

(No Model.)

M. W. ILES.
FIRE INDICATOR.

No. 477,759.

Patented June 28, 1892.

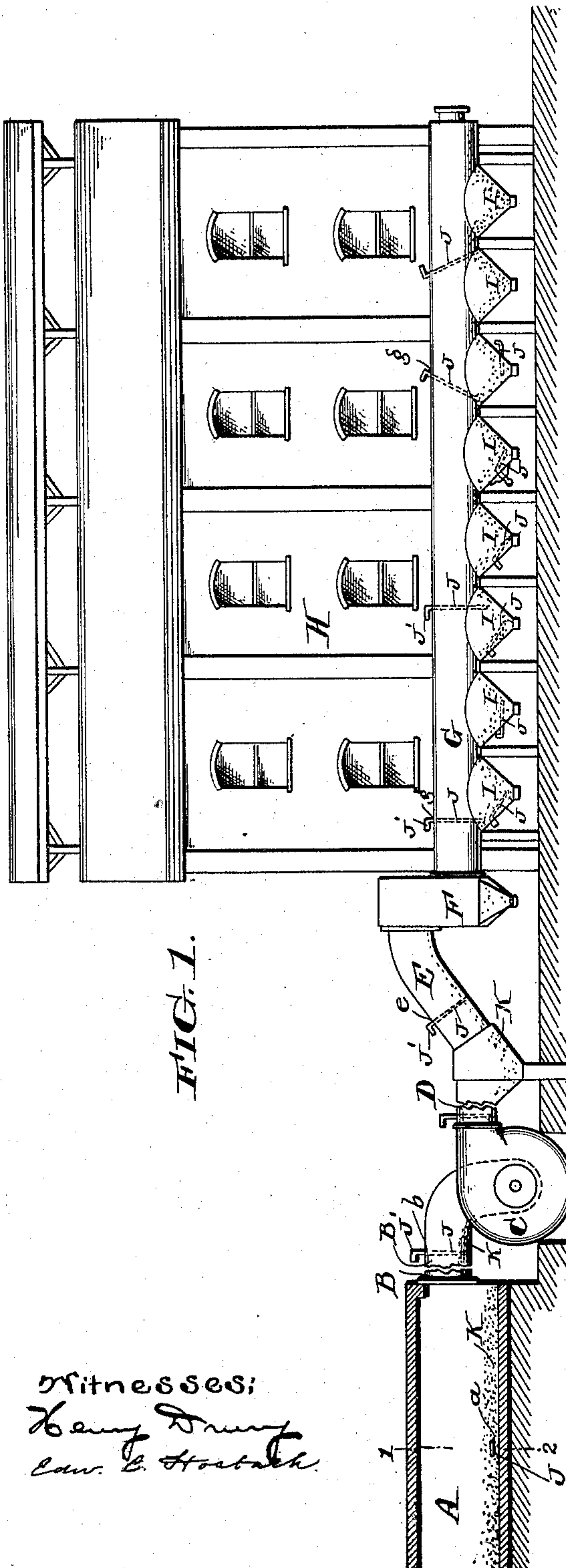


FIG. 1.

Witnesses:
Henry Drury
Law. E. Horstach.

FIG. 2.

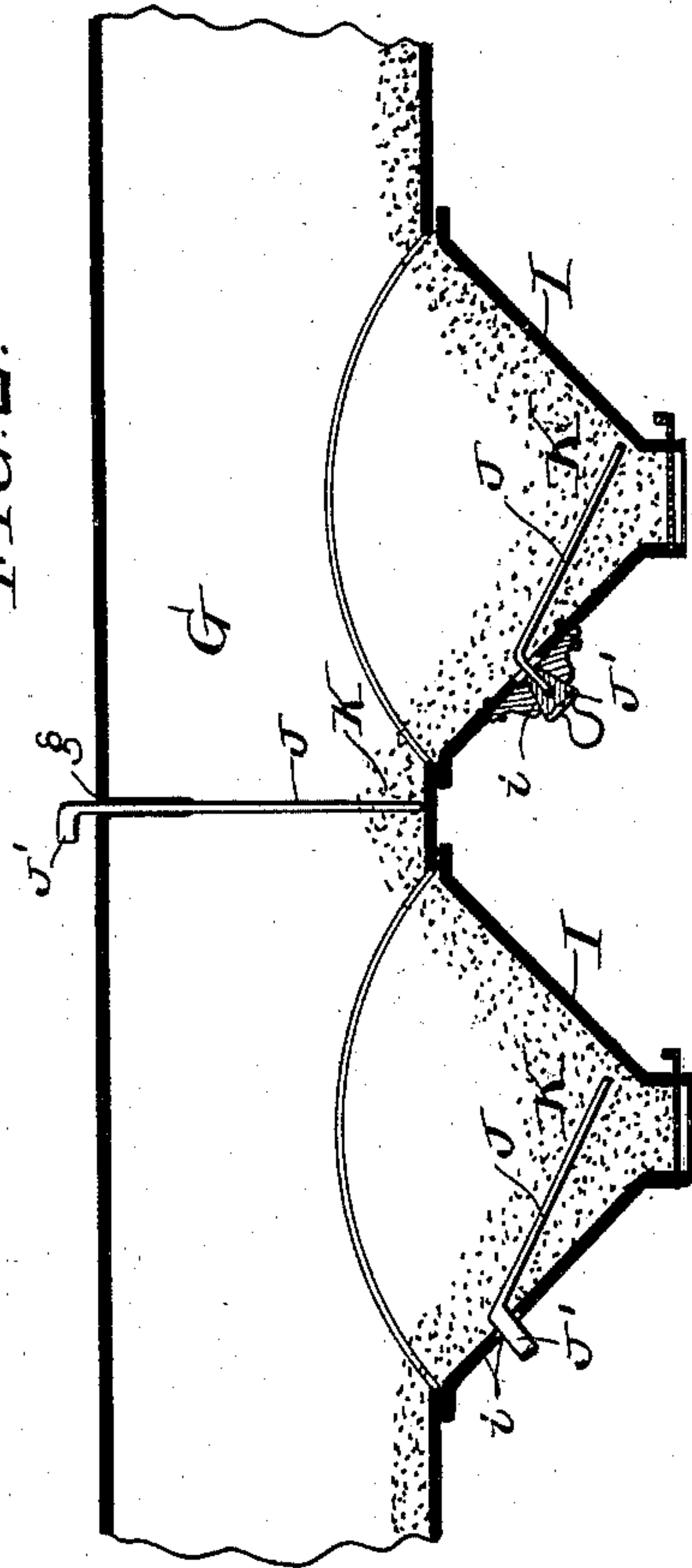


FIG. 3.

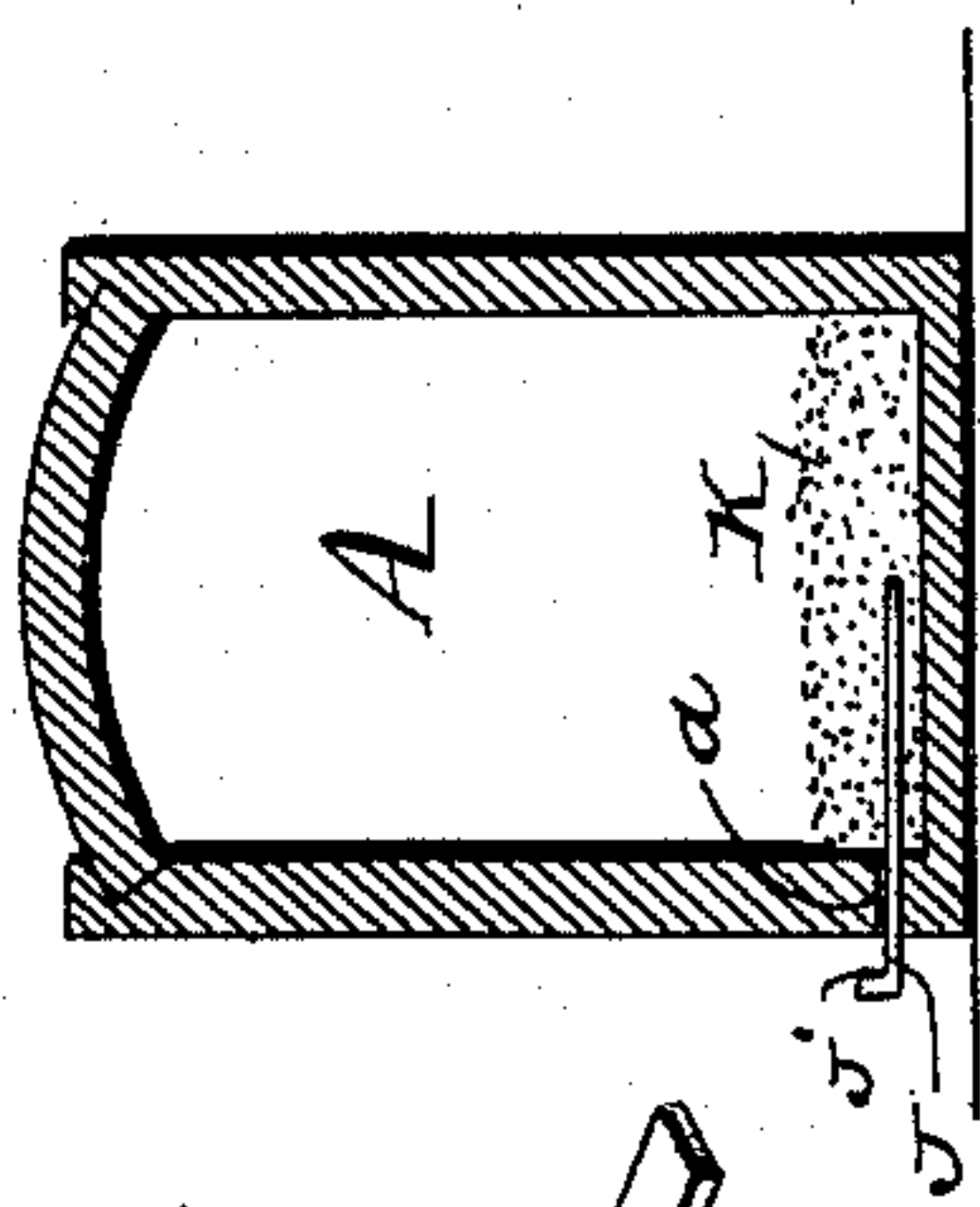
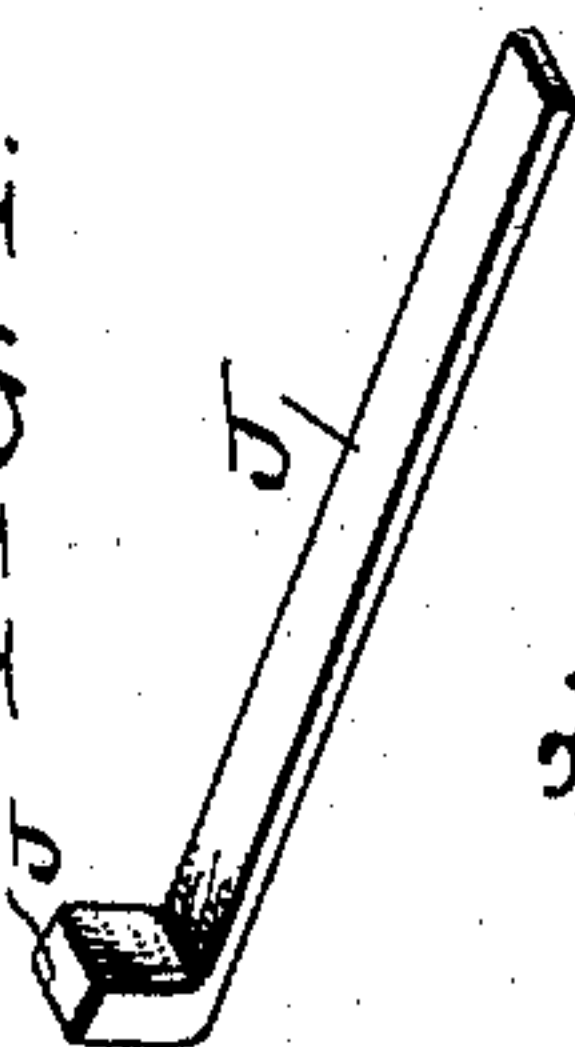


FIG. 4.



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UNITED STATES PATENT OFFICE.

MALVERN W. ILES, OF DENVER, COLORADO.

FIRE-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 477,759, dated June 28, 1892.

Application filed April 1, 1892. Serial No. 427,328. (No model.)

To all whom it may concern:

Be it known that I, MALVERN W. ILES, of the city of Denver, county of Arapahoe, and State of Colorado, have invented a certain new and useful device for Detecting Fires in Smoke-Mains, of which the following is a true and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to the plant used in connection with metallurgical furnaces for the purpose of saving the metallic fumes and particles driven off from the smelters or other furnaces with the gases, and, generally speaking, this plant may be said to consist of a prolonged flue or smoke-main system through which the gases, &c., are drawn and in which they are cooled preparatory to being forced through bags or screens, which effect the final separation of the solid and metallic particles from the gases. Large quantities of dust and fume are deposited in the smoke-mains, and as this dust is exceedingly combustible it is very liable to catch fire from time to time, and the fire, if not checked promptly, causes great destruction and loss.

The object of my invention is to provide a simple and efficient device by which a fire in the dust collected in the main can be promptly detected; and it consists in a series of fusible metallic rods or bars, preferably of lead, which are inserted through the side of the main in such a way as to lie wholly or in part within that part of the main where the dust accumulates, these rods having handles, which extend on the outside of the main and by which the rods can be moved. By placing the rods as described above they are more or less buried in and covered by the accumulated dust, and I have found that the heat of this dust when ignited is sufficient to melt a leaden bar, and a watchman, therefore, examining the bars from time to time and removing them by means of their handles can at once detect the presence of a fire in any part of the main, because when he moves the bar which is immersed in the burning dust he will find the end is melted off. The fire in the main is therefore promptly located and detected and immediate steps taken to extinguish it, thus preventing damage, which would follow in the case of a general fire.

Reference is now had to the drawings, in

which my invention is illustrated, and in which—

Figure 1 is an elevation of a bag-house or screen-house and of the smoke-main leading thereto. Fig. 2 is a longitudinal section through a part of the smoke-main provided with hoppers; Fig. 3, a cross-section through the masonry dust-chamber which forms the first part of the smoke-main, and Fig. 4 a perspective view of one of the fire-detecting bars.

A is the dust-chamber, which communicates at one end with the smelters (not shown) and at the other with the sheet-iron main, (indicated at B, B', D, E, F, and G,) C being a blower or fan used for forcing the smoke through the sheet-iron main. It will be understood that a portion, and only a very small portion, of the main is indicated in the drawings, which might rather be taken as a diagram than a view of a practicable plant. At intervals throughout the length of the main I provide openings therein, as indicated at a, b, e, j, and i, and through these openings I insert the metallic bar J, the shape of which must be such that it will extend in part, at least, into that portion of the main which is usually covered by the accumulated dust and fume, as indicated at K. The handles J' of the rods J extend to the outside of the main and are placed so that they can be conveniently taken hold of and the rods moved by the watchman. When the dust K catches fire at any point where the detector-bar is provided, the end of the bar is promptly melted off by the heat generated, and the watchman, therefore, in taking hold of the handles J' is able to tell at once of the presence of fire and to take such measures as will insure its prompt extinguishment.

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

In combination with a screen system for the gases from metallurgical furnaces and the mains leading thereto, a series of fusible metallic rods J, extending into those portions of the main where dust and fume accumulate and having handles J', extending through the sides of the main.

MALVERN W. ILES.

Witnesses:

C. T. DYE,

J. H. TUCKER.