(No Model.)

J. HILL.

STEAM MUFFLER.

No. 264,289. Patented Sept. 12, 1882.

Fig. 2.

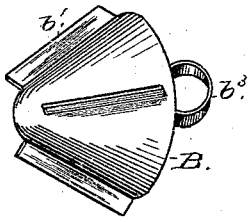


Fig. 3.

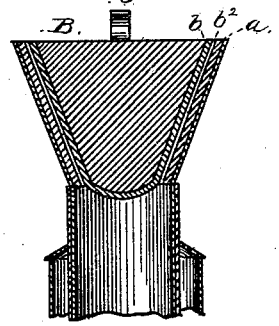
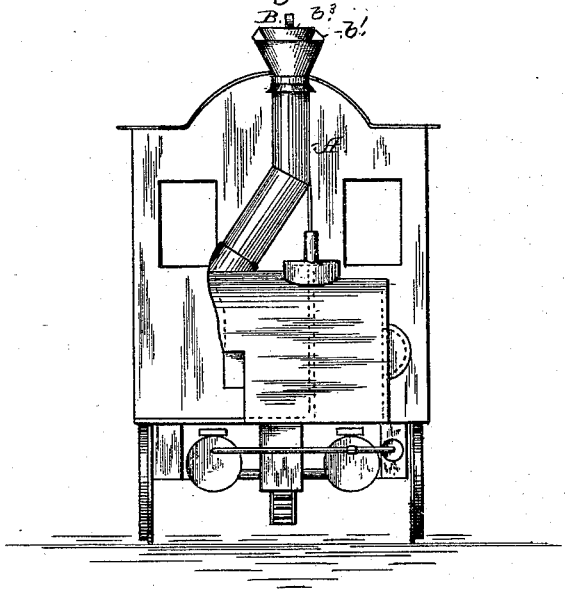


Fig. 1.



WITNESSES

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STEAM-MUFFLER.

SPECIFICATION forming part of Letters Patent No. 264,289, dated September 12, 1882.

Application filed July 26, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH HILL, of Williamsport, in the county of Lycoming and State of Pennsylvania, have invented a new and useful Improvement in Steam-Mufflers; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The object of the invention, which is to be hereinafter described, and illustrated, is to provide means whereby the sound of steam escaping from the smoke-stack of a street-car motor or like vehicle to the open air is greatly lessened, if not entirely done away with.

To the accomplishment of the above the invention consists in providing such a smoke-stack at or near its top with a suitable cup-valve, the inner surface of the stack and the outer surface of the valve being coated with asphalt or other suitable material; and the invention further consists in the novel construction of the cup-valve with which such smoke-stack is provided.

For the better understanding of my invention, and in order that those skilled in the art to which it pertains may make and use the same, frequent reference will be made throughout the following specification to the accompanying drawings, which form part of said specification, and in which—

Figure 1 is an end view of a street-car provided with a boiler having a smoke-stack constructed according to my invention, the motor shown in this figure being constructed in accordance with an invention for which application for Letters Patent has previously been made. Fig. 2 is a view, in perspective, of the cup-valve employed, its peculiar construction being shown; and Fig. 3, a sectional view of the upper portion of the smoke-stack with the valve in place.

Like letters refer to corresponding parts throughout the several views.

The upper end of the smoke-stack A is made funnel shape, and has its inner surface coated with asphalt or other suitable material, as indicated at *a* in Fig. 3 of the drawings. To assist in holding this material in position, the inner surface of the smoke-stack may be roughened or provided with small projections.

All the parts shown in Figs. 1 and 3, but not lettered or referred to in this application, are shown only because this invention is herewith illustrated as applied to a street-car motor invented by me, and for which application for Letters Patent has already been made.

In Fig. 2 is shown in detail a cup-valve, B, which, as shown in Figs. 1 and 3, occupies, when in position, the space formed by the funnel-shaped upper end of the smoke-stack A. This cup-valve has its outer surface covered with a material similar to that used on the inner surface of the smoke-stack, as above decribed, which material is held in position by the fins *b'*, hereinafter mentioned. This asphalt or other material with which such valves is coated is shown at *b* in Fig. 3. The valve B is also provided, as shown in Fig. 2, with suitable fins or projections, *b'*, which project outwardly from the valve B beyond the coating of the asphalt a sufficient distance to hold the coating of asphalt, and yet allow at all times of a space, b^2, being formed between such valve and the inner surface of the smoke-stack. By means of this construction there is left at all times a passage through which the products of combustion can escape to the open air.

To the top of the cup-valve B is secured a ring, b^3, which, in conjunction with any suitable mechanism for that purpose, serves to raise and lower said valve as may be desirable to accommodate the varying steam-pressure under changing circumstances of heat and air-draft.

By experiments I have found that the coating of the upper end of the smoke-stack with asphalt or like material, and providing it with a cup-valve, as described, said valve being also coated with such material, will accomplish successfully the result sought—viz., the deadening of the sound of escaping steam.

Having thus fully described my invention, what I claim as new therein, and that for which I desire to secure Letters Patent, is—

1. A smoke-stack having its upper inner surface coated with asphalt, substantially as and for the purpose set forth.

2. The cup-valve B, coated with asphalt, as described, and provided with the fins *b'*, substantially as described.

3. A smoke-stack having its upper inner surface coated with asphalt, in combination with a cup-valve coated with a like material, substantially as and for the purposes described.

This specification signed and witnessed this thirteenth day of June, 1882.

JOSEPH HILL.

Witnesses:
J. R. FISHER,
V. H. METZGER.