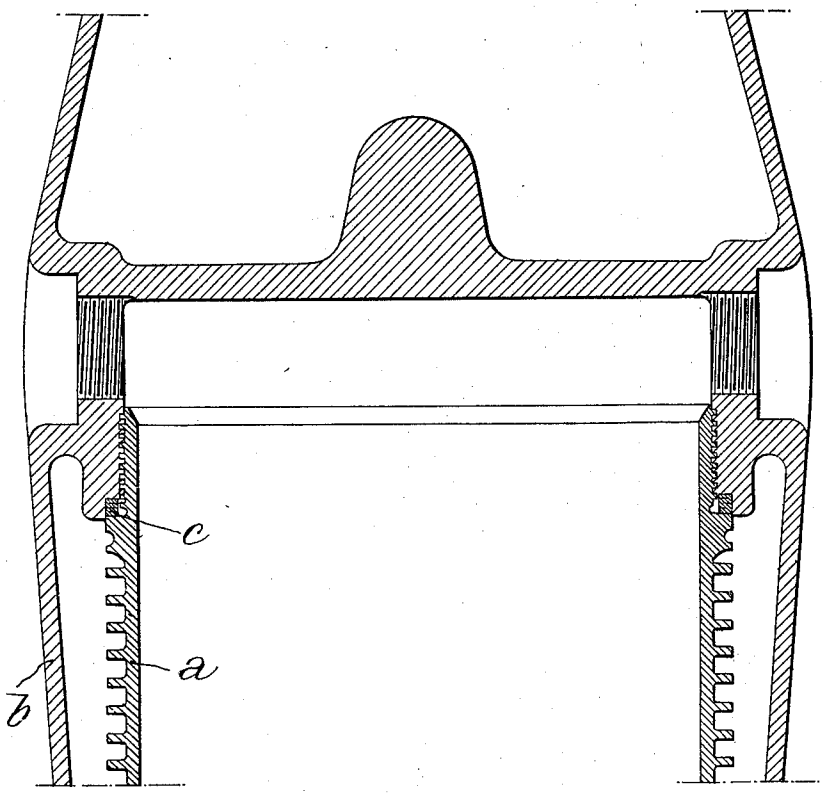
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Fig. 1.



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Fig. 2.

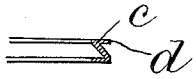


Fig. 7.



Fig. 12

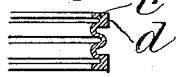


Fig. 3.

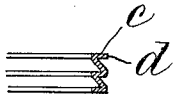


Fig. 8.

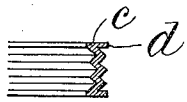


Fig. 13.



Fig. 4

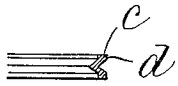


Fig. 9.

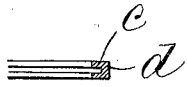


Fig. 14.

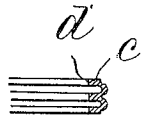


Fig. 5



Fig. 10.

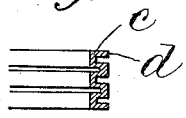


Fig 15.

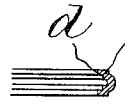


Fig. 6.

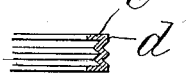
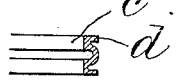


Fig. 11.



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Patented May 24, 1932 1,860,274

UNITED STATES PATENT OFFICE

MARC BIRKIGT, OF BOIS COLOMBES, FRANCE

RESILIENT PACKING

Application filed December 19, 1928, Serial No. 327,152, and in Belgium November 9, 1928.

The present invention relates to resilient packings and, more particularly, for those of the type adapted to be inserted between metals having different coefficients of expansion.

One of the objects of the invention is to provide a form of resilient metallic packing capable of adjusting its form to the surfaces with which it is in contact.

Other objects will appear in the course of the detailed description now to be given with reference to the accompanying drawings, in which:—

Fig. 1 is a section through an internal combustion engine showing the packing in place;

Fig. 2 to 15 are a series of sections of divers forms of packings which may be employed.

The invention, while capable of general application to any form of joint, is more especially designed for use in certain internal combustion engine assemblies wherein the cylinder block is formed of an external light metal casting fitted with steel cylinder shells. An assembly of this type is represented in Fig. 1 and comprises steel cylinder shells *a* having their upper extremities in threaded engagement with light metal casting *a* forming the cylinder head and water-jacket. Elements *a* and *b* are formed with parallel, plane, annular surfaces adapted to receive a packing *c* which, according to the present invention, is formed of a turned steel element having a coefficient of elasticity close to the load necessary to produce rupture.

As will be seen from Figs. 2 to 15, rings *c* may be given a diversity of sections, but preferably, should include a pair of plane external, bearing surfaces separated by angular portions forming a bellows-like structure.

In the packings illustrated in Figs. 2 to 8, the ring-section presents an N or an M form or combinations thereof.

The rings represented in Figs. 9 to 15 have curved or rectilinear U sections or combinations of both.

Whatever be the form of section employed, the ring should be formed with a surface *d* adapted to contact closely with the lateral portions (internal or external see Figs. 5 and 15) of the recess into which the ring is inserted so as to facilitate the flow of heat between the light metal and the steel cylinder.

It will be noted that rings constructed in accordance with the above, besides offering resistance to compression, are capable of adapting their form to irregularities or inaccuracies in the form of the surfaces upon which they react.

What I claim is:—

1. In a structure including a pair of threadedly interengaging shells, said shells having a recess formed therebetween, a resilient ferrous metal packing element having a pair of end surfaces bearing against opposite walls of said recess and tending to force said walls apart, said packing element having a lateral wall forming an angle with respect to each of said end surfaces, and a lateral surface partially contacting with, and partially out of contact with, the walls of said recess.

2. In a cylinder block assembly including a cylinder block having a threaded portion formed thereon and a cylinder threadedly engaging with the threaded portion of said cylinder block, said cylinder block and cylinder limiting a recess therebetween, a resilient ferrous metal packing element having a pair of end surfaces bearing against opposite walls of said recess and tending to force said walls apart, said packing element having a lateral wall forming an angle with respect to each of said end surfaces.

In testimony whereof I have signed this specification.

MARC BIRKIGT.