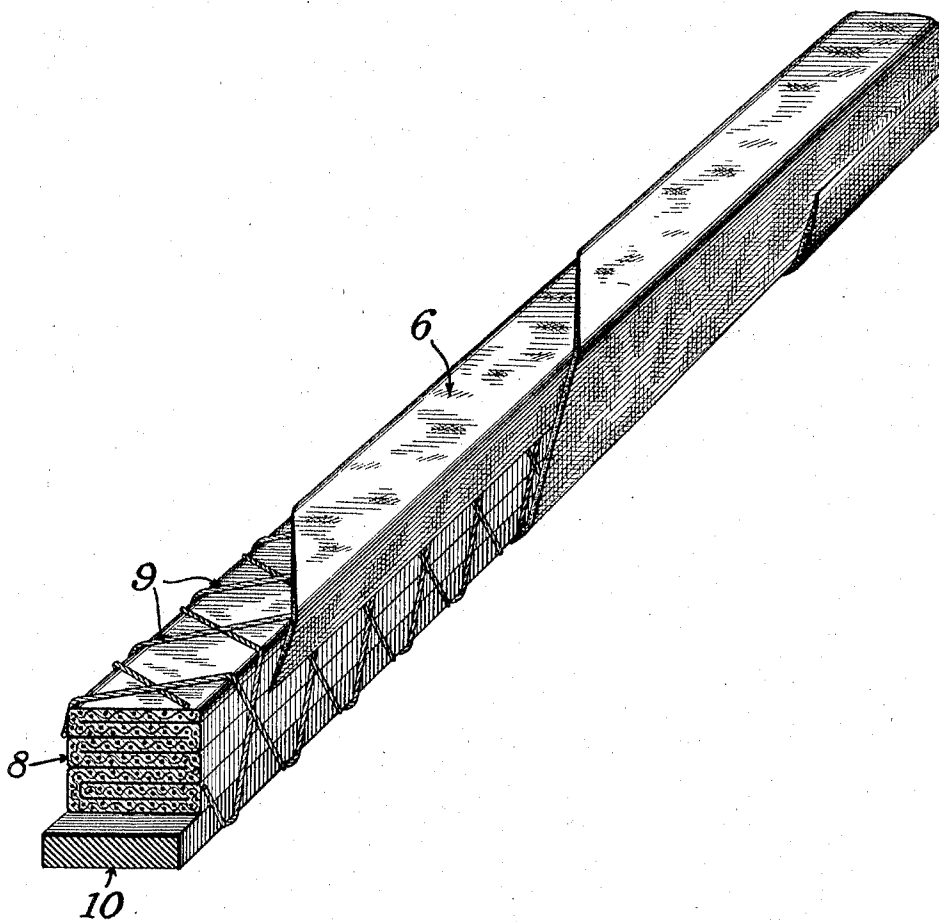


B. C. McCLURE.
ROD PACKING.
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1,325,876.

Patented Dec. 23, 1919.



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ROD-PACKING.

1,325,876.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, BENJAMIN C. McCLOURE, a citizen of the United States of America, residing at Scarsdale, county of Westchester, State of New York, have invented certain new and useful Improvements in Rod-Packings, of which the following is a specification.

My invention relates to rod packing for use in stuffing boxes around piston rods, valve rods and the like, and consists of an improved combination of woven fabric and elastic material such as rubber producing a structure of great durability and elasticity under compression, and also most conveniently and easily made.

The best form and arrangement of parts embodying my invention at present known to me is illustrated in the accompanying figure of drawing which shows a perspective view of a piece of packing made in accordance with my present invention, parts being broken away to show the interior construction.

Referring to the drawing, 8, is the main portion of the core preferably made by folding a strip of textile fabric back and forth upon itself to form a plurality of plies. For this purpose I prefer to use a cloth woven of asbestos and cotton, though other material which would form a tough, slightly expansible block would serve. 10, is a strip of more yielding and elastic material such as rubber. The two elements, assembled as shown in the drawing, are bound tightly together by an open-mesh network, or loosely braided skeleton structure 9, of any suitable strong thread.

The core so formed has the desirable characteristics of a core for rod packing in that it is slightly compressible in all directions, and when compressed in a direction parallel to the layers of material tends freely to expand by the bending or buckling of the layers in the direction at right angles to such layers and so to completely fill the space in the stuffing box.

Another great advantage of this core construction is that it lends itself to rapid and economic manufacture in that the folded block 8, and rubber strip 10, assembled as shown, can be fed through an ordinary braiding machine and the confining skeleton network 9, rapidly braided thereon. The com-

pleted core can be thus made with little hand labor and without the use of cements of any kind. Because of the absence of cement it retains its original elasticity and expansibility indefinitely under the described conditions of use as well as during storage and handling, there being no hardening process occurring with age, as is the case where cement is used to hold the parts together.

It should be understood that the network 9, is of an extremely open mesh, so that it can be applied rapidly in the process of manufacture and is of such an open or skeleton-like character that it is incapable of performing any function whatever as a covering. The skeleton simply binds and holds the core layers together during the process of manufacture (thus avoiding the use of cement) until the strong, outer wrapping 6, of asbestos, or other strong cloth, is applied. The latter is usually wrapped twice around the core and cemented in position so that it completely protects the netting 9, from abrasion, when the packing is put into use. The netted or braided form of fabric, even if closely braided of coarse thread so as to form a continuous covering for a core, is unsuited for service as the outer wrapping of a rod packing because it cannot be made thick enough to fulfil the requirements of a suitable outer covering. As a consequence it would soon wear through at one or more points and then rapidly ravel out. The point of my invention resides in the discovery that the proper and most useful function of such a braided structure is to make it a skeleton, not a continuous covering so that its function is the mere binding together of the core material until the proper heavy, outer cover of closely woven cloth can be wrapped on. This skeleton netting can be applied by the ordinary braiding machine, the folded core material being fed rapidly through the braider by the action of the folding rolls which deliver the folded block 8, to the braider. Thus the folding and binding of the core block are done at one operation, practically dispensing with hand labor and the use of sticky cements which are the cause of much delay and waste even in the hands of skilled operatives. The result is rapidity, economy and accuracy in manufacture, and a more elastic packing as a product. Furthermore, this elasticity, resulting

from the core structure, is permanent, as above stated, there being no cement in the core to harden with age.

Having described my invention, I claim:

5 1. A piston rod packing comprising in combination a core block composed of parallel layers of material free to bend apart, a strip of elastic material and an open mesh skeleton netting of fine thread surrounding
10 said core block, together with an external wrapping of thick woven fabric forming the outer wearing surface of the packing.

2. A piston rod packing comprising in combination a core block composed of a sheet
15 of woven fabric folded on itself to form layers of material free to bend apart, an

open mesh skeleton netting of fine threads surrounding said core block and an external wrapping of thick woven fabric cemented about the core block and forming the outer
20 wearing surface of the packing.

3. A piston rod packing comprising in combination a core block of parallel layers of material free to bend apart, an open mesh skeleton netting of fine thread surrounding
25 said core block, and an external wrapping of thick woven fabric forming the outer, wearing surface of the packing.

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Witnesses:

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