No. 727,937. PATENTED MAY 12, 1903.

C. L. HAASE, JR.

PISTON.

APPLICATION FILED MAY 23, 1902.

NO MODEL.

Fig. 1.

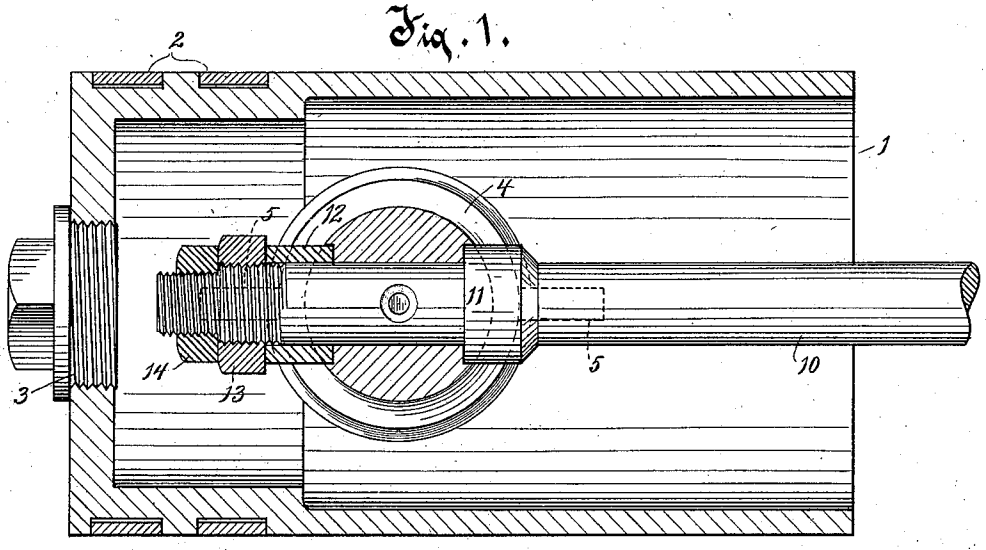


Fig. 2.

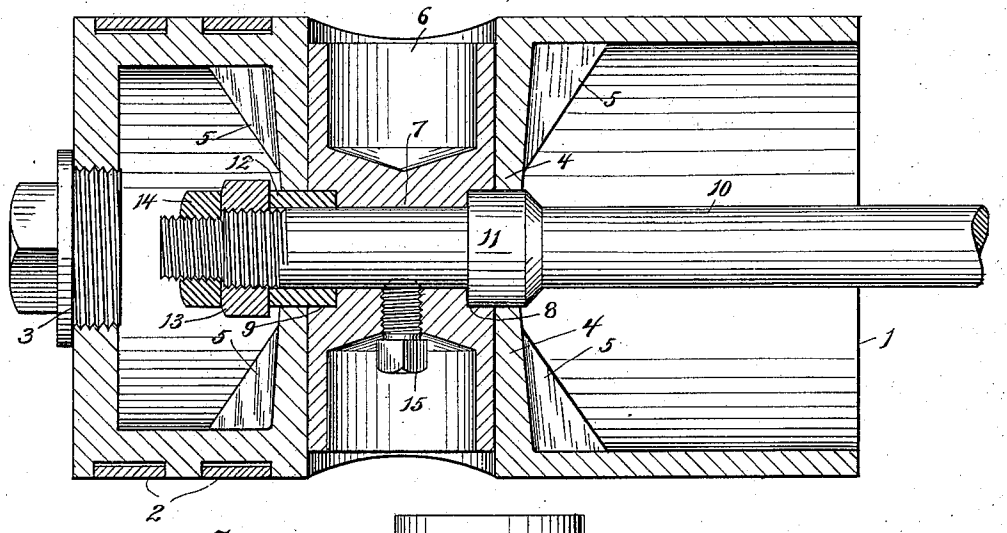
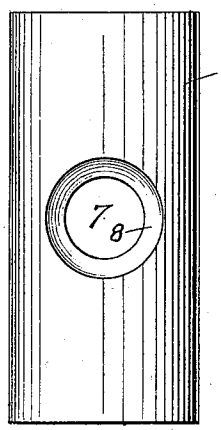


Fig. 3.



Witnesses.

C. H. Keeney.

Anna V. Faust.

Inventor.

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Attorneys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 727,937. Patented May 12, 1903.

UNITED STATES PATENT OFFICE.

CHARLES L. HAASE, JR., OF MILWAUKEE, WISCONSIN, ASSIGNOR TO NORTHWESTERN FURNITURE COMPANY, OF MILWAUKEE, WISCONSIN, A COPARTNERSHIP COMPOSED OF CHARLES L. HAASE, RUDOLPH C. HAASE, AND RUDOLPH C. FORRER.

PISTON.

SPECIFICATION forming part of Letters Patent No. 727,937, dated May 12, 1903.

Application filed May 23, 1902. Serial No. 108,622. (No model.)

To all whom it may concern:

Be it known that I, CHARLES L. HAASE, Jr., residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Improvement in Pistons, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

This invention relates to improvements in pistons, and particularly to pistons of the trunk variety, and has for its object the production of a trunk-piston and pin therefor of such formations that a connecting-rod turned out of ordinary steel or iron rod may be used therewith without the use of a connecting-rod head, as is now necessary. This and other objects I attain by the peculiar construction and arrangement of the several elements forming the subject of this invention and which are described in the specification and illustrated in the accompanying drawings, in which—

Figure 1 is a side sectional view of a device embodying this invention. Fig. 2 is a horizontal sectional view of the same; and Fig. 3 is a detail view of the piston-pin, hereinafter described.

Throughout the several views like elements are denoted by like characters.

The piston consists of a shell 1, having thicker walls at its head end than at its open end to accommodate eccentric spring-rings 2, of the usual type, sprung into channels therefor. The piston-head is provided with a threaded opening at its center adapted to be closed by means of a plug 3, threaded thereinto. The shell is provided with two cored bosses 4, extending into the interior of the same from opposite sides and braced to the walls of the shell by means of radially-extending ribs 5. The inner faces of the bosses 4 are trued, and the walls of the cored openings are machined to receive a pin 6, shorter in length than the diameter of the shell. For the sake of lightness the pin is chambered out at each end, as shown in Fig. 2. A suitable-sized hole 7 is bored through the pin, and the outer ends of said hole are counterbored, as at 8 and 9. A suitable connecting-rod 10, turned from any suitable bar or rod and provided with a shoulder 11, has its inner end positioned within the hole in the pin, so that its shoulder 11 lies within the counterbore 8 and bears against the pin and its end projecting beyond the pin toward the head end of the piston. A collar 12 surrounds the rod and lies within the counterbore 9. A nut 13 is threaded on the rod and bears against collar 12 and is locked in position by means of a lock-nut 14. The opening in the piston-head allows access to the interior of the piston between the pin and the piston-head, and through this opening collar 12 and nuts 13 and 14 may be placed in position. Connecting-rod 10 is prevented from turning within the pin by means of the set-screw 15, threaded through one of the inner walls of one of the chambered portions of the pin and bearing against said rod.

From this construction it will be seen that I provide a relatively large piston-pin and large bearing-surfaces for the same. It will also be noticed that the connecting-rod may be formed or turned from any ordinary steel or iron rod.

Having thus described my invention, I claim—

1. The combination with a piston-shell having a pin-channel extending therethrough from side to side, of a pin located within said channel, and a connecting-rod bisecting said channel and projecting through said pin.

2. The combination with a piston-shell having a pin-channel extending therethrough from side to side, of a pin located within said channel, a connecting-rod extending through said channel and said pin and means for locking said rod to said pin.

3. The combination with a piston formed in the nature of a hollow shell and having a hollow pin-channel extending through the same from side to side, of a pin of relatively large diameter located within said channel, openings through the walls of said channel to accommodate the oscillations of a connecting-rod, a connecting-rod passing across said

channel and through said pin, means carried by said rod for preventing the same from moving laterally of said pin, and means carried by said pin for preventing said rod from rotating within the pin.

4. The combination with a piston-shell having a piston-pin support located therein, a pin within said support, a connecting-rod passing through said pin, a nut threaded to said rod and preventing its moving out of said pin, and a set-screw carried by said pin for preventing said rod from turning within the pin.

5. The combination with a piston-shell, of a plug threaded into one end of said shell, pin-supports projecting into said shell, on opposite sides, a rotatable pin carried by said supports, a connecting-rod passing through said pin and means for locking said pin to said rod.

6. The combination with a piston-shell having hollow bosses extending into the interior thereof, of a pin journaled within said bosses and a connecting-rod passing through said pin.

7. The combination with a piston-shell having hollow bosses extending into the interior thereof, of a pin journaled within said bosses, a connecting-rod passing through said pin, and means for locking said rod to said pin.

8. The combination with a piston-shell having hollow bosses extending into the interior thereof, of a pin of relatively large diameter journaled within said bosses, a shouldered connecting-rod passing through said pin, and means on said rod for drawing the shoulder of said rod in contact with said pin and locking said rod to said pin.

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

CHARLES L. HAASE, JR.

Witnesses:
ANNA V. FAUST,
JNO. S. GREEN.