No. 758,908. PATENTED MAY 3, 1904.

R. GAIR.

CORRUGATED SELF OPENING BELLOWS FOLD COVER.

APPLICATION FILED DEC. 12, 1903.

NO MODEL.

Fig. 2.

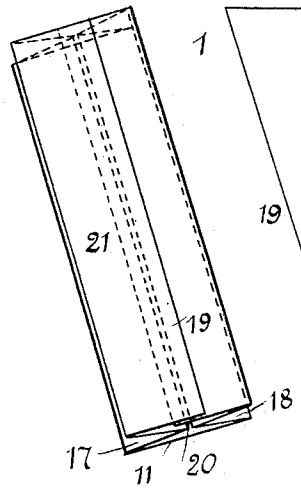


Fig. 1.

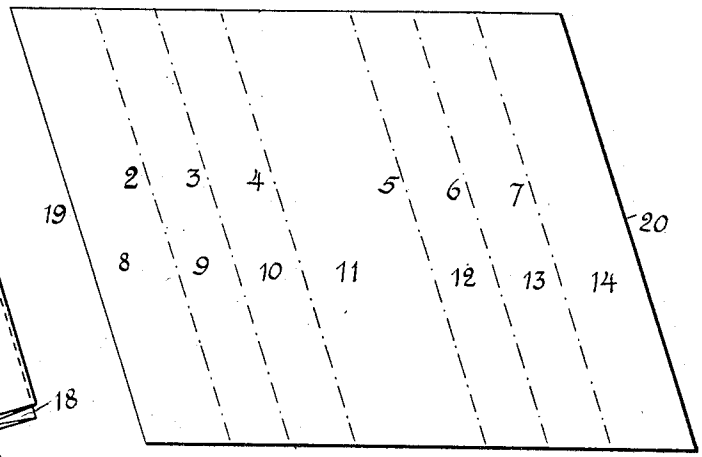
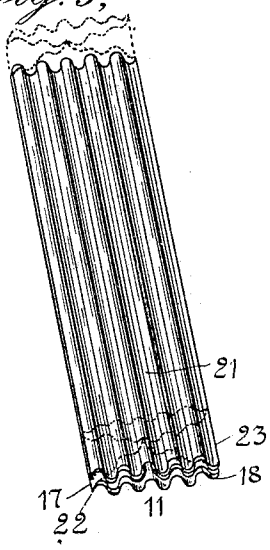


Fig. 3.



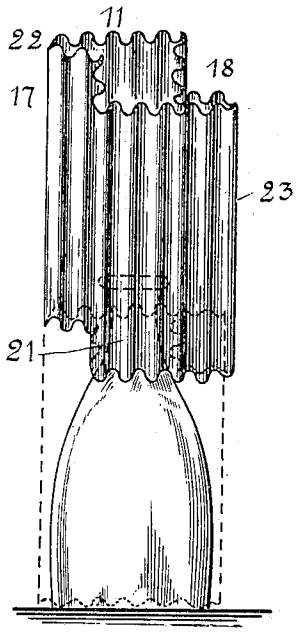


Fig. 4.

Witnesses
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 758,908. Patented May 3, 1904.

UNITED STATES PATENT OFFICE.

ROBERT GAIR, OF NEW YORK, N. Y.

CORRUGATED SELF-OPENING BELLOWS-FOLD COVER.

SPECIFICATION forming part of Letters Patent No. 758,908, dated May 3, 1904.

Application filed December 12, 1903. Serial No. 184,856. (No model.)

To all whom it may concern:

Be it known that I, ROBERT GAIR, a citizen of the United States, residing at New York, Brooklyn, in the county of Kings and State of New York, have invented a certain new and useful Corrugated Self-Opening Bellows-Fold Cover; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a cover for bottles, electric lamps, and like fragile articles.

Heretofore corrugated covers have been made by forming a sheet of paper into a flat tube and corrugating the tube to form complementary corrugations in both sides, so that the convex corrugations of one side fit into the concave corrugations of the other side, thus making the cover flat and convenient for shipment, but capable of being opened out to adapt it to be drawn over the article to be inclosed or covered. The objection to the covers thus made is that it is difficult and sometimes impossible to open the covers without injuring them more or less, owing to the two sides being pressed together with such force by the corrugating-machine that they adhere to one another.

The object of my invention is to provide a self-opening cover; and it consists in a tube having parallel corrugated sides connected together by infolded corrugated bellows folds made from a flat sheet of paper, strawboard, cardboard, or similar materials folded to form a plain or flat surfaced tube having parallel sides and infolded connecting bellows folds, the tube being subjected to the action of a corrugating-machine, whereby the flat surfaces are corrugated and pressed together with the convex corrugations of one part fitting into the concave corrugations of the other part, thus forming a flat corrugated cover which is opened more or less when not under pressure by the elasticity of the bellows folds, but is opened out fully when the diagonally opposite corners are pulled sidewise in opposite directions to admit the object to be covered.

In the accompanying drawings, Figure 1 represents a perspective view of a sheet of paper or other suitable material provided with parallel creased lines to adapt it to be bent to form a blank tube having parallel sides and infolded bellows-fold edges. Fig. 2 is a perspective view of a blank tube made up from the said sheet of creased material prepared for corrugating. Fig. 3 represents in perspective the corrugated bellows-fold cover made from the blank tube and showing by dotted lines the cover partially opened by the elasticity of the bellows folds. Fig. 4 illustrates the manner of fully opening the cover to admit the object to be inclosed by it.

Referring to the drawings, a sheet 1 of paper strawboard, cardboard, or other suitable material of proper dimensions to make up in the manner hereinafter described into a cover large enough to inclose the article (a bottle, for example) is prepared and supplied with creased, scored, or indented parallel lines 2 3 4 5 6 7, whereby it is divided into parts 8 9 10 11 12 13 14. This sheet is formed into a plain or flat surfaced blank tube by bending the parts 10 12 on the creased lines 4 5 inward and downward on the part 11, next bending the parts 9 13 on the creased lines 3 6 outward and downward on the parts 10 12, thus forming the bellows folds 17 18, and finally bending the parts 8 14 on the creased lines 2 7 inward and downward on the parts 9 13, lapping their edges 19 20 and gluing them together, thus forming the flat side 21. The tube thus formed has two parallel sides 11 21, connected together by bellows folds 17 18, whereby the tube may be collapsed and the parts brought together closely with the parallel sides separated merely by the bellows folds, as seen by Fig. 2. In this condition it is passed through a corrugating-machine, whereby it is flattened and corrugations are formed in the sides and the bellows folds, the convex corrugations fitting into the concave corrugations, as seen in Fig. 3. In this flat form the corrugated cover can be packed compactly and economically for shipment. When not under pressure, the cover will be opened more or less by the elasticity of the bellows-fold sides, as indicated by the dotted lines, Fig. 3; but to open them fully, so that the cover can be slipped over the article, they are grasped by the diagonally oppo-

site corners 22 23 and pulled sidewise in opposite directions, whereby the sides 11 21 are caused to separate and open far enough to admit the top of the bottle, as shown by Fig. 4, after which the cover can be drawn down toward the bottom of the bottle, the bellows folds opening and the cover taking a cylindrical form, in which the bottle is inclosed, as shown by Fig. 4.

I claim—

A corrugated self-opening bellows-fold cover for bottles, electric lamps and like articles consisting of a flat tube open at both ends and having parallel sides connected at the edges by bellows folds inserted between the sides and the sides and bellows folds being provided throughout their length with parallel corrugations the convex and concave corrugations of opposite parts fitting into each other, the said tube adapted to be opened partly and normally by the elasticity of the bellows folds and to be completely opened to admit the article to be covered by pulling the diagonally opposite corners in opposite directions, substantially as specified.

In testimony that I claim the invention above set forth I have affixed my signature in presence of two witnesses.

ROBERT GAIR.

Witnesses:

Jos. A. Osizfeedt,

W. B. Russell.