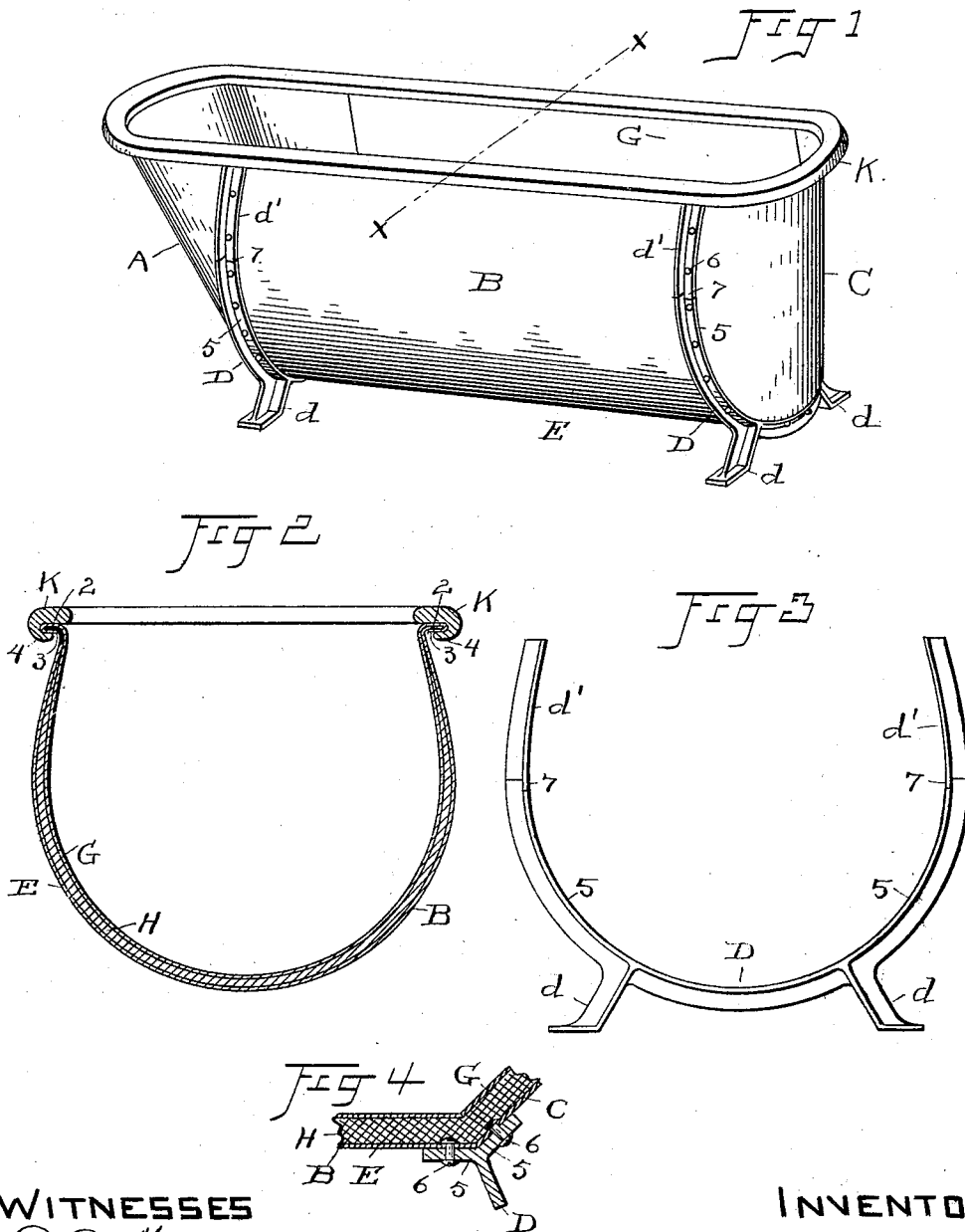


(No Model.)

A. G. WARD & W. C. WINFIELD.
BATH TUB.

No. 521,837

Patented June 26, 1894.



WITNESSES
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ALMON G. WARD AND WILLIAM C. WINFIELD, OF WARREN, OHIO.

BATH-TUB.

SPECIFICATION forming part of Letters Patent No. 521,837, dated June 26, 1894.

Application filed October 9, 1893. Serial No. 487,572. (No model.)

To all whom it may concern:

Be it known that we, ALMON G. WARD and WILLIAM C. WINFIELD, citizens of the United States, residing at Warren, in the county of Trumbull and State of Ohio, have invented certain new and useful Improvements in Bath-Tubs; and we do hereby declare that the following is a full, clear and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to improvements in bath-tubs, and the invention consists in a bath-tub constructed substantially as shown and described and particularly pointed out in the claim.

In the accompanying drawings, Figure 1 is a perspective view of a bath-tub which embodies our invention. Fig. 2 is a cross section thereof on line x, x , Fig. 1. Fig. 3 is a plain elevation of one of the supporting frames of the bath-tub, and Fig. 4 is an enlarged cross section of one of the supporting frames, and of a portion of the bath-tub at the frame, and is designed more especially to illustrate the character of the joint which is employed to unite the parts of the bath-tub, and their connection with the supports thereof, all as hereinafter more fully described.

The tub itself is constructed in what may be termed three distinct sections, A, B and C, and these sections are united to one another on the line of supports, frames or standards D, which have feet d forming rests for the tub. The tub thus constructed in sections or parts consists further in an exterior shell or casing E, made of a suitable sheet metal of some kind, such, for example, as rolled sheet steel or its equivalent, the lining G constituting the inside of the bath tub and consisting, preferably, of sheet copper, although any other suitable metal may be employed for this purpose, and an intermediate filling of cement H, or other kindred substance, which may be introduced in a liquid form, and which will harden after its introduction and thus form a solid body between the shell E and the lining G and uniting with those parts and giving strength and firmness and durability to the tub.

It is of course necessary that the lining G, which, for economic purposes, must be made

of very light sheet copper, should be held from yielding or slipping, or any movement whatsoever, and be so firmly incorporated with the other parts of the tub as to form, practically, a firm and rigid part thereof. The shell E and the filling H serve this purpose in so far as the bottom and sides of the tub are concerned, but still there is need of securing the edges of the lining so as to make the structure as firm altogether as it should be. To this end we fashion the shell E with a lateral outwardly projecting flange—2—about its top, and then we bend the edge—3—of the lining around this flange so as to overlap the same on its under side. The two sheets are thus interlapped, and to hold them in this way we form a cap K, which serves as the rim or top of the bath tub, with an underlapping extension—4—bearing against the underlapping edge of the copper lining and holding it firmly upon the flange—2—. With this construction there need be no riveting of the plates E and G to one another along their upper edges, and they are held as firmly together as is required by the cap K, as described. This cap preferably is made of wood, though of course it may be made of any other suitable material. Now, in order that the sections A, B and C of the tub, when thus constructed, shall be securely united to one another and the tub firmly supported upon its base, we employ the frames or standards D to which said sections are united as well as being supported thereon. Thus, in Fig. 4 it will be seen that the standards themselves are constructed to occupy the point in the structure where the said sections unite, and where the shape of the tub requires a deflection of the material, and to this end the said standards have lateral flanges—5—their entire length on both sides and bottom through which the ends of the sections of the shell are fixed to the standards by the rivets—6—or their equivalent. The ends of the sections of the casing or shell abut snugly against one another midway of the width of the standards in cross section, and the rivets occur as frequently as is necessary to make a perfectly close and water-tight joint, so that no leakage may occur. The meeting edges of the copper lining sections are soldered together. The cement fills the

space between the lining and the outer shell, and itself is of such quality and character as to prevent the passage of water through it when hardened as it is.

- 5 It will be seen in Fig. 2 that the sides of the tub are curved inward toward their top, and for this reason the standards extend to the top of the tub. It is necessary in this structure that the said standards have their
10 upper ends —*d'*— on both sides formed in separate parts from the body thereof. Otherwise it would be impracticable to introduce the body B of the outer casing into the standards to be fixed therein, as shown, because
15 the swell of the body is greater than the distance between the tops of the standards in their normal position. But by making the frame in sections on the line of the swell of the body we are enabled to introduce the
20 body into the standards, and after this is done to introduce the ends —*d'*— thereof.

These end sections are shown here as having projections —7— overlapping in recesses in the lower portion of the standard, but the other equivalent construction may be substituted.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The standards having lateral flanges, in combination with the casing made in sections fixed to said flanges and having their edges abutting, the filling and the sheet metal inside, substantially as set forth.

Witness our hands to the foregoing specification this 5th day of October, 1893.

ALMON G. WARD.
WILLIAM C. WINFIELD.

Witnesses:

H. T. FISHER,
GEORGIA SCHAEFFER.