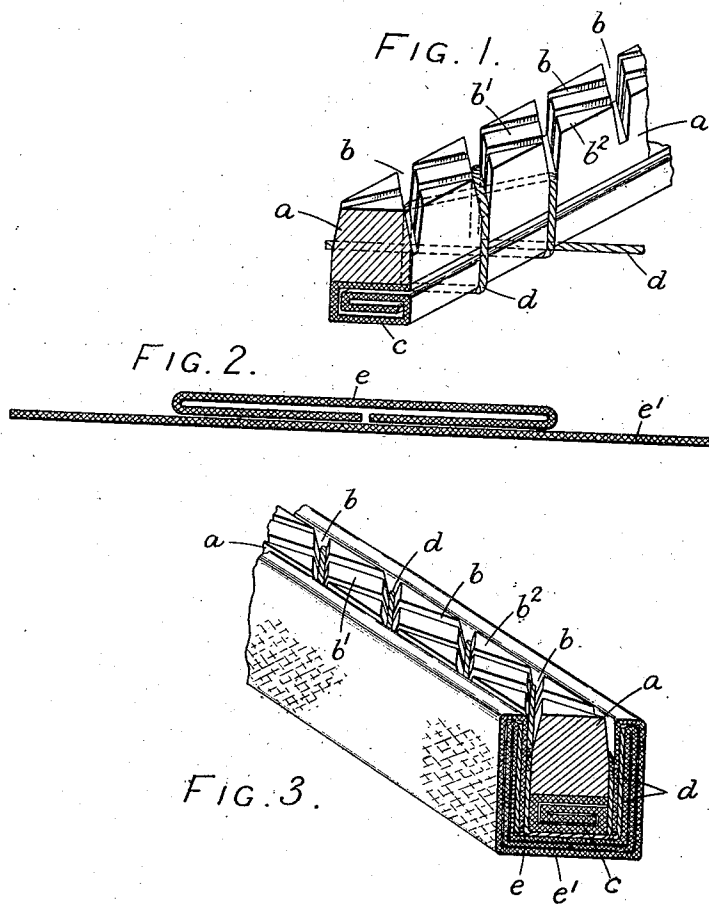


1,426,459.

J. A. CANN AND J. BURROWS.
ENGINE PACKING.
APPLICATION FILED AUG. 16, 1921.

Patented Aug. 22, 1922.



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ENGINE PACKING.

1,426,459.

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To all whom it may concern:

Be it known that we, JOHN ARTHUR CANN, a subject of the King of Great Britain and Ireland, residing at Old Orchard, Harefield, near Uxbridge, in the county of Middlesex, England, and JAMES BURROWS, a subject of the King of Great Britain and Ireland, residing at Longsight Park Terrace, Harefield, aforesaid, have invented new and useful Improvements in Engine Packing (for which we have filed an application in Great Britain Sept. 19, 1919, No. 147,374), of which the following is a specification.

This invention relates to packings adapted for use in stuffing-boxes of steam-engines, pumps and the like, and is of the class wherein several folds of woven fabric are combined with a core of Babbitt or other anti-friction metal; the inner face of the core being however exposed and forming the principal portion of the wearing surface. Such packing material may be made by a continuous process, cut off in lengths corresponding with the circumference of the piston-rod, ram or plunger, to be packed, and inserted, in the form of split rings, in the stuffing-box to be packed.

An engine packing of the type above referred to and constructed according to our invention, comprises a continuous metallic core, a canvas or like backing attached to the core by means of a binding of yarn or the like, and an outer wrapping of folded canvas; the several layers of canvas or like material being treated with india rubber solution and united by vulcanizing. The surface of the metallic core intended to form the working surface is moreover intersected by deep diagonal cross cuts or grooves which not only facilitate the bending of the metallic packing to a circular form but furnish passages for the even distribution of the lubricant to the working surface.

In the accompanying drawings, Fig. 1 is a perspective view illustrating, in a partly finished state, a packing constructed according to our invention; Fig. 2 an edge view of the canvas wrapping hereinafter referred to, and Fig. 3, a perspective view of the improved packing in its completed state.

In carrying out our invention, we take a bar *a* of Babbitt or like anti-friction metal of substantially rectangular cross section. In one face thereof—subsequently to serve as the inner or working face—we form, by cutting or rolling, numerous cross-cuts or narrow grooves *b* arranged diagonally and crossing one another, with the effect that this face assumes the appearance of a series of diamonds or squares b^1 alternating with half-diamonds or half-squares b^2 . We then take a band *c* of cloth or canvas, which may be composed of asbestos or other suitable material, and fold it into a flat roll corresponding in width with that of the metallic core *a*. Having placed the back or outer face of the latter upon the folded canvas *c*, we secure the two together by winding asbestos or other yarn *d* diagonally about them; the said yarn being, in the present illustration, inserted in some of the diagonal cuts or grooves *b* in the metallic core *a* and passing round the canvas backing *c* before referred to. We next form a canvas wrapping consisting of a strip *e* folded to a width approximately corresponding with the back and two sides of the combined canvas backing *c* and core *a* in conjunction with an unfolded strip *e*¹; and having applied such wrapping to the combined metallic core and canvas base described with reference to Fig. 1, we arrange the wrapping about the latter as shown in Fig. 3. We then place the whole in a mould and subject it to vulcanization; the several layers of canvas having, prior to folding, been treated with india rubber solution.

When a length of compound packing constructed in the manner hereinbefore described is bent to a circular form, edges of adjacent diamonds and half diamonds (or squares and half-squares) approach one another until they become contiguous and form a practically continuous metallic working surface. We deem it, however, preferable to make the cross cuts or grooves of such a width, or to restrict the bending to such an extent, that slight interstices remain in the working surface of the core *a*. By forming the cross-cuts or grooves *b* in the manner

described, they become continuous and serve as passages for the supply of lubricating fluid to all parts of the working surface.

We claim:—

- 5 1. An engine-packing comprising a continuous metallic core, a canvas-like backing attached thereto by means of a yarn-like binding, and an outer wrapping of folded material, such as canvas, the several layers
10 of canvas-like material being treated with india rubber solution and united by vulcanizing.
2. An engine packing comprising a continuous metallic core, a canvas-like backing attached thereto by means of a yarn-like binding, and an outer wrapping of folded material, such as canvas; the working surface of the core being formed with intersecting diagonal cross-cuts, which constitute continuous passages for the conveyance of lubricating fluid, substantially as set forth.

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