July 21, 1925. 1,546,622

C. L. COOK

PACKING RING

Filed Jan. 24, 1921

Fig. 3.

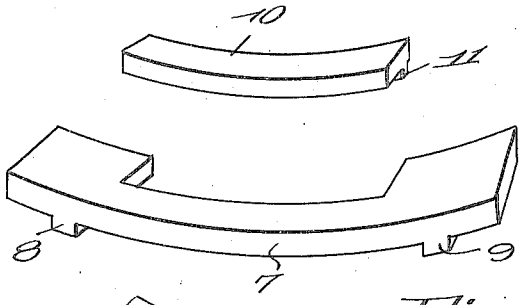


Fig. 4.

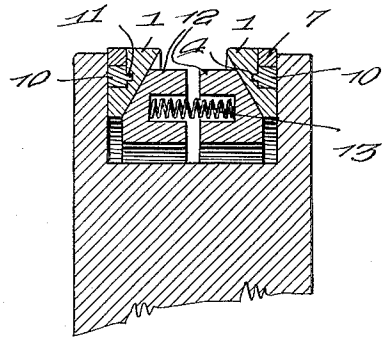
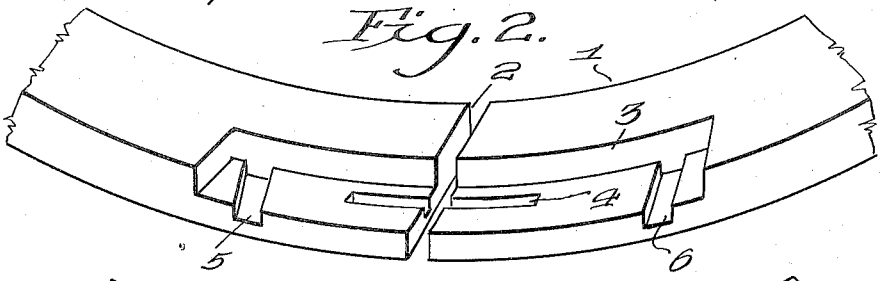


Fig. 2.



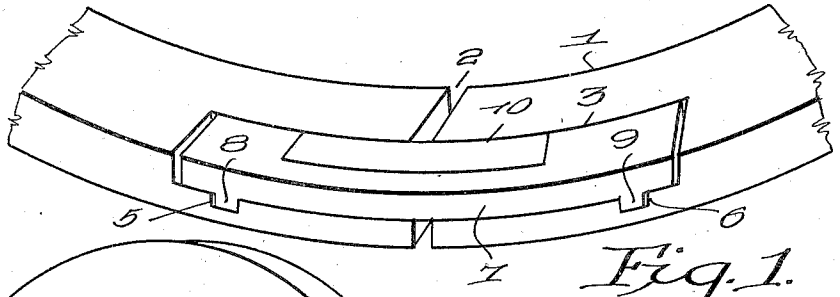


Fig. 1.

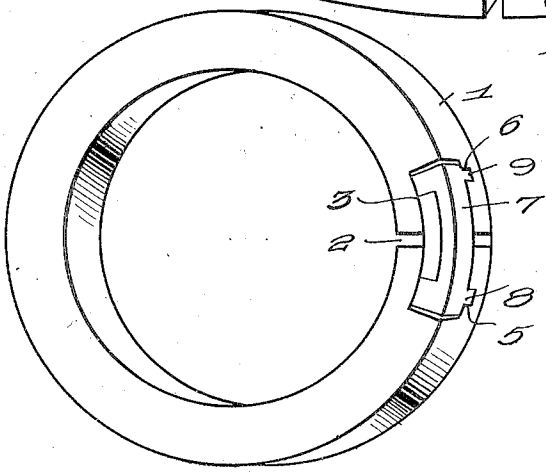


Fig. 5.

Inventor

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UNITED STATES PATENT OFFICE.

CHARLES LEE COOK, OF LOUISVILLE, KENTUCKY, ASSIGNOR TO C. LEE COOK MANUFACTURING COMPANY, OF LOUISVILLE, KENTUCKY.

PACKING RING.

Application filed January 24, 1921. Serial No. 439,607.

To all whom it may concern:

Be it known that I, CHARLES LEE COOK, a citizen of the United States, residing at Louisville, Jefferson County, Kentucky, have invented a new and Improved Packing Ring, of which the following is a specification.

My invention relates to outwardly expanding packing rings, and more especially to those used in packing pistons. It has for its object to improve the efficiency of such packing rings.

In the drawings corresponding characters refer to corresponding parts in the various views. Figure 1 is a perspective view of my invention; Figure 2 is a perspective view of the main body of the ring; Figure 3 is a perspective view of the gib and key embodied in my invention; Figure 4 is a sectional view of a pair of my rings arranged on a piston; and Figure 5 is a perspective view of a complete ring embodying my invention.

My ring 1 is provided with the radial cut 2 and with the recess 3 extending across said cut an equal distance on each side and from the outer edge of the ring partly through the ring and from the flat side of the ring part way through its thickness. In this recess and extending across the cut 2 is provided the partial circumferential slot 4, extending an equal distance each side the cut 2, and placed near the inner edge of recess 3.

In the recess 3 beyond the ends of slot 4, I provide the outwardly converging slots 5 and 6, equidistant from the cut 2.

To provide a steam joint over the cut 2, I provide a bridge piece or segmental key 10, provided with tongue 11, which fits neatly in slot 4. The key 10 is equal in depth to the recess 3.

Around the key 10 fits neatly a second bridge piece or gib 7, which is provided with tongues 8 and 9 extending into slots 5 and 6 respectively and bearing against their adjacent walls and separated an appreciable distance from their remote walls. The end surfaces of the key 10 are parallel and fit tightly against corresponding parallel surfaces in the recess in gib 7, so that the gib 7 and the key 10 are free to slide apart while maintaining a tight joint. The gib 7 is free to move outwardly independent of the end walls of recess 3, and is of a thickness equal to the depth of recess 3.

By reason of the convergence of slots 5 and 6 and corresponding convergence of tongues 8 and 9, all slight in degree, outward expansion of the ring 1, by wedge action, produces a slow, but positive outward thrust of the gib 7. This compensates for the wear in the walls of the cylinder.

When ring 1 is cut into a plurality of segments for any reason, this ring is used in pairs as shown in Figure 4, where the adjacent surfaces converge outwardly and are held apart by a pair of wedges 12 and springs 13. This wedge action tends to hold the rings firmly apart against end surfaces to be packed, and also firmly against the surface of the cylinder.

I do not limit myself further than the claim indicates.

I claim:

A resilient split piston ring having a recess extending on opposite sides of the joint between its ends, said recess opening through the periphery of the ring and through one of its side faces and terminating short of its inner face, the bottom of the recess having outwardly convergent grooves in its outer portion and a curved longitudinal groove in its inner portion, an outer bridge piece in the outer portion of the recess flush with the periphery and the said side face of the ring, said bridge piece having outwardly convergent ribs in the corresponding grooves of the recess bottom, and an inner bridge piece behind the outer bridge piece and having a longitudinal rib in the longitudinal groove of said bottom.

CHARLES LEE COOK.

Witnesses:
J. A. SCHNEIDER,
WM. C. CROSS.