(Model.)

W. P. & C. H. WOODRUFF.

Steam Packing.

No. 230,978. Patented Aug. 10, 1880.

Fig. 1.

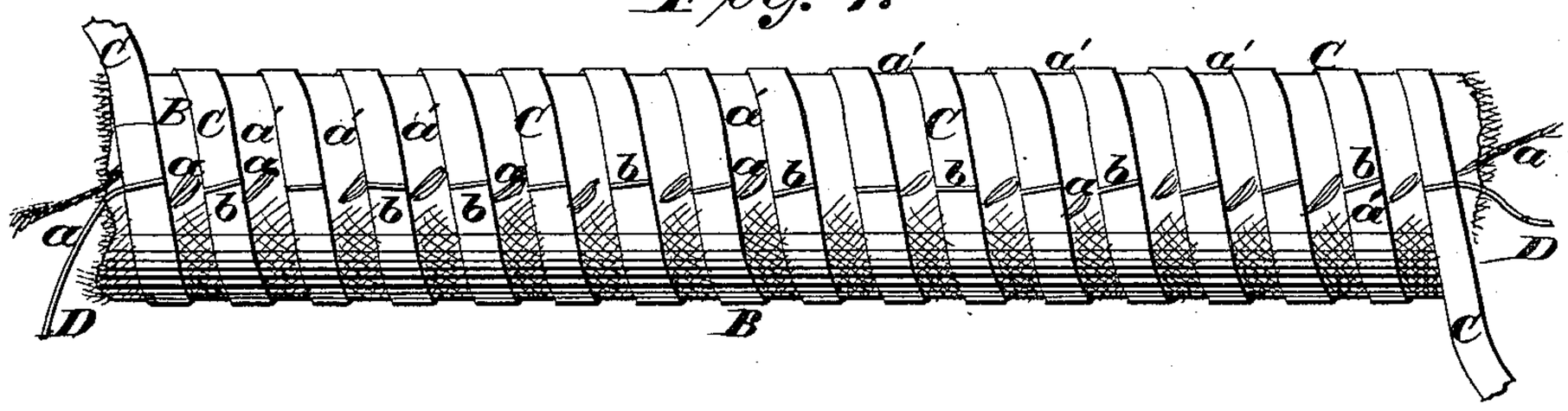


Fig. 2.

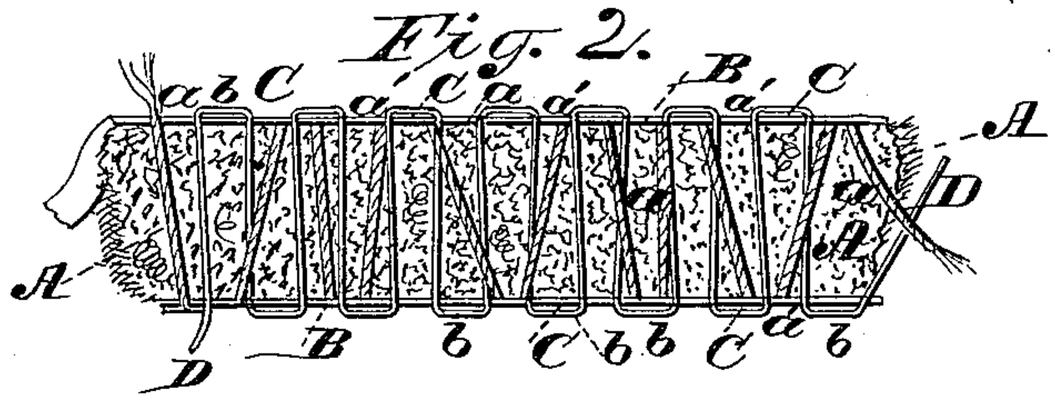
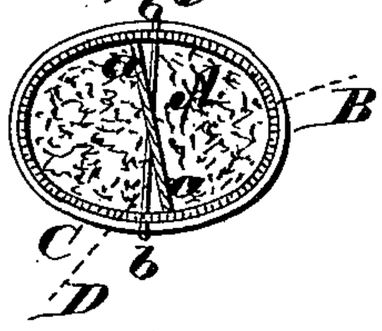


Fig. 3.



WITNESSES.

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UNITED STATES PATENT OFFICE.

WILLIAM P. WOODRUFF AND CHARLES H. WOODRUFF, OF NEW YORK, N. Y.

STEAM-PACKING.

SPECIFICATION forming part of Letters Patent No. 230,978, dated August 10, 1880.

Application filed June 2, 1880. (Model.)

To all whom it may concern:

Be it known that we, WILLIAM P. WOODRUFF and CHARLES H. WOODRUFF, both of the city, county, and State of New York, have invented certain Improvements in Steam-Packing, of which the following is a specification.

This invention is designed to provide a novel material for steam-packing, which may be made in lengths for the trade, in order that the consumer may cut off such portions as may at any time be required for any special purpose, a further object of said invention being to provide a steam-packing principally of a metallic character, which will be simple, cheap, and easily applied to use, as well as effective for the purpose for which it is designed and very durable.

The invention consists in certain novel combinations of parts whereby the aforesaid objects are secured.

Figure 1 is a side view, representing our invention. Fig. 2 is a longitudinal sectional view of the same, but taken in a plane at right angles to that of Fig. 1; and Fig. 3 is a transverse sectional view of the same.

The central or internal portion of the packing consists of an alloy (of seven parts lead, three of tin, one of copper, two of antimony, and two of zinc) in a state of subdivision—as, for example, in the form of chips or turnings. Similar chips or turnings of other comparatively soft metal may be used in place of those of the alloy above described. The metal in a fragmentary state, as aforesaid, I term the "filling," and said filling is represented at A in Figs. 2 and 3. It is surrounded by a flexible envelope, B, of strong canvas or equivalent flexible material. The fabric composing this envelope B has its edges sewed together, so that the envelope itself is of tubular form, and, being filled with the filling A, would be circular in its cross-section were not some means provided for giving it the flattened form requisite to the proper application of the packing to use. This is done by sewing through the envelope and filling with strong twine *a*, as represented in Figs. 2 and 3, thereby drawing two opposite sides of the envelope and its contents toward each other, which, of course, expands the lateral portions of said envelope and its contents, so as to give the flattened form represented in Fig. 3. This done, a flat strip, C, composed of an alloy of three and one-half pounds of copper, seven and one-half pounds of antimony, eighty-nine pounds of tin, and half an ounce of metallic cobalt (any substantially equivalent alloy may be substituted for that just mentioned in the fabrication of the strip C) is wound spirally around the envelope B, there being left between the coils of the said strip C spaces *a'*, which should have substantially the same width as the strip C itself, as illustrated in Fig. 1.

The successive coils of the strip C are held in position by the stitches *b* of a fine metallic wire, D, the said wire being passed in successive stitches through and through the length of the envelope B and its contents or filling A, said wire being, of course, passed from side to side, as represented in Fig. 2. Each loop or stitch of the wire at each side of the packing is passed over one of the coils of the strip C, so that said loops or stitches serve the double purpose of retaining the coils of the strip C in position, and also of re-enforcing the twine stitches hereinbefore described in the production and retention of the flat form of the article.

The packing as thus constructed may be made in lengths of several feet, or, indeed, of any desired length, and in such form may be placed in the market, so that the purchaser or user may cut off such portions as may be required for any special purpose and apply the same to use as a steam-packing. The packing constructed as aforesaid possesses in a high degree all the merits hereinbefore specified, and in point of cheapness, convenience, utility, and durability constitutes an important improvement in the branch of manufacture to which it relates.

We do not in this present application claim, broadly, an envelope filled with comminuted metal wrapped with metallic strips and held in a more or less flattened form by nails passed into the packing from the outside, inasmuch as a packing thus constructed is shown and described in the Letters Patent granted to us April 20, 1880, No. 226,644, and our present invention possesses certain structural differences as compared with that patented as aforesaid, which give to our said present invention

practical merits and advantages not possessed by the other.

What we claim as our invention is—

1. The steam-packing composed of the envelope B, the filling A, of metal reduced to a granular or fragmentary form, the strip, C, of flexible sheet metal wound spirally upon the envelope B, with spaces *a'* between its coils, and a system of stitches applied to give a flattened form to the packing and to retain the coils of the strip C in position, all substantially as and for the purpose herein set forth.

2. The combination of the tubular envelope B, of canvas or like material, the internal filling, A, of metal reduced to a granular or fragmentary condition, the longitudinal series of twine stitches *a*, placed and proportioned to secure a flattened form to the packing, the external strip, C, of flexible sheet metal coiled spirally upon and around the envelope B, with spaces *a'* between the coils of the said strip, and the longitudinal series of wire stitches or loops *b*, placed and proportioned to retain in position the coils of the strip C and to re-enforce the twine stitches *a* in retaining the flattened form of the packing, all substantially as and for the purpose herein set forth.

WILLIAM P. WOODRUFF.
CHARLES H. WOODRUFF.

Witnesses:
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JOHN HATTERSLEY.