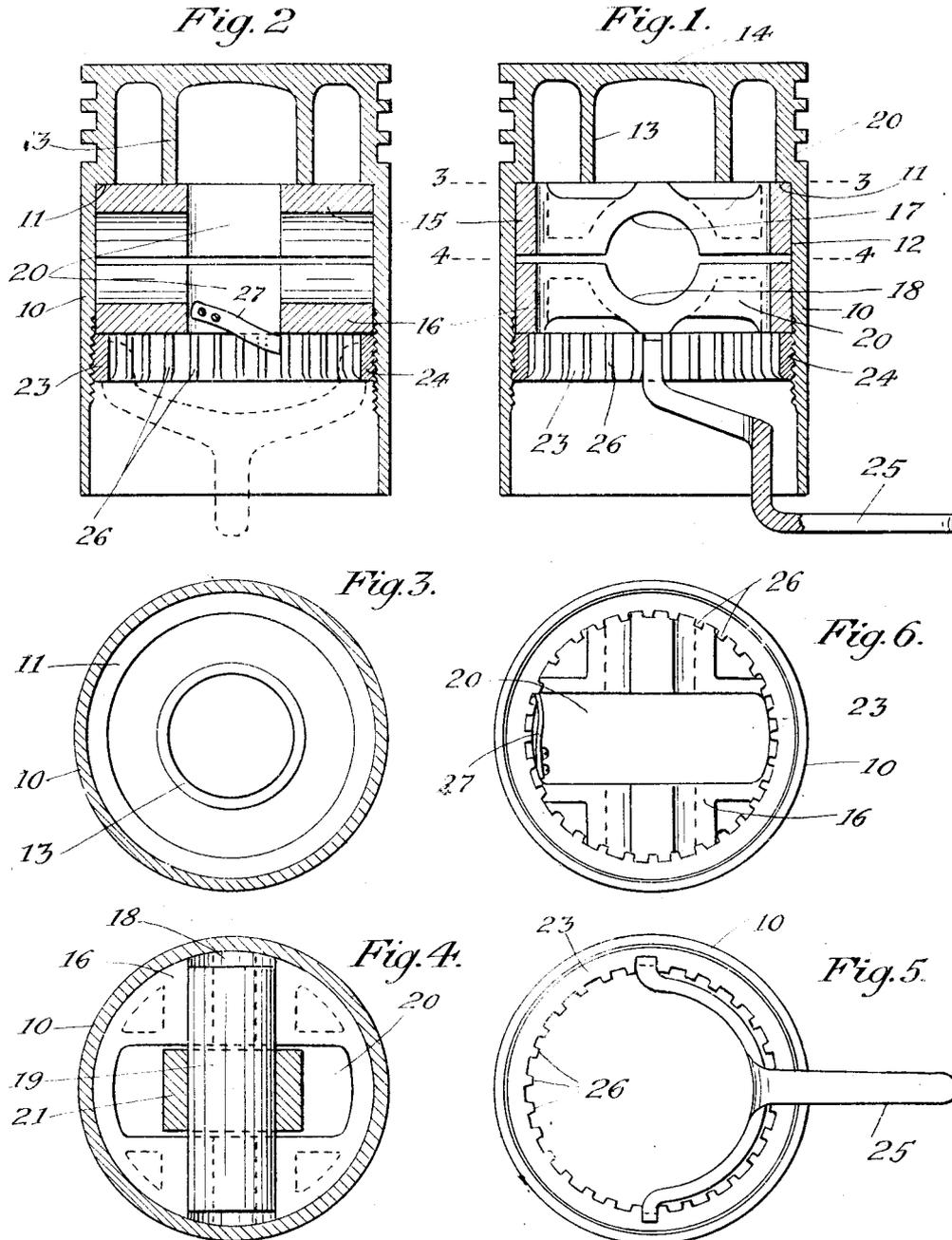


G. T. STRITE.  
 PISTON FOR ENGINES.  
 APPLICATION FILED NOV. 14, 1912.

1,076,326.

Patented Oct. 21, 1913.



Witnesses:

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# UNITED STATES PATENT OFFICE.

GEORGE T. STRITE, OF MINNEAPOLIS, MINNESOTA.

PISTON FOR ENGINES.

1,076,326.

Specification of Letters Patent.

Patented Oct. 21, 1913.

Application filed November 14, 1912. Serial No. 731,341.

*To all whom it may concern:*

Be it known that I, GEORGE T. STRITE, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Pistons for Engines, of which the following is a specification.

My invention relates to pistons for engines, and particularly to such pistons as are employed in engines of the explosive type and has for its object to provide a piston such that the pitman or connecting rod may be readily attached thereto or detached therefrom without the necessity of removing the piston from the cylinder. My improved piston also has the advantage of presenting a smooth cylindrical surface to the inner wall of the cylinder in which the pin for securing the pitman thereto does not penetrate. My invention also provides the means for taking up wear in the bearing of the pin which connects the pitman to the piston.

The full objects and advantages of my invention will appear in connection with the detailed description thereof and are particularly pointed out in the claims.

In the drawings illustrating the application of my invention in one form,—Figure 1 illustrates a sectional view of my piston showing the manner of assembling the parts and viewed transversely to the connecting pin. Fig. 2 is a similar sectional view along the line of the connecting pin. Fig. 3 is a section on line 3—3 of Fig. 1. Fig. 4 is a section on line 4—4 of Fig. 1. Fig. 5 is a plan view from beneath showing the manner of screwing the parts into position. Fig. 6 is a sectional view from beneath indicating the manner in which the thread wing is locked in position.

A cylindrical piston 10 of usual exterior construction is provided with a circular shoulder 11 above an enlarged interior cylindrical space 12 within the piston. A ring 13 is cast downwardly from the top 14 of the piston and has its lower margin in the plane of the circular shoulder 11. The means for holding the connecting rod pin within the piston comprises a pair of complementary blocks 15 and 16 each having an outer cylindrical surface adapted to fit closely the inner surface of the enlarged portion 12 of the piston, the block 15 being adapted to engage the shoulder 11 and the face of the ring 13. Block 15 is provided

with a semi-circular half-bearing 17, a similar and complementary semi-circular half-bearing 18 being provided in block 16. The half-bearings 17 and 18 may, if desired, be lined with Babbitt or other bearing metal and when properly positioned form a bearing for the connecting rod pin 19.

Extending at right angles to the half-bearings 17—18 is formed in each of the blocks 15 and 16 an elongated aperture 20 through which the head 21 of the connecting rod or pitman will extend to be secured to the pin 22. A ring nut 23 threaded as indicated at 24 to the interior of the portion 12 of cylinder 10 forces block 16 toward block 15 in contact with ledge 11 and ring 13.

The manner of assembling the parts will be quite obvious. The block 16 will first be placed over head 21 of connecting rod and pin 19 inserted through the usual aperture in the head 21 provided for that purpose. Block 15 will then be pushed into position against ledge 11 and ring 13 and by means of ring nut 23 the block 16 will be forced up to bring half-bearings 18 and 17 into the proper relative position with respect to connecting rod pin 19. For turning the nut 23 the wrench 25 such as shown in Figs. 1 and 5 may be employed, the nut 23 being provided with a series of teeth 26 in which the spread ends of the wrench may be engaged. A leaf spring 27 such as indicated in Figs. 2 and 6 engages the teeth 26 and prevents premature loosening of ring nut 23.

From the above it will be seen that my piston enables the connecting rod to be attached thereto or detached with the greatest facility and without the necessity of removing the piston from the cylinder. The connecting pin 19 is entirely within the body of the piston and does not even enter the walls thereof, so that the scoring action which frequently takes place when the connecting pin extends through the wall of the piston and is supposedly milled flush therewith cannot take place. When the bearing formed by complementary half-bearings 17 and 18 becomes worn to any extent the block 16 may readily be set up to take up this bearing. Moreover, the position of the piston relative to the cylinder may be varied at will. This is a matter of importance. As is well known, the wear of the piston against the inner walls of the cylinder takes place principally in the sides along the plane

of the stroke. By loosening up the turn nut  
 23 the piston 10 may be rotated on the blocks  
 15—16 so as to bring a new bearing surface  
 thereof into the area of greatest wear, thus  
 5 materially increasing the life of the piston.

I claim:

1. A piston comprising a hollow cylinder  
 having an expanded cylindrical interior pro-  
 vided with transverse shoulders, a pair of  
 10 cylindrical blocks within the expanded por-  
 tion provided with complemental half-bear-  
 ings, one of said blocks bearing against the  
 shoulder and means for removably securing  
 the blocks within the cylinder.
- 15 2. A piston comprising a hollow cylinder  
 having an expanded cylindrical interior pro-  
 vided with transverse shoulders, a pair of  
 cylindrical blocks within the expanded por-  
 tion provided with complemental half-bear-  
 20 ings, one of said blocks bearing against the

shoulder, a piston rod, a pin in said bear-  
 ings for connecting said rod and means for  
 holding the blocks positioned in contact  
 with said pin and against said shoulder.

3. A piston comprising a hollow cylinder, 25  
 a pair of cylindrical bearing blocks within  
 said cylinder each provided with a comple-  
 mental half-bearing and an elongated aper-  
 ture at right angles thereto, a pin in said 30  
 bearing, a piston rod having the head there-  
 of extending through said aperture and be-  
 ing connected by said pin and means for re-  
 movably and adjustably holding the blocks  
 within the piston.

In testimony whereof I affix my signature 35  
 in presence of two witnesses.

GEORGE T. STRITE.

Witnesses:

F. A. WHITELEY,  
 H. A. BOWMAN.