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ABSTRACT

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PARTIAL COMBUSTION OF HYDROGEN SULPHIDE

Sulphur vapour is formed by partial oxidation of hydrogen sulphide. A burner is operated so as to establish a flame in a furnace in or into which the burner fires. There is supplied to the flame from the first region of the mouth of the burner at least one flow of a first combustible gas comprising hydrogen sulphide. At least one second flow of a first oxidising gas is caused to issue from the mouth of the burner and mix in the flame with the first combustible gas. There is supplied to the flame from a second region of the mouth of the burner surrounding and spaced from the said first region at least one third flow of a second combustible gas comprising hydrogen sulphide. At least one fourth flow of a second oxidising gas is caused to issue from a region or regions of the mouth of the burner surrounded by said second region and mix in the flame with the second combustible gas. At least one fifth, outermost flow of a third oxidising gas is caused to mix in the flame with the second combustible gas. A resultant gas mixture including sulphur vapour, water vapour, sulphur dioxide, hydrogen and residual hydrogen sulphide is withdrawn from the furnace.

Figure 1