

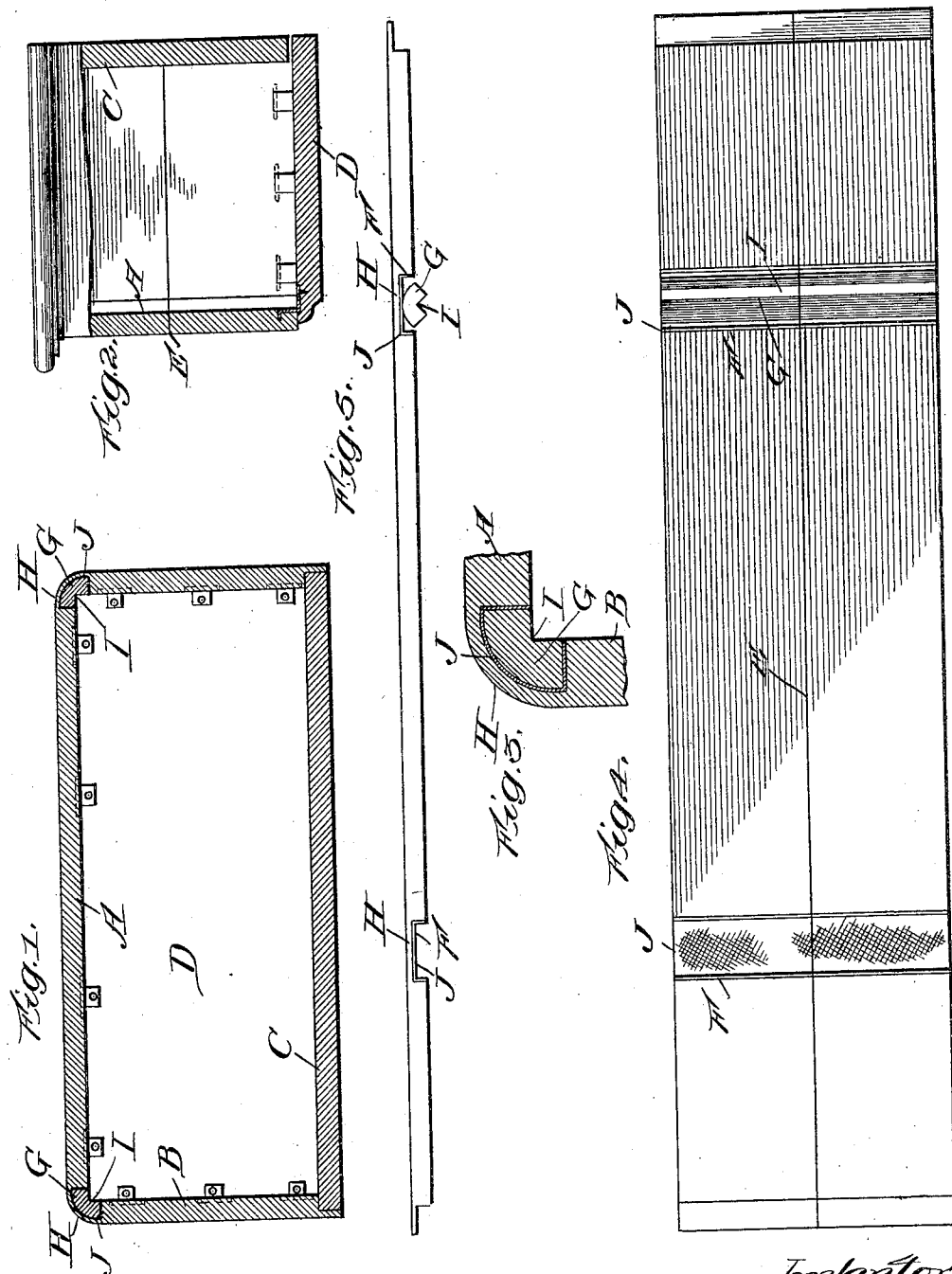
No. 807,727.

PATENTED DEC. 19, 1905.

J. G. CROSBY.

CASING FOR WATER CLOSET TANKS AND THE METHOD OF MAKING IT.

APPLICATION FILED NOV. 23, 1904.



Witnesses:  
O. W. Merrill  
Jessie E. Litsy

Inventor:  
Joseph G. Crosby  
By J. M. Hopkins Atty.

# UNITED STATES PATENT OFFICE.

JOSEPH G. CROSBY, OF PORT HURON, MICHIGAN, ASSIGNOR TO ELIZABETH CROSBY, OF RAHWAY, NEW JERSEY.

CASING FOR WATER-CLOSET TANKS AND THE METHOD OF MAKING IT.

No. 807,727.

Specification of Letters Patent.

Patented Dec. 19, 1905.

Application filed November 23, 1904. Serial No. 234,021.

*To all whom it may concern:*

Be it known that I, JOSEPH G. CROSBY, a citizen of the United States, residing at Port Huron, in the county of St. Clair and State of Michigan, have invented certain new and useful Improvements in Casings for Water-Closet Tanks, of which the following is a specification.

The present invention relates to a water-closet tank of the type shown in Letters Patent No. 686,592, which were granted to me November 12, 1901, and is concerned solely with the corner construction of the outer casing.

The invention consists in the features of novelty that are hereinafter described with reference to the accompanying drawings, which are made a part of this specification, and in which—

Figure 1 is a horizontal section of the casing of a tank embodying the invention. Fig. 2 is view thereof partly in end elevation and partly in vertical section. Fig. 3 is an enlarged horizontal section of one of the corners of the casing. Figs. 4 and 5 are respectively an inner face view and an edge view of the front and end walls of the casing.

A represents the front wall, B the end walls, C the back wall, and D the bottom, of the casing. In Figs. 1 and 2 it is shown in its complete condition and in readiness to receive an inner sheet-metal tank or lining, which is not shown because the invention has nothing to do with it. As before stated, the invention relates solely to the corner construction, and since my aim originally was to provide an improved construction for the corners of the casings of the water-closet tanks, and I have successfully used it for this purpose, I have selected for the purpose of illustration and will hereinafter describe this particular embodiment of it, with the understanding, however, that the invention is not limited to this embodiment. On the contrary, I reserve to myself the exclusive right to embody the invention in any structure in which it may be found to be useful and to any number of the corners of said structure, from one up. In the drawings I have shown it as being embodied in the two front corners of the casing, and I have shown both ends as being integral with the front. In other words, I have shown three walls of the structure as being integral with each other, although each

wall individually considered is shown as being made of two pieces. I desire it to be distinctly understood, however, that in its broadest aspect the invention is not concerned with the construction of the individual walls further than that of two adjacent walls. The portions lying adjacent to the corner shall be integral with each other or continuous in the sense that there is no joint between them at and parallel with the corner. This is fully illustrated in Fig. 3, which shows only those portions of two adjacent walls that are contiguous to the corners. So far as the broad invention is concerned the walls, of which fragments are here shown, may extend as far as desired and may meet and be united to some other part by any suitable means, or either may continue to and beyond a second corner and be in a like manner integral with a third wall. Instances of both of these ideas are given in Fig. 1, where the front and both ends are integral and continuous throughout, considered longitudinally, or in the direction of the grain of the wood. In small tanks the three walls in their entirety are made of a single board of the proper length, width, and thickness; but in large tanks for the sake of economy two or more boards may be placed edge to edge and glued together, as shown in Figs. 2 and 4, the longitudinally-disposed glue-joint being shown at E.

Wherever a corner is to be made the board (whether simple or composite) is provided with a groove *f*, crossing it transversely from side to side and having sides which in the completed structure conform to the sides of a corner-strip *G*. Where the groove occurs it materially reduces the board in thickness and leaves only a thin veneer *H*, which when steamed can be easily bent. The corner-strip is equal in length to the width of the board, and its outer face is curved, its inner face being preferably provided with a rectangular groove *I* (although this rectangular groove has nothing to do with the present invention) and its sides being angularly disposed.

In the practice of the invention of the patent above mentioned it was found that the veneer had a tendency to break at the corners of the groove, and where a composite board with one or more glue-joints, such as *E*, was used these joints opened up at and in the vicinity of the groove in the process of drying. To prevent this, I interpose between

the corner-strip and the walls of the groove a strip J of cheese-cloth or other textile fabric, preferably with a rather coarse or open mesh, which is firmly united to the walls of the groove and to the corner-strip by glue.

The process of forming the corner is as follows: A board (natural or composite) of the proper length, width, and thickness is selected. A groove of the proper depth and width is then cut in one of its faces across the grain and across the joint or joints E, if any, and from side to side. The veneer is then steamed for the purpose of softening it and making it easy to bend, the steaming being localized as much as possible. While in this soft and pliable state a coating of liquid glue is applied to the walls of the groove. A strip of cheese-cloth or other textile fabric is then laid in the groove and pressed down until it conforms thereto, at least approximately. The fabric should be equal in length with the groove and sufficiently wide to cover the bottom and at least partially cover the sides of the groove. It is not necessary that it completely cover the sides, the requirements being satisfied if it span the corners and at least partially cover the sides. Preferably the strip of fabric is put in place dry and rubbed down with the fingers until the glue is forced well into and through its meshes. A second application of glue may or may not be then applied to the fabric. I have obtained good results both with and without this second application. The corner-strip is then laid in the groove, as shown in Figs. 4 and 5, and the board bent so that the side walls of the groove engage the sides of the corner-strip and force its outer curved face firmly and securely against the fabric-covered inner face of the veneer. It will be observed that in their normal condition the sides of the groove are parallel, so that they will be brought to positions at right angles to each other by bringing the portions of the board on opposite sides of the groove to positions at right angles to each other. In assuming these positions the sides of the groove will engage the sides of the corner-strip, (which preferably are at right angles to each other,) and as the sides of the groove approach each other they will force the corner-strip outward with great pressure. The pressure thus produced will compress the fabric and drive the glue thoroughly into its interstices and into intimate contact with the surfaces of the corner-strip and the walls of the groove. The ends of the board (the walls) are then secured, so as to be held in the positions last described until the glue hardens. The result is a corner of great strength, the difference between the strength of a corner of this construction and the strength of a corner of the construction shown in the above-mentioned patent being far in excess of the added strength of the interposed fabric or of what

was to have been expected from its interposition. The corner becomes the strongest part of the structure, and the breaking of the veneer or the opening of the longitudinal joint at and in the vicinity of the veneer are entirely obviated.

It should here be observed that in proportioning the groove and corner-strip no allowance whatever is made for the interposed fabric or glue. In other words, the groove and corner-strip are of equal cross-sectional area. This being so, it of necessity follows that the accommodation of the fabric and glue is due either to their compression or to the stretching of the wet veneer, or to both, probably the latter. At any rate when the joint dries it is compact and without any interstices into which air may enter and attack the glue, a condition which is essential to the efficiency and longevity of a glue joint.

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

1. As a new article of manufacture, a structure having adjacent angularly-related walls, the contiguous portions of which are made of a continuous board having a transverse groove reducing it at the corner to a veneer, a corner-strip disposed in the groove and around which the veneer is bent, a strip of textile fabric interposed between the corner-strip and veneer, and glue permeating the fabric and uniting it to the veneer and corner-strip, substantially as described.

2. As a new article of manufacture, a structure having adjacent angularly-related walls, the contiguous portions of which are made of a continuous board having a transverse groove reducing it at the corner to a veneer, a corner-strip disposed in the groove and around which the veneer is bent, a strip of textile fabric interposed between the corner-strip and the bottom and sides of the groove and spanning the angles of the groove, and glue permeating the fabric and uniting it to the corner-strip and to the bottom and sides of the groove, substantially as described.

3. As a new article of manufacture, a structure having adjacent angularly-related walls, the contiguous portions of which are made of a continuous board having a transverse groove extending from side to side and reducing it at the corner to a veneer, a corner-strip disposed in the groove and having an outer curved face around which the veneer is bent, and having sides conforming to the sides of the groove, a strip of textile fabric interposed between the corner-strip and the bottom and sides of the groove, and glue permeating the fabric and uniting it to the corner-strip and to the bottom and sides of the groove, substantially as described.

4. As a new article of manufacture, a structure having adjacent angularly-related walls, the contiguous portions of which are made of a

continuous board having a transverse groove  
reducing it at the corner to a veneer, a corner-  
strip disposed in the groove and around  
which the veneer is bent, the cross-sectional  
5 areas of the groove and corner-strip being  
nearly equal, a compressed strip of textile  
fabric interposed between the corner-strip  
and the walls of the groove, and glue per-

meeting the fabric and uniting the corner-  
strip to the walls of the groove, substantially 10  
as described.

JOSEPH G. CROSBY.

Witnesses:

L. M. HOPKINS,  
WALTER CROSBY.