

No. 730,387.

PATENTED JUNE 9, 1903.

E. A. McMILLIN.
PACKING TUBE.

APPLICATION FILED SEPT. 10, 1902.

NO MODEL.

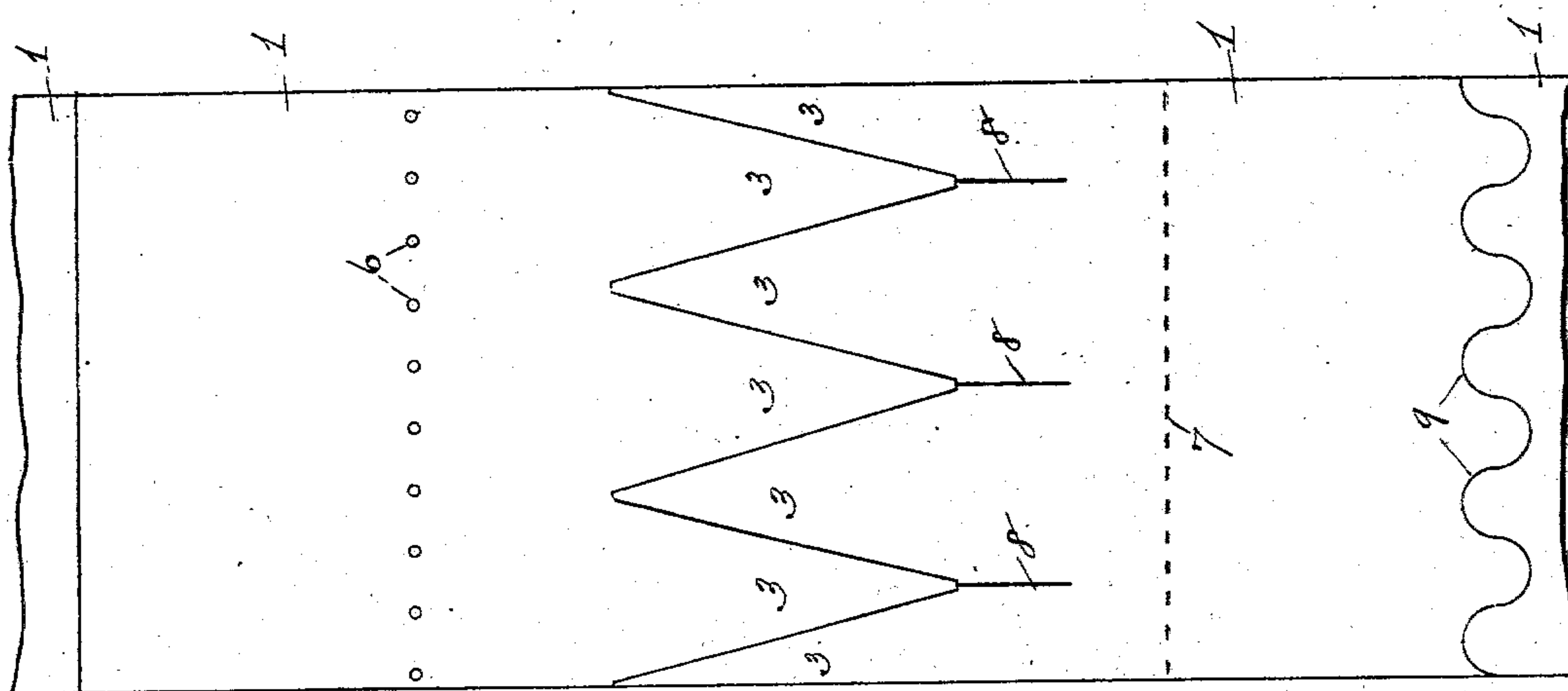


Fig. 1.

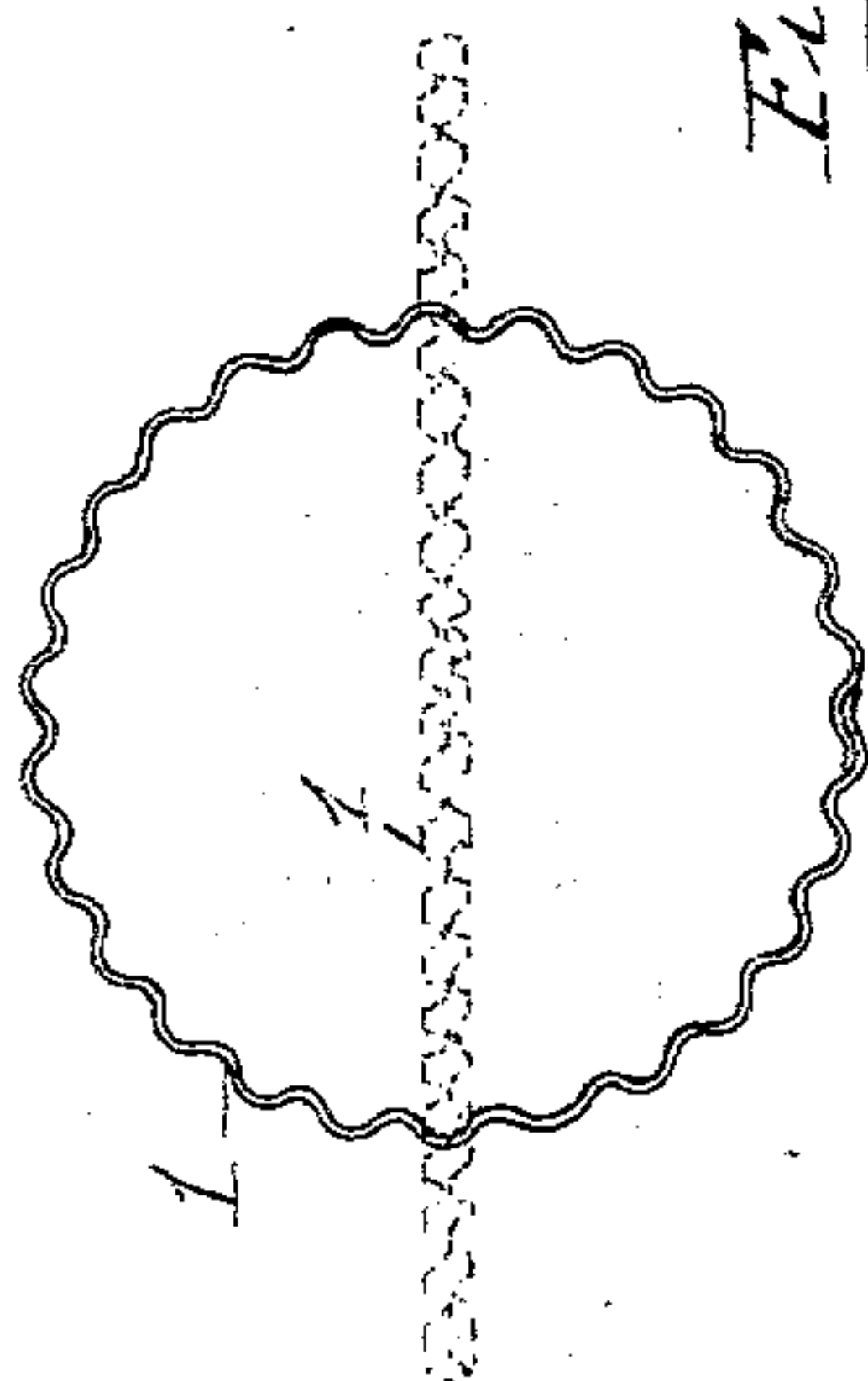


Fig. 4.

Fig. 2.

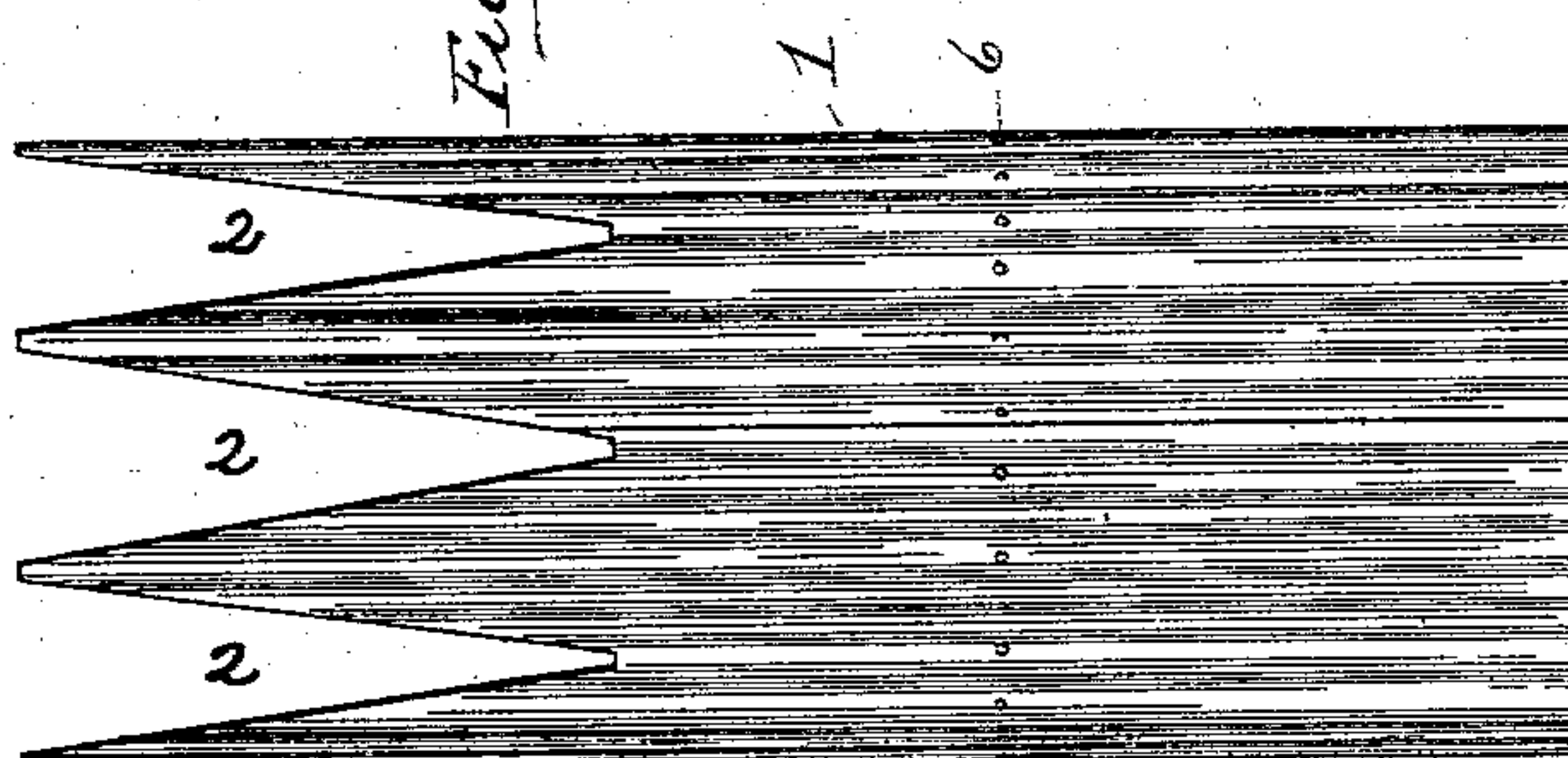
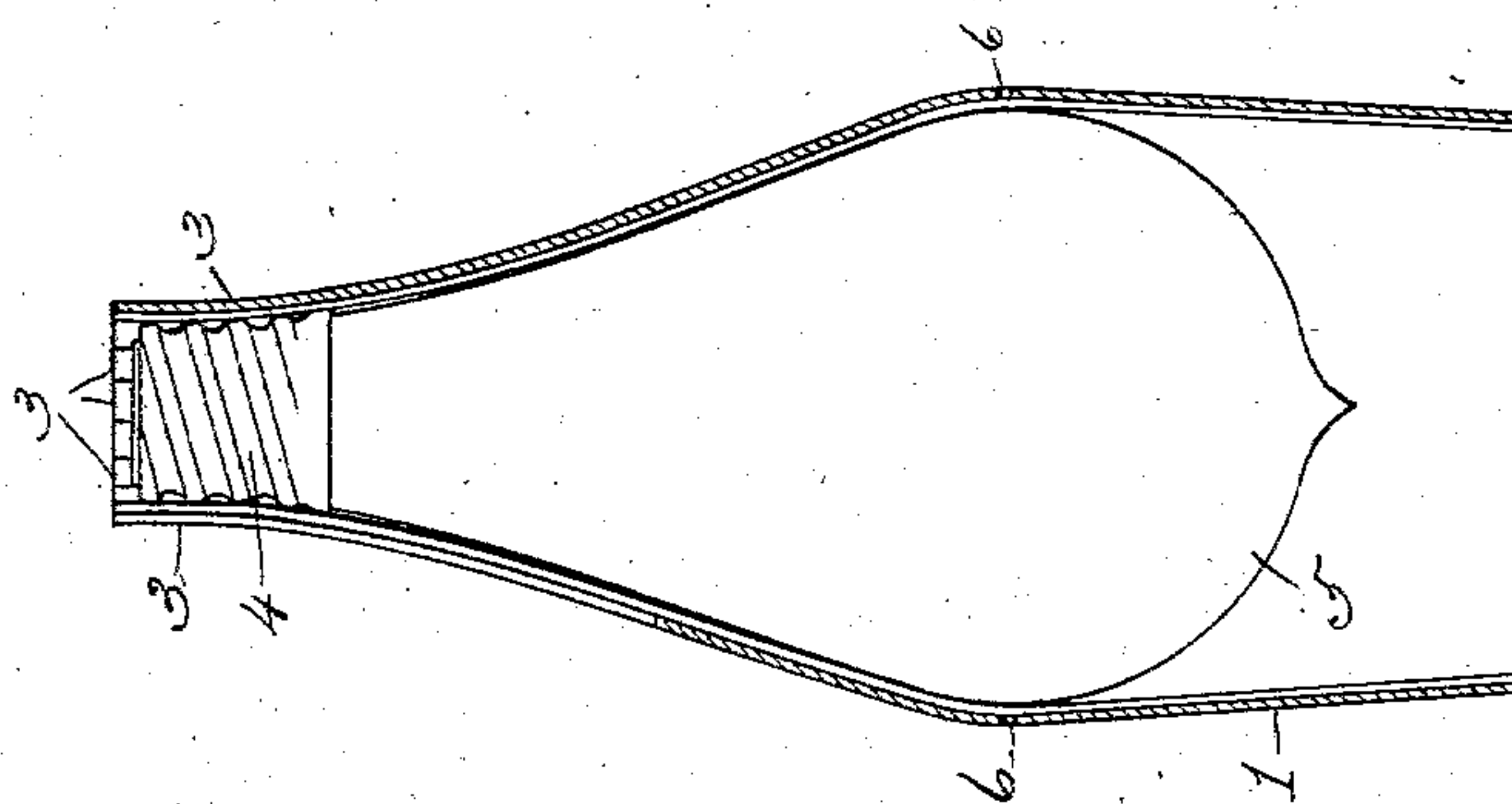


Fig. 3.



Witnesses:

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PACKING-TUBE.

SPECIFICATION forming part of Letters Patent No. 730,387, dated June 9, 1903.

Application filed September 10, 1902. Serial No. 122,754. (No model.)

To all whom it may concern:

Be it known that I, EDWARD A. McMILLIN, a citizen of the United States, residing at North Adams, county of Berkshire, and State of Massachusetts, have invented certain new and useful Improvements in Packing-Tubes, of which the following is a specification.

The invention relates to such improvements; and it consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

Reference may be had to the accompanying drawings, and the reference characters marked thereon, which form a part of this specification.

Similar characters refer to similar parts in the several figures.

Figure 1 of the drawings is a top plan view of my improved packing-tube opened to receive an object to be supported and protected thereby. Fig. 2 is a side elevation of the same. Fig. 3 is a view in central vertical section, showing the tube supporting and protecting an incandescent electric lamp to which it has been applied. Fig. 4 is a plan view illustrating the manner in which my improved tubes are preferably formed from a flattened tube of paper or pasteboard.

The object of my invention is to provide a cheap and effective protecting inclosure for fragile articles.

My improved tube is adapted for various uses, being particularly adapted for supporting and protecting incandescent electric lamps.

My improved tube comprises a tubular body 1, formed of paper or pasteboard, having corrugations extending longitudinally thereof, one end of the tube being provided with a series of angular indentations 2, forming V-shaped tangs 3, projecting from the end of the tube, as shown in Fig. 2.

The tube is made of a size adapted to closely fit the bulb of an incandescent electric lamp, the normal interior diameter of the tube being somewhat less than the diameter of the lamp-bulb, the corrugated wall of the tube being adapted to expand slightly as the bulb is forced therethrough. The lamp is inserted base end first through the end of the tube opposite that provided with the tangs and is

forced through the tube until said base end 4 projects well into the space between said tangs. The tangs are then introverted more or less, as by grasping the tanged end of the tube in the hand and forcing the tangs inwardly against the base end of the lamp to the position shown in Fig. 3. The tanged end of the tube is thus given a frusto-conical form, the tangs being brought into close proximity to one another, so as to fully inclose and protect the base end of the lamp.

The operation of introverting or crushing the tanged end of the tube causes the other end thereof outside the bulb of the lamp to contract more or less, giving thereto a frusto-conical form and adapting the same to support the lamp against displacement toward said end when the tube is supported thereupon in the vertical position. (Shown in Fig. 3.) To facilitate such contraction, the tube may be structurally weakened along a line extending transversely of the corrugations immediately between the base of the tangs and the other end of the tube, as by a row of small perforations 6 or a row of indentations 7, whereby the tube is permitted to assume a more angular form along said line of structural weakness when expanded by forcing the bulb of the lamp within the tube opposite said line. When desired, this line of structural weakness may be omitted.

The indented form of the tanged end of the tube dispenses with superfluous portions of the tube-wall, which if present would not only make it difficult to introvert or crush that end of the tube upon the contracted base end of the lamp, but would render such end of the package bulky and unsightly and cause the packages to occupy considerably more space when packed together for transportation.

By giving to the tube the form shown I am able to cut the tubes from stock without loss and with considerable saving of stock over that required in making tubes having a continuous or solid wall.

In Fig. 4 I have illustrated the manner in which the tubes are cut from a flattened tube of material, the portions cut from one tube to form the indentations 2 therein being adapted to form the tangs on another tube,

the same operation serving to form the tanged ends of two tubes interlocked with each other, as shown in Fig. 4.

The bodies of the tubes may be corrugated in any known manner, the corrugations being preferably formed therein after the tanged ends of the tubes have been cut and before the two interlocking tubes are separated from each other. The tubes thus cut and corrugated are preferably in flattened form, as indicated by dotted lines in Fig. 1, being expanded to circular form as needed for use.

The body of the tube may be slitted, as shown at 8, from the apex of the several indentations to as great a depth as desired.

If desired, the end of the tube opposite the tanged end may be provided with a scalloped or indented edge, as shown at 9, in which case the scalloped edges of two blanks may be simultaneously cut in interlocked form, as shown in Fig. 4.

By extending the corrugations longitudinally of the tube—that is, parallel with its axis—I am able to extend certain of the corrugations continuously from base to apex of the respective tangs, whereby the corrugations in the tangs are of considerable length and well adapted to stiffen the tang and to resist a crushing strain applied thereto which would be sufficient to flatten and destroy comparatively short corrugations extending transversely of the tangs. The tangs are thus so stiffened that they are adapted to be introverted from a given base-line, which is approximately at the junction of the tang with the body of the tube. The longitudinal corrugations, moreover, serve to render the tube expansible and adapted to contain bulbous articles of larger diameter than the normal

interior diameter of the tube, the contraction of the end of the tube after the insertion of such an article being facilitated by the line of structural weakness, as above set forth.

What I claim as new, and desire to secure by Letters Patent, is—

1. A packing-tube comprising a tubular, paper body having at one end a series of introvertible tapered tangs, and provided with unbroken corrugations extending parallel with the axis of the tube from base to apex of the respective tangs, whereby said tangs are constructed and arranged to be introverted from a given base-line.

2. A packing-tube comprising a tubular paper body open at its ends, formed with corrugations extending parallel with its axis, and structurally weakened, substantially as described, along a line extending around the tube between its ends, substantially as and for the purpose set forth.

3. A packing-tube for bulbous articles comprising a cylindrical longitudinally-corrugated paper body open at its ends of a less diameter than the article to be contained therein having at one end a series of introvertible V-shaped tangs, and structurally weakened along a line extending transversely of the corrugations intermediately between the base of said tangs and the other end of the tube, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand this 3d day of September, 1902.

EDWARD A. McMILLIN.

Witnesses:

MARGARET CUMMINGS,
CLARENCE P. NILES.