(No Model.)

W. J. ELLIS.

PACKING

No. 522,459. Patented July 3, 1894.

Fig. 1

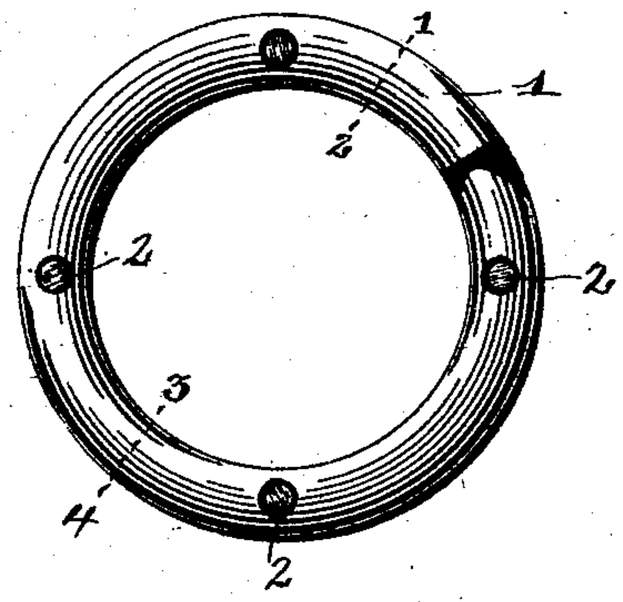


Fig. 2.

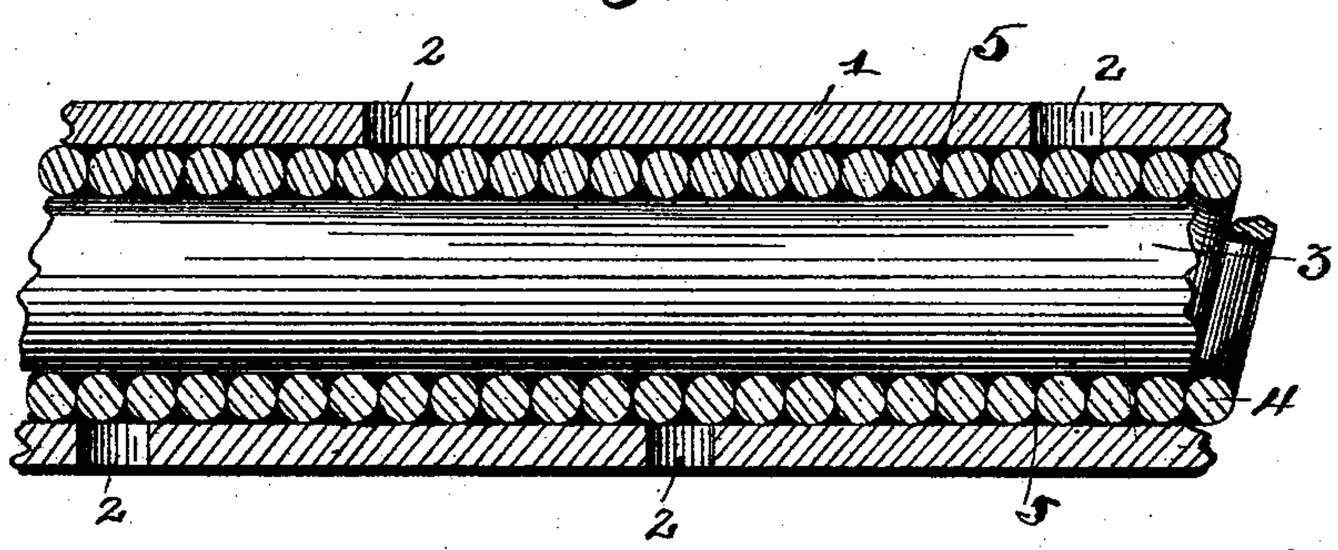


Fig. 3.

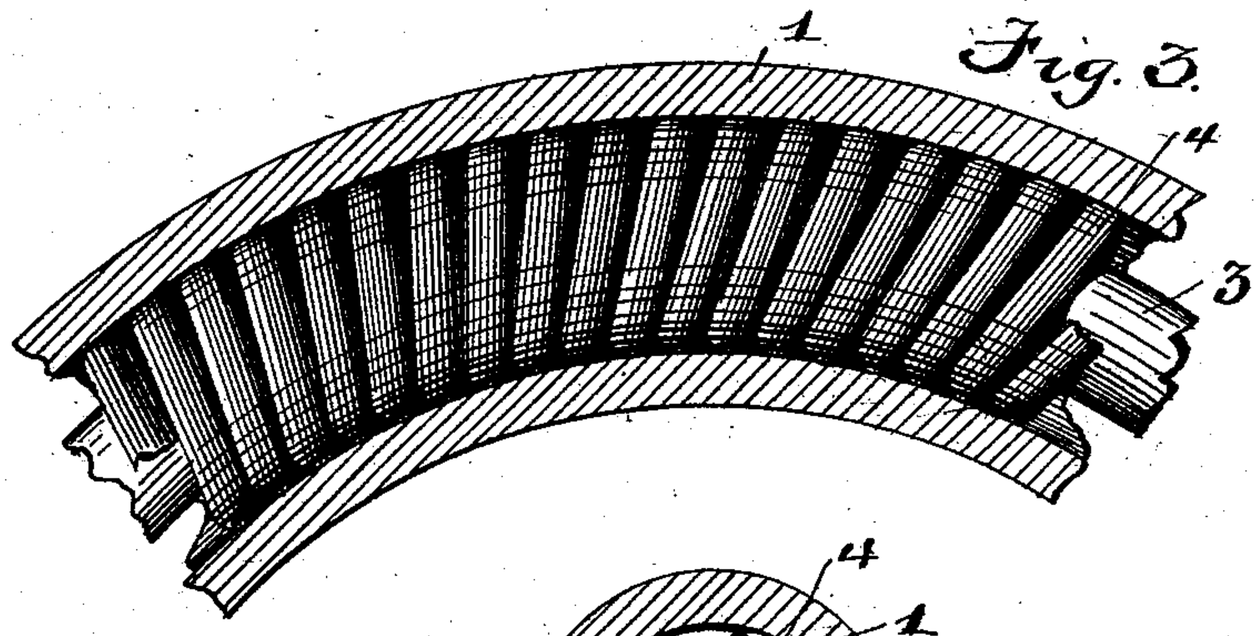
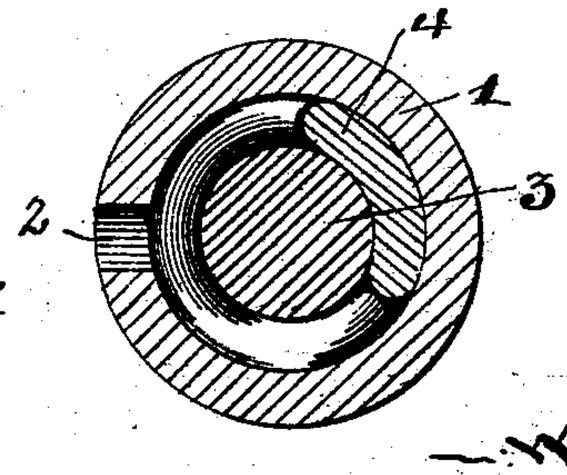


Fig. 4



Witnesses:—
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UNITED STATES PATENT OFFICE.

WILLIAM J. ELLIS, OF PHILADELPHIA, PENNSYLVANIA.

PACKING.

SPECIFICATION forming part of Letters Patent No. 522,459, dated July 3, 1894.

Application filed April 23, 1894. Serial No. 508,635. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. ELLIS, a citizen of the United States, and a resident of the city of Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a certain new and useful Improvement in Packing, of which the following is a specification.

My invention relates to an improved packing for use in glands or packing boxes of pistons, and in other similar situations.

The invention consists in the matters hereinafter set forth and pointed out in the appended claims.

In the drawings:—Figure 1—is an end view of my improved packing. Fig. 2—is a longitudinal section of a portion of the packing. Fig. 3—is a longitudinal section of the same taken at right angles to that shown in Fig. 2; and Fig. 4—is a cross section of the improved packing.

Similar numerals of reference indicate similar parts in all of the figures.

Referring to the drawings, 1 designates the outer covering of the packing, formed of lead and having the cylindrical shape shown in Fig. 4. Located on opposite sides of this outer covering, as clearly shown in Fig. 2, are openings 2, formed therein for the purpose of the easy removal of the packing, after it has been placed in the cylinder and has been mashed, &c., by the action of the piston. By inserting a hook of any description into one of these holes, the packing can be removed without the necessity of "chipping it out."

3 indicates a core, formed of rubber or asbestus, as desired, around which is wound, in spiral form, a strip of lead wire, 4, as indicated in Figs. 2, 3, and 4. This lead wire may be formed entirely of lead, or it may be formed of an admixture of lead, combined with some alloy, such as tin, or a substitute, so that the tensile strength of this lead wire will be increased, and the liability to heat from friction, &c., be lessened. After this spiral has been wound, the same is dipped in a solution of rubber cement, or rubber solution, after which the same is coated with plumbago or graphite. This combination fills the interstices formed between the lead wire and the outer covering, as shown at 5, and forms a perfectly smooth surface between the two parts, thereby making the packing of greater effectiveness, and facilitates the process of manufacture.

With this construction it will be seen, that an effective packing is produced, which can be compressed, if desired, by the action of the piston or by hand, and which will also be of a durable construction. It is also capable of being removed easily from the cylinder, where it is placed, without the necessity of taking the cylinder apart and cutting it out with a chisel, which is the ordinary form of operation.

I do not show a modification of this device, but it is to be understood, that the same can be sections, viz:—by cutting the packing in several sections, as for instance on the lines 1—2 and 3—4 of Fig. 1, or in smaller sections, and several, if not all, of these sections used in the packing to be placed around the piston rod.

Having thus described my invention, what I claim as new is—

1. A packing for use in glands or packing boxes of pistons, comprising in its construction, an outer covering of lead pipe, having openings on opposite sides, for the insertion of a hook or other device to remove the same from the cylinder; a core composed of an elastic material; a spiral of non-elastic material wound in spiral form, around said core, the core and spiral being adapted to be inserted in said lead pipe, substantially as described.

2. A packing for use in glands or packing boxes of pistons, comprising in its construction, an outer covering of lead pipe, having openings on opposite sides, for the insertion of a hook or other device to remove the same from the cylinder; a core composed of an elastic material; and a spiral, composed of a non-elastic material, covered by a rubber cement and also covered by plumbago or graphite, wound around said elastic core, the said core and spiral being adapted to be inserted in said lead pipe, substantially as described.

3. A packing for use in glands or packing boxes of pistons, comprising in its construction, an outer covering of lead pipe, having openings on opposite sides; a core composed of rubber; and a spiral composed of lead wire wound around said core, said spiral being dipped in a rubber cement and being covered

by plumbago or graphite, the said core and spiral being adapted to be inserted in said lead pipe, substantially as described.

4. A packing for use in glands or packing boxes of pistons, comprising in its construction, an outer covering of lead pipe, having openings on opposite sides; a core composed of yielding material; and a spiral composed of lead wire wound around said core, said spiral being dipped in a rubber cement and being covered by plumbago or graphite, the said core and spiral being adapted to be inserted in said lead pipe, substantially as described.

5. A packing for use in glands or packing boxes of pistons, comprising in its construction, an outer covering of lead pipe, having openings on opposite sides; a core composed of an elastic material; and a spiral composed of an admixture of lead combined with an alloy, wound around said core, said spiral being dipped in a rubber cement or solution, and being covered by plumbago or graphite, the said core and spiral being adapted to be inserted in said lead pipe, substantially as described.

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

WILLIAM J. ELLIS.

Witnesses:

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E. B. WILLIAMS.