No. 774,186. PATENTED NOV. 8, 1904.

J. S. LADD.

PISTON.

APPLICATION FILED JUNE 25, 1904.

NO MODEL.

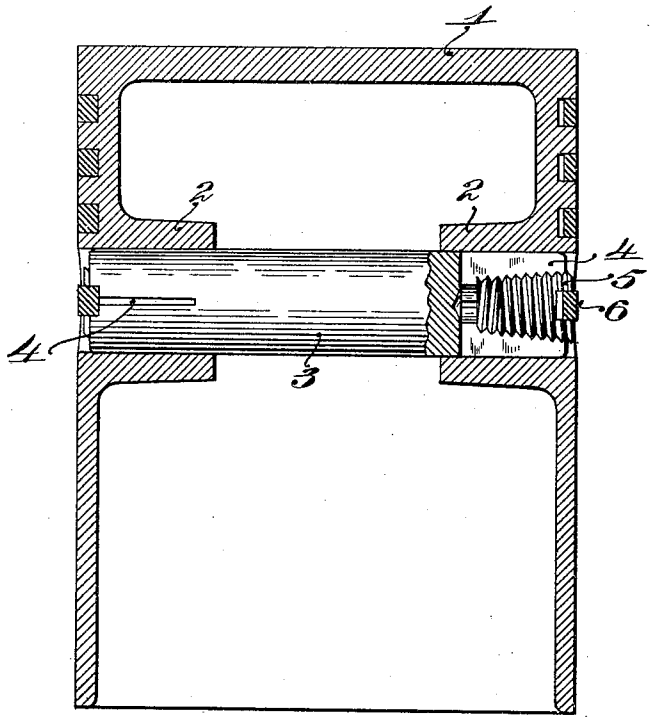


Fig. 1.

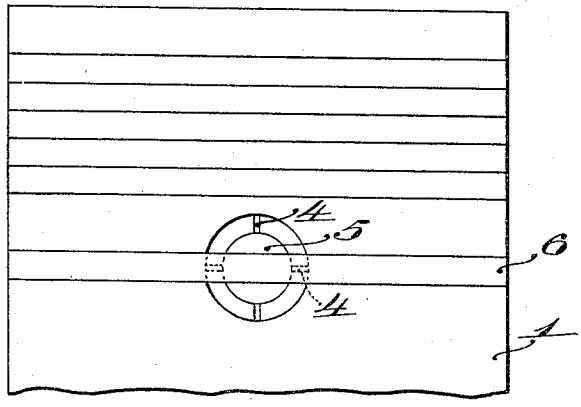


Fig. 2.

Witnesses
A. E. Whitney
Alfred H. Hildreth

Inventor
John S. Ladd
by his Attorneys
Phillips Lee Ewerew Parish

PHOTO LITHOGRAPHED BY SACHETT & WILHELMS LITHO. & PTG. CO. NEW YORK

No. 774,186. Patented November 8, 1904.

UNITED STATES PATENT OFFICE.

JOHN S. LADD, OF BOSTON, MASSACHUSETTS.

PISTON.

SPECIFICATION forming part of Letters Patent No. 774,186, dated November 8, 1904.

Application filed June 25, 1904. Serial No. 214,179. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. LADD, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Pistons; and I 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.

The present invention relates to an improvement in pistons.

The object of the present invention is to improve the construction of pistons, and particularly trunk-pistons, in the means for securing the wrist-pin in place.

To the above end the present invention consists of the improved piston hereinafter described and claimed.

In the accompanying drawings, illustrating the perferred form of the invention, Figure 1 is a sectional elevation of the improved piston, and Fig. 2 is a side elevation of the upper portion thereof.

The piston-body (indicated in a general way by the reference character 1) is provided with wrist-pin holes which are surrounded by bosses 2, projected inwardly from the outer walls of the piston-body. The wrist-pin holes receive a wrist-pin 3, the ends of which are split, as at 4, so as to make the ends of the wrist-pin capable of being expanded in the wrist-pin holes of the piston-body. The ends of the wrist-pin are provided with screw-threaded tapered holes, which receive screw-threaded taper pins 5, adapted to be screwed into said holes to expand the split ends of the wrist-pin in the wrist-pin holes of the piston-body. Owing to the shocks to which the piston is subjected and the intermittent opposite stresses exerted upon the wrist-pin, it has been found difficult to secure the wrist-pin in position so that it would not work loose. It is proposed, therefore, by me in order to obviate this working loose of the wrist-pin to provide the end of the taper pin with a slot and to provide the piston-body with a piston-ring groove which registers with this slot in the taper pin, so that a piston-ring 6 in said piston-ring groove will engage the slot in the end of the taper pin and hold it in adjusted position. By this means taper pins after having been screwed into the ends of the wrist-pins will be securely held in place therein by the piston-ring 6 and prevented from turning so as thereby to loosen the wrist-pin in the wrist-pin holes of the piston-body.

This construction affords a very satisfactory and adequate means of securing wrist-pins in the piston-bodies of the pistons of explosion-engines, to which, in view of the sudden and excessive strains to which the parts are subjected, the invention is particularly applicable. The invention is also susceptible of use in other connections.

Having thus described the invention, what is claimed is—

A piston, having, in combination, a hollow piston-body provided with wrist-pin holes and a piston-ring groove crossing said holes, a wrist-pin provided with a split end and a screw-threaded taper hole in said end, a screw-threaded taper pin having its outer end slotted adapted to be screwed into the said hole in the end of the wrist-pin to expand and thereby to secure it in one of the wrist-pin holes of the piston-body and a piston-ring supported in said groove in the piston-body for engaging the slot in the taper pin and holding it in adjusted position.

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

JOHN S. LADD.

Witnesses:

HORACE VAN EVEREN,

FRED O. FISH.