

(No Model.)

J. M. LEAVER.
CORRUGATED PACKING.

No. 520,366.

Patented May 22, 1894.

Fig. 1.

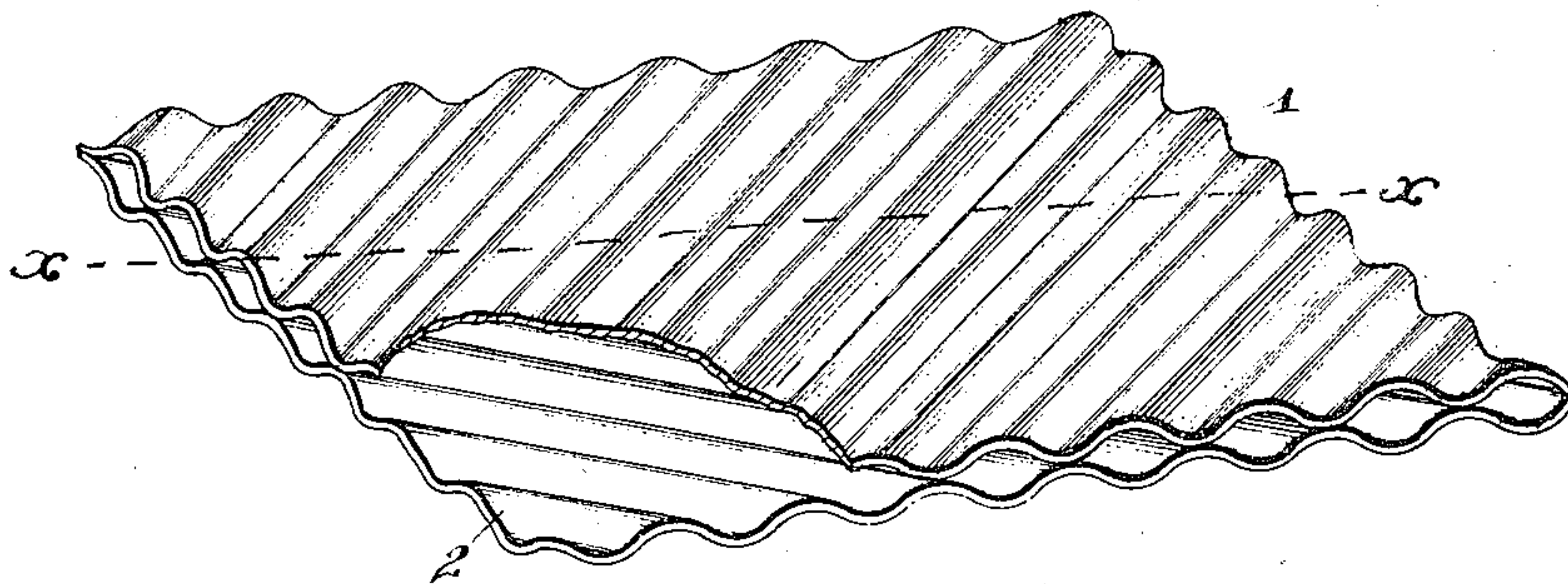


Fig. 2.

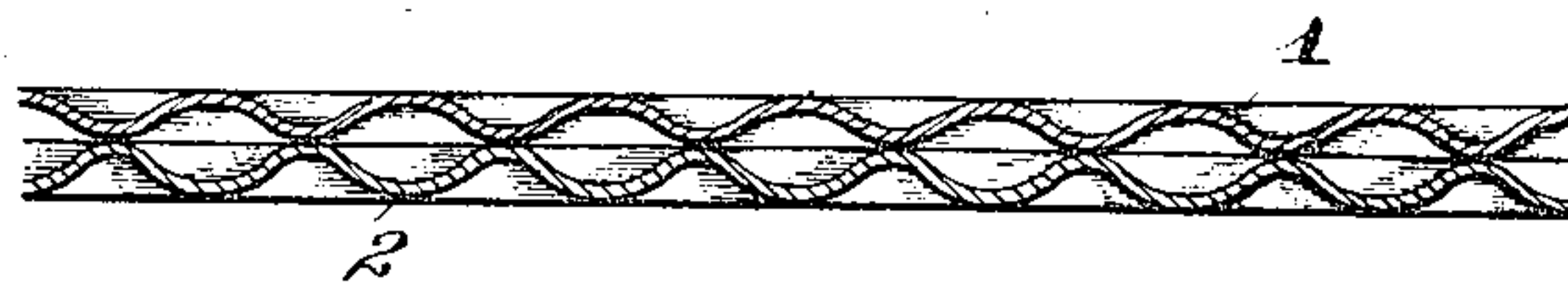


Fig. 3.

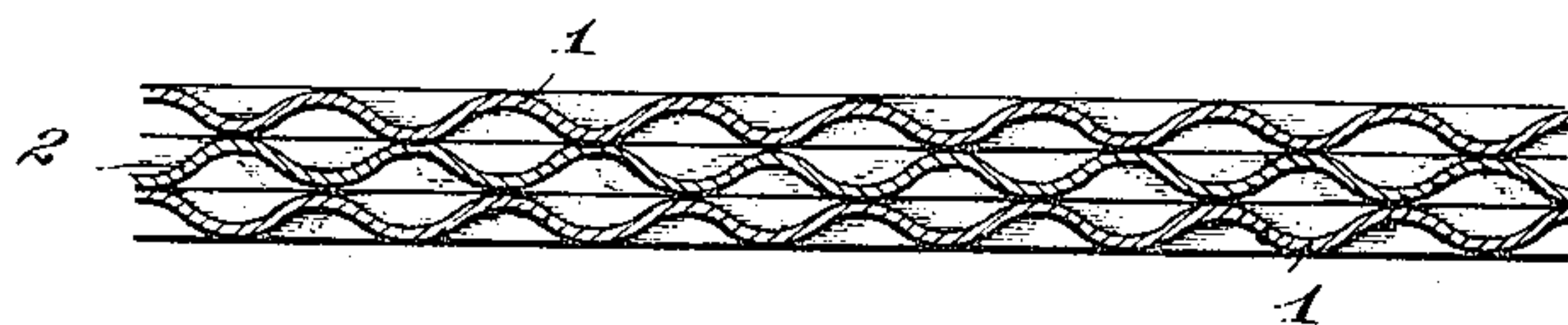
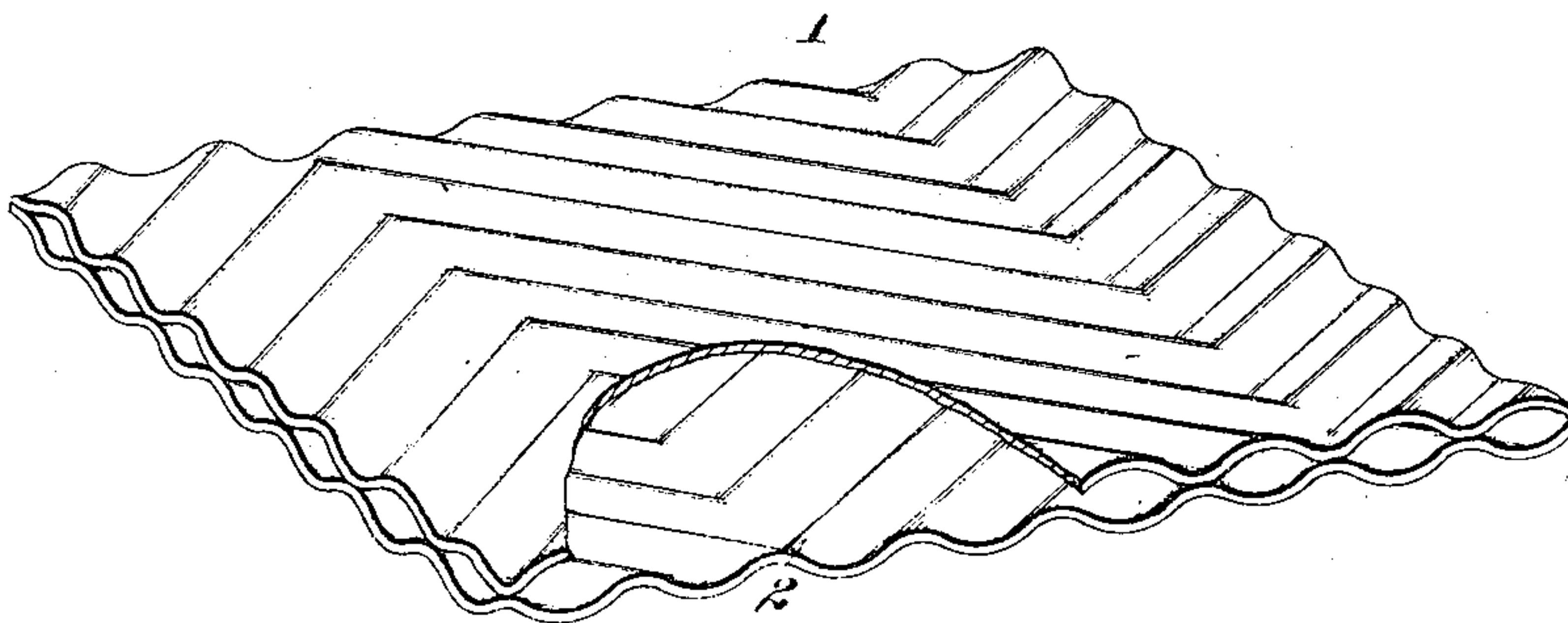


Fig. 4.



Witnesses

Chas. Ford.

Chas. S. Hoyer

Inventor

James M. Leaver.

By *his* Attorneys,

Chas. Snow & Co.

UNITED STATES PATENT OFFICE.

JAMES M. LEAVER, OF BAY CITY, MICHIGAN, ASSIGNOR OF ONE-HALF TO
EMERY J. VANCE, OF SAME PLACE.

CORRUGATED PACKING.

SPECIFICATION forming part of Letters Patent No. 520,366, dated May 22, 1894.

Application filed March 17, 1893. Renewed April 7, 1894. Serial No. 506,776. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. LEAVER, a subject of the Queen of England, residing at Bay City, in the county of Bay and State of Michigan, have invented a new and useful Corrugated Packing, of which the following is a specification.

This invention relates to corrugated packing, and has for its objects to position the corrugations thereof diagonally in order to make the same more resilient and stronger, and to prevent a jar or force of a blow externally applied to a packing-case or other device wherein the improved form of packing is employed from being concentrated in one line either in a vertical or horizontal direction, and to disseminate or detract the force of the jar, shock or blow crosswise of the object resting against the packing.

With these and other objects in view the invention consists of the construction and arrangement of the parts thereof as will be hereinafter more fully described and claimed.

In the drawings: Figure 1 is a perspective view of two layers or thicknesses of packing constructed and arranged in accordance with the invention. Fig. 2 is a sectional view on the line $x-x$, Fig. 1. Fig. 3 is a view similar to Fig. 2, showing three layers in the packing. Fig. 4 is a detail perspective view of a slight modification of construction and arrangement of the corrugations.

Similar numerals of reference indicate corresponding parts in the several figures of the drawings.

The numeral 1 designates a strip or piece of diagonally-corrugated paper or like substance, and 2 represents a similar strip or piece of corrugated substance wherein the corrugations are in like manner arranged diagonally. In the form of the device as shown in Figs. 1, 2, and 3 the corrugated strips or pieces 1 and 2 are placed back to back, or superposed, in such manner that the corrugations 3 thereof will extend in opposite diagonal directions, thereby increasing the number of points of contact at the places where the several corrugations cross or intersect each other. This form of packing is very strong and resilient, and the shock or

concussion brought to bear thereon is more uniformly and equally distributed than over a flat surface. In flat surfaces, or where corrugations run vertically or horizontally on opposite sides or where said opposite sides of the packing have corrugations running in the same direction, the pressure brought to bear thereagainst will crush the corrugations to such an extent as to spread the same, and said corrugations will not return to their normal condition.

By the construction herein set forth, if the material is properly selected, the diagonal corrugations will be more apt to resume their normal shape because they will not break but will spring away under pressure and again resume their proper form. It will be also understood that the packing herein set forth can be formed into partitions adapted to be set up in any suitable manner.

The arrangement of the diagonal corrugations having their lines of highest parts spaced the same distance apart on any given square provides for a material increase in the amount of cushion for the bottle or other breakable article surrounded by the packing. The variation in direction of the corrugation on the diagonal plan affords a better support to the bottle or other breakable article and protects the same against concussions, the shock being distributed in a glancing direction on either side, whereas in a perpendicular or horizontal arrangement the corrugations bear upon a greater surface and will be more apt to affect a weak spot or defect in the bottle, while the diagonal arrangement will not cause so direct a bearing on as great a surface, because in any place where the bottle or other article may touch the packing the lines are always varying in length and direction. The most important advantage of the construction, however, is the increased number of contact points between the sheets or layers with the self-evident increase in the strength of the packing, and as shown, two or more sheets or layers may be employed and the corrugations may be varied in form, though those shown are preferred.

In Fig. 4 a slight modification in construction is shown wherein the corrugations in

each layer extend diagonally alternately in opposite directions, and meeting each other at an angle at the points of intersection and thereby provide for irregularly breaking up
5 the lines of force resulting from exterior pressure or concussion and causing said lines to glance off at short angles and be abruptly impeded by the change of angle of the corrugations. When several layers of this form
10 of the packing are placed together the corrugations are reversely arranged and the increased number of contact points is still preserved as in the previously described form, with the additional advantage in this in-
15 stance of further increasing the strength of the packing.

Changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or
20 sacrificing any of the advantages of this invention.

Having described the invention, what is claimed as new is—

A packing material comprising two or more superposed pieces of corrugated paper or like
25 substance united, the corrugations of each piece of paper being arranged diagonally and extending at reverse angles on opposite sides of the packing material to secure the greatest possible number of contact points for the
30 superposed pieces, and to provide for distributing any shock imparted to the article, placed on the packing, in a glancing direction on either side, substantially as set forth.

In testimony that I claim the foregoing as
35 my own I have hereto affixed my signature in the presence of two witnesses.

JAMES M. LEAVER.

Witnesses:

HARRY GAY,
IDA TABOR.