

L. F. FLIPSE.
VENEER PAD.

APPLICATION FILED FEB. 25, 1909. RENEWED MAR. 5, 1914.

1,156,895.

Patented Oct. 19, 1915.

2 SHEETS—SHEET 1.

Fig. 1.

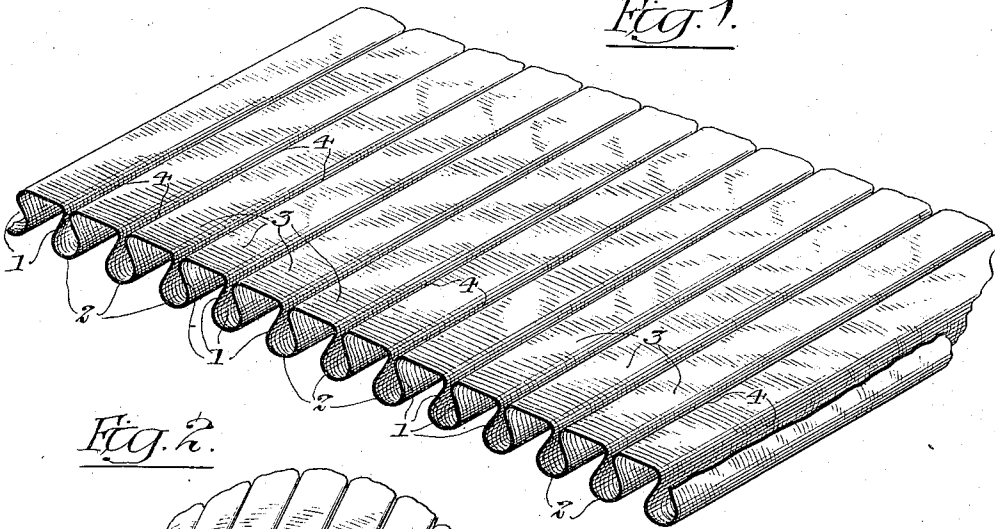


Fig. 2.

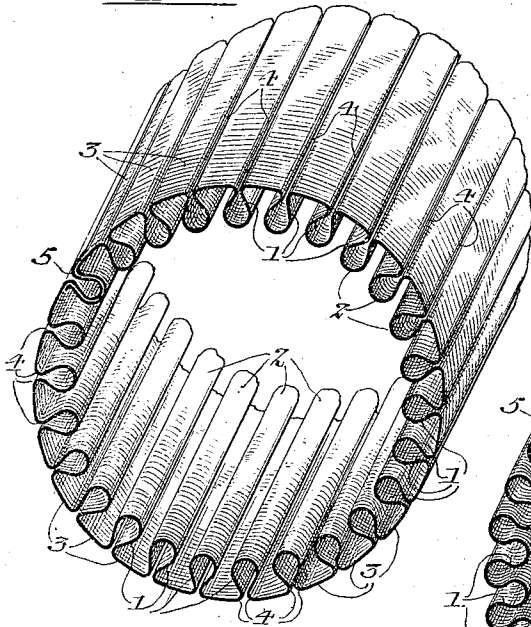
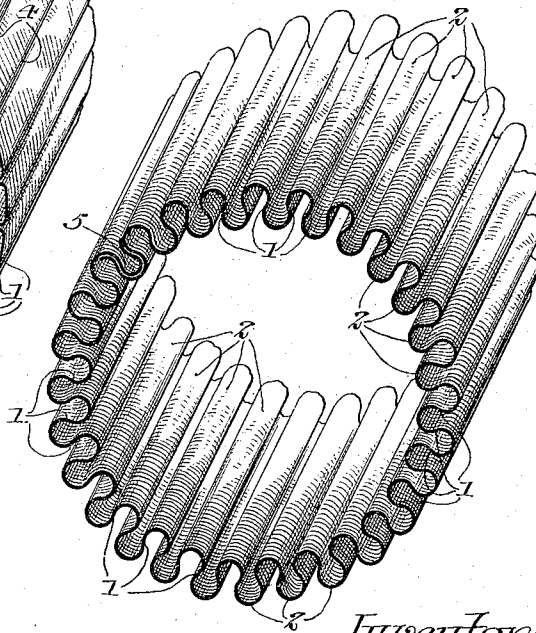


Fig. 3.



Witnesses:

John H. Whiteland
Frank W. Deane

Inventor:

Louis F. Flipse
By: *Peirce & Fisher*
Attys:

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2 SHEETS—SHEET 2.

Fig. 4.

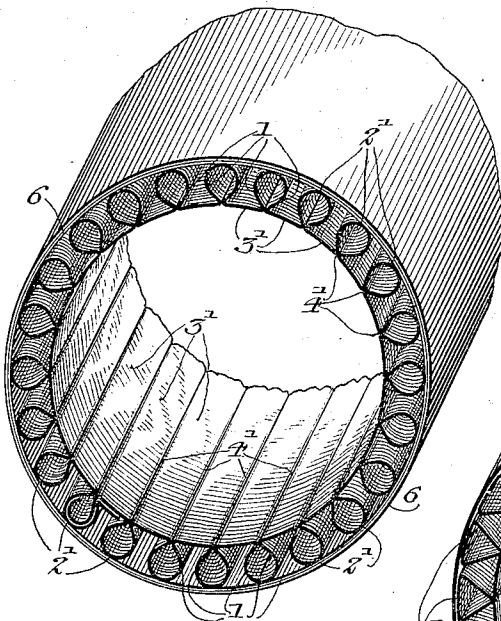


Fig. 5.

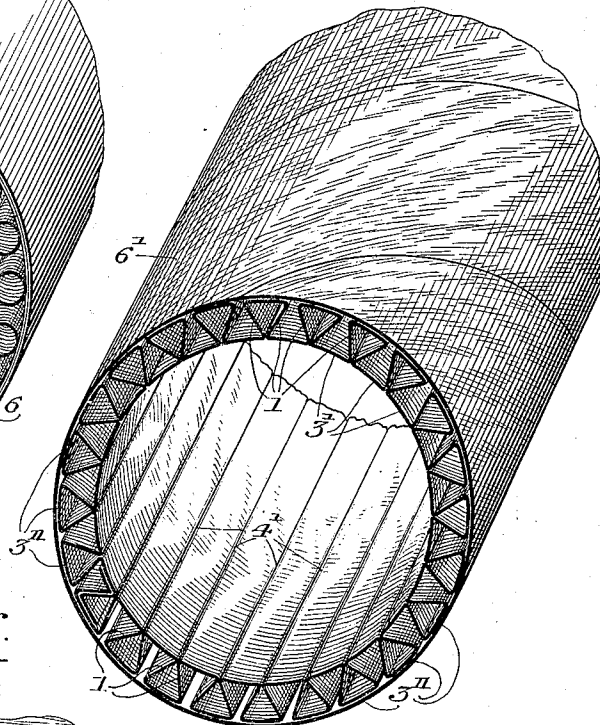


Fig. 6.

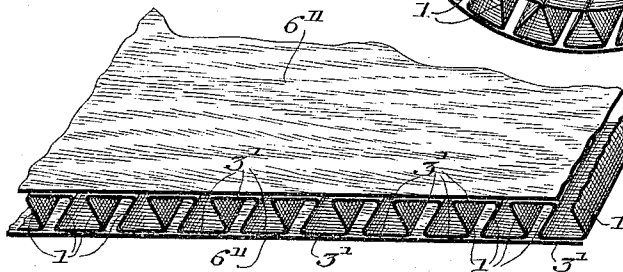
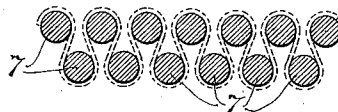


Fig. 7.



Witnesses:-

Wm. H. Whithead
Frank W. Benson

Inventor:-

Louis F. Flipse
By: Peirce & Fisher
Attys.

UNITED STATES PATENT OFFICE.

LOUIS F. FLIPSE, OF SHEBOYGAN, WISCONSIN, ASSIGNOR, BY MESNE ASSIGNMENTS,
TO CORRUGATED VENEER PACKING PRODUCTS COMPANY, A CORPORATION OF
WISCONSIN.

VENEER PAD.

1,156,895.

Specification of Letters Patent.

Patented Oct. 19, 1915.

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To all whom it may concern:

Be it known that I, LOUIS F. FLIPSE, a citizen of the United States, and a resident of Sheboygan, county of Sheboygan, and State of Wisconsin, have invented certain new and useful Improvements in Veneer Pads, of which the following is a specification.

The present invention relates to veneer pads, such as may be employed for packing fragile articles for shipment and for other purposes and seeks to provide an improved pad of corrugated wood veneer that is extremely strong and durable and inexpensive to manufacture.

The invention consists in the features of novelty hereinafter set forth, illustrated in the accompanying drawings and more particularly pointed out in the appended claims.

The improved article or pad comprises a strip of wood veneer bent to form a series of parallel corrugations that run transversely or at an angle to the grain of the wood, and the side walls of which corrugations are preferably inclined inwardly toward each other. In manufacturing the improved pad, a strip of thin wood veneer, preferably of one-sixtieth to one-hundredth of an inch in thickness, is employed. Birch, cotton-wood, maple and other woods can be used. The thin veneer strip, thoroughly dampened so that it can be easily bent without breaking, is corrugated transversely of the grain by bending it around a number of forming rods. The forming rods are held in parallel series and moved close together to incline the side walls of each corrugation inwardly toward each other at the open side thereof. The strip is then dried while held in this form upon the rods to set the corrugations. A pad thus formed of thin veneer will have the corrugations permanently set therein and will have greater strength transversely of its plane than a plain veneer strip of greater thickness. A pad thus formed, while capable of other uses, is admirably adapted for use as a packing pad for bottles and the like. It is flexible and may be bent around the bottle or like article, is strong, and, at the same time sufficiently yielding to effectually cushion any blow which might otherwise injure fragile articles protected thereby. By inclining the side walls of each corrugation inwardly toward each other at the open

side thereof, pressure or a blow applied to the pad will not flatten out the corrugations. Instead, it will tend to bring the side walls of the corrugations into contact and thereby strengthen or stiffen the same.

The drawings illustrate different forms of the invention for various uses. They also illustrate corrugations of different outline.

In the drawings, Figure 1 is a perspective view of one form of the improved pad, designed for use in packing glassware, bottles and the like. Fig. 2 is a perspective view of the form shown in Fig. 1 with its ends connected to inclose a bottle or other like article. Fig. 3 is a view similar to Fig. 2 illustrating a modified form. Fig. 4 is a perspective view of one end of a mailing tube constructed with the improved pad. Fig. 5 is a view similar to Fig. 4 illustrating a modified form. Fig. 6 is a perspective view of a portion of a flat pad or board embodying the present invention. Fig. 7 is a detail view illustrating the method of manufacturing the improved pad.

The forms of the improved pad shown in Figs. 1, 2 and 3, are particularly designed for packing bottles or like cylindrical glassware. They are formed from strips of thin wood veneer and are provided with a series of straight parallel corrugations running transversely to the grain of the wood. Preferably, as shown, the corrugations are at right angles to the grain of the wood but may be inclined at an acute angle thereto. The side walls 1 of the corrugations extend transversely of the pad from one of its faces to the other and the grain of the wood extends through the side walls in the same direction, so that the corrugations act to effectively resist pressure or impact upon the face of the pad. The side walls 1 of each corrugation extend transversely through the pad and are preferably inclined inwardly toward each other at the open side of the corrugation, so that pressure or a blow upon the face of the pad will not tend to flatten out the corrugations and thereby destroy the efficiency of the pad. The outer portions of the corrugations are preferably semi-circular in section to form a series of arches 2 on at least one side of the pad. As the corrugations or arches are formed of thin wood veneer and as the side walls thereof extend transversely through the pad, they are strong and practically self-sustaining,

so that they effectively resist pressure or blows on the pad. As the grain of the wood extends transversely or at substantially right angles to the corrugations it extends through the side walls of the corrugations transverse to the plane of the pad and also extends circumferentially around the arches 2 to thereby increase the strength and effectiveness of the pad. In the form shown in Fig. 3, the outer portions of corrugations on both sides of the pad are semi-circular in section. In the form shown in Figs. 1 and 2, the outer portions 3 of the corrugations on the one face of the pad are flattened, as shown, and the corners 4 of these corrugations are arranged closely adjacent one another, so that the pad will have a substantially smooth outer surface. When the pad is thus formed, pressure upon it will bring the corners 4 into contact and thereby stiffen the corrugations and increase its power to resist pressure or blows. These corners are, however, rounded so that the fiber of the wood veneer is not broken.

The pads that are designed for bottles, glassware and the like, are shipped to the user in the flat form shown in Fig. 1. This pad as a whole is flexible and can be readily bent by the user around the article to be protected. By forming the corrugations with the open sides thereof narrower than the closed sides, and by forming them of wood veneer which has considerable stiffness and strength, the corrugations can be interlocked, as shown at 5 in Figs. 2 and 3, to firmly unite the ends of the pad to inclose the articles. That is to say, corrugations of a wood veneer strip, though quite stiff and adapted to resist blows, are sufficiently resilient and yielding to permit the corrugations at one end of the pad to be forced transversely between the corrugations at the opposite end of the pad and interlock therewith and form a strong joint between the ends of the pad without the use of any particular fastening device. The forms shown in Figs. 1, 2 and 3, can, therefore, be cheaply shipped in flat condition to the user who can easily and readily unite the ends of the pads to receive the bottles or the like. The pads shown in Figs. 1, 2 and 3 may be employed in flat form for packing flat articles and may, if desired, be provided on one side with a covering sheet of flexible paper.

The forms shown in Figs. 4 and 5 are designed as mailing tubes. In the tube shown in Fig. 4, the arch-like or semi-circular corrugations 2' are on the outer face of the pad and the flat corrugations 3' are arranged upon the inner face of the pad with their corners 4' in contact, or substantially so, so that the mailing tube is provided with a substantially smooth, cylindrical inner surface and drawings, papers or the like can be readily inserted into the tube. In the

form shown in Fig. 5, the corrugations are provided with flattened, outer faces 3'', as well as the flat inner faces 3'. These mailing tubes are preferably made up complete by the manufacturer and may have a covering of thin paper which extends beyond the end of the tube to cover the ends of the articles therein. Preferably, they are provided with an outer casing 6 of stout paper-board as shown in Fig. 4, or of thin veneer 6' as shown in Fig. 5. When so provided with stout casings of paper board or thin veneer, these mailing tubes have considerable stiffness and rigidity. The covering 6' comprises a veneer strip extending spirally around the tube and extending across and cemented to the corrugations, with the grain of the covering strip at an angle to the corrugations, whereby added strength is given to the tube.

In the form shown in Fig. 6, the corrugations of the pad on both sides thereof are formed with flat faces 3' and both sides of the pad are covered with sheets 6'' of thin veneer. This construction is intended as a substitute for paste-board and wood in the manufacture of boxes and cartons. The grain of the veneer covering 6'' extends transversely to the corrugations, either at right angles as shown, or at an acute angle, and the construction is very strong, of light weight and is inexpensive.

All forms of the improved pad are manufactured by bending a dampened strip of thin veneer transversely of the grain around a series of forming rods 7, as shown in Fig. 7. These forming rods should, of course, be of different cross section when corrugations of different outlines are to be formed. The forming rods are held in parallel relation and are moved together so as to incline the side walls 2 of the corrugations toward each other. The strip is then dried while held in this form upon the rods to set the corrugations. In a pad thus formed, the corrugations will be permanently set therein and the pad will be very strong, and, at the same time, is flexible as a whole so that it can be readily bent around the articles to be protected, as in the forms shown in Figs. 2 and 3, which are particularly designed for packing bottles or like glassware.

The mailing tubes shown in Figs. 4 and 5 and the flat construction shown in Fig. 6, are provided with stiffening covering sheets of paste-board or thin veneer and are comparatively rigid.

It is obvious that the details set forth may be varied without departure from the essentials of the invention.

I claim as my invention:—

1. A flexible packing pad comprising a strip of wood veneer bent to form a series of strengthening and cushioning corrugations with the side walls thereof extending

transversely through the pad, the corrugations at one end of the pad being adapted to force transversely between the corrugations of the opposite end to interlock there-
5 with and thereby connect the overlapping ends of the pad, substantially as described.

2. A flexible packing pad comprising an integral strip of wood veneer bent to form a series of parallel, strengthening and cushioning corrugations extending transversely
10 of the grain of the wood, the side walls of each corrugation being inclined inwardly toward each other at the open side thereof, said pad being bendable about an article and
15 the corrugation at one end of the pad being adapted to be forced transversely between the corrugations of the opposite end to interlock therewith and thereby connect the
20 overlapping ends of the pad, substantially as described.

3. A flexible packing pad comprising a strip of wood veneer bent to form a series

of parallel self sustaining corrugations with the grain or fiber of the wood at an angle thereto, the side walls of each corrugation
25 being inclined toward each other at the open side of the pad and the outer portions thereof being connected to the side walls by rounded corners, substantially as described.

4. A packing pad comprising a strip of
30 wood veneer bent to form a series of straight, parallel, self-sustaining corrugations with the grain or fiber of the wood substantially at right angles to said corrugations, the side
35 walls of said corrugations extending transversely through the pad and the outer portions thereof being arch-like in section on at least one side of the pad, and being connected to the side walls by rounded corners, substantially as described.

LOUIS F. FLIPSE.

Witnesses:

CLARA A. NORTON,
KATHARINE GERLACH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."