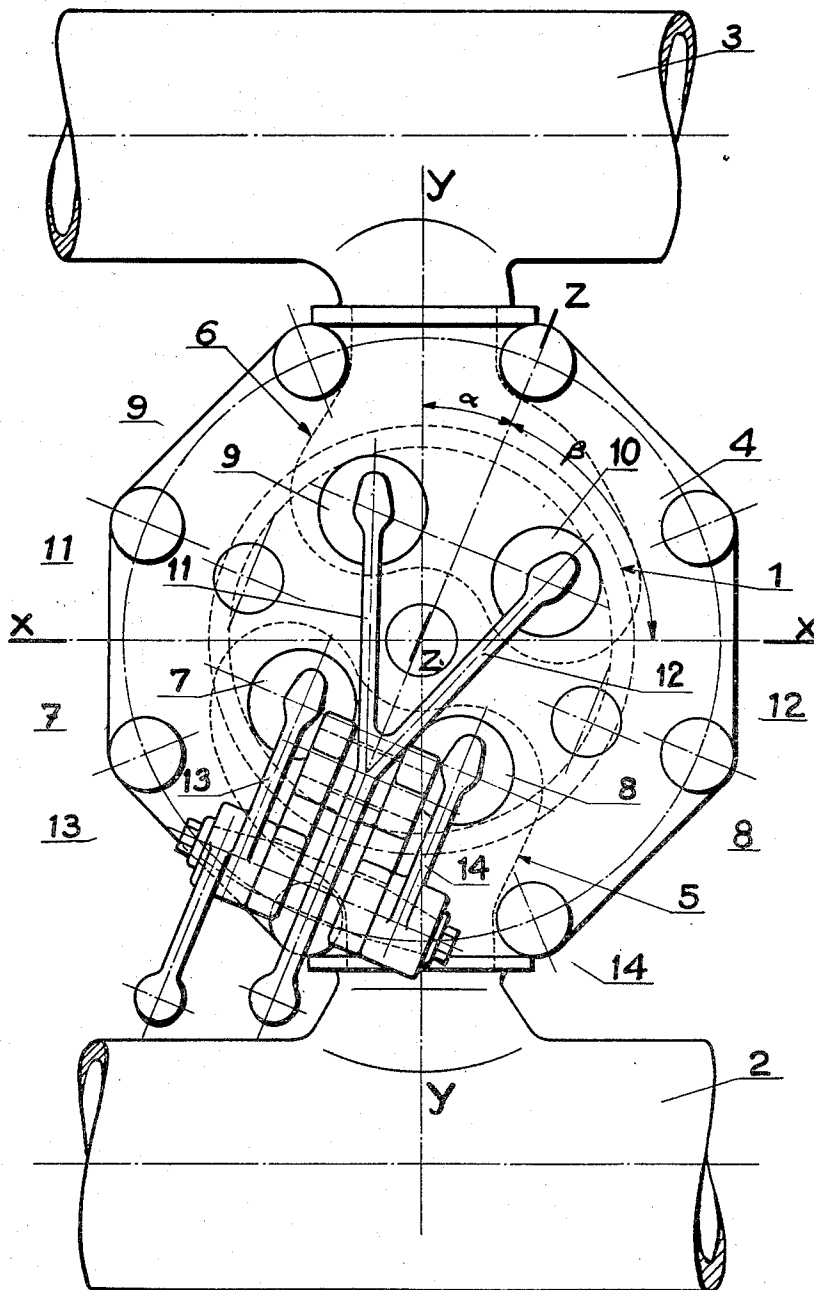


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G. PIELSTICK
MULTIPLE VALVE CYLINDER HEAD FOR
INTERNAL-COMBUSTION ENGINES
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INVENTOR.
GUSTAV PIELSTICK
BY *Mock & Blum*
ATTORNEYS

UNITED STATES PATENT OFFICE

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MULTIPLE VALVE CYLINDER HEAD FOR
INTERNAL-COMBUSTION ENGINES

Gustav Pielstick, Saint Germain en Laye, France

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In medium and large power engines as executed heretofore, the operation of the valves is generally controlled by a valve gear arranged perpendicularly to the longitudinal axis of the engine. This leads to the necessity of providing a structure wherein the valve gear tappets pass through the intake or admission pipe and the pipes connected with the cylinder head, which pipes are generally provided on the same side as the valve gear; if, on the contrary, this arrangement is cut out, this leads to shifting the axis of the air admission pipe or manifold which increases the breadth and bulk of the engine.

Such arrangements although they actually solve the problem are generally objectionable.

The present invention has for its object to remove their drawbacks in a very simple manner.

It relates chiefly to a cylinder head for such engines more particularly those including four or more valves associated with exhaust and admission pipes located on corresponding opposed sides of the cylinder head.

This head is characterised by the fact that the axes of symmetry of the valve or the planes containing the axes of the valves are shifted with reference to the transversal plane of the cylinder and also with reference to the longitudinal axis of the engine.

According to a further feature of the invention, said shifting reaches a value of about 22.5° with reference to the transversal planes of the cylinder and consequently of about 67.5° with reference to the longitudinal axis of the engine.

It is immediately apparent that this angular setting allows locating the pusher members or tappets controlling the valves on the outside of the air intake or admission pipe or manifold, the connection between each cylinder head and the exhaust pipe lying in spite of this angular setting along the transversal axis of the cylinder. Furthermore the intake and exhaust ports of the cylinder head remain identical, which arrangement is of particular advantage for the tappet system of overhead intake valves. Furthermore, the valve tappets may be parallel with the vertical axis of the cylinder.

In the accompanying drawing given by way of example, the single figure thereof is a diagram of a cylinder head according to this invention together with its pipe connections.

In the embodiment disclosed, the cylinder has been illustrated at 1 and the standard intake and exhaust pipes at 2 and 3.

The cylinder 1 is closed by a cylinder head 4 including a suction chamber 5 and an exhaust chamber 6.

In said embodiment, a four valve cylinder is illustrated, the admission valves of which are shown at 7 and 8 and the exhaust valves at 9 and 10.

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Said valves are located along a line that is set with reference to the longitudinal axis XX of the engine and its transversal axis YY in a manner such that the common axis of symmetry ZZ of the two pairs of valves may form with the axis YY an angle α of say 22.5° and with the axis XX an angle β of say 67.5° .

Under such conditions, the control levers 11 and 12 for the exhaust valves and the control levers 14 and 15 for the admission valves are shifted with reference to the axis YY by an angle of about 22.5° whereby they lie in a space provided outside the intake pipe 2 and the cylinder 1.

Obviously, the present invention is by no means limited to the embodiment disclosed and described which has been given solely by way of example.

What I claim is:

1. In an internal combustion engine of the multicylinder type having an admission pipe and an exhaust pipe located on the two opposed sides of the engine, a cylinder head, and intake and an exhaust manifolds associated therewith and located on either side of said head, at least one pair of adjacent admission valves and one pair of adjacent exhaust valves controlling the passage towards and through said manifolds, an actuating linkage for said valves, and usual tappet means for the control of said linkage located in the angular space defined by one of said pipes, the corresponding manifold and the adjacent wall of the cylinder, the lines connecting respectively the axes of two adjacent admission or exhaust valves forming with the axis of one of said pipes an acute angle, permitting thereby said tappets of being directly actuated by the usual camshaft of the engine and of directly acting upon the respective linkage, without interfering either with the manifolds, or with said pipes.

2. In an internal combustion engine according to claim 1 the feature residing in that the aforesaid acute angle is of about 22.5° .

GUSTAV PIELSTICK.

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