Oct. 2, 1923. 1,469,267

V. REMBOLD

METHOD OF REMOVING THE PISTONS FROM PISTON ENGINES

Filed Sept. 22, 1921

Fig. 1.

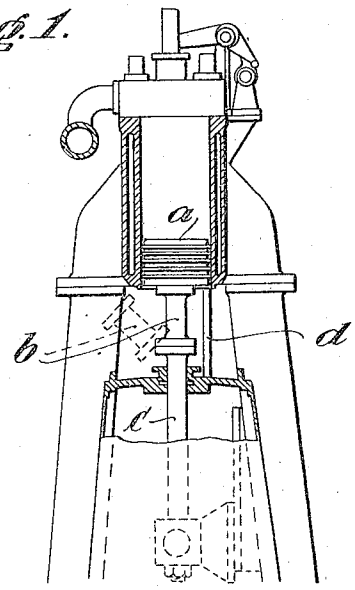
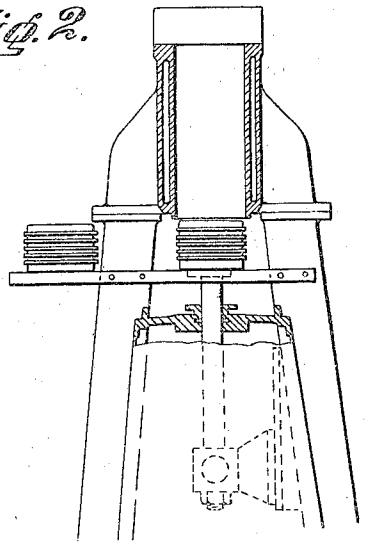


Fig. 2.



WITNESSES
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Patented Oct. 2, 1923. 1,469,267

UNITED STATES PATENT OFFICE.

VIKTOR REMBOLD, OF KIEL, GERMANY.

METHOD OF REMOVING THE PISTONS FROM PISTON ENGINES.

Application filed September 22, 1921. Serial No. 502,536.

To all whom it may concern:

Be it known that I, VIKTOR REMBOLD, a citizen of the German Republic, residing at Kiel, in the German Republic, have invented new and useful Improvements in Methods of Removing the Pistons from Piston Engines, of which the following is a specification.

Internal combustion engines are generally so arranged as to necessitate removal of the piston from the engine-cylinder from the rear of the latter. To carry this out, it is necessary to first remove the valves, operating levers and shaft in connection therewith, exhaust conduit and air pipe or scavenging pipe, a portion of the refrigerating conduit, the admission and, in Diesel motors, the fuel supply pipe, injection pipe and the cylinder cover. Further, it is necessary to discharge the water from the cylinder cover, from the exhaust pipe and the refrigerated valves before the aforesaid parts and the piston can be removed.

In certain known constructions, however, the piston can be removed through the front end of the cylinder, for which purpose special lifting mechanism and tools are provided, or some parts of the cylinder stuffing box have to be removed.

I overcome the foregoing objections by the means hereinafter described with reference to the annexed drawings and pointed out in the appended claims.

In these drawings:—

Figures 1 and 2 are vertical sections through the cylinder of a Diesel engine, certain connected parts being shown in elevation.

For my purpose I provide the piston *a*, with a piston rod made in two parts *b* and *c*. The piston is advanced to about its outward dead centre, as shown in Fig. 1 and the connections between the piston *a* and piston rod at *b* as also between *b* and *c* are released, while the piston is temporarily sustained by means of a prop *d*. The portion *b* of the piston rod is now removed (see Fig. 1) and the remaining portion *c* of the piston rod is moved up to support the piston *a*. As the flanges for connecting the parts *a* and *b* and *b* and *c* respectively are made exactly alike, it will be easy to fix the flange of part *c* to the piston *a*. The piston can then be withdrawn from the cylinder by turning the engine-gear and be deposited on a frame as shown in Fig. 2. After its disconnection from the part *c* of the piston rod, the piston can be pulled along on said frame. For the reintroduction of the piston the work is carried out in inverse manner.

With reference to the figures of the drawing, it has been presumed that the driving gear is screened by an intermediate partition in the manner usually adopted for large Diesel-motors on ships.

I claim:

The method for the removal of the piston through the open outer end of the cylinder of a Diesel-motor or like internal combustion engine in which the piston rod is made in two parts, which consists in temporarily supporting the piston, removing the part of the piston rod near the piston, moving the remaining portion of the piston rod up to support the piston, then removing the temporary support and lowering the remaining portion of the piston rod for withdrawing the piston from the cylinder.

VIKTOR REMBOLD.