

D. TRUE.
Boat-Knee.

No. 200,632.

Patented Feb. 26, 1878.

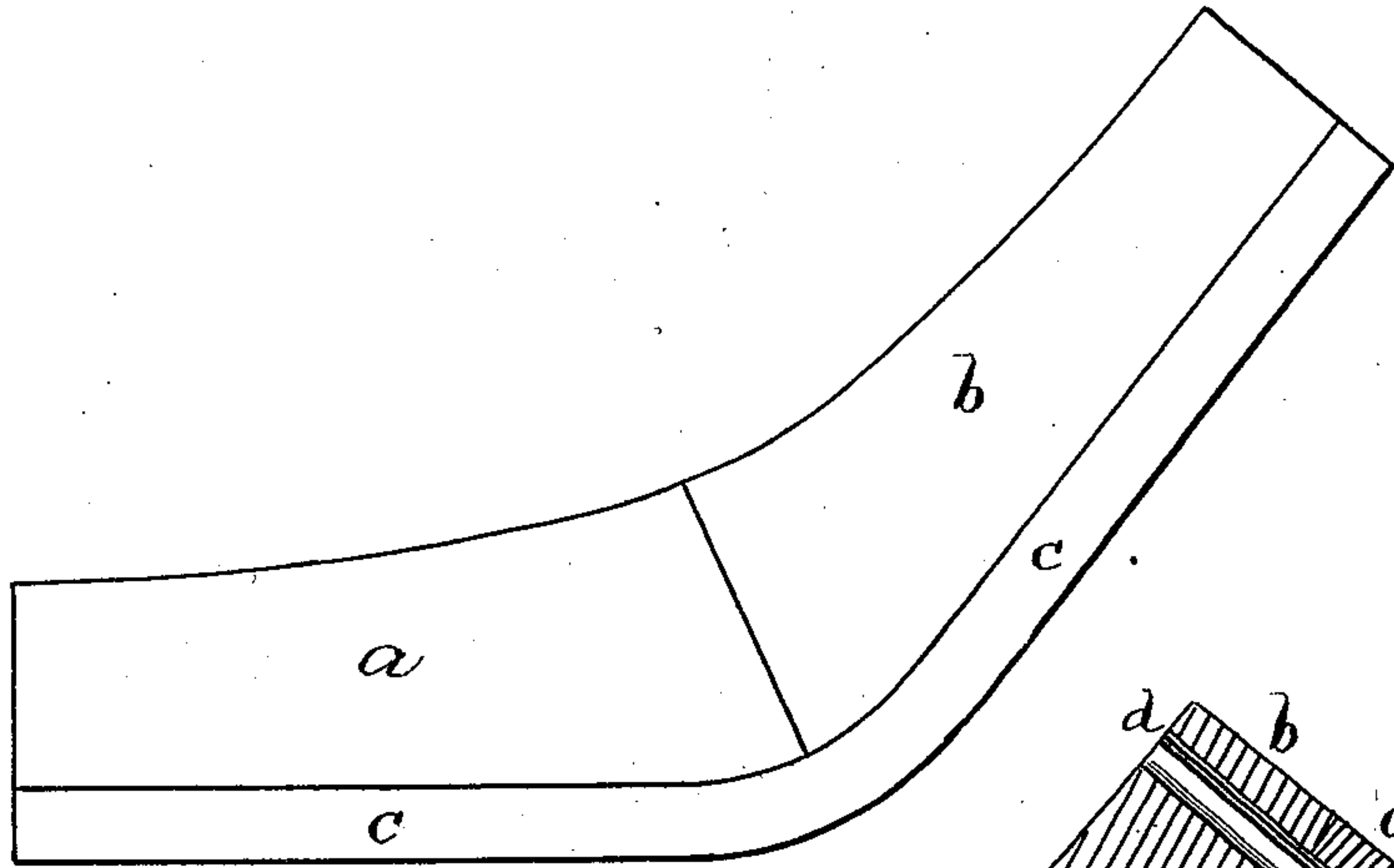


FIG. 1.

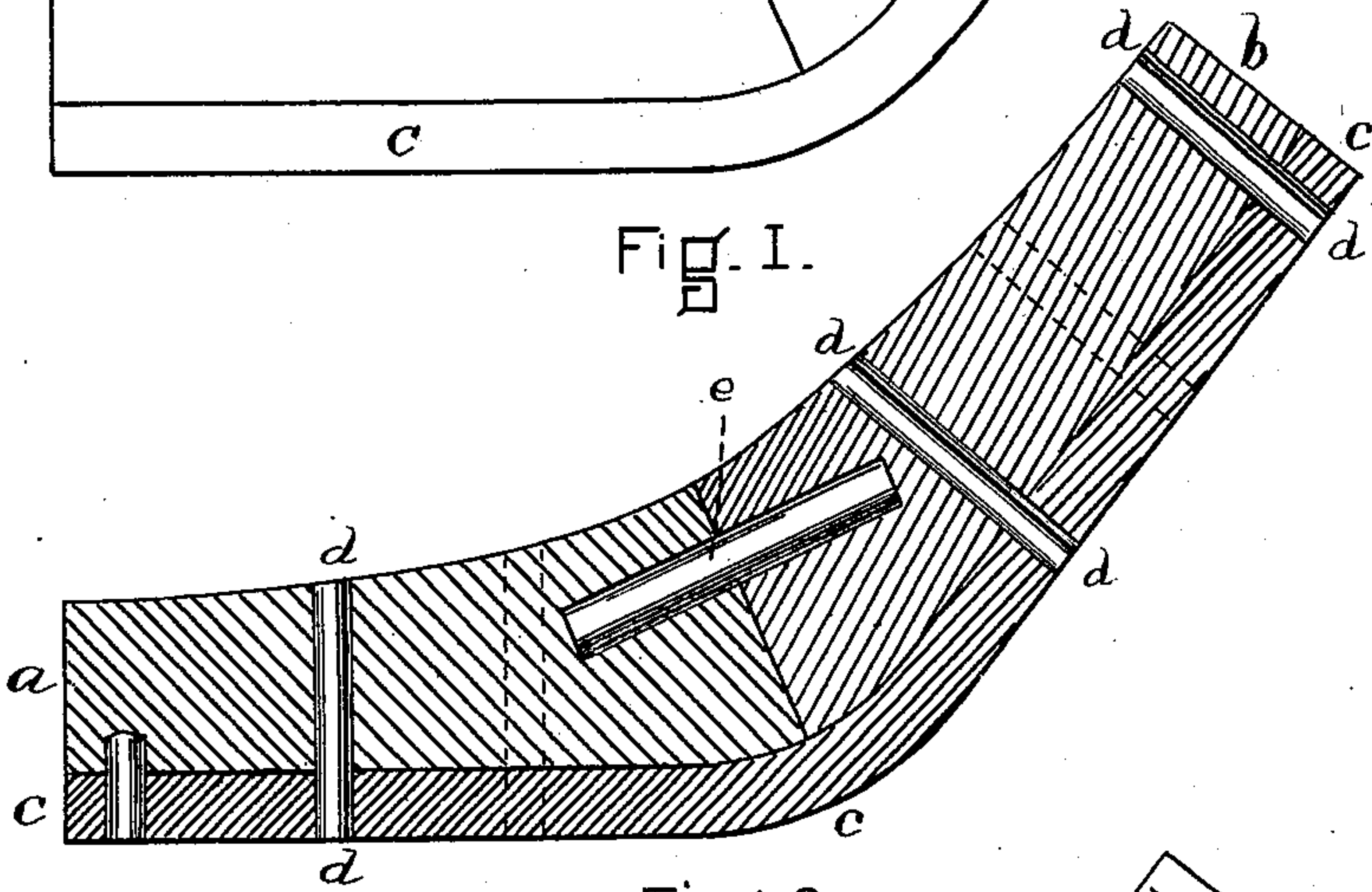


FIG. 2.

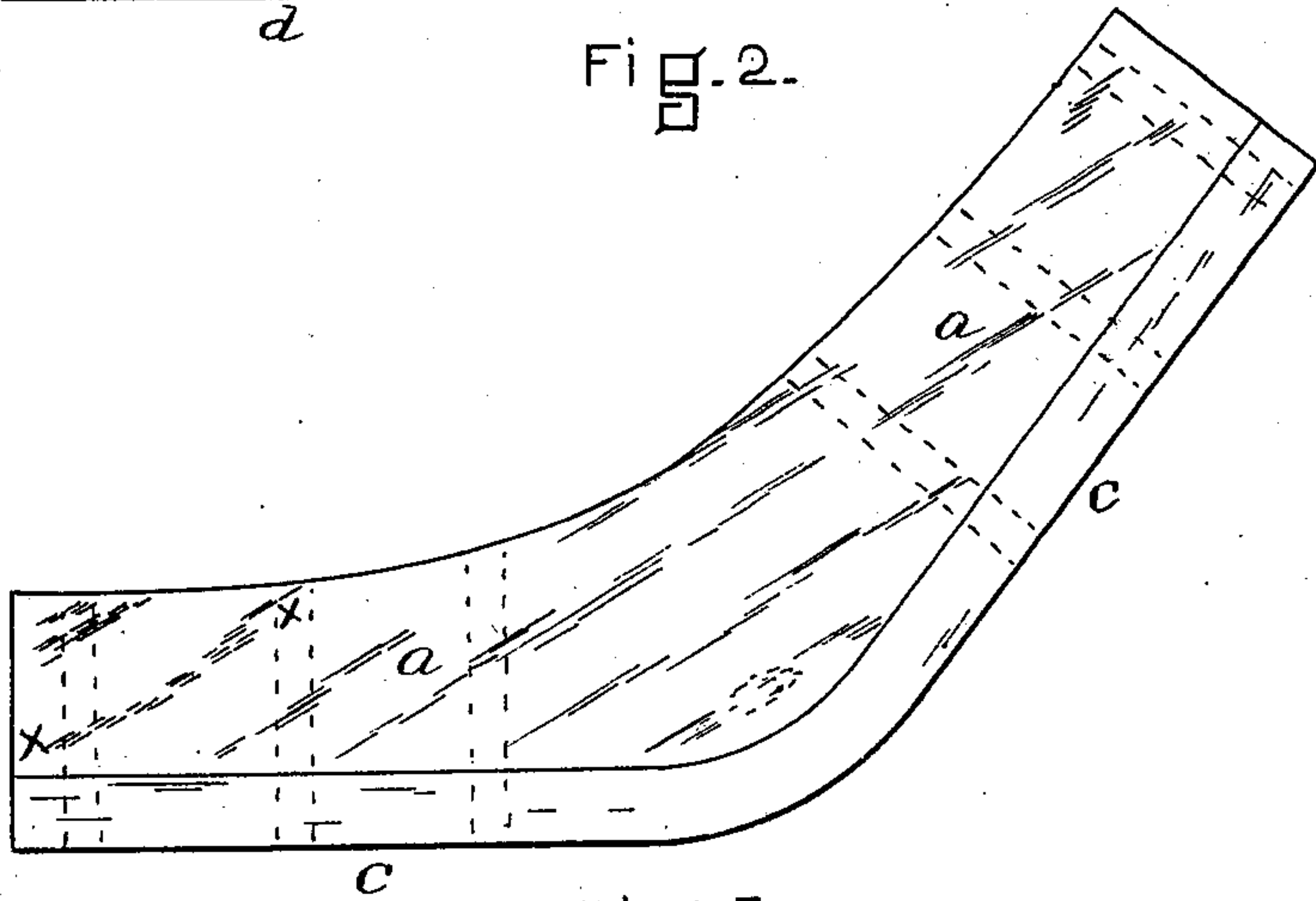


FIG. 3.

WITNESSES

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UNITED STATES PATENT OFFICE.

DAVID TRUE, OF SALISBURY, MASSACHUSETTS.

IMPROVEMENT IN BOAT-KNEES.

Specification forming part of Letters Patent No. **200,632**, dated February 26, 1878; application filed January 14, 1878.

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-Knees, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a side elevation of a boat-knee embodying my invention. Fig. 2 is a longitudinal vertical section of the same. In Figs. 1 and 2 the boat-knee to which my invention is applied is one of those knees which are manufactured in two or more pieces, abutting against each other at the bend or corner of the knee. Fig. 3 is a side elevation of what is termed a "natural" knee—that is, a knee which is taken from a piece of wood which has grown into the bent shape of a boat-knee. The knee shown in this figure is a poor knee, it being cross-grained.

Similar letters of reference indicate corresponding parts.

The knees to which this improvement is applied are more particularly those used in dories and similar craft.

In Figs. 1 and 2, *a* and *b* represent the two main portions of a knee constructed in two principal pieces, which meet at the bend in the knee. *c* is a longitudinal strip of wood placed upon the under side of the knee, and secured thereto by the dowels *d d*, or other suitable fastening device, which pass entirely through the knee from top to bottom. This strip extends, usually, the entire length of the knee, although that is not absolutely necessary. It will be seen that there is ample opportunity—the strip *c* being so long—for the most thorough fastening to the knee; and as there is no danger of the strip *c* working back

and forth, the great strain to which it is subjected in the inward pressure which occurs in knees placed forward and aft in a dory can be well sustained, as it consists always of a direct pull lengthwise upon the strip. A strip which is extremely narrow possesses great strength in this immovable position, and will stand great strain in a boat. A longitudinal dowel, *e*, is usually placed within the knee, connecting the two parts *a* and *b*, and affording additional firmness. Thus all necessity for metallic plates upon the sides or bottom is obviated, and a great saving effected, both in weight and expense.

In Fig. 3 a natural knee is shown, which, as is often the case, is cross-grained, and peculiarly liable to split in such a place as that indicated by *x x*, when subjected to the inward strain incident to the bow or stern of a dory. By applying the strip *c*, which bears the primary strain, and the dowels *d d*, which pass directly through the cross-grain, the knee, which would otherwise be worthless, is rendered good and useful.

It will be seen that, in practice, the strip sustains the pull, while the main portion of the knee supplies the necessary body and stiffness.

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

A boat-knee to the bottom or under side of which is attached a longitudinal supplementary strip of wood, said strip extending each side of the bend or division in said knee, for the purpose set forth.

DAVID TRUE.

Witnesses:

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