BARBANSON Gaston

(1867 - 1946)

Ixelles (BE)

Patents (details)

1 - Open-hearth process of refining steel

US patent	1030152
Application date	26 April 1910
Co-inventor	LEPERSONNE Max

The present invention aims at employing coal dust heating (by means of which an extraordinary degree of heat can be obtained) in such a manner as to enable nearly the same result to be obtained as by electric heating. To arrive at this result, care is taken to obtain as short a flame as possible, this being applied, in the most direct manner possible, to the bath to be heated. To this end, the nozzles through which the coal and the air or the mixture of coal and air is injected are located at as short a distance from the bath as is feasible; this distance, which is a function of the mean length of the flame obtained, may advantageously be about forty inches. Moreover, in order to achieve the desired object, it is advantageous to blow in the air in merely a slightly heated condition, because in this way the premature gasification of the coal is prevented, thus precluding an undesirable increase in the volume of the flame.

The point at which the maximum temperature is developed may be adjusted at will by regulating the velocity of the injected air. It follows from this that the maximum temperature of the flame can be projected, at will, on to different portions of the bath. To obtain the highest possible temperature, it is advisable to arrange the mixture of coal dust and air in such a manner that neither of the two elements is in excess; nevertheless, an excess of air may, when the operation demands it, be provided, thus furnishing an oxidizing flame; or an excess of carbon can be given. In the latter contingency a deoxidation of the bath can be brought about, and, in some cases an addition of carbon to the bath may thus be supplied.

Corresponding patents

BE, CA, ES, FR, AT, GB, LU