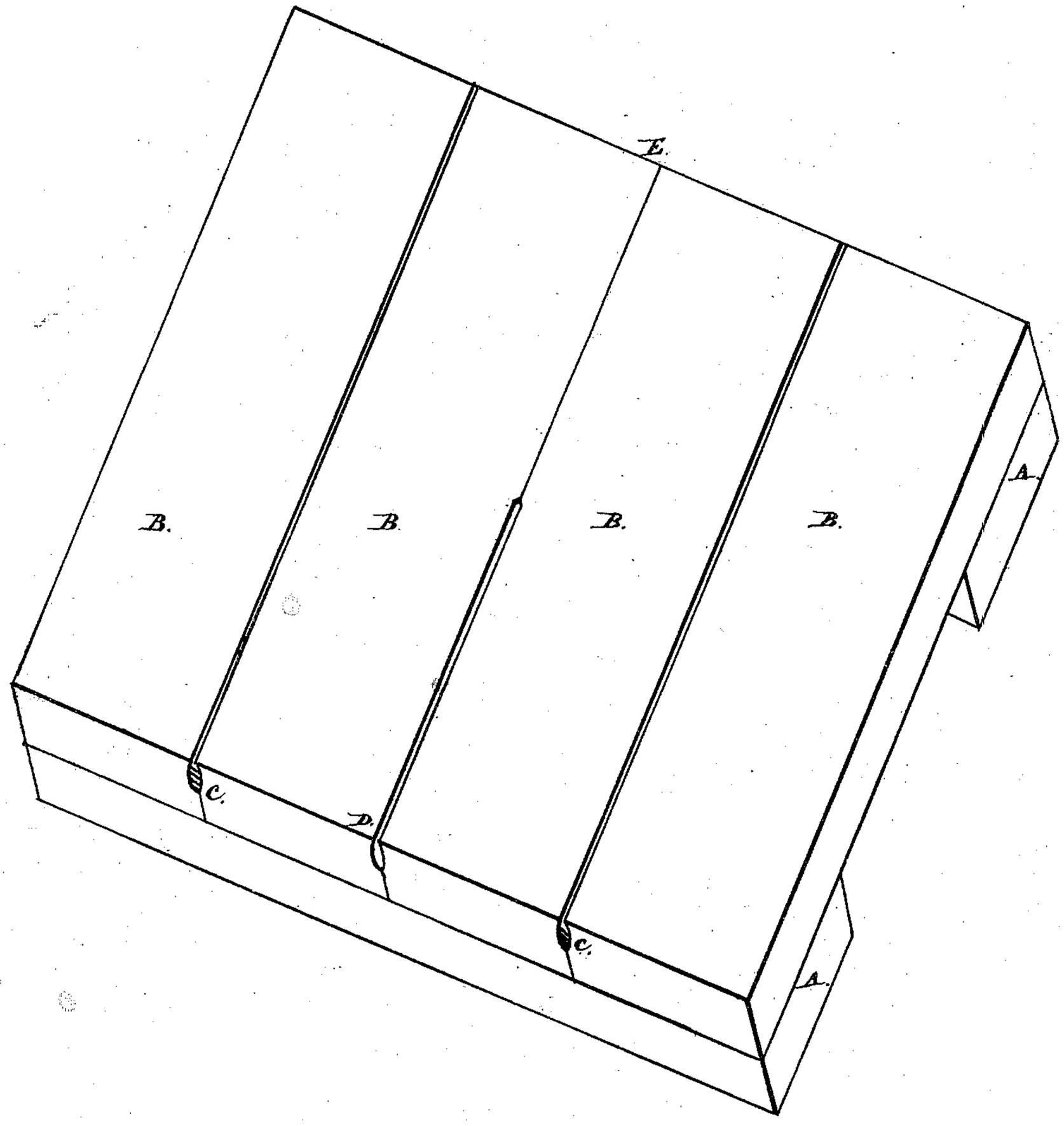
J. T. WHITE.

CALKING VESSELS.

No. 170,139. Patented Nov. 16, 1875.



Witnesses.

H. C. Darling

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UNITED STATES PATENT OFFICE.

JOHN TISDALE WHITE, OF ARLINGTON, MASSACHUSETTS.

IMPROVEMENT IN CALKING VESSELS.

Specification forming part of Letters Patent No. **170,139**, dated November 16, 1875; application filed November 4, 1874.

To all whom it may concern:

Be it known that I, JOHN TISDALE WHITE, of Arlington, Middlesex county, State of Massachusetts, have invented a new and Improved Mode of Calking, applicable for the sides, bottoms, and tops of wine and other vats and oil-tanks, for decks of vessels, for railroad freight and other cars, and for houses, of which the following is a specification:

The nature of my invention is that of grooving the edges of pieces of plank or board, to be placed together side by side to form an external protection or a containing-vessel, with longitudinal grooves, so as that when the planks are laid in place a duct is formed, into which fibrous material is tightly driven, and subsequently saturated with any substance repellent of moisture, or fitted to fill permanently the capillary cavities; and the object is the production of a weather-proof and liquid-proof external covering to the holds of ships, to railroad-cars, and houses, &c.

The figure is a view, in perspective, of my device.

In the drawing, A A are two narrow pieces of board or plank, which would be called, if the representation be considered that of part of a house-roof, the jack-rafters. B B B B are four pieces of board, representing the covering portion of a roof or of a railroad-car, or the side, bottom, or top of a vat or tank. These pieces B, &c., are provided with grooves on their longitudinal edges, so as that when the planks are put together a duct is formed, the figure represented by whose vertical section is of a bulbous shape.

I prefer this shape, as it presents no lower corners, difficult for the fibrous packing to reach, and the inclination of the sides above also allows the ready passage of the packing material into the cavity.

The grooves C C are filled with fibrous material, preferably cotton-waste, though I do not confine myself to any particular fibrous material. These fibers are driven in with a calker's tool and mallet, in the usual manner of calking, and are subsequently "payed" or saturated with boiled linseed-oil, mixed with white lead, or with any mineral pigment, or with other suitable substance.

I do not confine myself to any particular material for paying, and sometimes I omit the paying altogether.

In calking oil-tanks I prefer to calk from the inside, and to pay the seams with glue. Previous to calking I separate the seams at the top, so as to admit the placing of the fibrous packing by inserting in the duct, at one end, the point of a flattened hook, whose concave edge is sharpened, and then drawing the hook between the edges of the two planks to the other end. This process compresses the fibers of the wood at that part, and, after the seam is calked and payed, the first rain falling or other moisture applied swells these compressed edges, so that they join again, thus keeping the packing in, and, by closing the crack, adding to the imperviousness of the roof.

With the ordinary mode of preparing plank or boards for calking with a smooth plane edge, this swelling of the wood and restoration of the same to its normal state does not occur, as the packing prevents it.

Furthermore, the vertical section of a fragment of calking, when the edges of the planks are at right angles to the surface, presents the form of a wedge, and the warping by the sun's rays of the planks is apt to force the packing up. The subsequent straightening by contraction of the plank restores the plank to its former condition; but the wedge of packing is not so restored, being frequently left raised up, when the rain enters beneath it, when a house-roof is in question, and the calking is inefficacious.

The middle groove in the drawing is separated with the tool (and prepared for the reception of the packing) in part, beginning at the point D and going to the lineal center; the rest of the groove, beginning at the point E and going to the lineal center of the groove, being unseparated, showing the appearance when the planks are first put together, and also when the access of moisture has restored the woody fibers to their normal condition.

I find in my mode of calking the advantages of tightness, cheapness, imperviousness, and durability, which qualities are shown in its application to vats, tanks, cisterns, tops

and sides of railroad-cars, roofs and sides of houses, decks and hulls, sides of wooden stave-formed aqueducts, &c.

I do not claim, broadly, the combination of grooved edges and fibrous packing; nor do I claim forming the groove so as that the interspaces between the planks shall be greatest intermediate the weather and inner edges of said planks; but

I claim—

The combination of the grooved edges and the fibrous packing, when the sides of the groove are cut so as to form an acute angle, or nearly so, with the surface of the board or plank, and to meet when the planks are in place, all when constructed and arranged substantially as described.

JOHN TISDALE WHITE.

Witnesses:

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