

No. 818,023.

PATENTED APR. 17, 1906.

O. J. GARLOCK.
ROD PACKING.

APPLICATION FILED OCT. 11, 1905.

Fig. 1.

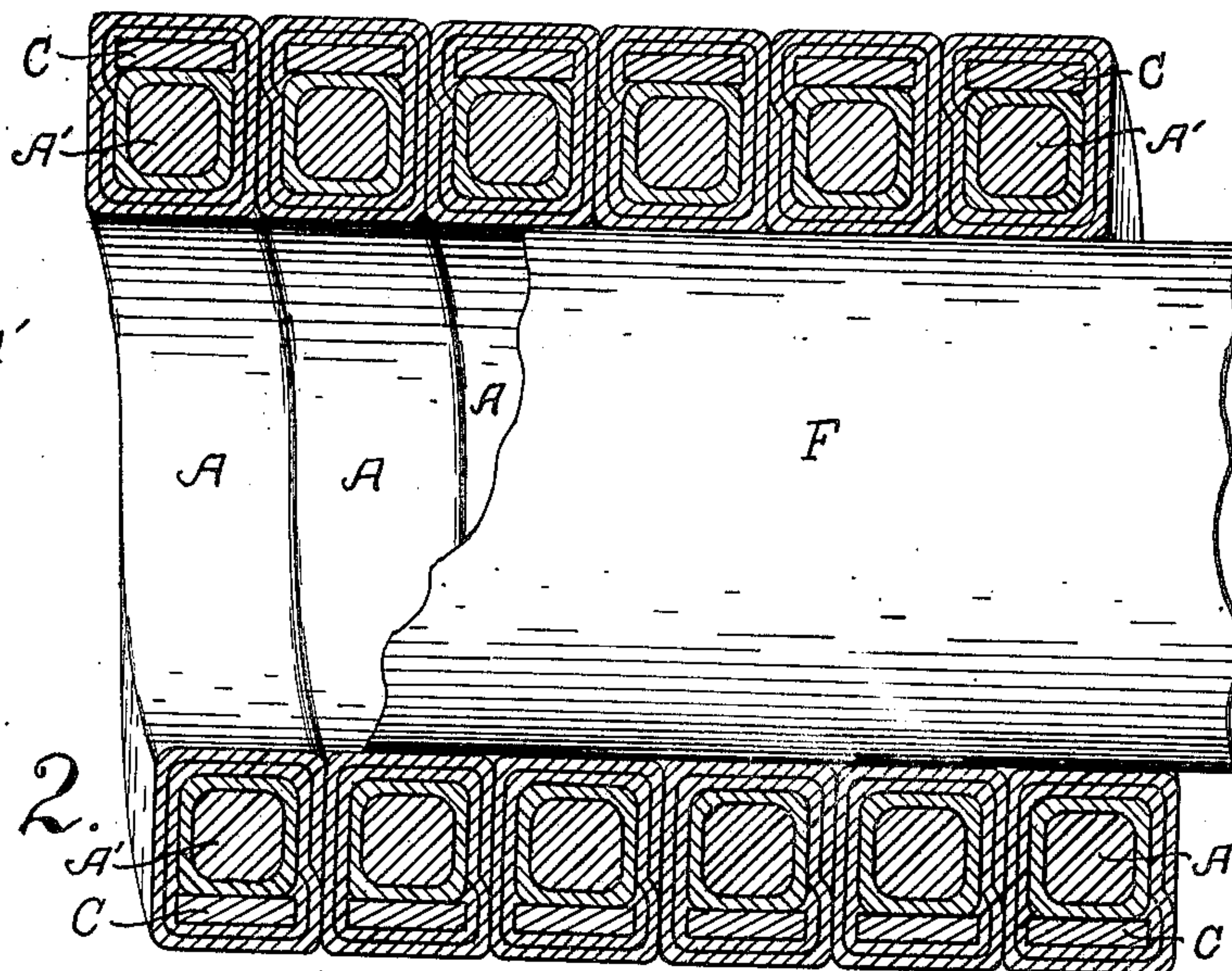
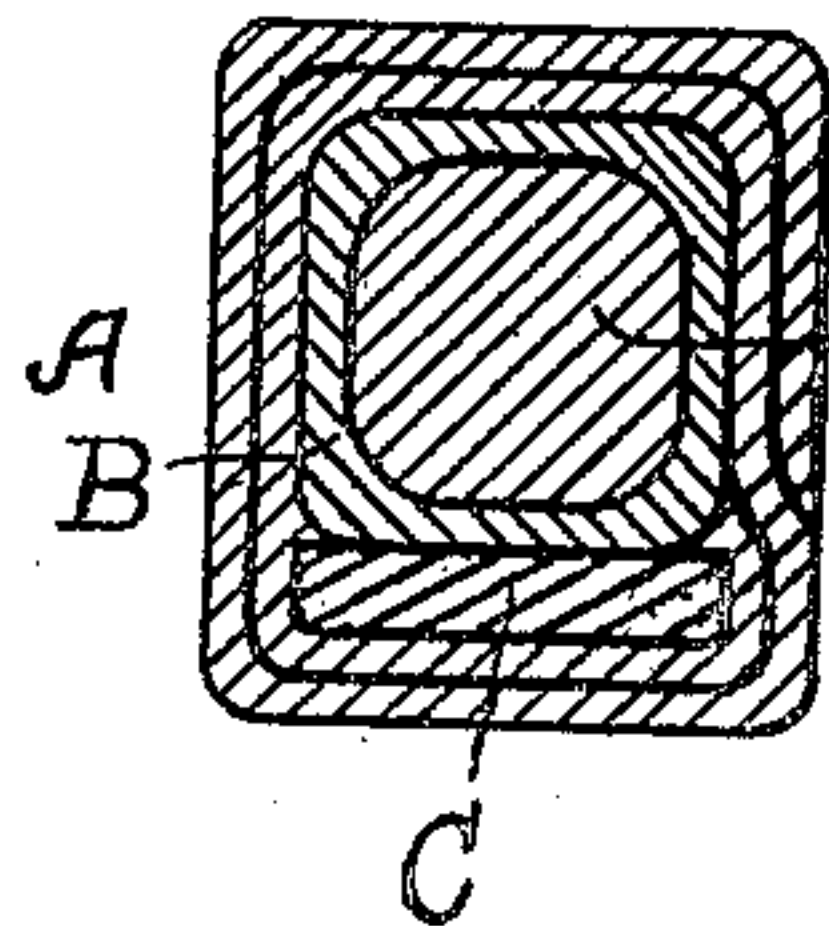


Fig. 2.

Fig. 3.

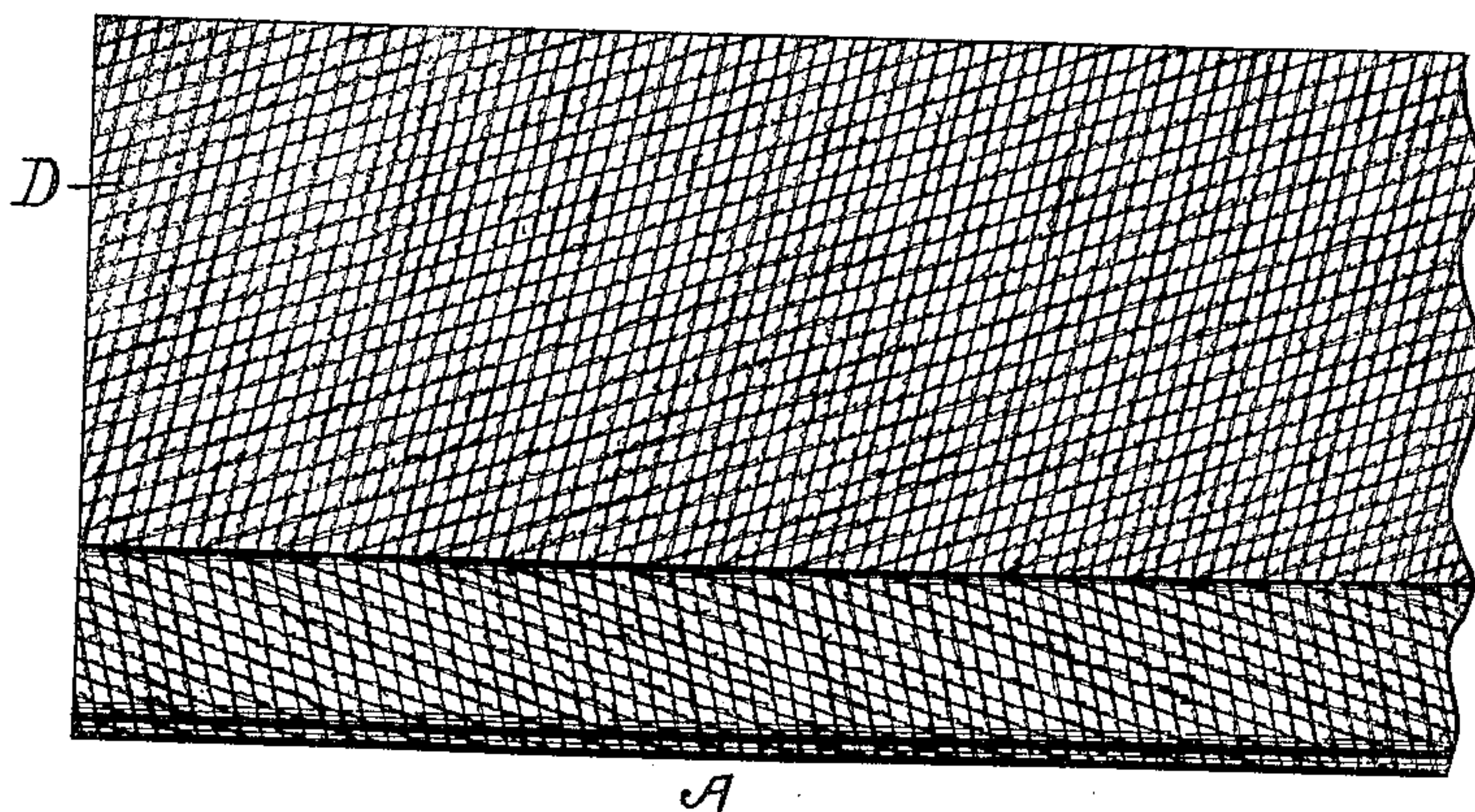
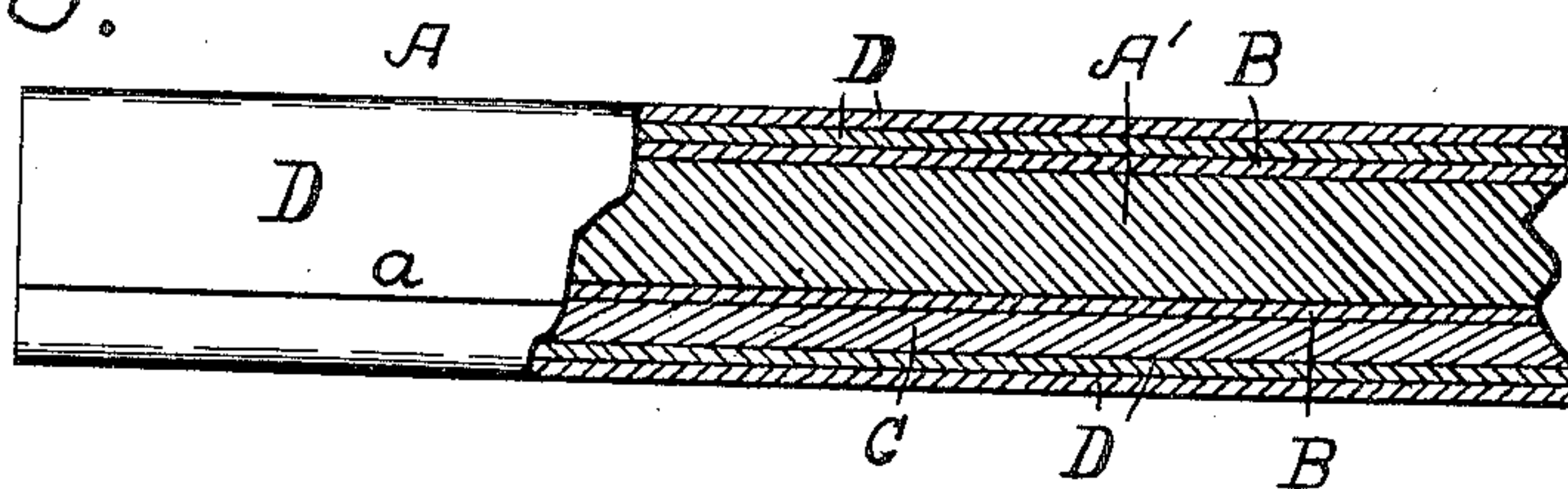


Fig. 4.

Attest:

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UNITED STATES PATENT OFFICE.

OLIN J. GARLOCK, OF PALMYRA, NEW YORK.

ROD-PACKING.

No. 818,023.

Specification of Letters Patent.

Patented April 17, 1906.

Application filed October 11, 1905. Serial No. 282,327.

To all whom it may concern:

Be it known that I, OLIN J. GARLOCK, of Palmyra, in the county of Wayne and State of New York, have invented a new and useful Improvement in Rod-Packing, which improvement is fully set forth in the following specification and shown in the accompanying drawings.

My present invention is a new and novel packing for piston-rods designed especially for use with steam-engines working under high pressure, this packing being known and designated in the trade as "high-pressure-steam packing." Rod-packing for this particular use and purpose is subjected to a higher degree of heat than packing generally and needs to be composed of materials and built up with reference to this use and for resisting vulcanization.

The packing herein shown and described is composed of materials and parts of a nature and quality that enable it to withstand the action of high temperatures without deterioration or injury, the india-rubber portion being practically non-vulcanizing, and the asbestos employed in the make-up will not burn.

The packing is also constructed especially for this purpose and to attain this object, reference being had to the accompanying drawings, which with the reference characters marked thereon form a part of this specification, the construction and process of manufacture being particularly pointed out in the appended claims.

Figure 1 drawn to an exaggerated scale is a transverse section of a rope of this packing. Fig. 2 shows the packing as coiled in a stuffing-box around a piston-rod, the body of packing being longitudinally sectioned through the axis of the rod. Fig. 3 is a side view of a portion of a rope of the packing, partly in axial section. Fig. 4 shows in plan a portion of the rope with the external wrapper partially unwound.

In the drawings, A, Fig. 3, represents a portion of a rope of this improved packing. A', Figs. 1 and 3, is a core or center strand of loose fiber, preferably asbestos, pure and unmixed with other substances, cylindrical in form, and B a firm tubular wrapper or sheath of asbestos cloth braided upon the strand A' in a manner to compress the free fibers of the strand. C is a flat strip of pliable india-rubber of such quality as to resist vulcanization as perfectly as possible, it being substantially

non-vulcanizing. This strip is preferably made rectangular in cross-section and laid flat against or upon one side of the braided sheath B, the adjacent surfaces of the latter and the india-rubber strip being first coated or smeared with a liquid india-rubber cement. This primary body, consisting of the said strand or core A', the wrapper or sheath B, and the rubber strip C, is then subjected to lateral pressure to firmly press the said strip against the wrapper B and to give said body a form approximately rectangular in cross-section and left to harden under such pressure. Subsequently the outer wrapper D is wound upon the said primary body, being passed twice around the body. This wrapper consists of braided asbestos cloth containing, preferably, in its make up a small amount of india-rubber and is placed upon the body biasing or with the threads running in inclined directions, as appears in Fig. 4. Previous to winding this outer wrapper upon the body the latter and said outer wrapper are covered or coated with cement to cause them to firmly adhere, the final edge of the wrapper meeting a side of the body A at a line *a*, Fig. 3. When the wrapper D is thus put to place, the final body or rope A is again subjected to pressure or calendered between grooved rollers, which after again hardening completes the structure, the finished rope then having the form of cross-section shown in Fig. 1, it being substantially rectangular with its opposite sides or faces parallel. The rope thus formed is in condition and ready to be worked up into spiral bodies or rings for packing rods, as stated, or it may be formed into coils or other manner of packing as found necessary and desirable.

Fig. 2 of the drawings shows rings or spirals of the packing as in a stuffing-box around a piston-rod F, the rubber backing C being distant from the rod or near the convex side of the body of packing and in position to by its elasticity urge the inner portion of the packing against the reciprocating rod.

The fibrous asbestos core A' acts as a reservoir for the lubricating-oil and serves to gradually supply the cloth wrappers B and D with the same. There is no cement employed between the asbestos core A' and the asbestos yarn going to make up the primary wrapper or sheath B. When the core is run through the braider to have the wrapper formed upon it, both the yarn and the fiber of the core are in a dry state.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. Packing for piston-rods, consisting of a strand of loose fiber, as asbestos, a tubular wrapper of asbestos for said fiber strand, and a strip of non-vulcanizing india-rubber parallel with the fiber strand and in contact with said wrapper, and an outside wrapper for said parts.
2. Packing for piston-rods, consisting of a rope having a center strand of fiber, and a tubular, braided asbestos sheath for said center strand, a flat strip of non-vulcanizing india-rubber cemented to the sheath, and an outside wrapper wound upon and cemented to said sheath and the india-rubber strip.
3. The process of constructing a rope of packing, such as described, consisting in

braiding a sheath upon a strand of fiber, keeping said fiber and sheath in a dry state, adding to said sheath a strip of india-rubber with cement between, submitting the body thus formed to lateral pressure, allowing the same to harden under pressure, and applying an outer wrapper to the said compressed body with cemented surfaces, and finally calendering the whole body to give it form approximately rectangular in cross-section.

In witness whereof I have hereunto set my hand, this 2d day of October, 1905, in the presence of two subscribing witnesses.

OLIN J. GARLOCK.

Witnesses:

F. W. GRIFFITH,

J. H. L. GALLAGHER.