

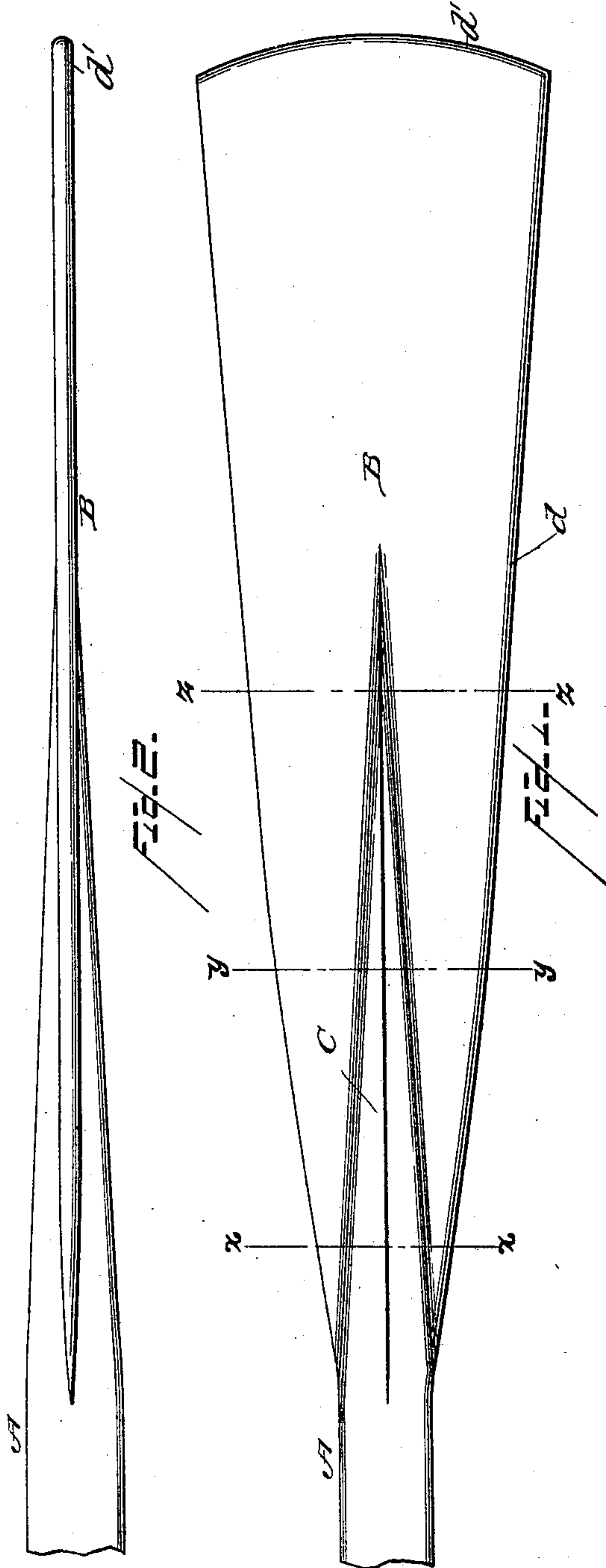
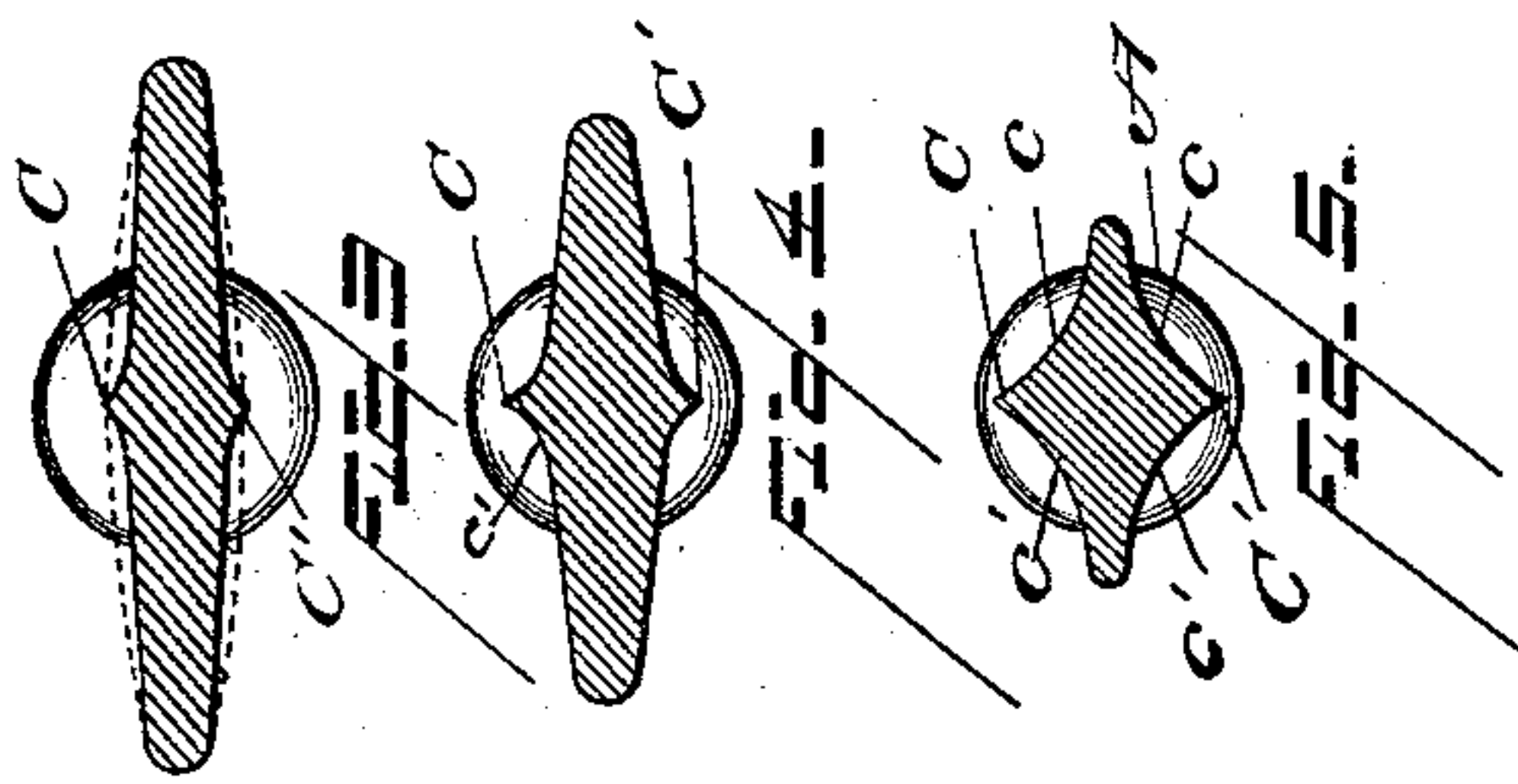
(No Model.)

G. W. LINGLE.

OAR BLADE.

No. 370,070.

Patented Sept. 20, 1887.



Witnesses

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# UNITED STATES PATENT OFFICE.

GEORGE W. LINGLE, OF BRYAN, OHIO, ASSIGNOR OF ONE-HALF TO  
FREDERICK YUNCK, OF SAME PLACE.

## OAR-BLADE.

SPECIFICATION forming part of Letters Patent No. 370,070, dated September 20, 1887.

Application filed January 7, 1887. Serial No. 223,675. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE W. LINGLE, a citizen of the United States, residing at Bryan, in the county of Williams and State of Ohio, have invented certain new and useful Improvements in Oar-Blades, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in wooden oar-blades; and it consists of the peculiar construction and arrangement of the parts of the same, that will be hereinafter fully set forth, and particularly pointed out in the claims.

The object of my invention is to provide an oar-blade of improved construction, which shall possess the desirable features of great strength combined with lightness and simplicity of construction, and which shall possess sufficient flexibility to insure the proper "spring" to the blade.

A further object of my invention is to provide such an oar-blade which will better retain or hold the water, and thereby increase the efficiency of the stroke, while not adding to or increasing the labors or difficulties of the oarsman.

With these ends in view I propose to provide the blade with a longitudinal central rib on each side, which extends from the points where the blade joins the stock and terminates at or near the center of the blade, these ribs being gradually tapered in thickness from the stock to the center of the blade. By providing these ribs on opposite sides of the blade I very greatly increase the strength thereof without adding to its weight, and by arranging the ribs at the longitudinal center of the blade and terminating them about one-half the distance of the length thereof, the blade is not unduly stiffened and the necessary flexibility is permitted.

In the accompanying drawings, which illustrate an oar embodying my invention, Figure 1 is a side elevation. Fig. 2 is an edge view. Figs. 3, 4, and 5 are vertical cross-sectional views taken through the blade at different points on the lines  $x x$ ,  $y y$ , and  $z z$ , respectively, of Fig. 1.

Referring to the drawings, in which like let-

ters of reference denote corresponding parts in all the figures, A designates the blade of the oar, and B the handle or stock thereof, which are formed from a single piece of wood. The sides of the blade are gradually curved and bulged outwardly from the points from where they emerge from the stock, as is usual, and the blade is gradually tapered from its center toward the edges, as shown in Figs. 3 and 4 of the drawings.

C designates the strengthening-ribs, which are formed on the two side faces of the blade and integral therewith and terminate in sharp edge C'. These ribs extend from a point where the blade joins the stock near the center of the blade, and they are arranged parallel with its longitudinal axis, so that the center or axis of the ribs lies equidistant from the opposite side edges of the blade throughout its entire length. The ribs are tapered gradually from the point where they join the stock to the center or middle of the blade, so that while they very materially increase the strength of the blade they do not unduly stiffen the same, and thereby permit it to have the necessary flexibility. The ribs are made integral with the oar and blade thereof for the purpose of simplicity and strength. The blade and ribs therefore are turned or molded with the blade by a suitable machine, which will be made the subject-matter of a separate application.

The advantages arising from an oar embodying my improvements are numerous. The blade is very materially strengthened, so that its durability is increased, while the weight thereof is not added to by the ribs. The ribs do not unduly strengthen the blade, and thus permit the same to have the necessary flexibility, which is desirable and essential in a device of this class. In the old form of oar-blades they were made substantially oval in cross-section, as indicated in dotted lines in Fig. 3 of the drawings; but as the sides of the ribs of my improved blade are curved, as shown at  $c c'$  in Figs. 3, 4, and 5, the blade serves to hold the water better, and thereby increase the efficiency of the stroke without adding to the difficulties or labors of the oarsman.

My improved blade is furthermore rounded at its side edges, as at  $d$ , and at the outer ter-



minal end thereof, as at  $d'$ , so as to prevent the blade from becoming marred in shipping the same.

5 The blade is very simple, light, and strong in construction, and it can be manufactured at the same or less cost of the blades of ordinary pattern.

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

1. An oar-blade having the longitudinal strengthening-ribs arranged on the faces thereof, and having sharp-pointed edges, substantially as and for the purpose set forth.

15 2. An oar-blade having the integral con-

cavely - curved ribs arranged longitudinally thereof and on the faces, the said ribs being widest at the points where they join the stock of the oar, substantially as described.

3. An oar-blade having the longitudinal tapered ribs provided with the concavely-curved faces  $c\ c'$ , substantially as and for the purpose set forth. 20

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE W. LINGLE.

Witnesses:

W. B. KITZMILLER,

H. W. KITZMILLER.