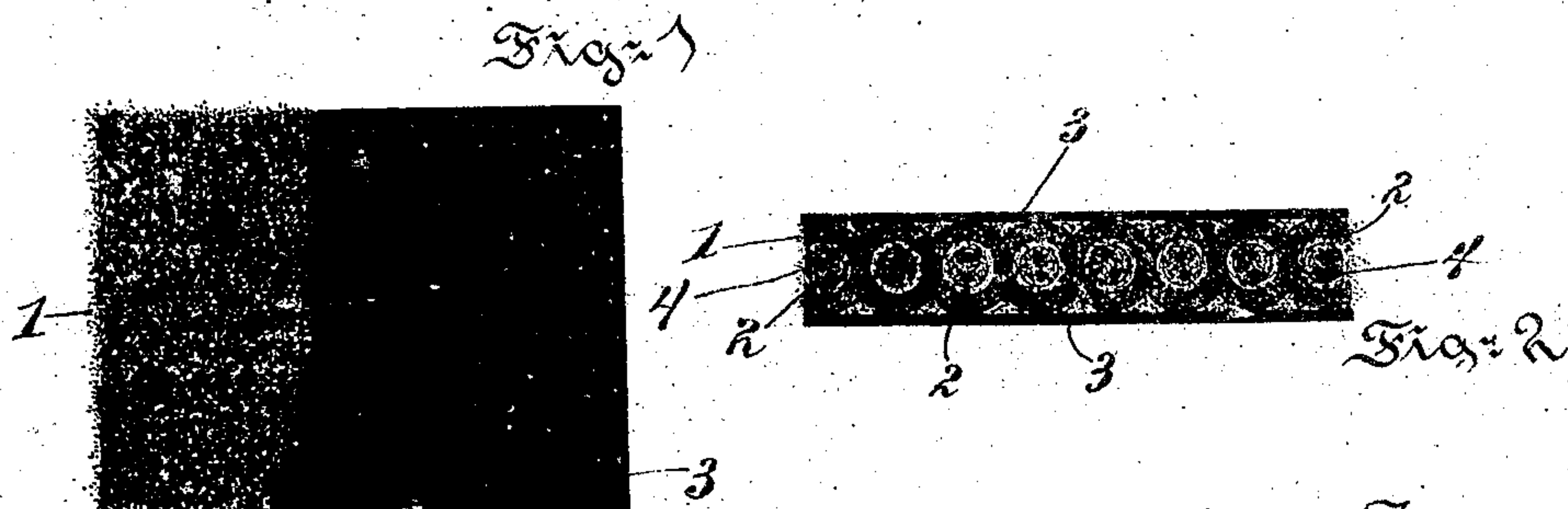
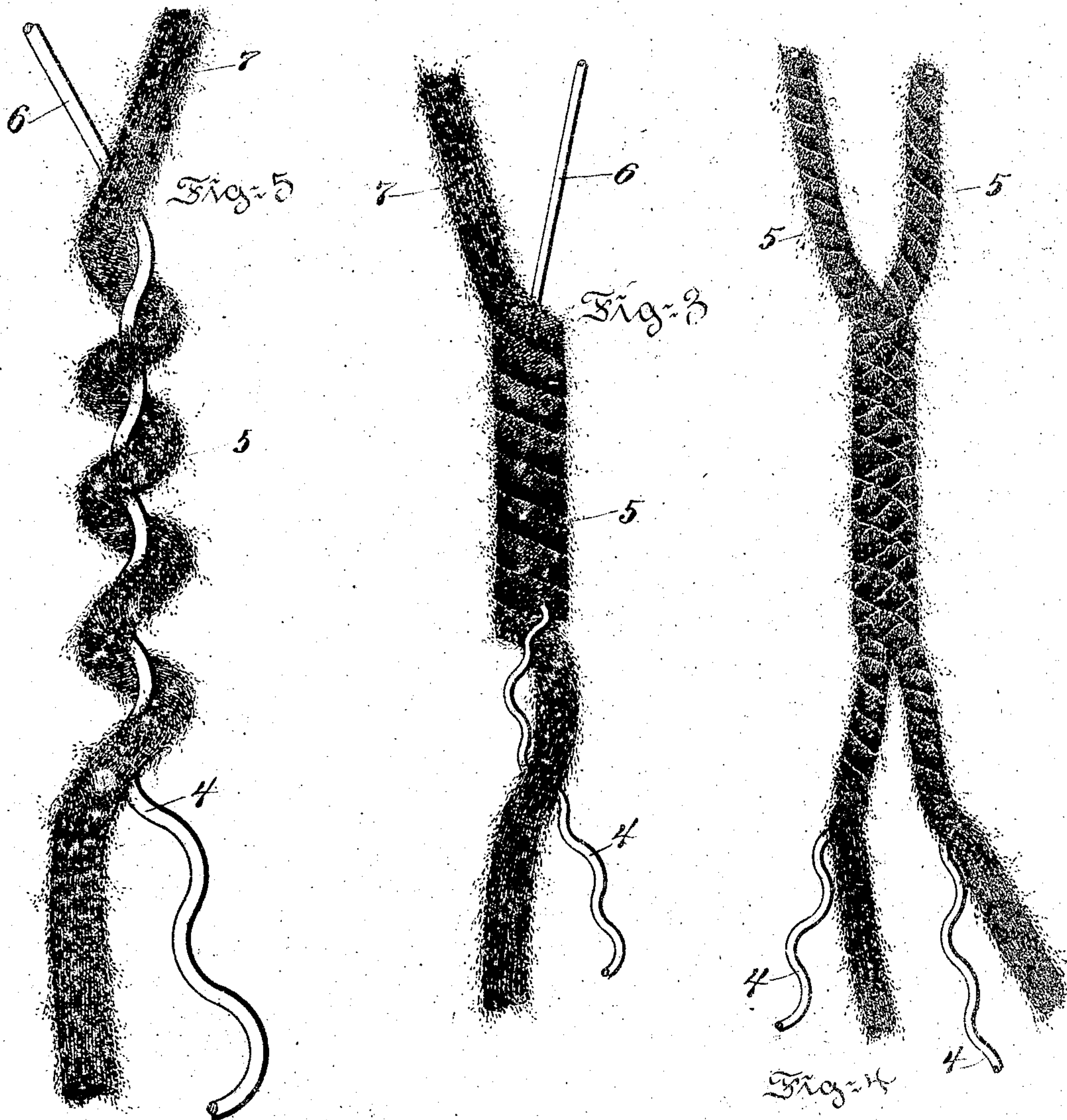


(No Model.)

J. HAWKRIDGE.
WOVEN BODY FOR STEAM PACKING.

No. 567,270.

Patented Sept. 8, 1896.



Witnesses:
H. J. Jackson
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UNITED STATES PATENT OFFICE.

JOSEPH HAWKRIDGE, OF LONDON, ENGLAND, ASSIGNOR TO THE NEW JERSEY ASBESTOS COMPANY, OF CAMDEN, NEW JERSEY.

WOVEN BODY FOR STEAM-PACKING.

SPECIFICATION forming part of Letters Patent No. 567,270, dated September 8, 1896.

Application filed May 19, 1896. Serial No. 592,119. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH HAWKRIDGE, a subject of Her Majesty the Queen of Great Britain, residing at Sydenham, London, county of Kent, England, have invented a new and useful Woven Body for Steam-Packing and Like Purposes, of which the following is a specification.

This invention relates to packing for steam and other joints and for other purposes, comprising a body woven of metal and asbestos strands and coated on its faces with waterproof or protecting material.

It is the object of my invention to provide for such packing an improved strong and durable body in which the asbestos strands are prevented from slipping in respect to the metal strands and to each other, in which all the strands are thoroughly consolidated, or closely placed or packed together, and in which the asbestos strands, while clinging firmly to place, present their fibers advantageously for felting or matting at the faces of the body, whereby the body is adapted to advantageously receive, retain, and present in use smooth coatings of waterproof or protecting material, as rubber or other gum.

My invention consists of the improvements hereinafter described and claimed.

The nature, characteristic features, and scope of my invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, and in which—

Figure 1 is a top or plan view of a piece of packing having a portion of the rubber coating removed and showing a body embodying features of my invention. Fig. 2 is a sectional view of the same taken in the direction of the warps. Fig. 3 is a view drawn to an exaggerated scale and illustrating one of the wire strands twisted into spiral form and one of the asbestos strands twisted and spun around the spiral wire. Fig. 4 is a similar view showing two compound strands like the one shown in Fig. 3 twisted together, and Fig. 5 is a diagrammatic view hereinafter referred to.

In the drawings, 1, Figs. 1 and 2, is the body woven of compound metal and asbestos threads 2. 3 are coatings of waterproof or protecting material, as rubber or the like.

The threads 2 consist of metal strands 4, spun or twisted into spirals, and of asbestos strands 5, as shown. Such threads may be made from a straight wire 6 and an asbestos sliver 7, Fig. 3. In an asbestos sliver the fibers are disposed parallel to each other as they are when they come from the carding-engine. The straight wire 6 and the asbestos sliver 7 are then spun together, with the result that the wire is twisted into spiral form, as shown in Fig. 5, and the sliver 7 is also twisted so that its fibers run around it spirally, as shown in said figure, and is at the same time spun or twisted around the spiral wire. The twisted sliver, being soft in comparison with the spiral wire, assumes the position shown in Fig. 3. By these means the twisted asbestos sliver is caused to cling and is prevented from slipping in respect to the spiral wire, and comparatively small compound threads may be produced adapted to be manufactured into a thoroughly consolidated fabric. Moreover, the twisted or spun sliver presents its outermost fibers, so that they project by reason of their tendency to untwist, and these fibers may be readily matted or felted, as indicated at the left-hand side of Fig. 1, prior to the coating of the fabric. If desired, two compound strands like that shown in Fig. 3 may be twisted together, as shown in Fig. 4, and then incorporated in the fabric.

Having thus described the nature and objects of my present invention, what I claim as new, and desire to secure by Letters Patent, is—

An improved body for steam-packing and like purposes comprised of threads in which the metal strands are spun or twisted into spirals and in which asbestos slivers are twisted or spun to spirally wind their fibers around them and are also spun or twisted around the metal spirals, whereby slipping of the asbestos is opposed in each thread and consolidation and coating of the body are facilitated, substantially as described.

In testimony whereof, I have hereunto signed my name.

JOSEPH HAWKRIDGE.

Witnesses:

JOHN MCGUINNESS,
P. J. CASEY.