

L. KATZENSTEIN.

PACKING.

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945,039.

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Fig. 1.

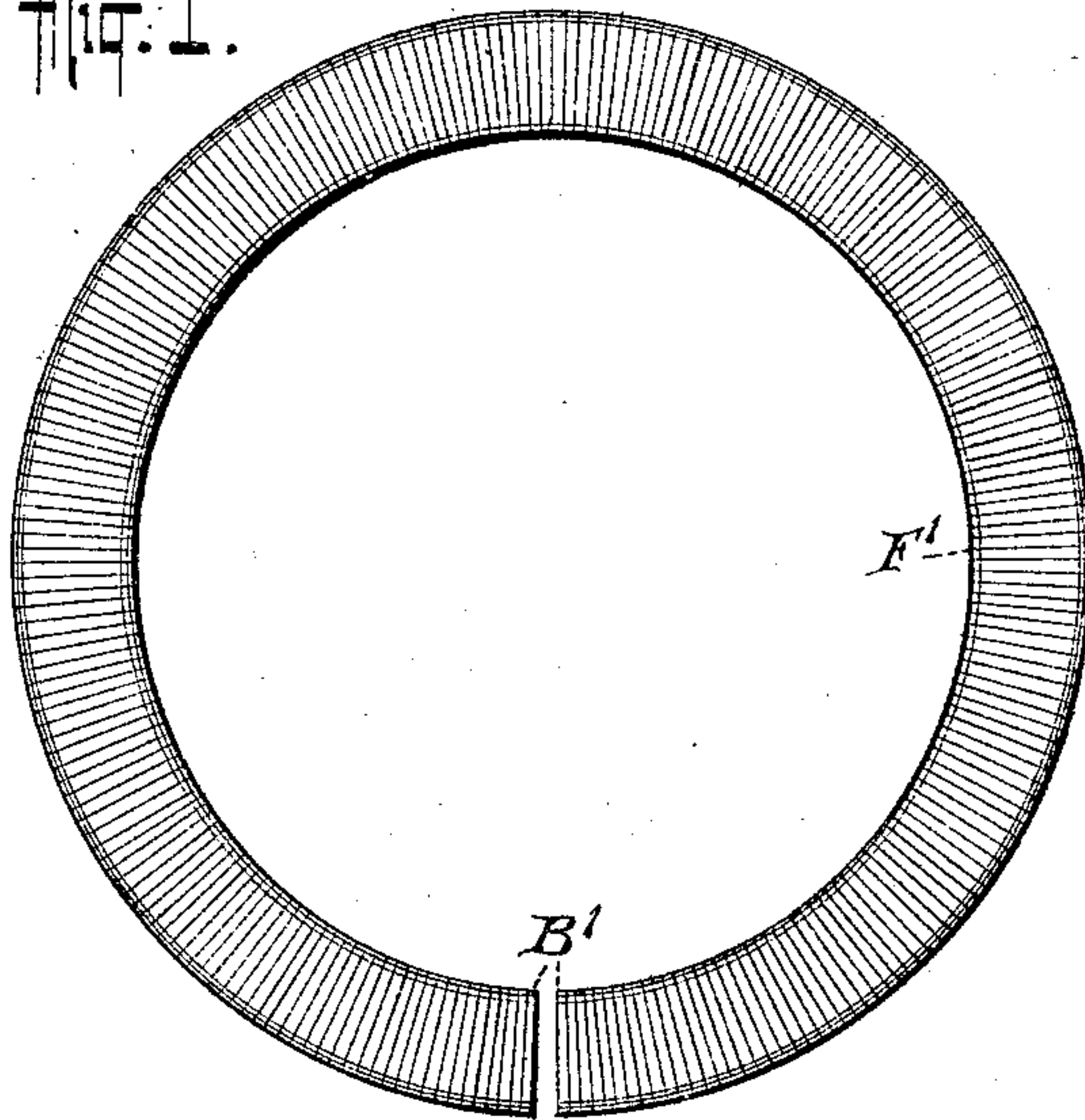


Fig. 2.

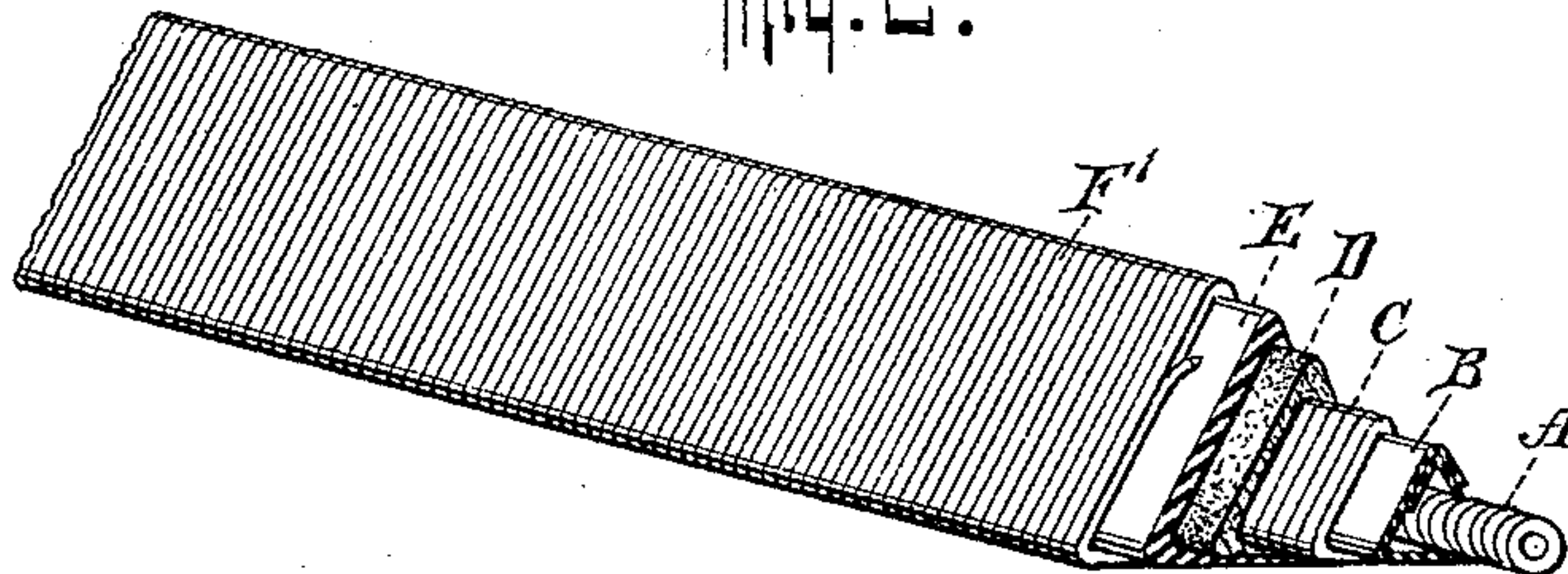


Fig. 3.

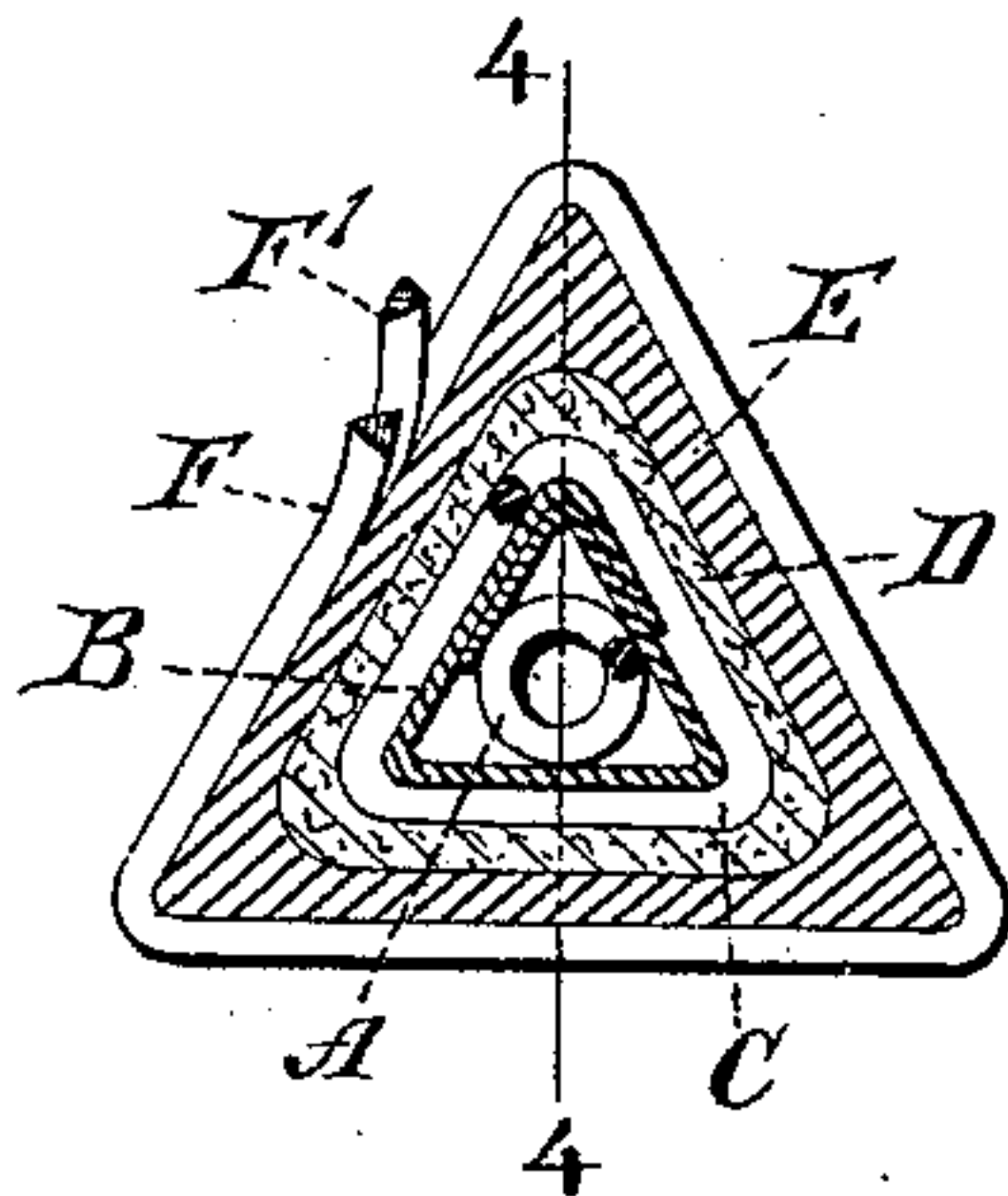
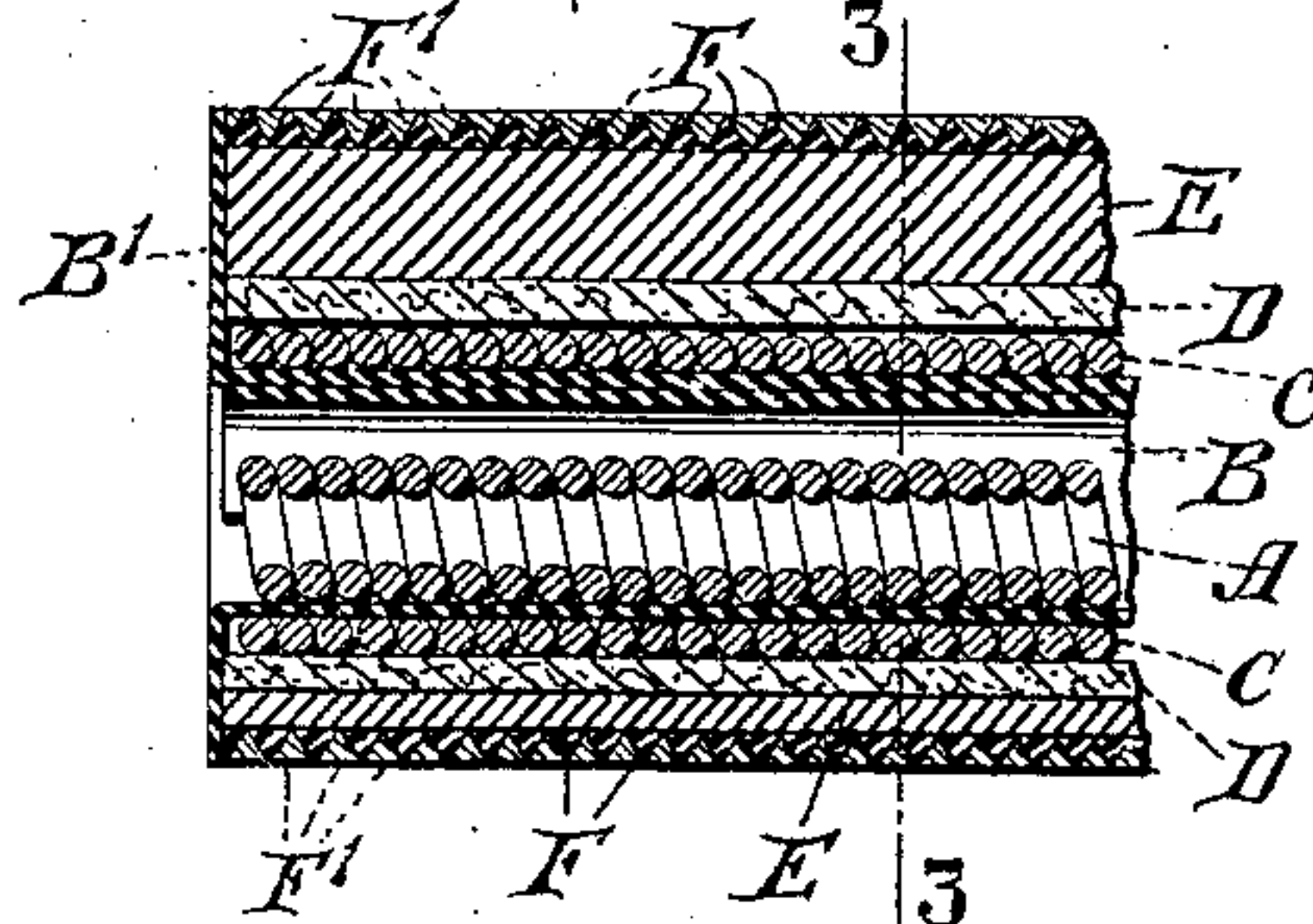


Fig. 4.



WITNESSES

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PACKING.

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To all whom it may concern:

Be it known that I, LEOPOLD KATZENSTEIN, a citizen of the United States, and resident of the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Packing, of which the following is a specification.

My invention relates to a flexible tubular metallic packing commonly used in connection with expansion joints, steam or water pipes or piston rods and like mechanisms and has for its object to provide a flexible packing of this description which is self adjusting and which produces a tight packing.

Other objects of my invention will appear from the description hereinafter and the features of novelty will be pointed out in the appended claims.

Reference is to be had to the accompanying drawings in which—

Figure 1 is a face view of my improved packing; Fig. 2 is a sectional perspective view thereof; Fig. 3 is a cross-section thereof on the line 3—3 of Fig. 4 and Fig. 4 is a longitudinal sectional view on the line 4—4 of Fig. 3.

My improved packing comprises a core A formed of coiled copper or other wire which is surrounded by a layer of brass or other metal B preferably in sheet form and bent into the form of a tube triangular in cross section. The edges of this layer B overlap each other as clearly shown in Figs. 2 and 3 so as to permit said brass tube to contact or expand as may be necessary. A second coil of copper or other wire C is coiled about the metallic layer B and is in turn surrounded by a sheet of asbestos or similar fibrous material D. A layer of sheet lead E is applied over the asbestos sheet D and two coils of copper or other wire F and F' are wound about said sheet lead E to complete the packing. It will be noticed that the wires F and F' are each of triangular cross section and that the wire F is applied with the base of the triangle adjacent to the sheet lead E and the apex thereof extending outwardly, while the wire F' is applied in the reverse manner with the base of the triangle outward and the apex thereof projecting inwardly, in the spaces between the coils of the wire F. The packing as a whole is thus substantially triangular in cross-section the sheet of metal B forming the foundation for said triangular shape. The

said sheet of metal B preferably has its ends bent outwardly to form flanges B' which cover the ends of said packing and maintain the various other elements in proper position.

My invention provides a packing which is readily flexible and automatically adapts itself to varying conditions and yet is easily returned to normal shape and condition and accommodates itself to the pipes and rods to which it is applied. By making the exterior surface of two coils of wire of triangular cross section fitted one within the other a smooth finish or outer face is secured without impairing in any way the flexibility of the packing. In other words the wire F forms a sort of screw-thread and the wire F' forms a similar screw thread which fits into the screw thread formed by the wire F. Steam and water may also have access to the interior of the packing through the open ends of the coil A to expand the packing outwardly against the walls of the stuffing box.

The ends of the completed packing are simply brought together without being secured together to allow for expansion and contraction of the packing when in use. If desired the packing may be made other than of triangular cross section.

Various modifications may be made without departing from the nature of my invention as defined in the claims.

I claim:

1. A packing comprising an inner coil spring, a flexible metallic tube substantially triangular in cross section, surrounding said coil, a winding of wire about said metallic tube, a fibrous covering over said winding of wire, a soft metallic cover inclosing said fibrous covering and a winding of wire about said metallic cover.

2. A packing comprising a tubular flexible foundation substantially triangular in cross section, a series of superimposed layers of material surrounding said foundation and a coil spring located inside of said foundation.

3. A packing comprising a flexible metallic foundation, a fibrous layer surrounding said foundation and a continuous metallic covering inclosing said fabric layer.

4. A packing comprising a series of superimposed layers of material and an outer covering composed of windings of wires having a triangular cross-section, one wire having

the apex of the triangle extending outwardly and the other winding having the apex of the triangle extending inward in the space between the windings of the first named
5 wire, so as to form a smooth outer surface.

5. A packing comprising an inner flexible member, a hard metallic covering over said member, a fibrous covering over said hard metallic covering, a soft metallic cover in-

closing said fibrous covering, and a flexible 10 metallic cover about said soft metallic cover.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

LEOPOLD KATZENSTEIN.

Witnesses:

JOHN A. KEHLENBECK,
JOHN LOTKA.