A. F. BOOK.

PACKING.

APPLICATION FILED FEB. 28, 1908.

900,653. **Patented Oct. 6, 1908.**

Fig. 1.

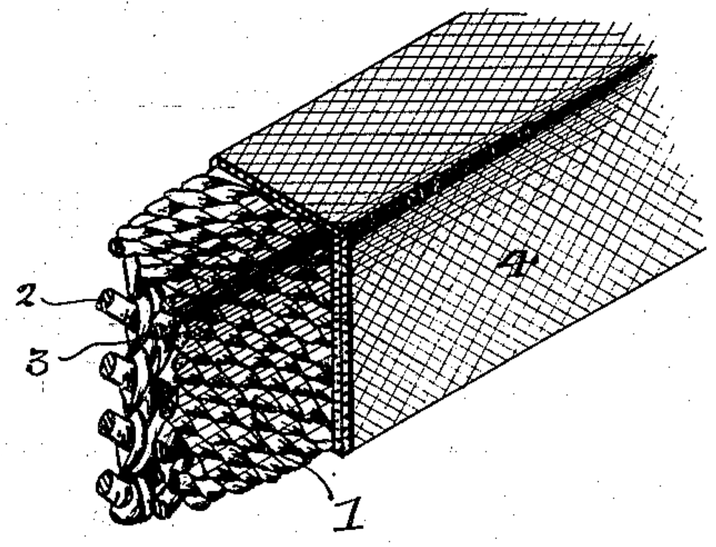


Fig. 2.

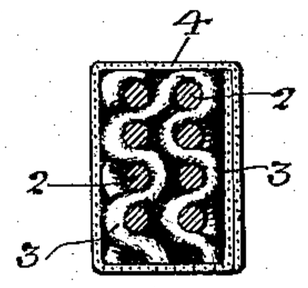


Fig. 3.

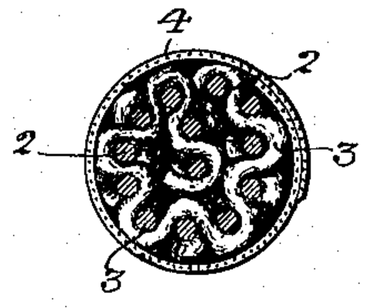


Fig. 6.

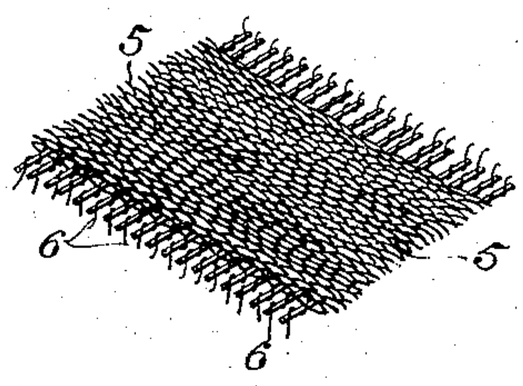


Fig. 4.

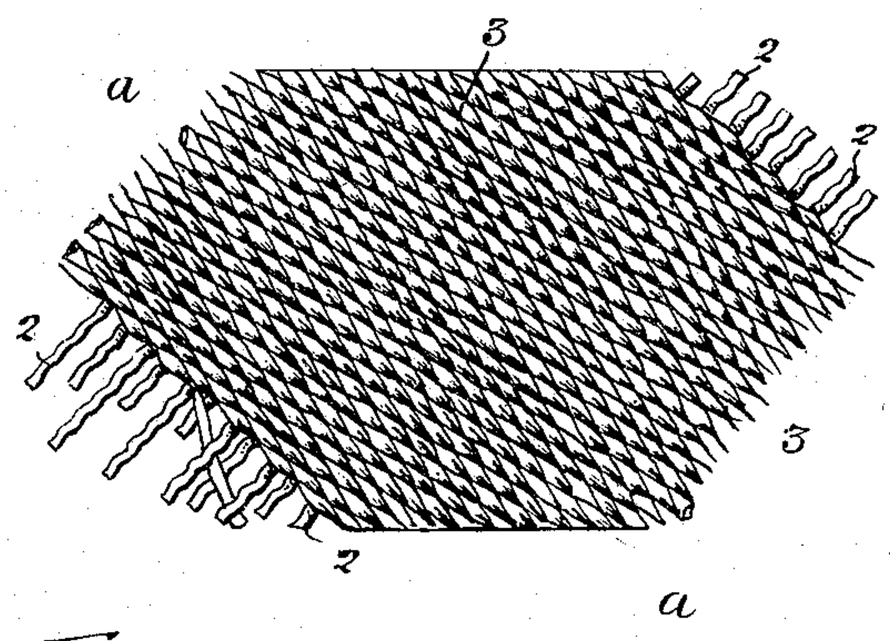
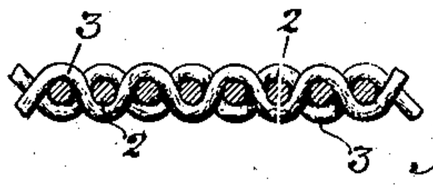


Fig. 5.



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UNITED STATES PATENT OFFICE.

ABRAM FRANK BOOK, OF CHALFONT, PENNSYLVANIA.

PACKING.

No. 900,653. Specification of Letters Patent. Patented Oct. 6, 1908.

Application filed February 28, 1908. Serial No. 418,315.

To all whom it may concern:

Be it known that I, ABRAM FRANK BOOK, a citizen of the United States, and a resident of Chalfont, Bucks county, Pennsylvania, have invented certain Improvements in Packing, of which the following is a specification.

My invention relates to packing for piston rods, compressor plungers and other similar structures requiring the maintenance of a steam or water-tight joint; and the object of my invention is to provide an improved form of fibrous packing having a maximum efficiency with a minimum of expense and cost of maintenance.

My invention is fully shown in the accompanying drawings, in which:

Figure 1, is a sectional perspective view of the improved packing made in accordance with my invention; Fig. 2, is a cross-sectional view of the packing shown in Fig. 1; Fig. 3, is a cross-sectional view of a modified form of packing embodying my invention; Fig. 4, is a view of the fabric from which the body of my improved packing is made; Fig. 5, is a sectional view on the line *a*—*a*, Fig. 4, and Fig. 6, is a view of the fabric of which the cover of my improved packing is made.

The packing forming the subject of my invention consists of a body portion 1, made of a fabric composed of fiber and metal, which fabric is fully illustrated in Fig. 4. This cloth is a compound structure, comprising threads of lead or similar metal indicated at 2, and the interwoven threads of asbestos fiber indicated at 3. The threads of wire lie substantially straight throughout the fabric, and the asbestos fiber is interwoven around the same, as clearly indicated in Fig. 5 of the drawings. A suitable piece of this combined metal and fiber cloth is cut, preferably on the bias, as indicated in Fig. 4, and folded over upon itself, as indicated in Figs. 1 and 2, one or more times, to provide the size of packing desired. Prior to this doubling or folding of the fabric composing the body of the packing, it is saturated with paraffin, the latter penetrating and wholly impregnating the fibrous portion of the packing.

When the packing is dried after such soaking, it is folded upon itself as many times as desired, compressed into shape substantially in the manner indicated, and then provided with a fibrous cover 4. This cover is composed of crossing threads of asbestos fiber 5 and metal 6; the metal in this instance being brass in the shape of fine wire twisted with each of the fiber strands. This cover is held in place by suitable securing means, such as rubber cement, which may be applied to the entire surface of the same or only to the parts which are actually in contact, as indicated in the cross-sectional views, Figs. 2 and 3. The surface covering of the finished packing is coated with plumbago, graphite or the like, and coiled in the manner well known in the art for sale and subsequent use.

Fig. 3, shows a section of round packing made of fabric such as shown in Fig. 4, as a body portion, and the fabric shown in Fig. 5, as a covering for the same.

The advantages of such packing are many, among which may be mentioned the ease with which it may be compressed when in use to effect a tight joint, the automatic lubrication due to the melting of the paraffin under the heat generated by friction, and its power of endurance due to the materials employed. The presence of paraffin prevents all danger of carbonization due to heat in the use of the packing. Practice has shown that the packing will withstand heat of upwards of 600° F., before it is injuriously affected.

I claim:

1. As a new article of manufacture, packing composed of a body member consisting of a woven fabric made of fibrous and metallic threads, a body of paraffin penetrating and impregnating the same, and a fabric cover inclosing said body portion.

2. As a new article of manufacture, packing composed of a body member comprising a woven fabric having fibrous and metallic threads, a body of paraffin penetrating and impregnating the same, and a fabric cover of fibrous and metallic threads inclosing said body portion.

3. As a new article of manufacture, packing composed of a body member consisting of a woven fabric of mineral fiber and soft metal threads, a body of paraffin penetrating and impregnating said body portion, and a fabric cover inclosing the same.

4. As a new article of manufacture, packing composed of a body member comprising a woven fabric consisting of threads of mineral fiber and threads of a soft metal, a coating of paraffin penetrating and impregnating the same, a cover of fabric consisting of

threads of asbestos fiber and brass wire inclosing said body portion, and a graphite coating for said cover.

5. The combination, in packing, of a body portion comprising fabric made from fibrous and metallic threads in which said threads are disposed diagonally at right angles to each other, a body of paraffin penetrating and impregnating the fibrous threads, and a cover for said body portion.

6. The combination, in packing, of a body portion comprising fabric made from asbestos and lead threads in which said threads are disposed diagonally at right angles to each other, a body of paraffin penetrating and impregnating the asbestos threads, and a cover for said body portion composed of a lighter fabric of fibrous and metallic threads secured by suitable cementitious material.

7. The combination, in packing, of a body portion comprising fabric made from fibrous and metallic threads in which the threads are disposed diagonally at right angles to each other, a body of paraffin penetrating and impregnating the fibrous threads, a cover for said body portion, and a coating of graphite, plumbago or the like for said cover.

8. The combination, in packing, of a body portion comprising fabric made from asbestos and lead threads in which the threads are disposed diagonally at right angles to each other, a body of paraffin penetrating and impregnating the fibrous threads, a cover for said body composed of a lighter fabric of brass wire and asbestos fiber secured to the body by rubber cement, and a coating of graphite, plumbago or the like for said cover.

9. As a new article of manufacture, packing composed of a body member comprising a woven fabric consisting of interwoven fibrous and metallic threads, and a body of paraffin impregnating and coating said fibrous threads.

10. As a new article of manufacture, packing composed of a body member comprising interwoven asbestos and lead threads, said fibrous threads impregnated and coated with a body of paraffin, and a covering consisting of interwoven fibrous and metallic threads inclosing said body portion.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

ABRAM FRANK BOOK.

Witnesses:
FRED. E. BRISTER,
M. C. LANGHENY.