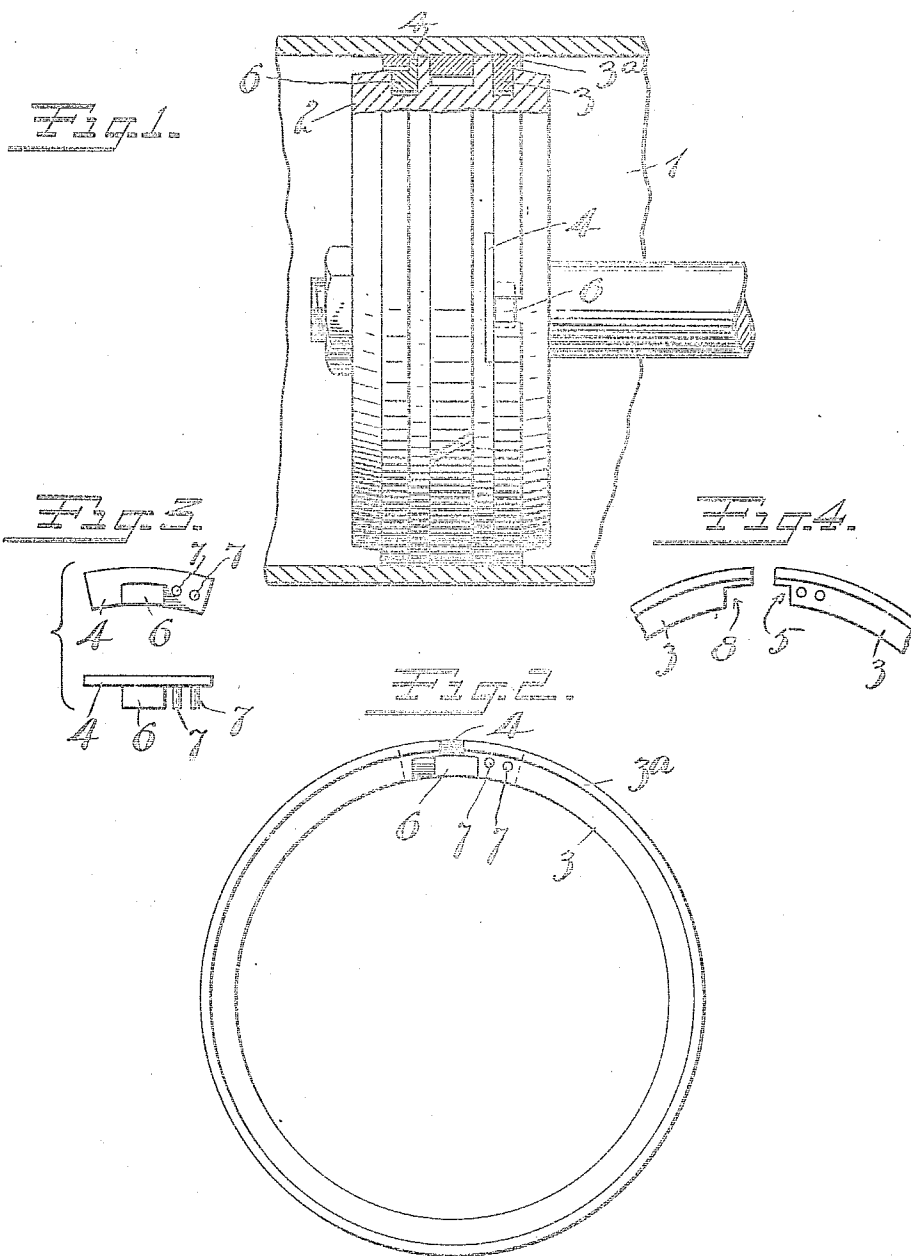


J. J. REDNER.
 PISTON PACKING RING.
 APPLICATION FILED SEPT. 3, 1909.

953,713.

Patented Apr. 5, 1910.



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UNITED STATES PATENT OFFICE.

JOHN J. REDNER, OF NEW YORK, N. Y.

PISTON PACKING-RING.

953,713.

Specification of Letters Patent.

Patented Apr. 5, 1910.

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To all whom it may concern:

Be it known that I, JOHN J. REDNER, a citizen of the United States, residing at New York, in the county and State of New York, have invented certain new and useful Improvements in Piston Packing-Rings, of which the following is a full, clear, and exact description.

My invention relates to metallic packings for pistons for engines, pumps and the like.

This invention is essentially an improvement upon the construction set forth in my former patent, No. 839,890, of January 1, 1907, the object of the present invention being to improve said construction and provide means for eliminating the danger of shearing off holding pins, said means at once serving to reinforce and strengthen certain of the parts.

In the drawings, Figure 1 is a side elevation of a piston partly in section showing a cylinder also in section and illustrating my invention as applied to the piston. Fig. 2 is an end elevation of a piston-ring constructed to embody my invention. Fig. 3 illustrates a detail of construction in side and plan view. Fig. 4 illustrates two ends of a piston ring.

1 is the cylinder.

2 is a piston.

3 is a metallic packing ring of suitable resilient material having the proper wearing properties, said ring resting in a circumferential groove in the head of the piston 1. The outer edge of the ring 3 has a lip 3^a. Such rings are split at one point to allow for expansion and contraction and to permit the bearing surface of the ring to bear with the desired degree of pressure against the wall of the cylinder.

Inasmuch as leakage might occur between the split ends of the ring, in the absence of means to prevent it, I have in the present case, as in my former patent, provided an effective check. In the present case this check comprises a side plate 4 which, as shown in Fig. 3, is curved to the contour of the ring and constitutes a part thereof as hereinafter described. The ring 3 at one end has a notch 5 into which an abutment block 6 formed integrally with the side plate 4 projects. This notch 5 is at the inner side of the ring.

7-7 are rivets by which the plate 4 is rigidly secured to one end of the ring 3. The abutment 6 is formed intermediate the

ends of the plate 4. The other end of the ring 3 is provided with a notch 8 of a suitable size to receive the block 6, the upper wall of the recess 3 resting upon the block 6, as shown in Fig. 2.

The piston is not only grooved to receive the ring 3 but at one point said groove is widened as best seen in Fig. 1 so as to receive the side plate 4 which operates as a key when the ring is in place to prevent said ring from turning. Ordinarily two or more piston rings are provided to properly pack a piston and where more than one ring is provided it is customary to cause the split in each ring to be located at a point on the circumference of the cylinder remote from the split in an adjacent ring, thereby increasing the efficiency of the packing as a whole.

From the foregoing it will be seen that the plate 4 acts as a key as above described and performs the second function of covering the space between the ends of the ring. The block 6 performs the double function of reinforcing the connection between the plate 4 and that end of the ring to which the plate is secured by rivets or studs, thus reducing the danger of shearing said rivets, the second function of said block being to act as a support for the opposite end of the ring 3, thus serving to hold said rings in alinement.

What I claim is:

1. A piston packing comprising a resilient metallic ring, said ring being divided at one point, a shield plate arranged at one side of said ring and overlapping both ends and preventing said piston packing ring from rotation, means for securing said shield plate rigidly to one end of said ring and including an abutment formed integrally with the side of said shield, said ring end having a recess to receive said abutment, a recess in the opposite end of said ring, the upper wall of said recess riding on the top of said abutment, said recess affording clearance for said abutment as said ring is expanded and contracted.

2. A piston packing comprising a resilient metallic ring, said ring being divided at one point, a shield plate arranged at one side of said ring and overlapping both ends and preventing said piston packing ring from rotation, means for securing said shield plate rigidly to one end of said ring and including an abutment formed integrally with the side of said shield, said ring end having a recess to receive said abutment, a recess in

the opposite end of said ring, the upper wall of said recess riding on the top of said abutment, said recess affording clearance for said abutment as said ring is expanded and contracted, in combination with a piston having an annular groove therein to receive said ring and a recess in the side of said groove to receive said shield plate.

3. A piston packing comprising a resilient metallic ring, said ring being divided at one point, a shield plate arranged at one side of said ring and overlapping both ends and preventing said piston packing ring from rotation, means for securing said shield plate

rigidly to one end of said ring and including an abutment formed integrally with the side of said shield, said ring end having a recess to receive said abutment, a recess in the opposite end of said ring, the upper wall of said recess riding on the top of said abutment, said recess affording clearance for said abutment as said ring is expanded and contracted, said ring having a lip on its side opposite to said shield plate.

JOHN J. REDNER.

Witnesses:

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