

July 15, 1924.

1,501,541

C. C. HALL

PACKING

Filed July 16, 1923

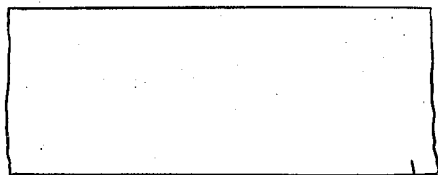


Fig. I.



Fig. II.

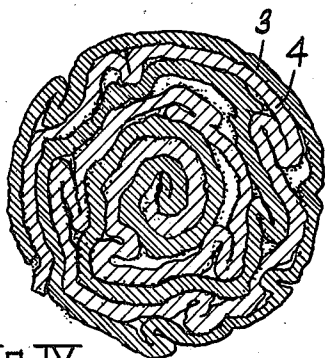


Fig. IV.

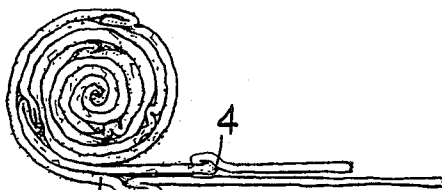


Fig. III.

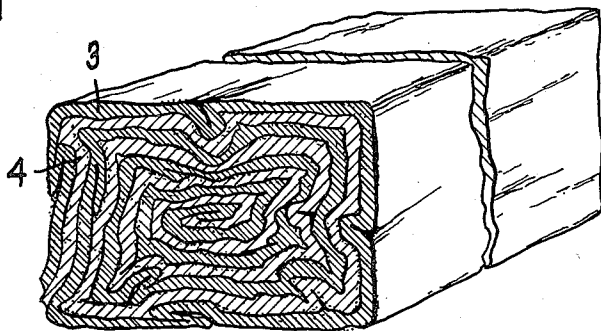


Fig. V.

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UNITED STATES PATENT OFFICE.

CHARLES C. HALL, OF KALAMAZOO, MICHIGAN.

PACKING.

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To all whom it may concern:

Be it known that I, CHARLES C. HALL, a citizen of the United States, residing in the city and county of Kalamazoo, State of Michigan, have invented certain new and useful Improvements in Packings, of which the following is a specification.

This invention relates to improvements in packings.

The main object of the invention is to provide an improved packing which is well adapted as a "junc" ring on hydraulic, low temperature gases, oil, and caustic conditions, and the like.

A further object is to provide an improved packing which is tensily strong and durable and at the same time has good anti-friction and self-lubricating qualities.

Further objects, and objects relating to structural details, will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification. The invention is clearly defined and pointed out in the claims.

A structure which is a preferred embodiment of my invention is clearly illustrated in the accompanying drawing, forming a part of this application, in which:

Fig. I is a plan view of a thin sheet of metal or metal foil such as I employ in my improved packing.

Fig. II is a plan view of a sheet crumpled and coated with lubricant.

Fig. III is a detail view illustrating one of the steps of manufacture, the thickness of the metal being very greatly exaggerated for convenience in illustration.

Fig. IV is a cross section through my improved packing in cylindrical cross section, the lead and copper being indicated by the difference in cross sectioning.

Fig. V is a detail perspective of my improved packing reduced to a rectangular cross section.

In the drawing similar reference characters refer to similar parts throughout the several views.

Referring to the drawing, 1 is a thin sheet of metal or metal foil such as I employ in my improved packing. 2 is a sheet crumpled and coated with lubricant, a paste formed of powdered or flaked graphite and high temperature oil being very satisfactory, al-

though beeswax, Japan wax, glycerine or other lubricants may be employed.

I employ one or more sheets of lead foil, indicated at 3 in Figs. III, IV and V, and copper, indicated at 4 in these figures. These thin sheets of copper and lead foil are both coated with the lubricant and crumpled and then wound together into a scroll so that the lead is at the outside. The lubricant is retained between the sheets and in the pockets thereof so that it is held in a quite uniformly distributed condition and in sufficient quantities to form a self-lubricating packing, the lead itself being regarded by some authorities as an effective lubricant. The copper furnishes support and tensile strength. The packing may be left in cylindrical form as indicated in Fig. IV or compacted into a rectangular form as indicated in Fig. V.

My improved packing is particularly desirable for use in caustic conditions, such as result from using soda ash and the like in boiler water to soften it. These caustic conditions attack Babbitt metal and to a considerable extent lead, but when the latter is combined with copper it is effectively retained. While copper is resistant to the caustic it will score rods, shafts, and stems, but when combined with the lubricant and the lead as in my improved packing this objection is obviated.

My improved packing may be effectively employed as a "junc" ring as it will withstand the severe pressures of packing glands without being forced from the stuffing-box. In Figs. III, IV and V I have greatly exaggerated the thickness of the sheets for convenience in illustration. In practice I preferably employ very thin metal or metal which is commonly designated as metal foil.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A packing comprising a sheet of copper and a sheet of lead crumpled, coated with lubricant, superimposed and rolled together into a scroll so that the lead is at the outside, and compacted.

2. A packing comprising a sheet of lead and a sheet of copper crumpled, coated with lubricant, and rolled together into a scroll.

In witness whereof, I have hereunto set my hand and seal.

CHARLES C. HALL. [L. S.]