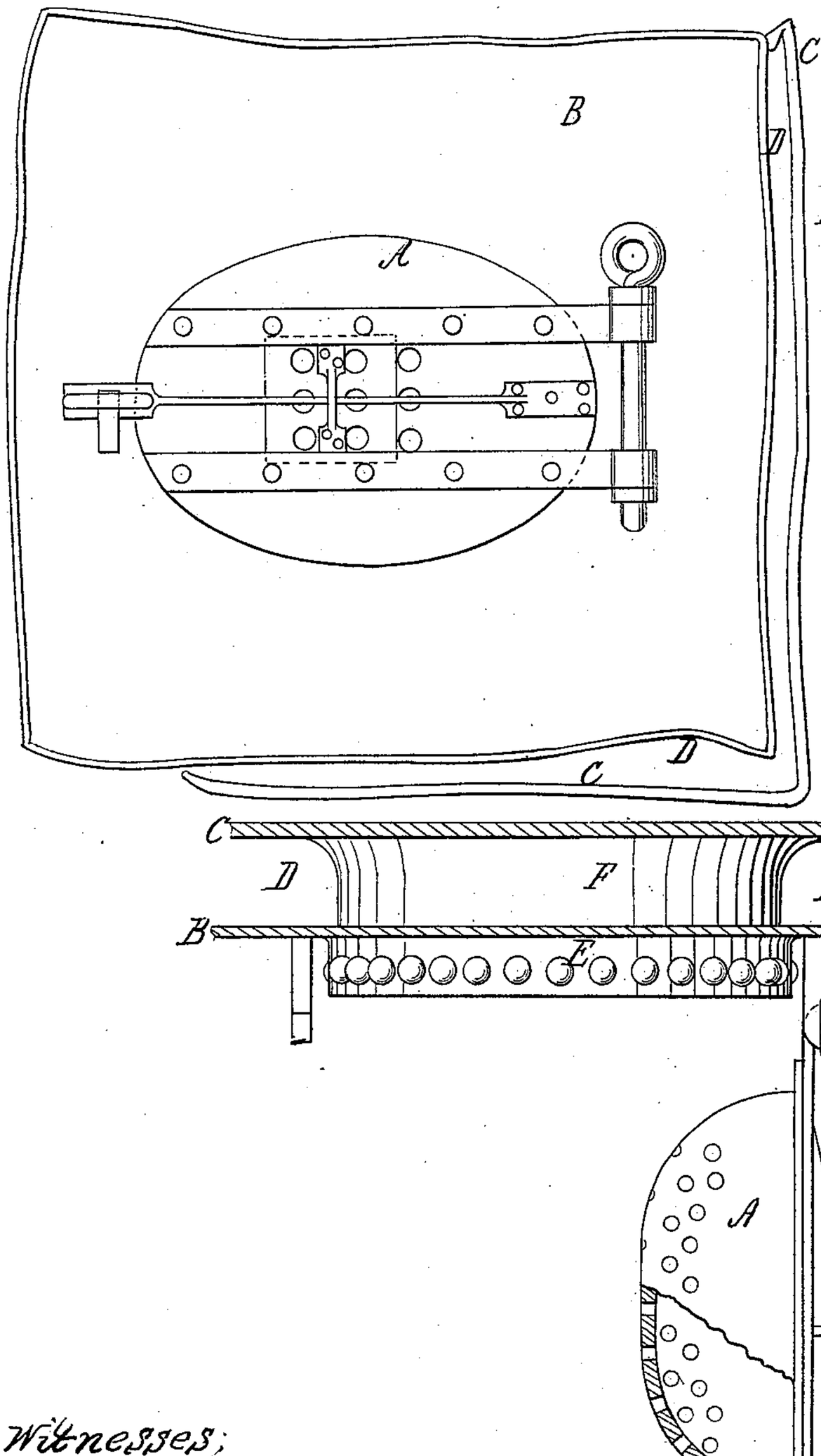

Fig. 1.

Fig. 2.

Witnesses;
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Letters Patent No. 82,843, *dated October* 6, 1868.

IMPROVEMENT IN STEAM-GENERATORS.

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, CHARLES F. JAURIET, of Aurora, in the county of Kane, and State of Illinois, have invented a new and useful Improvement in the Construction of Fire-Door Frames for Locomotives and other Engines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a vertical section of a fire-box, showing a closed door.

Figure 2 is a section and top view of the water-space of a fire-box, showing door-frame and door open.

Similar letters of reference in the figures indicate corresponding parts.

The nature of my invention consists in an improved construction of fire-door frames, whereby I use the inner lining of the water-space to form the lining of the door-frame, and the outer jacket of the "water-leg" or space, to fasten the same by flanching or flanging out both the inner lining and outer jacket, and riveting the same together on the outside of the fire-box, thus forming a frame both for the door and door-way. Thus it will be seen that this door-frame consists of flanging out both the inner lining and outer jacket of the fire-box so as to form a door-frame, for the protection of the water-space round the door-way, of a single sheet of metal, and, by riveting the same together on the outside, a door-frame for the door.

The practical objections to thimbles and other devices for this purpose have been found so obvious and great, either in their mode of construction, their durability, or the means and disadvantages of repairing, that some more perfect improvement in this direction has long been desired and sought for.

It is well understood that, in the case of locomotive-furnaces, there is a constant motion, and not unfrequently the movement of the inner lining and outer jacket of the fire-box is in opposite directions, the tendency of which is, especially in the case of a door-frame constructed with thimbles, and bolted through and through, to cause the inner lining to crack at the bolts and give way, and causing the water-space to leak, and necessitating frequent repairs, which are attended with great trouble and expense.

I am aware that an improvement has been heretofore made in door-frames by flanging in the outer jacket, and by flanging out the inner lining, so as to lap and rivet together in the water-space or water-leg around the door-way; but this plan is difficult of construction, and still more so to repair, requiring to be riveted in the narrow space of the water-leg, which, at the top especially, is attended with great trouble and difficulty in construction; and, in case of repair, it is readily seen that the difficulty of reaching the parts required to be riveted is greatly increased, necessitating an almost entire destruction of the lower part of the box to reach the parts; thus, it is attended with great expense, inconvenience, and trouble. In the manufacture of this device, a holding or bearing-tool must be inserted between the inner lining and outer jacket of the fire-box to hold the rivet until the heads are formed all around the door-way. To do this after the box is constructed, and for the purpose of repairs, will readily appear very difficult, if not entirely impracticable.

By this invention the inventor claims that all these disadvantages and difficulties, both in construction and repair, are removed, as, after the flanging or flanching is done, and the parts in their place, the riveting is readily and easily done, and the parts can always be easily and readily got at, as will be clearly seen by reference to the accompanying drawings.

To enable others skilled in the art, I will proceed to describe its construction, reference being had to the accompanying drawings.

A, fire-door; B, outer jacket of the fire-box; C, inner lining of fire-box; D, water-space or "water-leg;" E, inner and outer flanches or flanges riveted together, and forming the door-frame; F, that part of the flange of the inner lining, which forms the lining of the water-space or water-leg around the door-way. The outer jacket being prepared by flanging the door-way out, as shown at E, fig. 2, and in a suitable position for receiving the inner lining of the fire-box, which I make of copper or other suitable material, and being also flanged, as shown at F and E, in fig. 2, is placed within the outer jacket sufficiently forward to allow the flange to pass

up till it reaches the opening of the door-way, when the inner lining is brought back, the flange passing through the door-way of the outer jacket, until the two parts or flanges are brought into proper position for riveting, when they are readily and easily united together, and the frame is complete.

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

The construction of the inner lining C and outer jacket of the door-way B, riveted together at the outside of the fire-box, whereby a single sheet of metal forms the lining for the water-space around the door-way, and another single sheet, the frame for the door, as herein set forth.

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