(No Model.)

N. S. & E. R. BOWDISH.

COMPRESSED SEAM FOR BOATS.

No. 356,096. Patented Jan. 18, 1887.

Fig. 1.

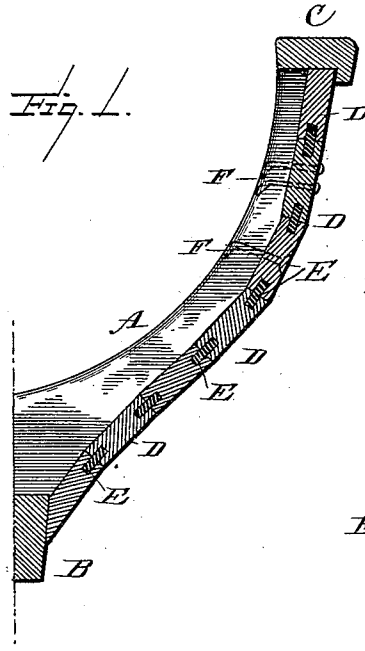


Fig. 2.

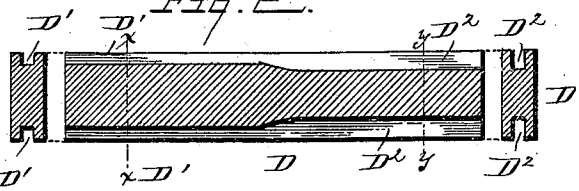


Fig. 3.

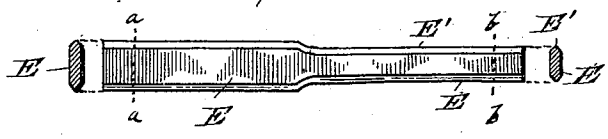


Fig. 4.

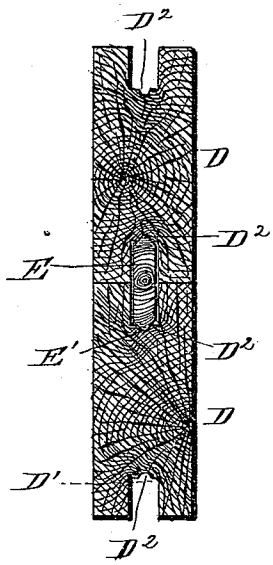


Fig. 5.

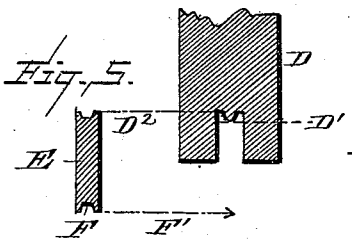


Fig. 6.

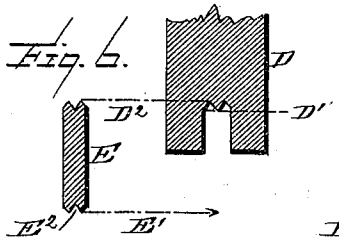


Fig. 7.

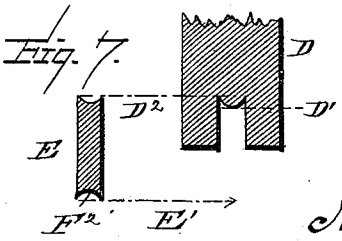


Fig. 8.

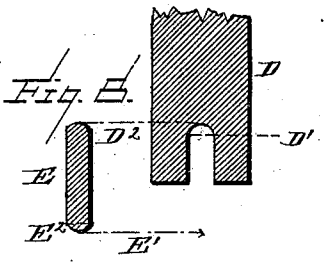
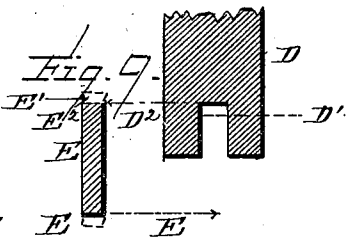


Fig. 9.



WITNESSES:

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UNITED STATES PATENT OFFICE.

NELSON S. BOWDISH AND EDWARD R. BOWDISH, OF SKANEATELES, N. Y.

COMPRESSED SEAM FOR BOATS.

SPECIFICATION forming part of Letters Patent No. 356,096, dated January 18, 1887.

Application filed August 21, 1886. Serial No. 211,535. (No model.)

To all whom it may concern:

Be it known that we, NELSON S. BOWDISH and EDWARD R. BOWDISH, citizens of the United States, residing at Skaneateles, in the county of Onondaga, State of New York, have invented certain new and useful Improvements in Compressed Seams for Boats, &c., of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to boats, and especially to the construction of the joints or seams forming the sides or shell thereof, the object of the invention being to produce a seam or joint which shall not require calking, but which by the action of moisture will form a water-tight joint.

Other objects of the invention, together with certain advantages secured thereby, will be hereinafter set forth, and the novel features will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a cross section of a portion of a boat sufficient in extent to illustrate our invention. Fig. 2 is a longitudinal vertical section of a plank embodying one feature of our invention, vertical sections on lines *x* and *y* being shown at each end of the figure. Fig. 3 is a filling-strip shown in side elevation and in cross sections on lines *a b* at each end of the figure, said strip also embodying a feature of our invention. Fig. 4 is a vertical transverse section of two planks jointed in accordance with our invention. Figs. 5 to 9, inclusive, are modified forms of joints, each embodying our invention.

Like letters refer to like parts in all the figures.

A represents a knee, B the keel, and C the gunwale, of a boat, all of which are of any desired usual construction.

D represents the planking forming the sides of the boat. Each of the planks D is grooved at opposite edges, as shown at D′, by any suitable tool, and the material at the bottom of the groove is by any suitable tool or machinery compressed, as shown at D^2, so that in reality the groove D′ is deepened by the compression or condensation of the fiber of the material.

E represents a filling-strip, which is first made wider than necessary to fill the compressed or deepened grooves of two adjacent planks. The wide filling-strip is then compressed at opposite edges, as shown at E′, whereby it is made of a width substantially equal to the distance from the bottom of one compressed groove to that of another in two adjacent planks.

Now, it will be seen that when two planks are placed edge to edge, with a filling-strip arranged in the grooves thereof, any moisture which gains access to the grooves, to the filling-strips therein, or to the compressed fibers of either, acts to expand the material, so as to cause the same to swell, and thus produce an absolutely water-tight joint.

Various forms of joints may be employed and still be within the scope of our invention. For example, taking the plainest form of joint, as illustrated in Fig. 9, in which the groove D′ and the strip E are rectangular each—that is to say, the groove and the strip are compressed, the former so as to deepen it, and the latter edgewise, so that the fiber is condensed, whereby the same operation takes place when the material becomes wet or moistened, as hereinbefore described. Now, in depressing the groove its outline at the bottom may, as shown, be either rectangular, concave, convex, or beaded, and the strip may be at its opposite edges of similar form, as shown, and even other forms than those illustrated may be adopted, in accordance with the material employed or the judgment of the builder, the gist of our invention being in the compression of the material in the plank or strip, or both, so that when moistened it shall expand to produce a water-tight joint or seam. It is apparent that this form of joint may be applied to useful purposes in other vessels which are required to be water-tight.

If preferred, a softer material may be used for the filling-strips than that of which the planking is made, whereby a quicker action or expansion of the strip will occur than of the planking itself, which, for the purpose of maintaining the symmetry of boats, renders the use of material not easily affected by water preferable.

Planking having joints constructed in accordance with our invention may be secured

in position by any suitable means. In this instance we have illustrated nails F, one or two of which are passed through the planks and knee A and then clinched.

Planking having a filling-strip of any material not affected by moisture can be compressed in such manner as to render the seam tight without the action of moisture, and instead of compressing the planking at the bottom of the groove it may be compressed along the top of the walls thereof, whereby the compressed fiber will operate as hereinbefore described.

Having described our invention and its operation, what we claim is—

1. In a boat, planking having compressed grooves, in combination with a compressed filling-strip arranged therein, substantially as specified.

2. In a boat, grooved planking having the fiber thereof compressed along the groove, in combination with a filling-strip having the fiber at the edges thereof compressed, substantially as specified.

3. In a boat, the combination of planks grooved along their edges, and having the bottom of the grooves compressed in concave form, with a filling-strip compressed edgewise and having a V-shaped edge adapted to enter the concavity in the bottom of the groove of the planks, substantially as specified.

In testimony whereof we affix our signatures in presence of two witnesses.

NELSON S. BOWDISH.
EDWARD R. BOWDISH.

Witnesses:
EDWARD DENT,
EUGENE C. ALLEN.