May 24, 1938. E. J. GOODYEAR 2,118,433

PISTON RING

Filed Aug. 4, 1936

Fig. 1

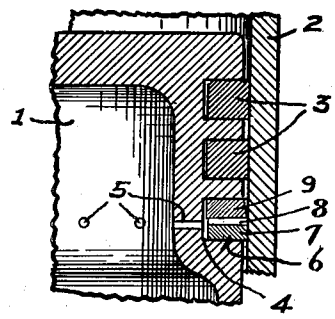


Fig. 3

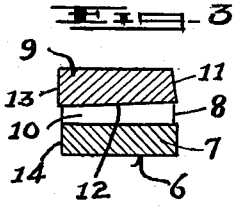


Fig. 4

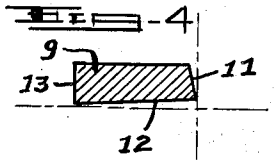
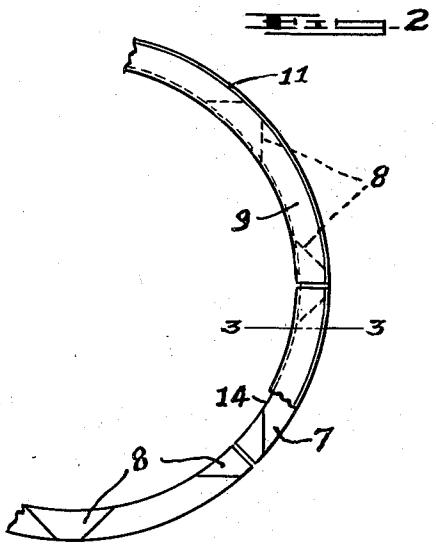


Fig. 2



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PISTON RING

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Application August 4, 1936, Serial No. 94,175

1 Claim. (Cl. 309—45)

My invention relates to an oil ring for the piston of an internal combustion engine, and important objects of the invention are to provide a durable and highly efficient oil ring of the character described, which embodies a pair of complemental ring sections functioning effectively as an oil seal and to remove excess lubricant from the cylinder wall, which quickly adjusts itself to prevent oil pumping without excessive pressure, which exerts uniform pressure against the cylinder wall, which is simple in its construction and arrangement, and comparatively economical in its manufacture and use.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of the novel construction, combination and arrangement of parts herein specifically described and illustrated in the accompanying drawing, but it is to be understood that changes in the form, proportions and details of construction may be resorted to that come within the scope of the claim hereunto appended.

In the drawing wherein like numerals of reference designate corresponding parts throughout the several views:

Figure 1 is a fragmentary view, in longitudinal section, of the engine cylinder, piston, and ring embodying the invention.

Figure 2 is a fragmentary top plan view of the oil ring.

Figure 3 is an enlarged sectional view on line 3—3, Figure 2, and Figure 4 is a similar view of the upper ring section.

Referring in detail to the drawing 1 denotes a piston, which is mounted in the engine cylinder 2 and equipped with the usual compression rings 3. The piston is provided with an annular groove 4 connected with oil drain apertures 5 with the interior of the former. Seated in the groove 4 is the oil ring 6 embodying the present invention.

The oil ring 6 comprises a lower ring section 7 provided with a plurality of regularly spaced spacing bridges 8, which are formed integral with the top of said lower ring section.

The oil ring 6 further comprises an upper ring section 9, which is seated upon the spacing bridges 8, whereby the ring sections 7 and 9 are spaced from each other to provide oil drain slots 10 between adjacent spacing bridges.

The outer wall 11 of the upper ring section 9 extends at an angle from the vertical disposing the upper end thereof inwardly of its lower end. The bottom 12 of the upper ring section extends at an angle from the horizontal disposing the outer end thereof upwardly of its inner end. The angular dispositions of the outer wall 11 and of the bottom 12 are clearly illustrated in the enlarged sectional view in Figure 4.

When assembled in the ring groove 4, the inner wall 13 of the upper ring section 9 projects inwardly a slight distance beyond the vertical plane of the inner wall 14 of the lower ring section 7, as shown in the enlarged sectional view in Figure 3.

The tops of the spacing bridges 8 incline outwardly at angles conforming but opposed to the angularly disposed bottom 12 of the upper ring section 9 seated thereon, whereby the top and bottom of the assembled oil ring 6 extend and remain parallel relatively to each other at all times.

Owing to the angularity of the outer wall 11, of the upper ring section 9, initially only the lower corner of said outer wall will engage the cylinder wall. This will cause the upper ring section to properly seat itself quickly by wear equalizing the stock width of the associated ring sections and thereby eliminating the projection of the inner periphery of the upper ring section, and effecting an efficient oil seal. The angularity of the contacting faces of the upper ring section and of the spacing bridges 8 causes movement of the ring sections to automatically maintain the proper contacting engagement of the oil ring 6 with the upper and lower walls of the ring groove.

The present invention provides a most efficient device of its kind for establishing a positive, non-leak, oil ring, which will cause an engine equipped therewith to function at maximum efficiency.

What I claim is:

A piston ring for an internal combustion engine, comprising the combination of a lower ring section having a plurality of spacing bridges formed integral with the top thereof, the top faces of said bridges inclining outwardly at an angle to the horizontal, and an upper ring section, the bottom of said upper ring section inclining outwardly at an angle corresponding to the inclination of said bridge top faces and being seated upon the latter, the outer wall of said upper ring section extending at an angle to the vertical to dispose the lower end of same outwardly of the upper end thereof, the width of the stock of said upper ring section being greater than the width of the stock of said lower ring section disposing the inner wall of said upper ring section inwardly of the vertical plane of the inner wall of said lower ring section.

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