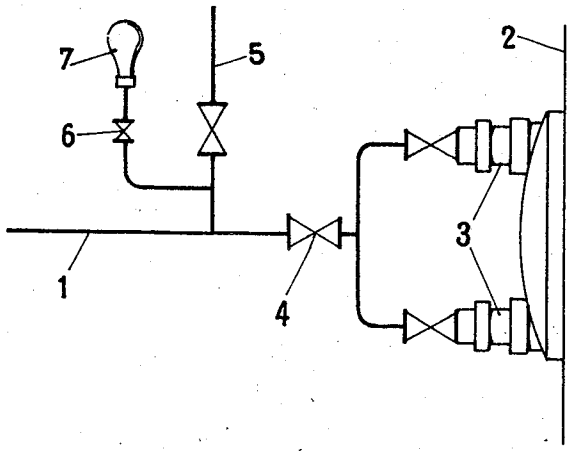
Dec. 22, 1925. 1,566,718

F. WOLFF

SAFETY DEVICE FOR BLAST FURNACE GAS PIPES

Filed May 21, 1925



Inventor:
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By B. Singer, Atty.

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UNITED STATES PATENT OFFICE.

FRIEDRICH WOLFF, OF BERLIN, GERMANY.

SAFETY DEVICE FOR BLAST-FURNACE GAS PIPES.

Application filed May 21, 1925. Serial No. 31,981.

To all whom in may concern:

Be it known that I, FRIEDRICH WOLFF, a German citizen, residing in Berlin, Germany, have invented a certain new and useful Improved Safety Device for Blast-Furnace Gas Pipes, of which the following is a specification.

This invention relates to a safety device for preventing the entry of air into gas delivery pipes of blast furnaces when the gas supply to the burners is cut off.

In blast furnace gas pipes and the like there is a danger that if the gas delivery be intentionally or unintentionally cut off from the burners at the various places of consumption that more air enters the gas pipes. When the gas is again supplied this air mixes with the gas so that instead of the pure blast furnace gas a highly explosive mixture of gas and air issues from the burner as soon as the furnaces are used again.

Ignition in the pipes can then easily take place which, owing to the length and diameter of said pipes, may cause serious explosions.

The present invention has for its object to provide a device which will obviate or minimize this source of danger.

The essential feature of the present invention consists in that at each point of consumption an air extracting pipe and a trial burner, Bunsen burner, are provided disposed in front of the main valve of the boiler or furnace to be fired by the blast furnace gases, and connected to the main gas pipe in such a way that the attendant at that point of consumption is able, before igniting the gas, or the operating jets for the same, to exhaust the gas piping through the air extracting pipe until the flame of the test burner shows that the character of the gas is normal.

The mouth of the test burner is provided with a fine mesh gauze so that the test flame ignited above the gauze cannot pass back into the mixing chamber of the Bunsen burner and thence into the gas pipe.

In order that the invention may be the better understood drawings are appended showing the invention diagrammatically, in which:

1 indicates the main gas pipe leading to the point of consumption 2 consisting of a series of burners.

In front of the main valve 4 a special air extracting pipe 5 is connected with the gas pipe 1 and parallel to this pipe 5, in front of it, is the pipe 6 for the test flame 7. When the gas has been cut off and the plant is to be used again the main valve 4 remains at first closed; the air extracting pipe 5 is opened as also the pipe 6 to the test burner; the test burner is ignited and is allowed to burn until the flame of the said test burner shows the gas in the main pipe 1 to be of normal character whereupon the main valve 4 is opened and the burners 2 are ignited and the air extracting device is closed.

I claim:

A safety device for blast furnaces comprising a gas supply pipe, having a valve, burners supplied by said pipe, a venting duct leading from the said supply pipe, and having a valve, a test burner, connected with the said supply pipe and having a valve, the said valve of the gas supply pipe being arranged between the venting duct and test burner connecting point and the first named burners.

In testimony whereof I have hereunto set my hand.

FRIEDRICH WOLFF.