COMBINED BURNING OF MIXTURE OF NATURAL AND PRODUCER GASES

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Combustion of producer gas instead of natural although it has some technical limitations but provides cost savings, the amount of which depends on the source of biomass that is gasified

The principle of combined combustion of different flammable gases with variable physicochemical characteristics, which uses the principle of kinetic combustion with forced air supply without prior mixing is proposed. The optimal ratio between natural gas and producer gas, which makes possible to organize a steady burning and perform the calculation of a gas burner that should use the mixture of gases as good as pure natural gas. The supply of natural and producer gas is designed through separate channels. The formation of a mixture of gases and their mixing with the air will be done in the burner tunnel and in the furnace. The calculation of the burner to burn producer gas made by air gasification is done.

Performed studies make possible to implement the process of burning generator or other type of synthetic gases in burners, which can also burn pure natural gas. This is useful for the effective use of alternative energy sources in the form of synthetic gases in combined boiler halls without global reconstruction and high value installations as it is for solid fuel boilers. As the main and alternative fuel are gaseous it helps to reduce the cost of this type of heat sources and increase their availability.