D. TRUE.
Boat-Knee.

No. 195,908. Patented Oct. 9, 1877.

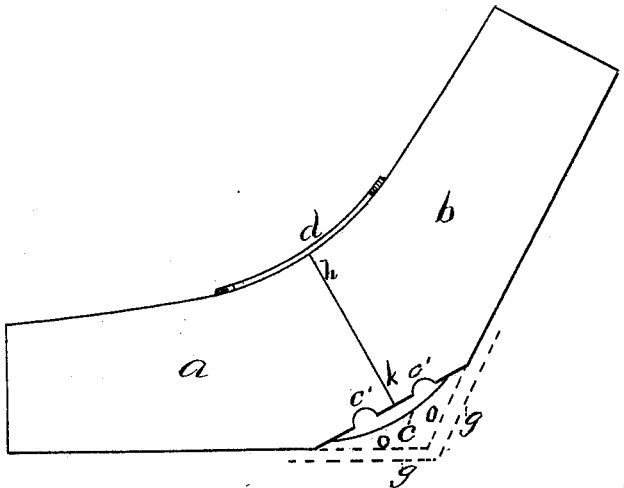

Fig. 1.

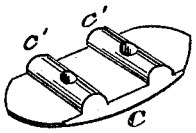

Fig. 3.

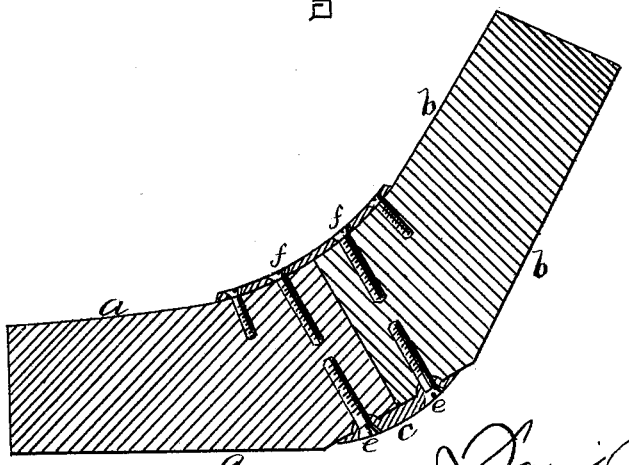

Fig. 2.

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DAVID TRUE, OF SALISBURY, MASSACHUSETTS.

IMPROVEMENT IN BOAT-KNEES.

Specification forming part of Letters Patent No. **195,908**, dated October 9, 1877; application filed March 27, 1877.

To all whom it may concern:

Be it known that I, DAVID TRUE, of Salisbury, in the county of Essex and State of Massachusetts, have invented a new and useful Improvement in Boat-Knee, which improvement is fully set forth in the following specification and accompanying drawing.

This invention relates to those boat-knees which are made in two (or more) parts, and consequently require to be firmly held at the adjoining or adjacent portions of said parts, in order that the knee may be as strong as, or stronger than, a bent knee, and yet subject to none of the objections attaching to such knees.

The knees to which this improvement applies are more particularly those used in connection with dories and similar craft.

In the drawing, Figure 1 is a side elevation of a boat-knee embodying my invention. Fig. 2 is a longitudinal vertical section of the same. Fig. 3 is a view in perspective of the connecting-piece, which is placed on the under side next the scupper.

Similar letters of reference indicate corresponding parts.

When a boat-knee made in two pieces is placed in position in a dory, the tendency is to force it apart at the lower portion of the joint. In other words, the pressure upon the knee tends to bend it inward, not outward. That part of the joint represented by the letter *k* in the drawing is liable to be pulled apart or widened, while the part represented by *h* is crowded together. This is peculiarily the case with the knees, which are placed near the bow or stem of the dory.

This invention is intended to obviate the difficulty alluded to, without the use of sockets or side plates, and with the employment of as little strengthening material to encumber and enlarge the knee as possible.

It is necessary in all dories to make some provision for the flow of the water back and forth in the bottom of the boat. When a socket is provided, as in Letters Patent numbered 174,595, granted March 7, 1876, a portion of the under side of such socket is removed, so as to allow a space for the flow of the water in the boat. As the socket is only about one-tenth of an inch thick, however, the space is hardly sufficient. By cutting off the corner of the knee, a scupper is formed under the said corner, which may be an inch or more in depth. This cut-off corner, which provides for the scupper, (or water-way,) tends to make that point the weakest in the knee; hence the great advantage of having the strengthening connecting-piece at that point. Again, the placing of the connecting-piece in the position described obviates a difficulty which arises in placing boat-knees having metallic sockets which fit into the corner of the boat into a dory. In building a dory, the bottom is first constructed, then the knees laid in position and secured to said bottom, and afterward the sides are placed in position, and made to lap over or lie against the edges of the bottom. These edges, therefore, must be sawed or planed into the proper bevel or angle after the knees are in place, but before the sides are in position. The sharp corner of the metallic socket seriously interferes with the motion of the instrument. This difficulty is entirely obviated by my invention, which leaves an ample space for the play of the saw or plane, even though the metallic connection at the scupper is in the center of the knee, where the sharp corner would naturally be found.

At that portion of the under side of the knee which is next the scupper—that is, that portion next the space or scupper *o* which lies between the knee and the planks *g*, and is used for the flow of the water in the bottom of the boat—I place a metallic connecting-piece, *c*, which piece is firmly secured to both the two portions *a* and *b* of the knee, by means of screws *e e*, or any other suitable fastening or securing device. This piece *c* is placed at just the point where the greatest strain, and hence the greatest tendency to part, occurs, and may be of any suitable shape, size, or thickness, so long as it is not too bulky or heavy, and of sufficient strength to hold the parts *a* and *b* together.

In order to aid the connecting-piece *c* in holding the parts, ribs *c′ c′* are provided, fitting into the knee. These ribs may be more or less in number, and of various sizes and shapes. Any projections of sufficient thickness may be used in place thereof.

d is a piece connecting the parts *a* and *b* upon the upper side, and secured to said parts

by means of screws *f* or other suitable means of attachment.

In place of the screws *e e f f*, bolts or rivets may be used to extend from the piece *c* through the knee to the piece *d*, if desired.

By means of the above-described invention, a boat-knee is produced unhampered by heavy or bulky plates, very cheap in cost, strengthened and firmly held at just the point where the strain is greatest and the knee would naturally be the weakest, and the difficulty in sawing or planing the edge of the bottom in the proper angle is entirely obviated.

A thin partition or plate may be placed between the adjacent edges of the two portions of the knee, if desired.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

A boat-knee made in two or more parts, and having its corner removed so as to form a scupper next to the side of the boat, and provided with a metallic connecting-piece secured to said knee next the scupper, for the purpose set forth.

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Witnesses:
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