(No Model.)

R. C. READING.

MEANS FOR REMOVING DUST, ASHES, OR HEAT FROM FURNACES.

No. 536,097. Patented Mar. 19, 1895.

Fig. 1.

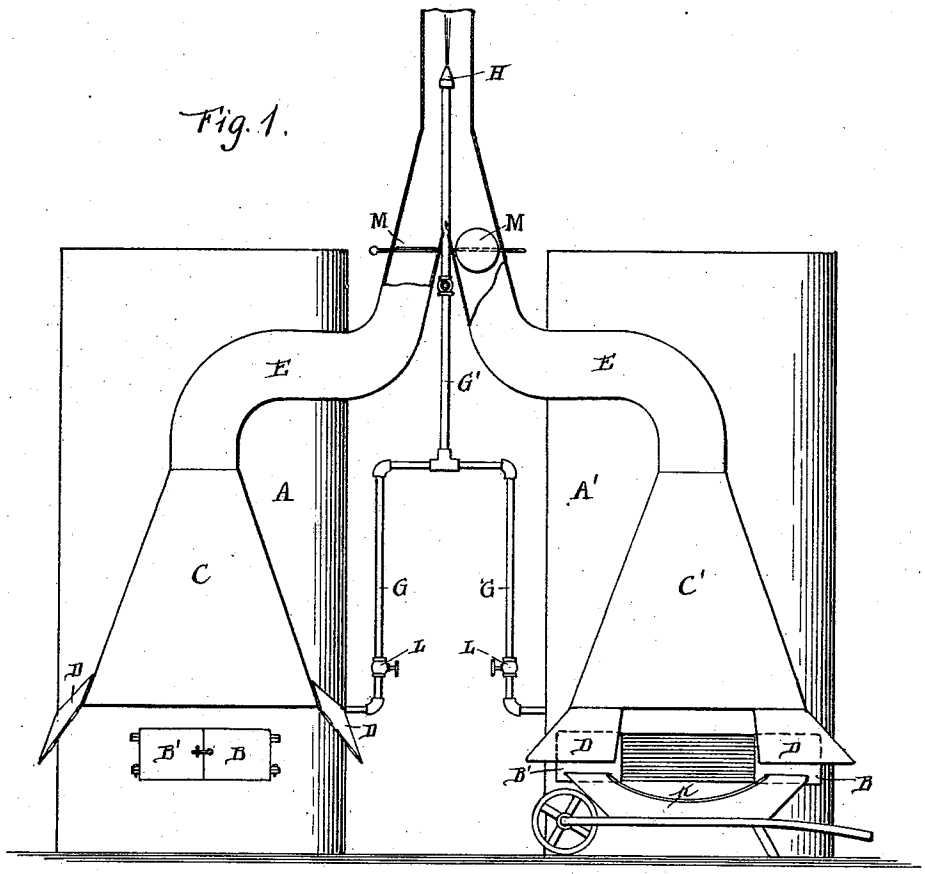


Fig. 2.

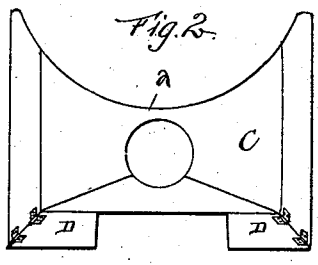
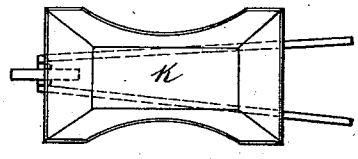


Fig. 3.



WITNESSES

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MEANS FOR REMOVING DUST, ASHES, OR HEAT FROM FURNACES.

SPECIFICATION forming part of Letters Patent No. 536,097, dated March 19, 1895.

Application filed September 29, 1894. Serial No. 524,514. (No model.)

To all whom it may concern:

Be it known that I, ROBERT CHARLTON READING, a citizen of the United States, and a resident of Williamsport, in the county of Lycoming and State of Pennsylvania, have invented certain new and useful Improvements in Means for Removing Dust, Ashes, or Heat from Furnaces, &c.; and I do 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of a front elevation of the invention applied. Fig. 2 is a bottom plan of hood with flaps closed. Fig. 3 is a plan of barrow.

This invention has relation to means for removing dust, ashes, and hot air from furnaces, &c., and the invention consists in the novel construction and combination of parts, all as hereinafter specified and pointed out in the claims.

The invention is especially designed to provide means for carrying off dust, ashes, and hot air from furnaces while raking, thereby not only protecting the fireman, but preventing the settling of the dust and ashes upon the machinery and around the factory.

In the accompanying drawings, I have illustrated the invention as applied to a pair of vertical cylindrical boilers and furnaces, the appliance on the furnace to the right being shown as in operation, while the appliance on the furnace to the left is out of operation.

In the said drawings, the letters A, A′ designate the two furnaces and boilers, having the ordinary fire doors B, B′.

C designates hoods, one of which is supported against the outside of each boiler and furnace. Said hoods are open at their lower ends and are somewhat in the form of a pyramid, their rear faces being concaved, as shown at *a*, to enable them to fit closely against the boiler and furnace, while their lower portions are flared outwardly, as indicated. The lower front portion of the hood consists of two flaps D, D, hinged to the lower end portions. Said flaps when not in use are folded back upon the ends, as seen at the left side of Fig. 1, out of the way of the door; but when in use they are swung forwardly, as seen to the right side of said figure, their ends coming to the sides of the furnace opening. Connected to the upper portion of each hood is a pipe E of considerable diameter, the pipes from the two hoods approaching each other as they extend upwardly, until they join into a common pipe F, which is designed to be led into any desired point of discharge.

G, G, are small steam pipes, which are coupled to a common vertical pipe G′ which is extended up into the discharging pipe F, and terminates in a conical perforated nozzle H.

K designates a wheel barrow or receptacle, which as shown at the right hand side of Fig. 1, is designed to be placed in front of the furnace door while raking, underneath the hood. The sides of said barrow are concaved or hollowed out in order to fit closely against the furnace, and its sides and ends are flared upwardly and outwardly toward the outwardly flared lower portion of the hood.

When the furnace is to be raked, steam is admitted into the steam pipe by means of the cocks L, one of which is provided in each pipe. The steam escaping into the discharging pipe F, creates an upward draft in said pipe, so that as the cinders are raked out into the barrow, the dust and ashes are separated therefrom and drawn up through the hood, the pipe E and into the discharging pipe F. In each pipe E is a valve or damper M, which is opened before the operation commences. The hot air which escapes from the fire door will also be largely drawn up through the hood, thereby making a less intense heat in the face of the fireman.

It will be apparent that by slight modifications in the form of the hood the invention may be applied to various styles of furnaces.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

1. The herein described means for removing dust, ashes and hot air from furnaces, while raking, said means comprising a hood

open at its lower end, and shaped to fit against the exterior wall of the furnace and boiler, said hood having its lower portion flared outwardly, a discharge pipe connected to said hood, a steam pipe leading and discharging into said discharge pipe, and a cinder barrow or receptacle also shaped to fit the furnace wall, and flared upwardly and outwardly to meet the hood, substantially as specified.

2. The combination with a hood flared outwardly at its lower end and shaped to fit a furnace and boiler wall the lower forward portion of said hood consisting of hinged flaps, of a discharge pipe connected to said hood, and means for introducing a jet of steam into said pipe, substantially as specified.

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

ROBERT CHARLTON READING.

Witnesses:

GEO. E. RENTZ,

E. H. HARDER.