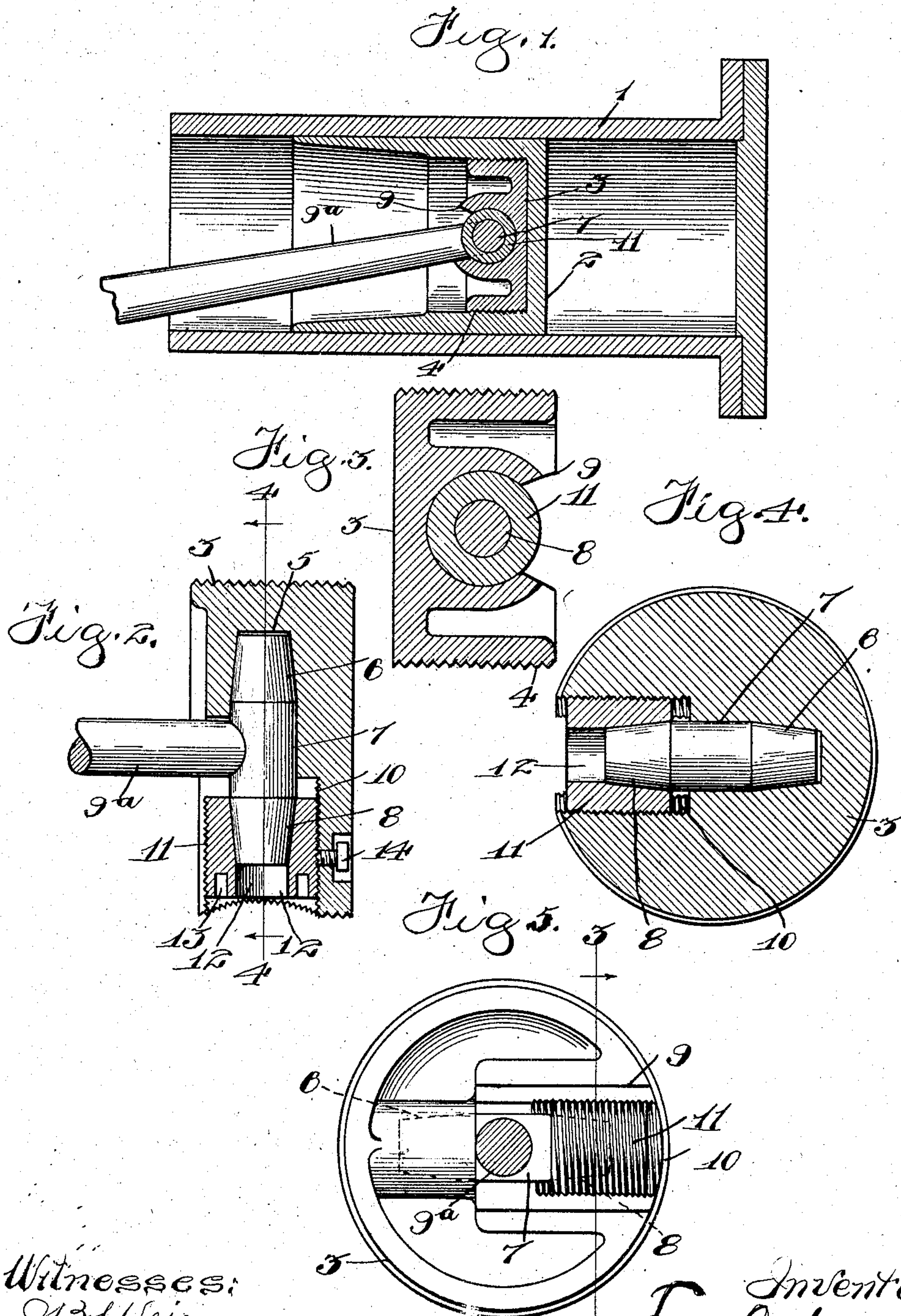


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L. ANDERSON.
PISTON.

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UNITED STATES PATENT OFFICE.

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PISTON.

SPECIFICATION forming part of Letters Patent No. 791,236, dated May 30, 1905.

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To all whom it may concern:

Be it known that I, LARS ANDERSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Pistons for Gasolene and other Engines, of which the following is a full, clear, and exact specification.

My invention relates to pistons for gasolene and other engines, and more particularly to the means of connecting the piston to the pitman or piston-rod; and it has for its primary object to provide an improved, simple, and efficient form of piston and piston-rod connection capable of being readily adjusted or detached when desired.

With these ends in view my invention consists in certain features of novelty in the construction, combination, and arrangement of parts by which the said object and certain other objects hereinafter appearing are attained, all as fully described with reference to the accompanying drawings, and more particularly pointed out in the claims.

In the said drawings, Figure 1 is a longitudinal sectional view of my improved piston, showing the same in a cylinder. Fig. 2 is an enlarged section of the plug which connects the piston-rod to the piston, a portion of the piston-rod being also shown in connection with its bushing. Fig. 3 is an enlarged cross-section of the plug, taken on the line 3 3, Fig. 5. Fig. 4 is a section taken on the line 4 4, Fig. 2; and Fig. 5 is an end view of the piston with the rod in section looking from the left in Fig. 1.

1 is any cylinder in which the piston is to be used, it being immaterial, so far as this invention is concerned, whether the cylinder be an engine-cylinder, a pump-cylinder, or used for any other purpose, and 2 is the piston proper, which is of the trunk pattern. The interior of this piston is threaded, and into it is screwed a plug 3, which is provided on its exterior with screw-threads 4 and is formed with a transverse bearing-socket 5 for cross-pin 6 7 8, formed on or secured to the piston-rod or pitman 9 at substantially right angles thereto. The intermediate portion 7 of this

pin or cross-bar may be cylindrical, while its ends may be conical, as shown in Figs. 2 and 4, and the inner end of the socket 5 may be complementary in shape to the conical end 6, while the intermediate part of the socket is cylindrical to fit the cylindrical portion 7. One end of the socket 5 is cut away at the outer side of the plug, as shown at 9, so that the pin may be inserted into its socket endwise, the end 6 foremost, the cut-away portion 9 being flared sufficiently, as shown in Fig. 3, to permit of the oscillation of the rod 9^a without striking the plug 3, and the cut-away end of the socket is counterbored and threaded, as shown at 10, to receive a threaded bushing 11, which is screwed into this threaded counterbore and has a socket 12 complementary in shape to and receiving the outer end 8 of the pin, the bushing 11 being sufficiently larger than the cut-away 9, as shown in Fig. 3, to afford a firm support on cut-away side of the socket.

The end of the bushing 11 may be provided with recesses 13 for pin-wrench or other suitable means whereby the pushing may be adjusted for taking up the wear of the pin or cross-bar, and 14 is a set-screw screw-threaded in the plug 3 and impinging the bushing 11 for holding the latter to its adjustment.

Having thus described my invention, what I claim as new therein, and desire to secure by Letters Patent, is—

1. The combination of a piston-rod, a cross-pin thereon, a piston, a rotatable member secured to said piston and having a transverse socket circular in cross-section for receiving said pin, one side of said socket being cut away throughout a portion of its length for receiving the rod and pin.

2. The combination of a piston-rod, a cross-pin circular in cross-section thereon, a piston, and a rotatable member secured in and embraced by said piston and having a transverse socket circular in cross-section and cut away on one side for receiving said pin and rod.

3. The combination of a piston-rod, a cross-pin thereon, and a piston provided

with a transverse socket cut away at one end for admitting said cross-pin and rod and a removable bushing secured in the cut-away end of the socket and embracing the end of the
5 pin.

4. The combination of a piston, a removable member secured therein and having a transverse socket circular at one end and a piston-rod having a cross-pin provided with
10 conical ends, said socket being cut away at one end and side for receiving said pin and rod, and an adjustable, conical bushing se-

cured in the cut-away end of the socket and embracing one of the conical ends of the pin.

5. The combination with a piston and a piston-rod having a cross-pin, of a plug in said piston having a transverse socket cut away at one end for said pin, and a removable bushing in said cut-away end, embracing one end of said pin.

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