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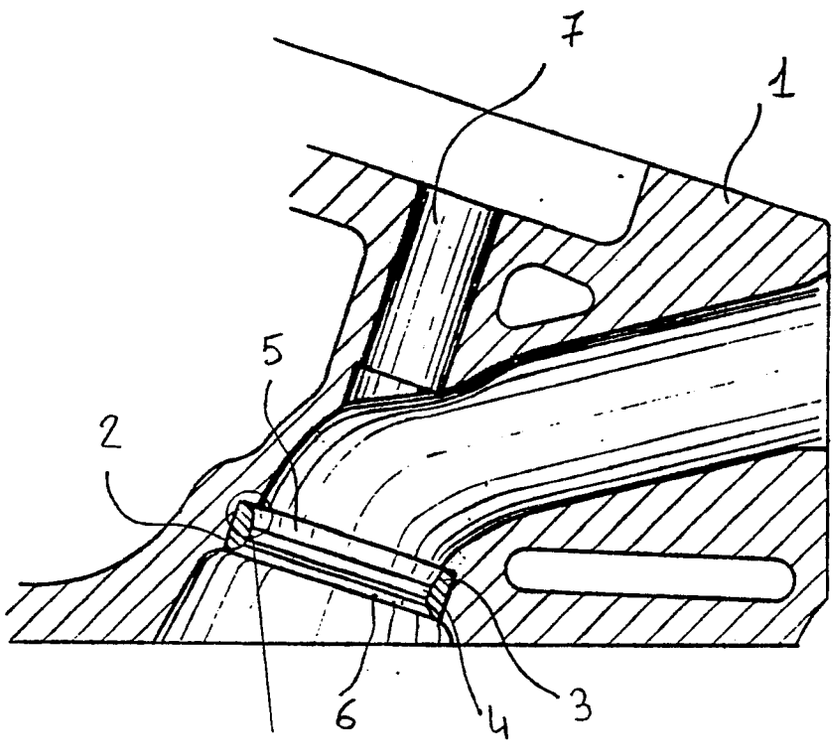
(54) Process for obtaining a valve seat.

(57) The invention concerns a process for obtaining a valve seat in an intake duct of an internal combustion engine in which the finishing milling of the duct is eliminated, thus obtaining improvements in engine performance.

Fig. 1



EP 0 275 841 A2

"Process for obtaining a valve seat

This invention concerns a process for obtaining a valve seat in an intake duct of an internal combustion engine.

The current process for obtaining a valve seat in an intake duct of an internal combustion engine consists in the following stages:

a. milling of the cylinder head to obtain a valve seat housing in cast iron or other suitable material;

b. driving of valve seat;

c. milling of the junction point between driven valve seat and housing edge on the intake duct in order to eliminate any diameter differences;

d. machining of the valve rest chamfer on the cast iron valve seat.

The purpose of the invention is to make this operation less expensive, while maintaining at least the same engine performance, but eliminating the stage c. of the known process which is the most difficult to perform in as far as edges could remain due to the machining itself.

This purpose is achieved by a process for obtaining a valve seat in an intake duct of an internal combustion engine, characterized in that the process consists in the following machining stages:

a. milling of the cylinder head to obtain the housing for a valve seat ring in cat iron or other suitable material;

b. driving in the housing thus obtained of a valve seat with inside diameter equal to the intake duct diameter and equipped with bilateral chamfer;

c. milling of the valve rest chamfer.

Further characteristics and advantages will become clear from the following description, referred to the attached figures, provided merely by way of non-limitative example, of which:

- Fig. 1 is a cross section of the object obtained with the process of the invention;

- Fig. 2 is an enlargement of a detail in Fig. 1.

With reference to the figures, 1 indicates a part of a light alloy cylinder head of an internal combustion engine cut away in correspondence of one of the intake ducts.

In it, a housing 2 has been obtained, by milling or other suitable machining, at the exit of the feed duct, capable of receiving a valve seat 3 made for example from cast iron, which is put in place by driving.

The above valve seat has an inside diameter hole 4, substantially equal to the inside diameter of the intake duct at the point where the housing 2 is obtained. In addition, it is equipped, at the time of driving it in, with a bilateral chamfer 5.

After the valve seat has been driven in place, the valve rest chamfer 6 is made, which has an inclination generally of 45 degrees and whose axis is coaxial with that of the valve guide 7.

The duct thus obtained, eliminating the finishing operation on the junction point between valve seat and the duct itself, has a step 8 due to the difference between the two diameters resulting from the chamfer.

However, the above step being favourable to the direction of the feeding mixture flow, it does not hinder in any way the engine performance and at the same time prevents the formation, either by mere chance or as a result of poor machining, of adverse steps which, as it can be easily inferred, would be a hindrance to the free passage of the flow itself.

Claims

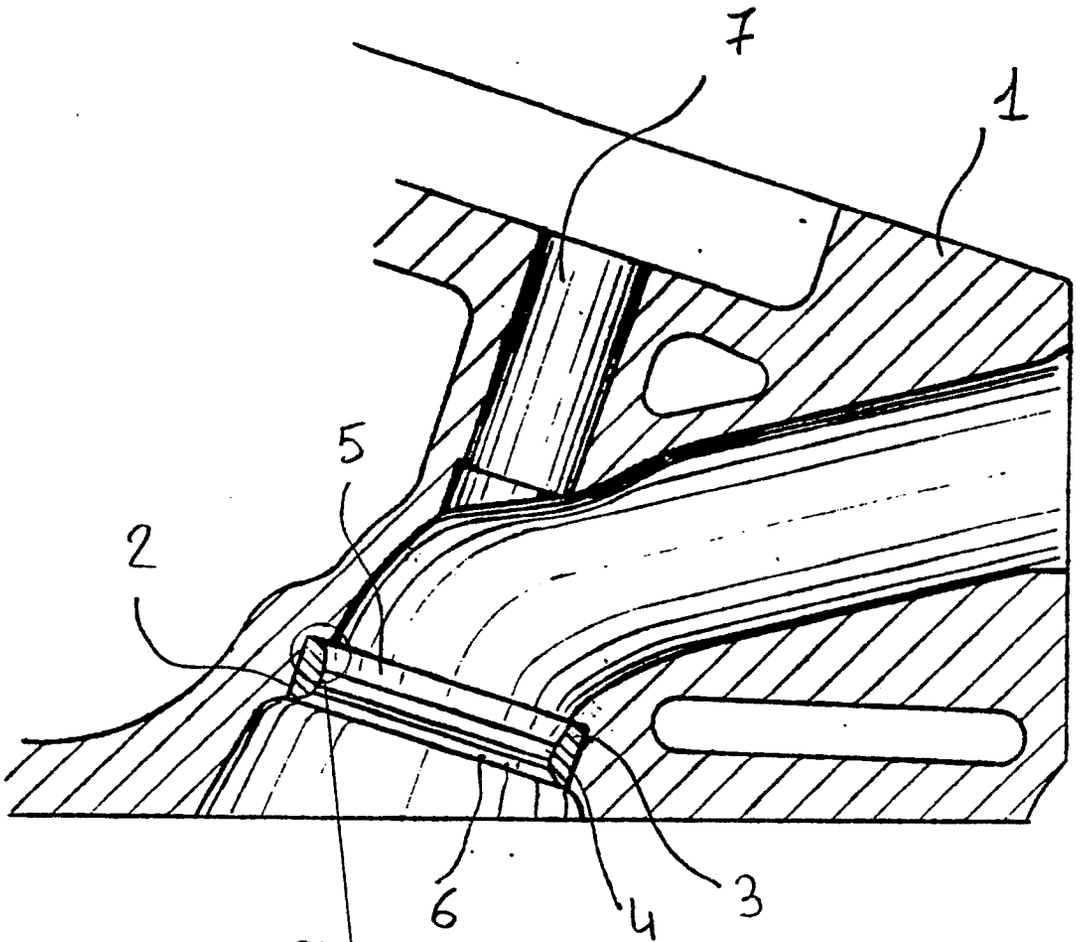
1. Process for obtaining a valve seat in an intake duct of an internal combustion engine, characterized in that the process consists in the following machining stages:

a. milling of the cylinder head to obtain the housing for a valve seat ring in cast iron or other suitable material;

b. driving in the housing thus obtained of a valve seat with inside diameter equal to the intake duct diameter and equipped with bilateral chamfer;

c. milling of the valve rest chamfer.

Fig. 1



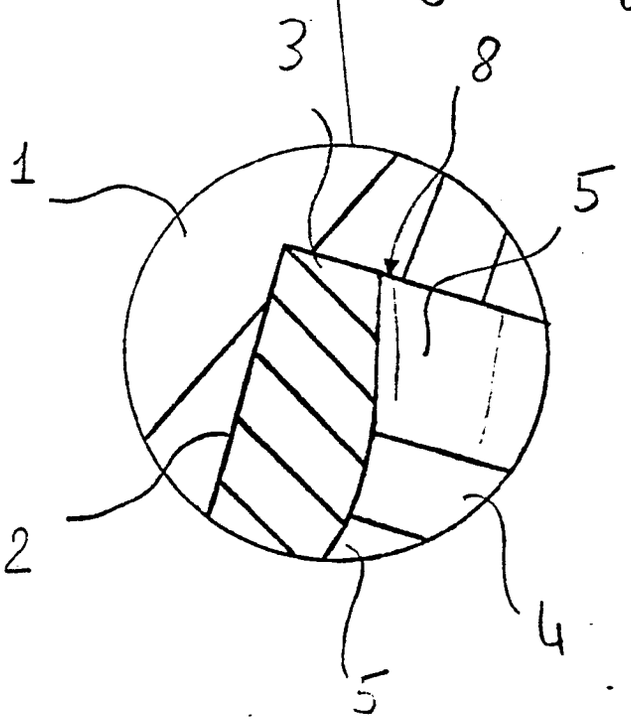


Fig. 2