F. CORIN.

PROTECTING SCREEN FOR FURNACES.

APPLICATION FILED DEC. 12, 1912.

1,087,529. Patented Feb. 17, 1914.

Fig. 1.

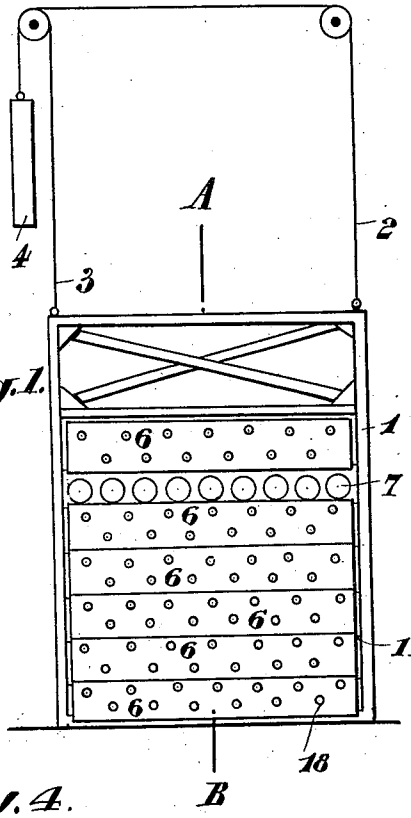


Fig. 3.

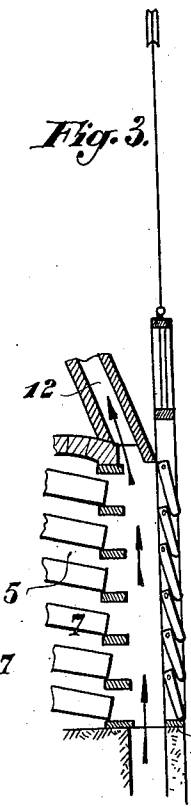


Fig. 2.

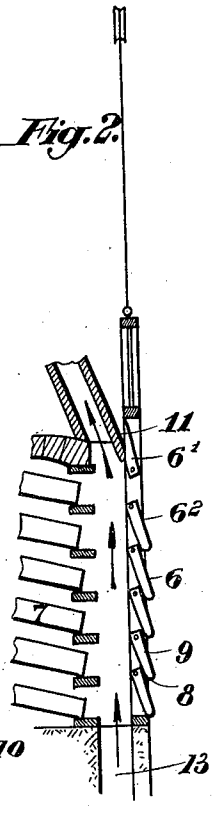


Fig. 4.

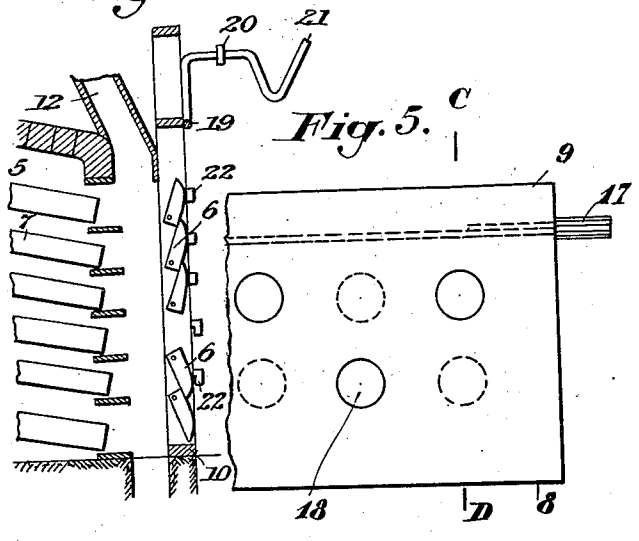
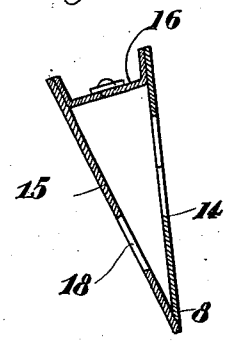


Fig. 5.

Fig. 6.



Witnesses:

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PROTECTING-SCREEN FOR FURNACES.

1,087,529. Specification of Letters Patent. Patented Feb. 17, 1914.

Application filed December 12, 1912. Serial No. 736,359.

To all whom it may concern:

Be it known that I, FRANÇOIS CORIN, a citizen of Belgium, residing at Sclaigneaux, in the Kingdom of Belgium, have invented a certain new and useful Improvement in Protecting-Screens for Furnaces, of which the following is a specification.

The present invention has for its object a device for affording protection, from radiation, emanation, gases, smoke and dust, to the workman attending to metallurgical furnaces.

This device is specially devised for zinc furnaces built with a number of tiers of retorts or for any furnace of which certain parts must periodically be rendered accessible.

It comprises broadly a series of shutters pivoted around horizontal axes and resting one upon the other in such a manner that a space not covered by the said shutters is left between the shutters that are turned down and those that are raised.

An embodiment of the invention is illustrated by way of example in the accompanying drawing, in which:—

Figure 1 is a front elevation of the screen or curtain fitted in front of a zinc furnace. Fig. 2 is a vertical section on the line A—B in Fig. 1. Fig. 3 is a vertical section on the line A—B in Fig. 1 with the parts in a different position. Fig. 4 is a vertical section through A—B of Fig. 1 showing the upper shutter, illustrated in Figs. 1 and 2 omitted. Fig. 5 is an enlarged view of the end portion of one of the shutters. Fig. 6 is a section on the line C—D of Fig. 5.

A frame 1, suspended by cables 2 and 3 and carrying a counterweight 4 is arranged in front of the furnace 5. Upon the vertical sides of these frames 1 shutters 6 are pivoted horizontally. These shutters extend vertically to the same height as the height of the tier of retorts 7, and are preferably of the same width as the retorts. When all the shutters are turned down, as represented in Fig. 3, the side 8 of each rests upon the pivoted side 9 of next lower shutter, all except the last which rests upon a stop 10. In this position of the parts the front of the furnace is completely hidden by the screen. If the upper shutter 6′ be raised in such a manner as to bring it against the upper stop or bearing 11 constituted by the draft chimney 12, the upper tier of retorts 7 is exposed as particularly represented in Figs. 1 and 2. By bringing the shutter 6^2 against the shutter 6′ the second tier of retorts is exposed and so on in succession. The shutters 6 thus raised are held in this position by small catches or tappets 22 arranged at the sides of the frame or by any other convenient means. The dust, smoke, emanations and so forth liberated from the retorts 7 and from the ash pit, are drawn up the chimney 12. This screen can, if necessary be cooled by a water shower delivered thereagainst by a horizontal, perforated pipe 19 which is located at the upper part of the screen, preferably in the position shown in Fig. 1. This pipe is connected at 20 with a flexible tube 21 which allows of manipulation of the screen.

The entire system can be raised by means of cables and the furnace completely exposed for any work which necessitates the removal of the screen.

The shutters 6 may advantageously present the form illustrated in Figs. 4 and 5 in accordance with which each shutter is constituted by two pieces of sheet metal 14 and 15 riveted together at 8 and also riveted to a channel shaped cross piece 16 to which the pivots 17 are fixed. Holes 18 are formed in the plates 14 and 15. These holes are in staggered relation as shown in Fig. 5, so as to permit of a circulation of air for cooling the plates without directly exposing any part of the furnace. It may be remarked that the top shutter can be dispensed with, as shown in Fig. 4.

What I claim and desire to secure by Letters Patent of the United States is:—

1. A protecting screen or curtain for metallurgical furnaces comprising a plurality of shutters pivoted about horizontal axes parallel with the face of the furnace, said shutters normally resting one upon the other and each of them being adapted to be rotated through an angle of 180°.

2. A protecting screen or curtain for metallurgical furnaces comprising a plurality of shutters pivoted about horizontal axes parallel with the face of the furnace, said shutters normally resting one upon the other and being perforated so as to permit of a circulation of air within said shutters.

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

FRANÇOIS CORIN.

Witnesses:
LEONARD LEVER,
GEORGES VANDER HAUGHEN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."