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PISTON FOR USE IN INTERNAL COMBUSTION ENGINES.

APPLICATION FILED DEC. 4, 1917.

1,270,374. Patented June 25, 1918.

Fig. 1.

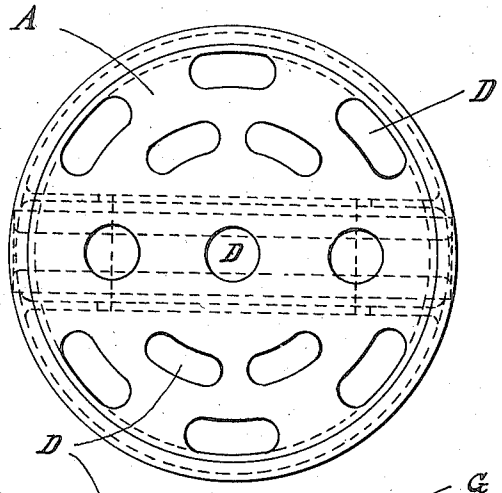
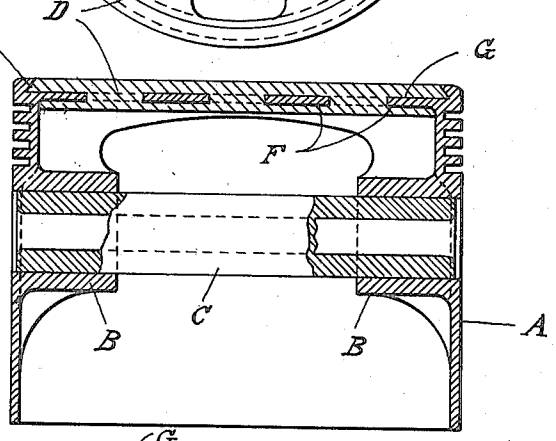


Fig. 2.



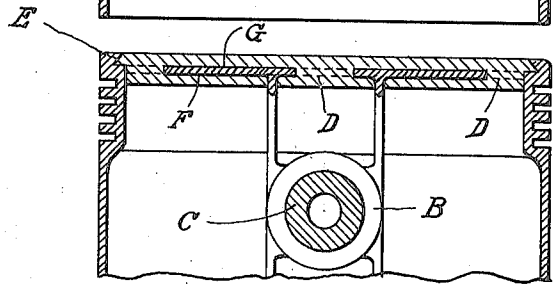


Fig. 3.

Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN BUCHANAN, OF STOKE, COVENTRY, ENGLAND.

PISTON FOR USE IN INTERNAL-COMBUSTION ENGINES.

1,270,374. Specification of Letters Patent. Patented June 25, 1918.

Application filed December 4, 1917. Serial No. 205,417.

To all whom it may concern:

Be it known that I, JOHN BUCHANAN, a subject of the King of England, residing at Stoke, Coventry, in the county of Warwick, England, have invented certain new and useful Improvements in Pistons for use in Internal-Combustion Engines, of which the following is a specification.

This invention relates to pistons for use in internal combustion engines and has for its object to provide an improved construction in which the cooling of the head will be good, and which will have substantial means for supporting the gudgeon pin, while the formation of carbon deposit will be reduced.

It is well known that cast iron pistons get very hot at the center of the head or crown, which is overcome in aluminium pistons owing to the high conductivity of the metal. With aluminium pistons difficulty is often experienced in securing the gudgeon pin or the gudgeon pin bushes and attempts have been made to produce composite pistons, and it is the object of the present invention to provide an improved composite piston.

According to this invention the head of a cast iron piston is provided with holes, and aluminium or aluminium alloy fills the holes and covers the head within and without. The layer of aluminium or alloy is cast over the head and flows through the holes to the other side.

In order that the invention may be clearly understood, reference is made to the accompanying drawing, in which:—

Figure 1 is a plan of the piston before the aluminium is cast on;

Fig. 2 is a section in the plane of the gudgeon pin, and

Fig. 3 is a section across the gudgeon pin.

The cast iron piston A is provided with bosses B to carry the gudgeon pin C, and the head of said piston is formed with holes D. The rim of the cast iron head is undercut at E to hold the edge of the aluminium or alloy when cast on the head to cover it both inside at F and outside at G.

The gudgeon pin can be carried either in the ordinary manner as shown in the drawing, or it can be carried in any other convenient and known way.

Having now fully described my said invention what I claim and desire to secure by Letters Patent is:—

1. The herein described piston for internal combustion engines having holes in its crown and a recess therein which is undercut, in combination with a layer of aluminium which fills said holes within and without, substantially as and for the purpose set forth and shown.

2. In the herein described cast iron piston for internal combustion engines, the combination, with the piston crown provided with an undercut recess and a series of holes, of a layer of aluminium alloy which fills said holes within and without, all substantially for the purpose set forth and shown.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOHN BUCHANAN.

Witnesses:

ERNEST HARKER,

KATHLEEN M. THOMPSON.