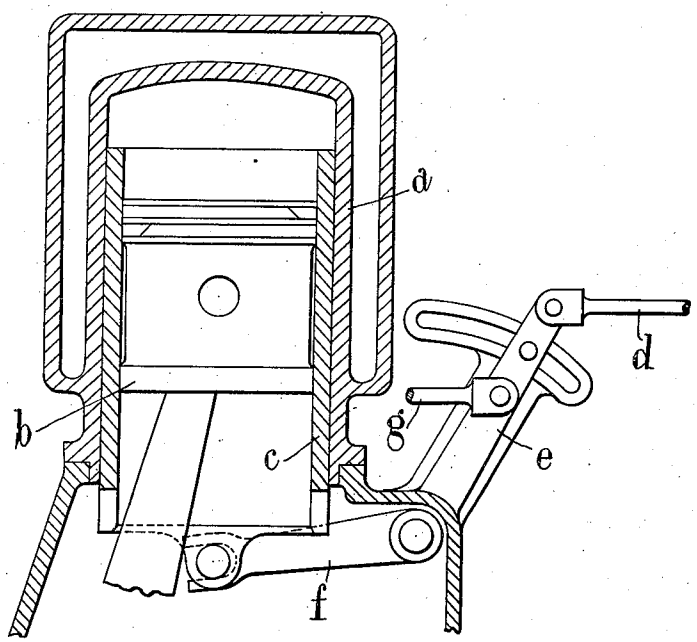
April 7, 1925. 1,532,788

C. A. VANDERVELL

APPARATUS FOR VARYING THE COMPRESSION SPACE IN INTERNAL COMBUSTION ENGINE CYLINDERS

Filed Nov. 28, 1922



Inventor:
C. A. Vandervell
By Marks & Clerk
Attys

Patented Apr. 7, 1925.

1,532,788

UNITED STATES PATENT OFFICE.

CHARLES ANTHONY VANDERVELL, OF ACTON, ENGLAND.

APPARATUS FOR VARYING THE COMPRESSION SPACE IN INTERNAL-COMBUSTION-ENGINE CYLINDERS.

Application filed November 28, 1922. Serial No. 603,830.

To all whom it may concern:

Be it known that I, CHARLES ANTHONY VANDERVELL, a subject of the Kingdom of Great Britain and Ireland, residing at Warple Way, Acton Vale, Acton, in the county of Middlesex, England, have invented certain new and useful Improvements in Apparatus for Varying the Compression Space in Internal-Combustion-Engine Cylinders, of which the following is a specification.

This invention relates to internal combustion engines and has for its object to provide a construction which will permit of obtaining a constant compression irrespective of the variations in the amount of mixture admitted into the working cylinder.

This object is attained according to the present invention by lining the interior of the working cylinder with an open ended stationary sleeve, preferably of metal, projecting with one open end into the compression space and adapted to be shifted within the working cylinder to the desired stationary position in such a manner as to increase or decrease the compression space between the piston and the head of the cylinder according to requirements.

One form of carrying the invention into effect is illustrated by way of example in the accompanying drawing.

a is the cylinder provided with a cooling jacket, *b* is the piston, and *c* is the adjustable sleeve lining the interior of the cylinder and adapted to be longitudinally displaced by means of a control lever *d* and through the arms *e* and *f*.

The throttle valve and the sleeve are interconnected so that they should be operated simultaneously, the interconnection being such that the maximum compression space shall correspond to the position of full opening of the throttle valve. In the example illustrated on the drawing this is effected by means of a link *g* connected to the throttle valve and to the arm *e*.

The sleeve, which when made of metal will also serve for conducting away the heat, may be operated from outside the cylinder in any other suitable way, for instance through the intermediary of a connecting member passing through the cooling jacket, and the operating mechanism may be such as to cause the sleeve to effect a helical movement instead of a simple sliding movement.

I wish it to be understood that the invention is not limited to the various details hereinbefore given by way of example, which may be modified in various respects without in any way departing from the spirit of the invention.

What I claim is:—

1. An internal combustion engine comprising in combination with a working cylinder, a piston, a stationary open ended sleeve lining the interior of the working cylinder having one open end projecting into the compression space and receiving the piston, and means capable of adjusting the position of the said stationary sleeve within the working cylinder with the said one open end at different distances from the head of the cylinder so as to adjust thereby the compression space between the cylinder head and the piston, as set forth.

2. An internal combustion engine comprising in combination with a working cylinder, a piston, a stationary open ended sleeve lining the interior of the working cylinder having one open end projecting into the compression space and receiving the piston, means capable of adjusting the position of the said stationary sleeve within the working cylinder with the said one open end at different distances from the head of the cylinder so as to adjust thereby the compression space between the cylinder head and the piston and means for connecting the means adjusting the sleeve to the throttle valve, as and for the purpose set forth.

In testimony whereof I have signed my name to this specification.

CHARLES ANTHONY VANDERVELL.