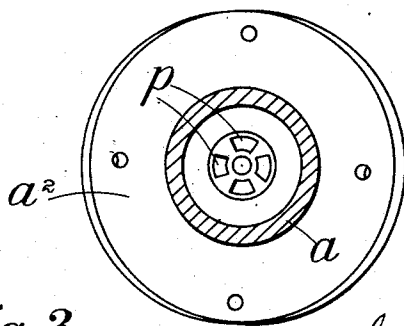
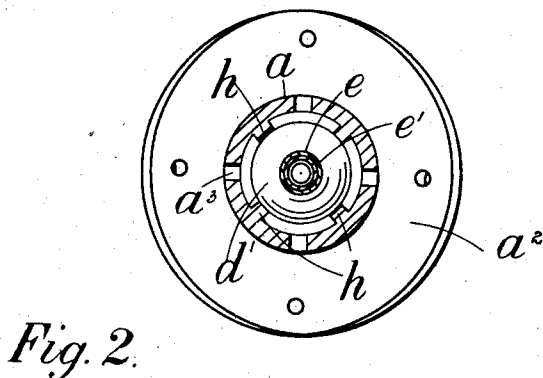
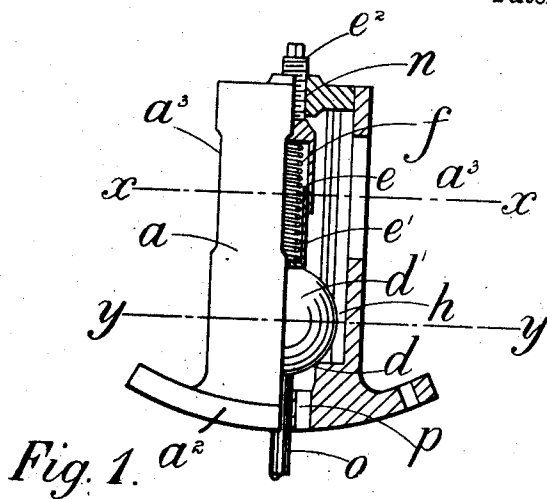


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 VALVE FOR INTERNAL COMBUSTION ENGINES.
 APPLICATION FILED APR. 24, 1908.

901,277.

Patented Oct. 13, 1908.



Witnesses: *Fig. 3.*
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Inventors:
 John C. Bourne, and
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 Attorney

UNITED STATES PATENT OFFICE.

JOHN CHARLES BOURNE AND GEORGE HUGHES REES, OF LONDON, ENGLAND.

VALVE FOR INTERNAL-COMBUSTION ENGINES.

No. 901,277.

Specification of Letters Patent.

Patented Oct. 13, 1908.

Original application filed March 4, 1907, Serial No. 360,300. Divided and this application filed April 24, 1908.

Serial No. 429,051.

To all whom it may concern:

Be it known that we, JOHN CHARLES BOURNE and GEORGE HUGHES REES, residing at 18 Parfrey street, Tulham Palace Road, London, S. W., England, have invented certain new and useful Improvements in Valves for Internal-Combustion Engines; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This application is a division of the application filed by us on March 4, 1907, Serial Number 360,300.

This invention relates to improvements in valves for internal combustion engines, the object being to construct the valves in such a manner that balls are capable of being employed for closing them and to control the balls in such a manner that wear is reduced to a minimum and the trouble caused through defective or leaking valves, is obviated.

In order that the invention may be fully understood, reference will be had to the accompanying drawings in which:—

Figure 1 is a side elevation of an exhaust valve, the right-hand portion however, being shown in vertical section. Fig. 2 is a sectional plan taken along line x, x , of Fig. 1, and Fig. 3 is a sectional plan taken along line y, y , of Fig. 1.

In this drawing, a is a cylindrical casing adapted to be secured at the exhaust port of the cylinder of an internal combustion engine, a flange a^2 being formed integrally with the casing a by means of which the latter can be bolted in position.

Formed in the interior of the casing is a valve seating d , and adapted to make fluid-tight contact with this seating is a ball d' .

This ball d' is normally forced on to the seating d by means of a spring urged plunger e' , the spring f of which is inclosed within the plunger e' and a guide socket e in which the latter slides. The guide socket e is provided at the end remote from the plunger with a screw threaded stem e^2 which is screwed in an aperture formed centrally in a plate n which is screwed into the end of the casing. Slots a^3 are provided in the sides of the casing on the one side of the seating d and holes p on the other side, for the passage of fluid. The ball d' is maintained in the central position over the seating by means of ribs h formed on the inside of the casing a .

o is a rod, which passes through a central aperture in the end of the casing and is mechanically operated at the appropriate times to lift the ball d' off its seating d to which it returns under the action of the spring urged plunger e on the rod o being withdrawn.

Having now described our invention, what we claim as new, and desire to secure by Letters Patent is:—

An exhaust valve for internal combustion engines, comprising a casing, a seating formed in said casing, guide ribs formed in said casing, a ball located in said casing, a spring urged plunger adapted to force the ball on to the said seating, and an adjustable guide socket for said spring-urged plunger, and a rod adapted to lift said ball off said seating.

In testimony whereof we affix our signatures, in presence of two witnesses.

JOHN CHARLES BOURNE.
GEORGE HUGHES REES.

Witnesses:

GODFREY B. SHEPHERD,
SYDNEY R. TAYLOR.