J. H. SCHREIBER.

PISTON RING.

APPLICATION FILED SEPT. 4, 1920.

1,395,366.

Patented Nov. 1, 1921.

Fig. 1.

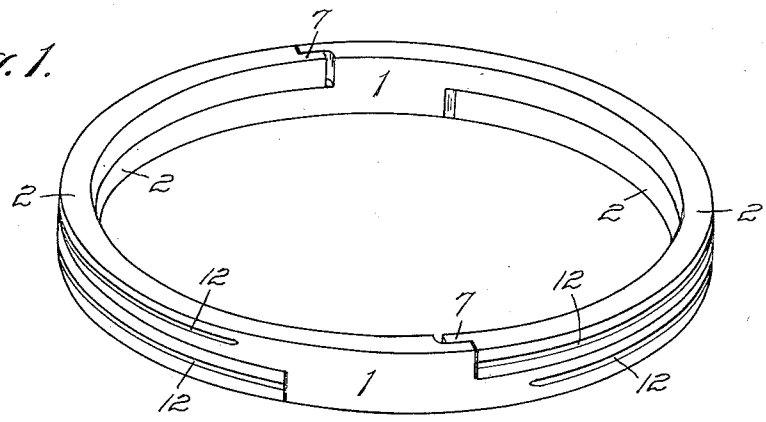


Fig. 2.

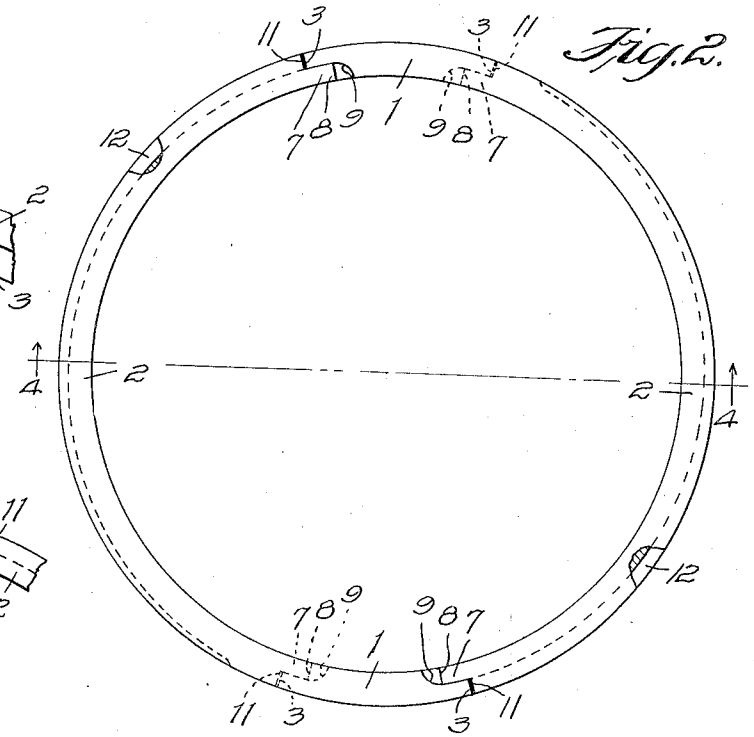


Fig. 5.

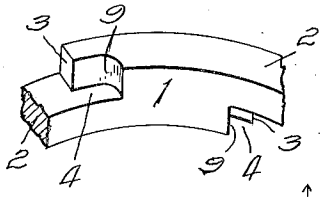


Fig. 6.

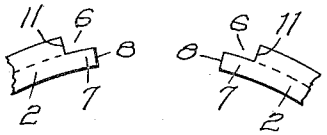
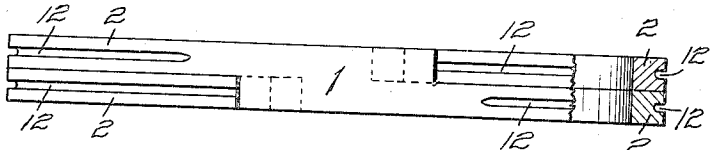


Fig. 3.



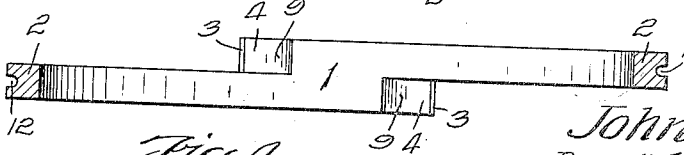


Fig. 4.

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UNITED STATES PATENT OFFICE.

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PISTON-RING.

1,395,366. Specification of Letters Patent. Patented Nov. 1, 1921.

Application filed September 4, 1920. Serial No. 408,263.

To all whom it may concern:

Be it known that I, JOHN H. SCHREIBER, a citizen of the United States, residing in the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Piston-Rings, of which the following is a specification.

My invention relates to piston rings, and has for its object to provide a two-piece piston ring, which will be comparatively inexpensive to manufacture and highly efficient for the purpose intended.

A further object of the invention is the provision of a two-piece ring having a pair of effective locking joints on opposite sides of the ring in opposed relation.

A still further object of the invention is the provision of a two-piece ring, the parts of which are alike and reversible.

A still further object of the invention is to provide the peripheral face of each ring member with a pair of opposed circumferential grooves which act as an oil groove, said grooves being deeper at the free ends of the ring members than at the center portion thereof to provide the proper tension for the ring when assembled.

A still further object of the invention is the provision of a split ring member whose outer bearing face is concentric with the inner face thereof and whose outer face is provided with a pair of circumferential oil grooves deeper at one end than at the other to provide the necessary tension for the ring member when in assembled position.

A still further object of the invention is the provision of a ring member, the free ends of which are spaced a suitable distance apart to provide a gap to receive the central body portion of an adjacent and like ring member when they are assembled.

Referring to the drawings forming a part of this specification wherein like characters of reference denote similar parts throughout the several views:

Figure 1, is a perspective of the ring constructed and assembled in accordance with my invention.

Fig. 2, is a top plan view thereof.

Fig. 3, is a side elevation partly in cross section of the ring, looking in direction of arrow 3 in Fig. 2.

Fig. 4, is a view of one of the ring members taken on line 4—4 of Fig. 3.

Fig. 5, is a detail of the central body portion of one of the ring members clearly showing the tongue receiving pockets.

Fig. 6, is a detail showing the relation of the locking tongues at each end of a ring member.

Referring to the accompanying drawings, the piston ring is shown as comprising two ring split like members assembled to form a two piece ring.

Each ring member comprises a central body portion 1 as most clearly shown in Fig. 1, said body being greater in width than in thickness, although not necessarily so. Extending from each end of the central body portion 1 are a pair of diagonally arranged ring members 2. These ring members 2 are each preferably of a width equal to one-half of the width of the central body portion 1 so as to provide the diagonally arranged shoulders 3 at opposite ends of the central body portion 1. The inner corner at each end of the central body portion 1 is cutaway as at 4, to provide a pair of diagonally disposed pockets adjacent the shoulders 3, as shown in Figs. 1 and 5.

The extremity of each ring member 2 is provided with a cutaway portion 6 to form a co-extending locking tongue 7 receivable in the sockets 4 at the ends of the central body portion 1, when the two ring members are assembled, as shown in Figs. 1 and 2.

When the two piston ring members are assembled, it will be observed that the end faces 8 of the tongues 7 lie adjacent the shoulders 9 formed by the pockets 4 at the end of each central body portion 1 of the ring sections, and that the shoulders 3 lie adjacent the end faces 11 of the sockets 6, as shown.

The piston ring members are made from pots and the thickness of the ring wall is even throughout. In order, however, to give the proper tension to the ring members 2, I provide the peripheral face of each ring member with a circumferential groove 12, which groove is deeper at the free ends of the ring members 2 than at the ends uniting with the central body portion 1 of each ring section. This not only lightens the free ends

of the ring members to establish the proper tension, but also provides the peripheral face of each ring member 2 with an oil groove, as shown. These oil grooves are not continuous, but merely extend from one end of each ring member 2 to the other, as shown in dotted lines in Fig. 2.

It is evident from the foregoing description that both ring sections comprising the ring proper are alike, interchangeable, or reversible, and are assembled in manner shown in Fig. 1.

The method of manufacturing the ring from pots, including the manner of assembling the ring sections is subject matter for a separate patent application, and, is therefore not set forth in this particular application.

The many advantages of the herein described invention will readily suggest themselves to those skilled in the art to which it appertains.

I do not desire to be understood as limiting myself to the exact details of construction and arrangement as herein described and illustrated, as it is manifest that variations and modifications may be made without departing from the spirit and scope of my invention and the terms of the following claims, hence I wish it to be understood that I reserve the right to make any such changes, or modifications as may fairly fall within the scope of the appended claims when fairly construed.

What I claim is:

1. A piston ring section to be used in a two piece piston ring, said section comprising a central body portion having a socket formed at each end thereof in diagonally opposite relation to each other, so as to provide an upper and a lower end socket, a ring member extending from each end of said central body portion arranged in diagonally opposite relation to each other to provide an upper and a lower ring member each extending slightly less than one-half the distance around the ring section, and the end extremity of each ring member terminating in a tongue of less thickness than the ring members.

2. A piston ring comprising two like ring sections each having a central body portion provided at each end with diagonally arranged angular sockets communicating with the inner face of the ring sections, a reduced ring member extending from the central body portion of each ring section, said ring members being arranged in diagonal relation to each other, and a coextending tongue at the extremity of each ring section for interlocking engagement with said sockets.

3. A piston ring comprising two ring like sections each having a central body portion and diagonally arranged ring members to act as upper and lower ring members on opposite sides of the ring, said ring members each being provided with a channel deeper at the free ends of the ring members than at the opposite ends thereof to establish the proper tension for the ring members and further act as oil grooves, said channels being arranged in opposed relation and extending only from the end of each ring member to the central body portion of each ring section.

4. A piston ring comprising two like ring sections having body portion provided at its ends with diagonally arranged sockets; a diagonally arranged ring member extending from each central body portion to provide an upper and lower ring member, the free ends of said ring members being spaced apart to receive the central body portion of each ring member therebetween and a coextending tongue formed at the end of each ring member receivable in its respective socket at the end of each central body portion of ring section.

5. A piston ring comprising two ring like sections each having a relatively short central body portion, a pair of diagonally arranged ring members extending from the ends of the central body portion of each ring section a distance approximately one-half the distance around each ring section, the ends of the ring like members being spaced apart sufficient to receive the central body portion of the opposite ring member therebetween.

6. A piston ring comprising two split ring like sections each having a central body portion, diagonally arranged ring members extending from the ends of the central body portion of each ring section, the ends of the ring like members being spaced apart sufficient to receive the central body portion therebetween, and means for providing an effective joint at each end of each central body portion.

7. A piston ring comprising two split ring like sections each having a central body portion, diagonally arranged ring members extending from the ends of the central body portion of each ring section, the ends of the ring like members being spaced apart sufficient to receive the central body portion therebetween, means for providing an effective joint at each end of each central body portion and an oil groove formed in the bearing face of each ring member, said grooves being deeper at the free ends of the ring members than at their opposite ends to establish the desired tension for said ring members.

8. A piston ring comprising two reversible ring sections each having a short central body portion provided with end sockets, an upper and lower circumferentially disposed ring member extending from oppo-

site ends of the central body portion of each ring section to a point approximately one-half the distance around each ring section, the lower plane of the ring member of each ring section engaging the upper plane of the lower ring member of each ring section when assembled to form a two piece piston ring and the free ends of said ring members being reduced in thickness and spaced apart for interlocking connection with the ends of the central body portions of the ring sections.

In testimony whereof, I have hereunto signed my name to the specification.

JOHN H. SCHREIBER.