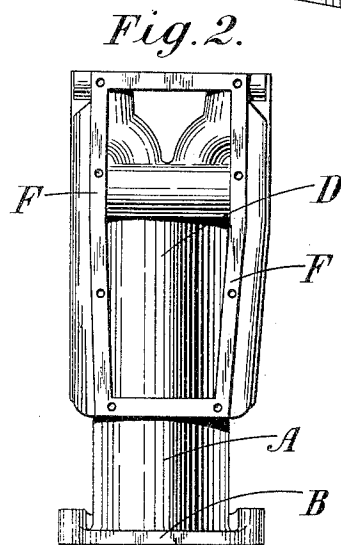
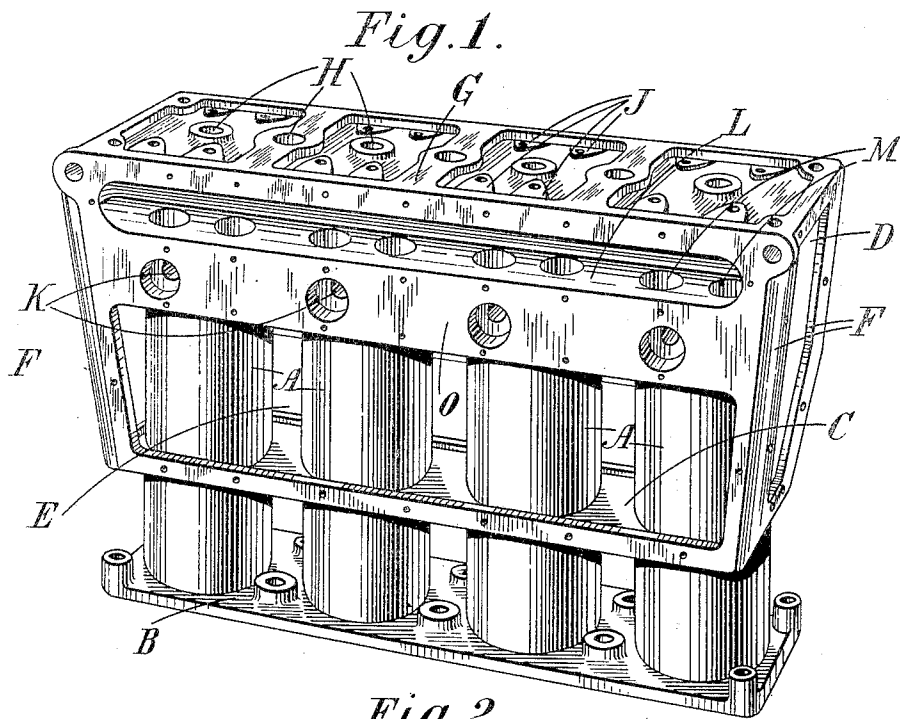


W. O. BENTLEY.
CYLINDER BLOCK.
APPLICATION FILED MAY 17, 1920.

1,357,538.

Patented Nov. 2, 1920.



Inventor.
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UNITED STATES PATENT OFFICE.

WALTER OWEN BENTLEY, OF LONDON, ENGLAND.

CYLINDER-BLOCK.

1,357,538.

Specification of Letters Patent.

Patented Nov. 2, 1920.

Application filed May 17, 1920. Serial No. 382,199.

To all whom it may concern:

Be it known that I, WALTER OWEN BENTLEY, a subject of the King of England, residing at London, England, have invented certain new and useful Improvements in Cylinder-Blocks, of which the following is a specification.

This invention relates to cylinder blocks for internal combustion engines, and it has for its object the provision of a stiff block containing a number of cylinders, preferably four, which will be easy to cast and from which sand and flash can easily be removed.

According to this invention, the cylinders are joined together at the feet, at the bottom of the water jacket and at the top, the sides and ends being open from the bottom of the water jacket up to a convenient height, and a skeleton frame being cast integral with the block to which plates forming the end and side walls of the jacket are attached. These frame parts are at the corners of the block so that flat plates alone are required.

In the accompanying drawings,

Figure 1 is a perspective view of a block containing four cylinders in accordance with this invention, from which the cover plates have been removed.

Fig. 2 is an end view of the same.

Like letters indicate like parts in both views.

The four cylinder barrels A are joined together at their feet by the web B, which constitutes the flange by which the block is bolted down on to the crankcase. They are also joined together by a web C which forms the bottom of the water jacket and again at the top, as shown. The ends are open at D and the sides at E, these openings being surrounded by a skeleton frame F at the edges and corners to which cover plates (not shown) are attached. It will be clear that flat cover plates only are necessary and that these are simple to produce.

Preferably the valves are arranged in the cylinder heads, there being four for each cylinder, and the top G of the block is cast flat to receive the camshaft and rocker mechanism (not shown) and apertures H

for core plugs may be provided in the top face between each set of four valve guide holes J.

It will be seen that the openings E, extend up to the bosses for containing the sparking plugs at K. At the ends of the block these openings may extend up to the top of the block, as shown in Fig. 2. Thus the interior is easily accessible for cleaning and the support of the cores during casting is an easy matter.

When the inlet valves are all arranged on one side of the block, with the exhaust valves on the other side, the upper part of the side of the block on which the inlet valves are located may be open at L for the length of the block and for a convenient depth, exposing the interior of the inlet ports M. The induction pipe, or the outer part of it, would then be in the form of a cover inclosing the aperture or recess L.

The exhaust pipes may be bolted to the other side of the block in the usual way.

Preferably the block is of cast iron and the cover plates of sheet aluminium attached by screws to the frame parts F at the corners of the block and to the web C and to a suitable face O at the top.

What I claim as my invention and desire to secure by Letters Patent of the United States is:—

1. A cast metal cylinder block having separate barrel portions, a web joining together the lower ends of said barrels, a second web connecting the barrels and forming the bottom of the water jacket, a jacketed head, frame portions at the corners, and faces on said second web, said head and said frame portions for the attachment of cover plates, substantially as set forth.

2. A cast metal cylinder block as claimed in claim 1 having a long recess in said cylinder head, and inlet valve ports located in said head, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WALTER OWEN BENTLEY.

Witnesses:

R. J. EUSTACE,
T. W. LEAFE.