HEATING DEVICES AND THEM ACCOUNT FLAME IN FUEL TO HEAT PROCESSES

Khakimov Nodir Nurilloevich
Andijan State technical institute
Department of " Materials Science " assistant
khakimovnodir5@gmail.com , +998902031170

Abstract: Gaseous from fuels natural and artificial from gases is used. Artificial gas solid from fuels (with generator) is taken and metallurgical working of release (coke, blast furnace gases). Special burners are used to ignite the gaseous fuel. Fuel oil is used as an efficient liquid fuel. Fuel oil to ignite for high (10 - 60 *(Pa*) and low (0.1 - 0.3 *Pa*) pressure nozzles are used. Solid fuel (hard coal, anthracite and coke) is ignited in a grate placed in the working area of the furnace.

Keywords: The main elements of chamber flame furnaces are the frame, the cover, the air exhauster, and the heat exchanger. The frame is formed by a surface made of sheet steel, a cover support, vertical and horizontal supports.

Introduction: The hood part to lift to ease for the purpose often to the carcass A pneumatic cylinder is installed, which creates conditions for controlling the cover section during heating operations. The refractory and heat-retaining material for the wall lining of furnaces is bricks. The lining is divided into external and internal parts. The lining internal part the heat outside out from leaving keeps and him/her fire-breathing bricks using done is increased. Oven internal in the part The lining is constantly and directly exposed to combustible gases, and refractory bricks are used to perform this task. The bottom of the working area of the furnace, that is, the floor, is constantly exposed to great pressure and force, therefore, when restoring this part, high-strength refractory bricks or plates are used. The working area is heated rapidly by combustible

gases, saturating the resulting heat to the heated workpiece.

In furnaces, the exhaust section serves to exhaust gases from the furnace working area through pipes. In large furnaces, the exhaust section is always installed as a main part of the wall. In small furnaces, blanks while heating gases special window using It is discharged using pipes or directly into the workshop environment.

To accelerate the combustion of the fuel, the air supplied to the furnace is heated using heat exchange devices (regenerator or recuperator). To the recuperator cold air special installed holes through sent and heated. Recuperator the air continuous heating if it stands, regenerator continuous heats. To increase the efficiency of production in chamber furnaces, two-chamber furnaces are often used. In one chamber of a two-chamber furnace, the initial heating of the workpiece is carried out, and in the second chamber, the final heating processes are carried out. We will consider full information about such furnaces in later topics.

In methodical furnaces, the workpiece heats up evenly throughout its body, since the temperature rises slowly from the furnace loading platform to the chamber section. Methodical furnaces operate on gas and fuel oil. The schematic diagram of the methodical furnace is shown in Figure 5.1. The outer part of the furnace frame is made of steel sheet, fixed to the beams. The furnace walls and floor are made of brick. The working area consists of a preliminary heating chamber *7* and a finished heating

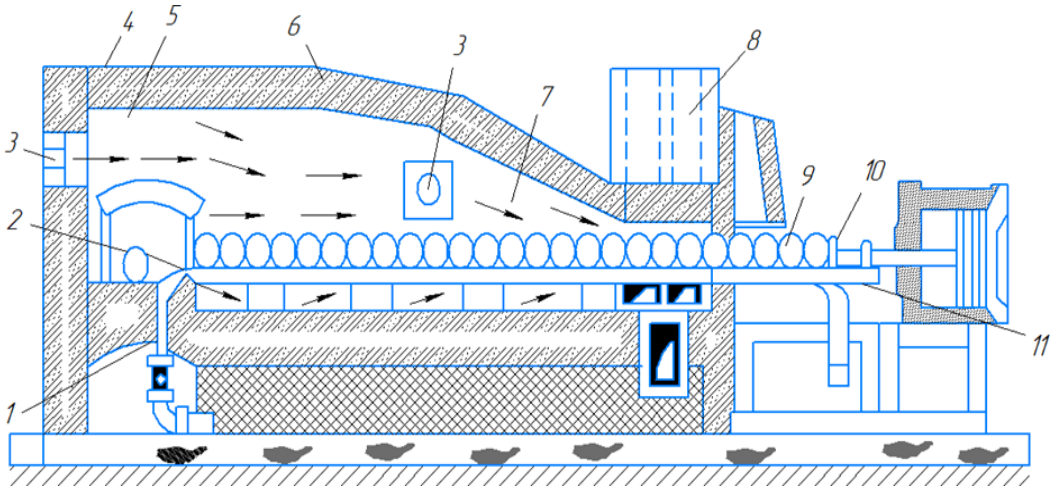


Figure 5.1. Methodical the oven scheme

Often hammering and stamping for while heating three step by step Heating furnaces are also used, meaning the billet goes through three heating stages: *initial to heat* , demand made to temperature to heat and demand made The workpiece *9 is placed* on the work table *11* and the pushing device *10* using pushing will rise, this device special pipe *1* using water with is cooled. Preparation to be heated looking at in the oven exit window *2* towards looking forward goes. Completed to heat *5* in the camera preparation demand made The heated workpiece is removed through a special ejector. is increased. Burners the oven worker field to the part and the

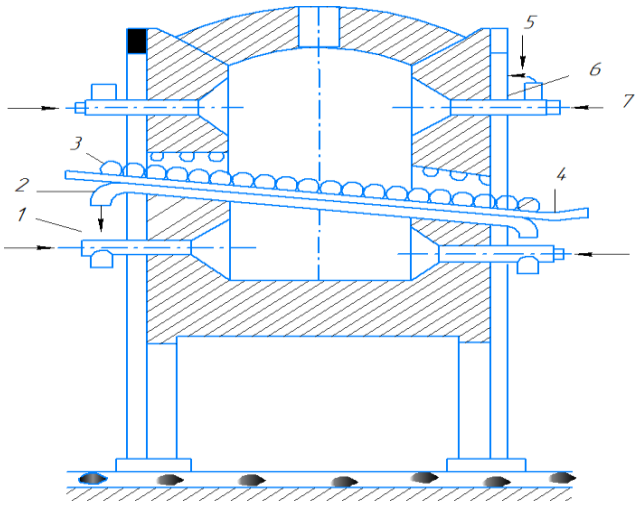
For blacksmiths, customized furnaces are used to increase production efficiency, reduce waste, and prevent decarburization defects. to be prevent to take high at speed metal to heat through done One of the main features is that the temperature in the working area of the furnace can be increased to 1400

- It is possible to heat up to 1500 ^{o} C and heat the workpiece to the same temperature throughout its body.

Figure 5.2 shows a general scheme of a gas-fired furnace for high-speed heating of small spherical billets. The billet *3 is fed through* two guides *4* , which are welded to the pipe and cooled by water. Burners *1* and *6* are fixed to

the upper and lower parts of the working area of the furnace. The furnace is equipped with a recuperator for heating air, air enters the burner through a window 5. Gaseous fuel is supplied through special pipes.

Figure 5.2. High at speed to heat of the oven scheme



Liquid fuel ovens of calculation general method

In chamber furnaces (Fig. 5.3), the working area of the furnace determines the efficiency of the production of the workpiece *G* and The heating time was determined based on *t* , to calculate

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