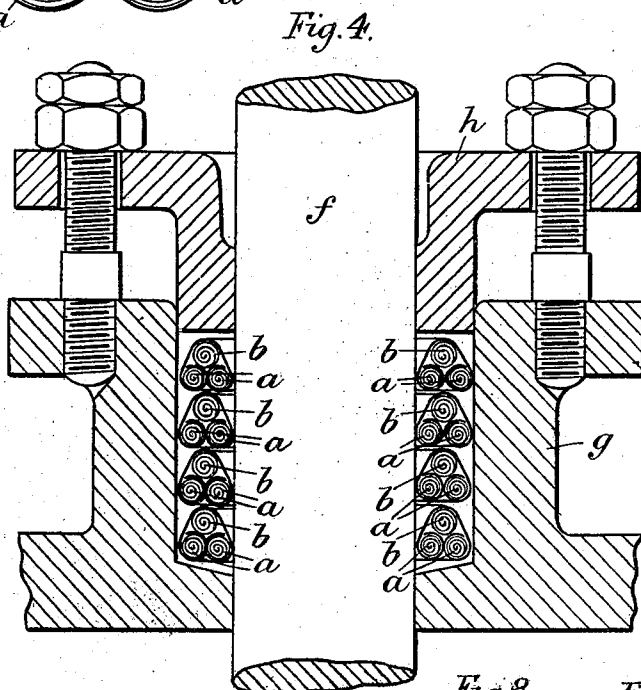
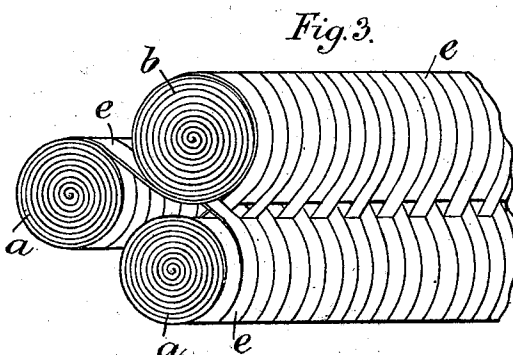
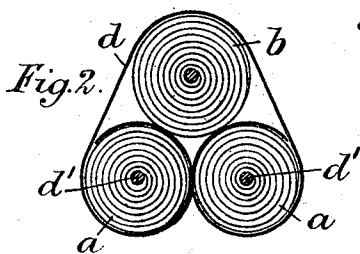
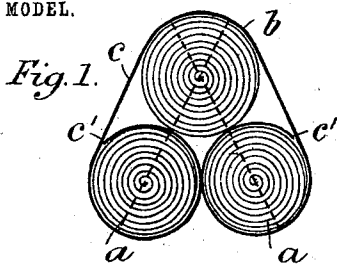


O. T. RAYMOND.

PACKING.

APPLICATION FILED JAN. 31, 1903.

NO MODEL.



Witnesses

A. M. Parkins.
J. A. Macdonald.

Inventor
Oliver S. Raymond,
By his Attorneys
Baldwin, Swinson & Wright

UNITED STATES PATENT OFFICE.

OLIVER TADOUS RAYMOND, OF MILL HILL, ENGLAND.

PACKING.

SPECIFICATION forming part of Letters Patent No. 727,839, dated May 12, 1903.

Application filed January 31, 1903. Serial No. 141,339. (No model.)

To all whom it may concern:

Be it known that I, OLIVER TADOUS RAYMOND, civil engineer, a subject of the King of Great Britain, residing at 13 Murray road, Mill Hill, in the county of Middlesex, England, have invented certain new and useful Packing, of which the following is a specification.

The object of this invention is to provide a packing for the stuffing-boxes of piston-rods and the like which shall be suitable for use with steam or water or any high pressure.

Each "element of packing," as I may call it, consists of three cores, so arranged as to present a triangular appearance in cross-section, two of the cores, which are circular, or approximately so, in cross-section, being laid side by side as concentric rings, while the third lies upon and intermediate to the other two. I preferably place each element so that the two rings are toward the steam-pressure and may be wedged apart by the action of the third when the gland is screwed down; but they may be reversed.

Figure 1 of the drawings shows diagrammatically a cross-section of such an element of packing. Fig. 2 is a similar view illustrating a modification in the method of making; Fig. 3, a perspective view illustrating another modification. Fig. 4 shows a piston-rod passing through a stuffing-box with four of my elements of packing. Figs. 5 to 9 show modifications.

In all the figures, *a a* are the two concentric cores, and *b* the core above them. These cores may be made of any suitable material—such as asbestos, cord, rope, or the like—and the three cores may be united, as shown in Fig. 1, by a piece of cloth *c*, wrapped around them and secured by stitching at the points *c'*, or the cloth may be impregnated with india-rubber and be vulcanized after being wrapped around the cores, or the cores may be stitched right through, as shown in dotted lines, Fig. 1, or the whole core may be formed of impregnated cloth. A convenient method of forming an element of such cloth is by laying a sheet of cloth *d* (see Fig. 2) on a table and rolling up the two sides on two cores *d'*, and when the two rolls almost meet in the middle the third, *b*, formed from a separate

piece of cloth, is placed on the middle of the cloth and the two cores *a*, as it were, wrapped around it. The whole is then vulcanized together, or, as shown in Fig. 3, the three cores, whether of rope or rolled or braided fabric, may be secured together by tape or the like, *e*, wound around and around the cores from one end to the other.

The elements are preferably made in lengths, from which the required length may be cut and coiled into a ring, the ends being preferably cut on the skew, so as to make a scarf-joint. The ring should be just small enough to slip into the stuffing-box around the piston-rod.

Fig. 4 shows a piston-rod *f* passing through a stuffing-box *g* and gland *h* and packed with four of my elements of packing. It will be seen that as the gland is screwed down the cores *b* will force the cores *a* apart, thus giving the elastic contact with the sides of the stuffing-box and rod, that is so desirable.

I always prefer that the core *b* should be of slightly-greater diameter in cross-section than the cores *a*, which, if desired, may be oval in cross-section.

In place of having the core *b* cylindrical I may make it square or triangular in cross-section, as shown at *i* and *j* in Figs. 5 and 6, respectively, and I may also put a core *k* opposite the core *j*, as shown in Fig. 7, or may have two tiers of cores *a*, as in Fig. 8, to which may again be added a core *k*, as in Fig. 9.

What I claim is—

1. A packing comprising two concentric rings circular in cross-section, and a third ring situated upon and intermediate to the two first mentioned substantially as described.

2. A packing comprising two concentric rings circular in cross-section, and a third ring of slightly-larger diameter situated upon and intermediate to the two first mentioned substantially as described.

3. A packing composed of two concentric rings, circular in cross-section, a third ring situated upon and intermediate to the first two rings, and a fabric which secures the rings together, substantially as described.

4. A packing composed of two concentric rings, circular in cross-section, a third ring

situated upon and intermediate to the two first mentioned, and a fabric impregnated with india-rubber and which secures the rings together.

- 5 5. A packing comprising two concentric rings, circular in cross-section, a third ring situated upon and intermediate to the two first mentioned, and a tape which secures the rings together, substantially as described.
- 10 6. A packing comprising two concentric rings circular in cross-section, and a pair of rings situated one on each side of and inter-

mediate to the two first-mentioned rings substantially as described.

7. A packing comprising four rings circular in cross-section, arranged concentrically in pairs and a fifth ring situated upon and intermediate to the rings of one pair substantially as described. 15

OLIVER TADOUS RAYMOND.

Witnesses:

HENRY ALFRED WOODBRIDGE,
ALFRED MOSS.