

(No Model.)

A. CHANUTE & M. W. ILES.
DUST CHAMBER FOR METALLURGICAL FURNACES.

No. 515,071.

Patented Feb. 20, 1894.

FIG. 1.

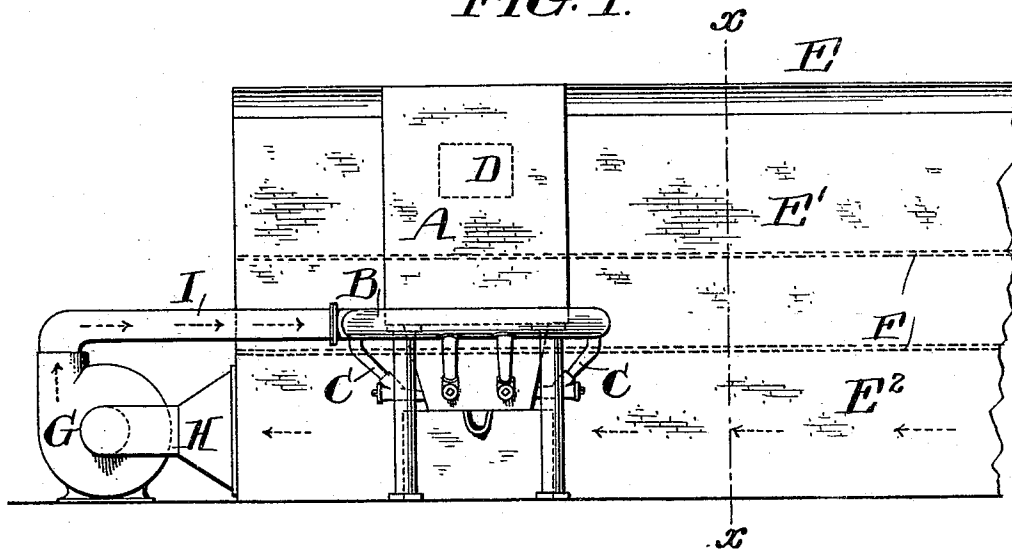


FIG. 2.

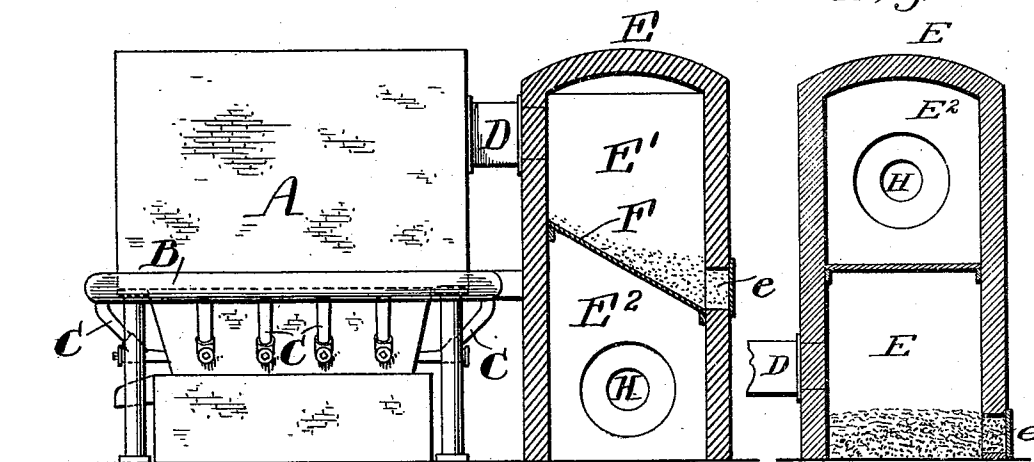
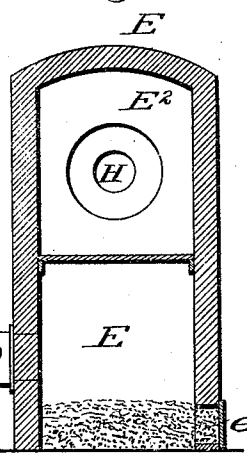


Fig. 3.



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DUST-CHAMBER FOR METALLURGICAL FURNACES.

SPECIFICATION forming part of Letters Patent No. 515,071, dated February 20, 1894.

Application filed February 28, 1893. Serial No. 464,060. (No model.)

To all whom it may concern:

Be it known that we, ARTHUR CHANUTE and MALVERN W. ILES, citizens of the United States, both residing at Denver, in the county of Arapahoe, in the State of Colorado, have invented a certain new and useful Improvement in Dust-Chambers for Metallurgical Furnaces, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part of this specification.

Our invention relates to what is known as the dust chamber of a furnace; that is to say, the chamber into which the smoke of metallurgical furnaces passes from the furnace on the way to the stack or to a screen system where the metallic fume is to be screened from the gases.

The object of our invention is to cool the gases, &c., somewhat in the dust chamber, thus carrying so to speak the cooling flue system which usually connects the said cylinder with the screens into the dust chamber, and also to utilize the heat of said chamber for heating the blast forced into the furnaces.

Our invention will be best understood as described in connection with the drawings in which it is illustrated and in which—

Figure 1 is an elevation of a system embodying our invention; Fig. 2, a cross section through the dust chamber on line *x—x* of Fig. 1, and Fig. 3 a view similar to that shown in Fig. 2 illustrating a modification.

A indicates a blast furnace having a blast pipe B connecting with tuyeres C, C, and receiving air from a blower G through pipe I.

E, is the dust chamber connecting with the furnace by a passage D and which according to our invention we divide into two parallel

chambers E' and E² by a partition F preferably of sheet iron, using one passage, E' for instance, as the dust chamber and the other E² as an air flue. Preferably we arrange the partition F on an incline as shown, both because we thereby increase its surface and also because it forms a hopper bottom to the dust chamber directing the deposited dust to doors *e* through which it can be removed from time to time. It will be understood however that while we prefer to use the chamber E' for dust, either chamber can be so used.

Preferably we maintain a forced draft through the air chamber by connecting it, as by a conduit H with a blower G which is advantageously the blower forcing air into the furnace as shown, and by this connection we heat the blast going to the furnace.

Having now described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In combination with a furnace a chamber E divided into parallel chambers E' E² for dust and air respectively by an inclined partition, and a connection between the furnace and the chamber.

2. In combination with a furnace a chamber E divided into parallel dust and air chambers E' E² by a partition F and connected to the furnace by a suitable passage D, a blower, a flue leading from the air chamber to said blower and a flue leading from said blower to the furnace tuyeres.

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