

(No Model.)

2 Sheets—Sheet 1.

A. VIERT.
PROPELLER FOR VESSELS.

No. 552,938.

Patented Jan. 14, 1896.

Fig. 1.

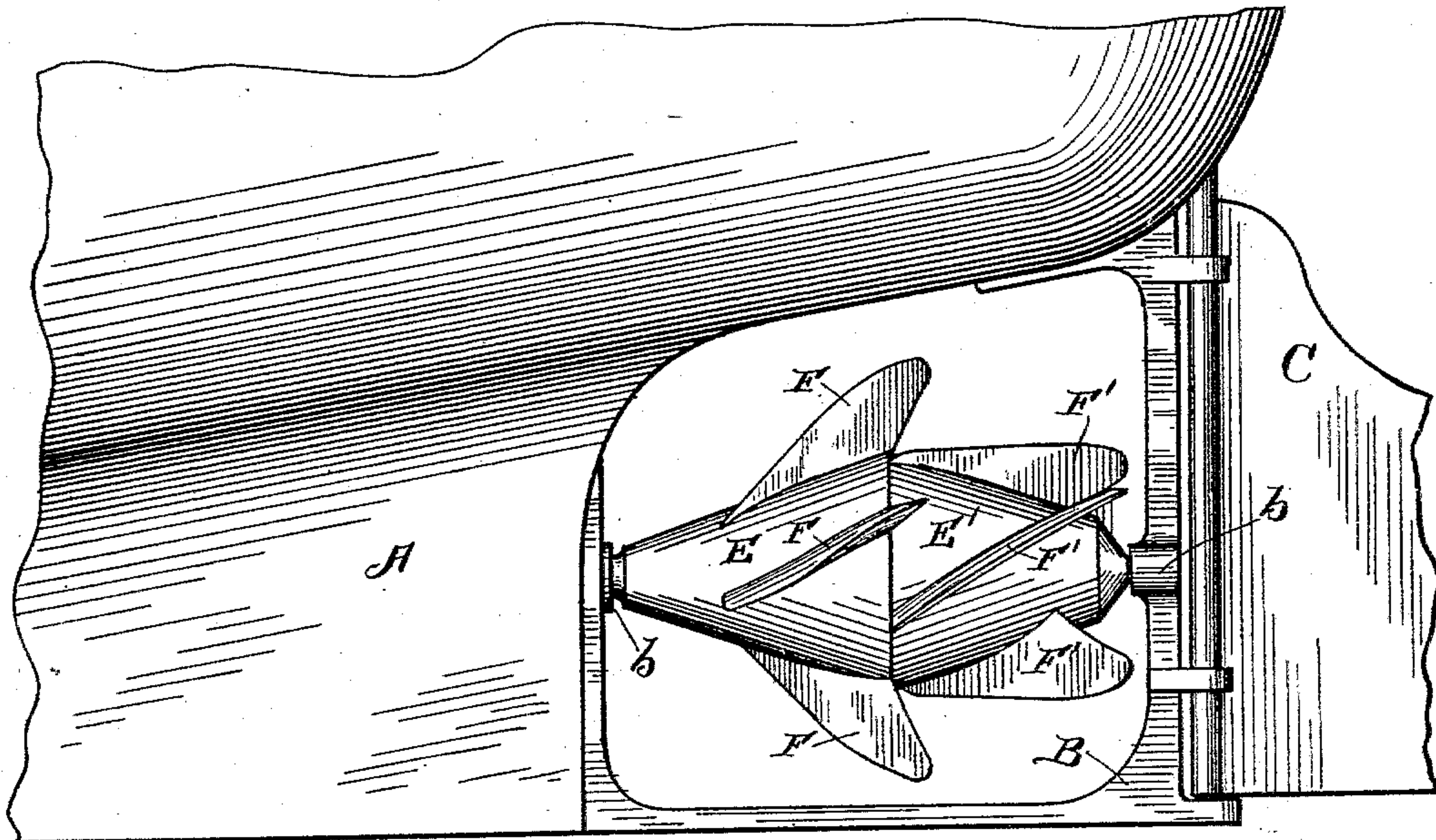
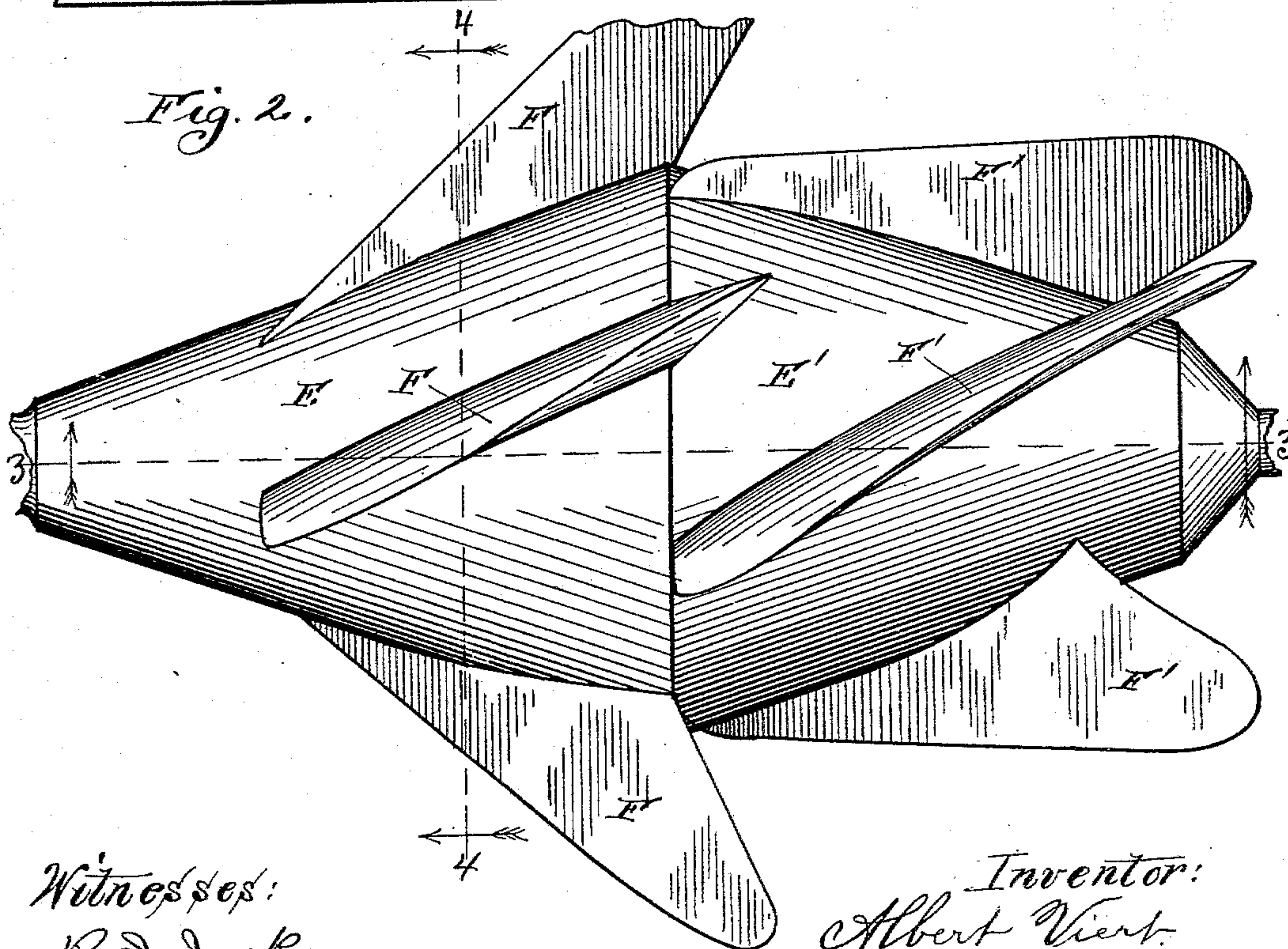


Fig. 2.



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By Chas. C. Tillman

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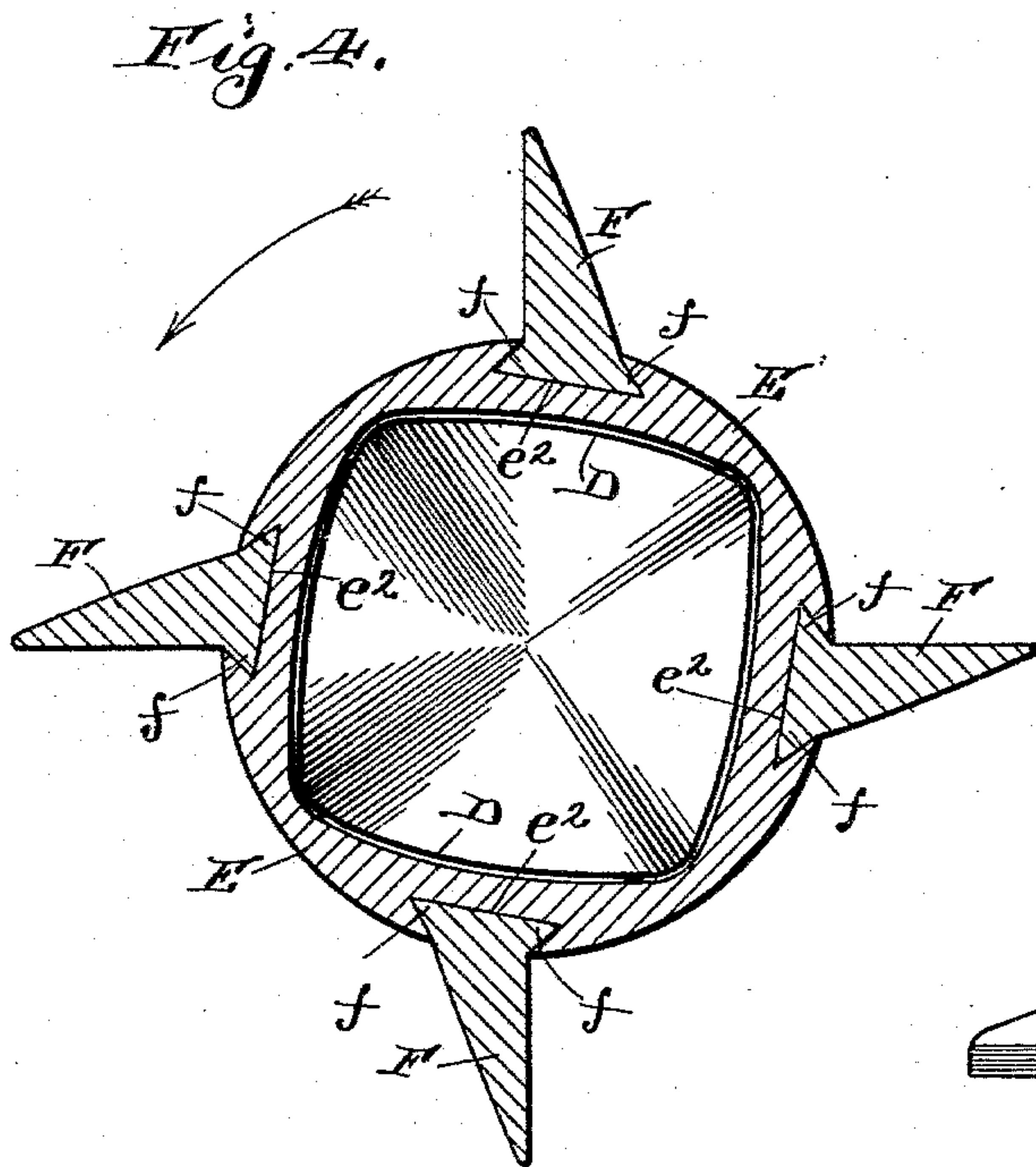
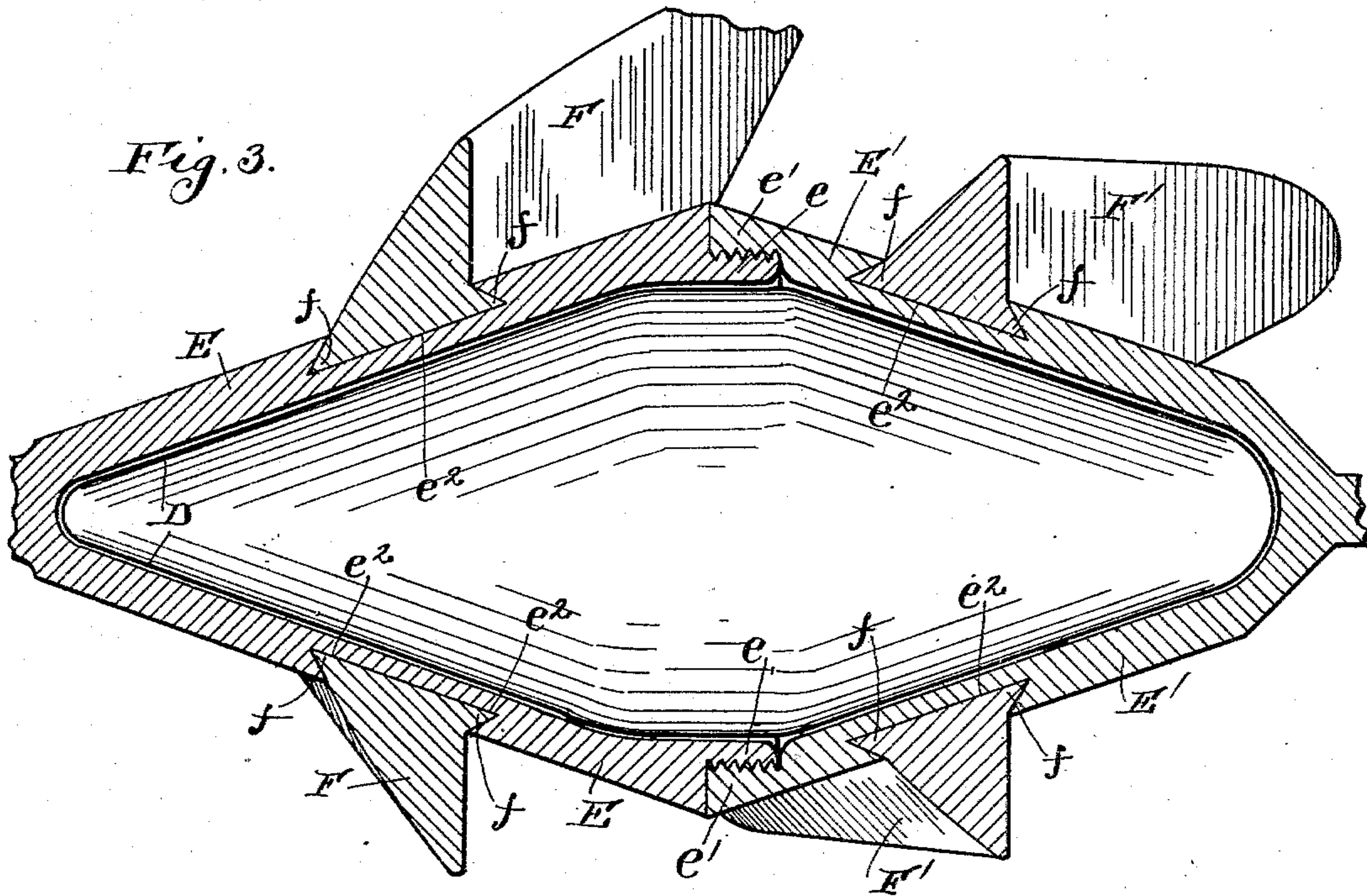
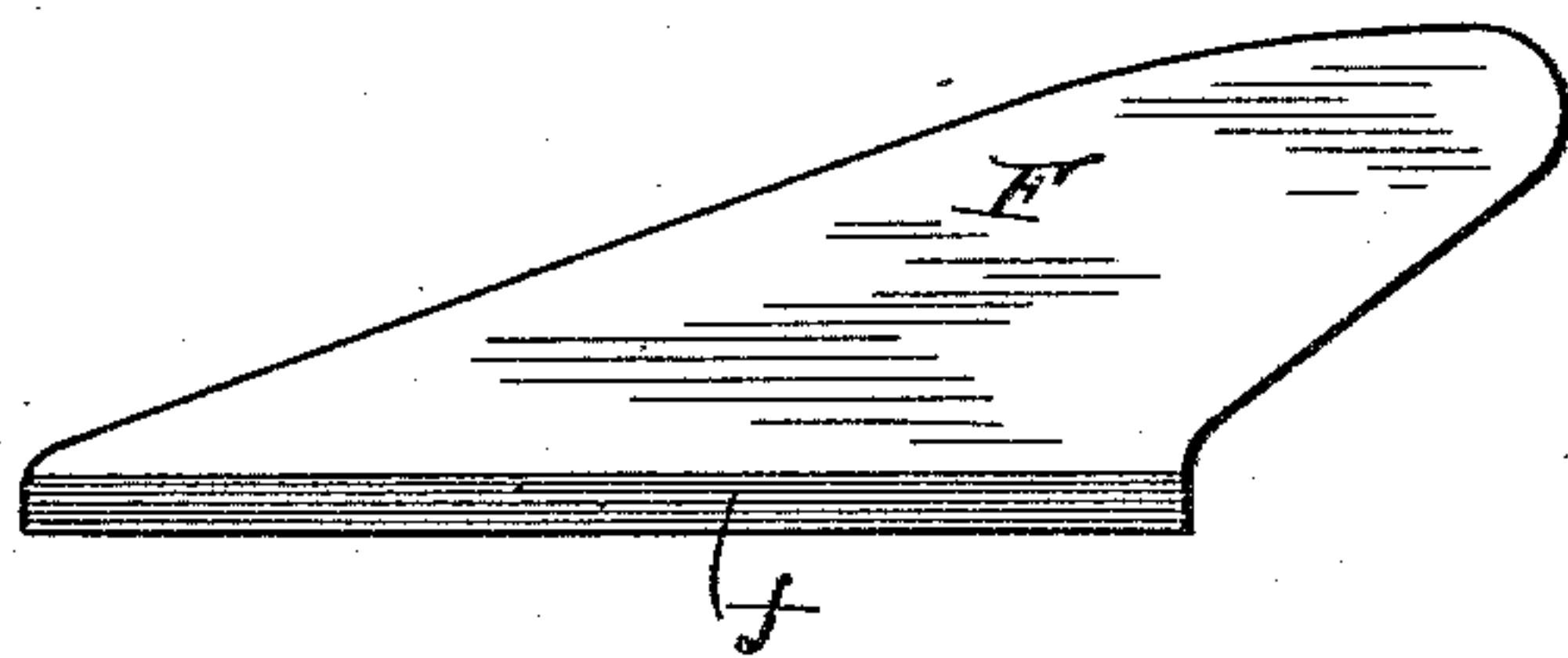


Fig. 5.



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UNITED STATES PATENT OFFICE.

ALBERT VIERT, OF CHICAGO, ILLINOIS.

PROPELLER FOR VESSELS.

SPECIFICATION forming part of Letters Patent No. 552,938, dated January 14, 1896.

Application filed May 18, 1895. Serial No. 549,766. (No model.)

To all whom it may concern:

Be it known that I, ALBERT VIERT, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have
5 invented certain new and useful Improvements in Propellers for Vessels, of which the following is a specification.

This invention relates to improvements in propellers for vessels, and it consists in certain peculiarities of the construction, novel
10 arrangement and operation of the parts thereof, as will be hereinafter more fully set forth and specifically claimed.

The objects of my invention are, first, to provide a propeller which shall be simple and inexpensive in construction, strong and durable,
15 yet effective in operation; second, such a propeller which may be easily repaired in the event of damage to its blades, and, third, a propeller which may be employed for reversing the movement of the vessel, and which will cause the same to attain great speed.

In order to enable others skilled in the art to which my invention pertains to make and
25 use the same, I will now proceed to describe it, referring to the accompanying drawings, in which—

Figure 1 is a view in elevation of a portion of the stern of a vessel, showing my propeller
30 and the rudder attached thereto. Fig. 2 is a view in elevation of the propeller detached from the vessel. Fig. 3 is a longitudinal sectional view taken on line 3 3 of Fig. 2. Fig. 4 is a cross-sectional view taken on line 4 4 of
35 Fig. 2, looking in the direction indicated by the arrows; and Fig. 5 is a detail view of one of the blades detached from the body of the propeller.

Similar letters refer to like parts throughout the different views of the drawings.

A represents the stern or rear portion of the vessel, to which is secured a bracket B having bearings *b*, within which the propeller is journaled. To the rear portion of the bracket
45 B is secured the rudder C, which forms no part of my invention, but is illustrated to show that the same does not interfere with the operation of my propeller.

The internal body of the propeller is composed of a hollow piece D, preferably formed
50 of sheet-metal, such as tin or other non-corrosive substance, and it may be painted or oth-

erwise covered so as to render it non-corrosive or subject to the deleterious effects of the water. This piece is preferably made substantially oval or elliptical in form, as shown
55 in Fig. 3 of the drawings, and is air-tight, thus forming a buoyant and strong support for the exterior portions of the body of the propeller, which are of two conical-shaped mantles E
60 and E', the former of which is provided at its base or greatest diameter with a screw-threaded projection *e* to engage screw-threads *e'* on the cone-shaped piece E', which threads are, as shown in Fig. 3, at the base or largest diameter of said piece. The mantles or cone-shaped
65 curves E and E' are hollow, so as to fit over the internal piece D, and are made preferably of steel, aluminum, or other suitable material, and are provided on their exterior surfaces with a series of dovetailed grooves *e*²,
70 arranged at an angle in respect to the axis of the propeller to receive and retain the blades F and F', which are provided at their surfaces adjacent to the mantles with broadened bases
75 or shoulders *f* to engage the dovetailed grooves, which grooves extend from the base of each of the cone-shaped mantles E and E' toward their apexes, and are, as before stated,
80 arranged at an angle in respect to the axis of the propeller. The blades F of the mantle E are slid into the grooves *e*² therefor from the base of said piece, and the blades F' are likewise inserted in the grooves therefor in the
85 mantle E', in which position the ends of the blades will be flush with the base of their respective mantles, so that when the mantles are united by means of the screw-threads *e* and *e'* the blades will be firmly held in position.
90

By reference to the drawings it will be seen and readily understood that the blades are flaring at their rear portions and are narrower and lie closer to the body of the propeller at their front parts, thus admitting of their easy
95 progress through the volume of water, and as the cone-shaped mantle E is driven horizontally in the water, the enlargement or increase in its diameter rearwardly will have the effect on the volume of water to compress it, and
100 the blades being angularly set, as before stated, will throw the water rearwardly with great force, thus propelling the vessel with much speed. It is also apparent that the rear

ends of the blades F will project somewhat over the front ends of the blades F', and that as the shape of the mantle recedes rearwardly the water will close thereon and have a tendency to advance the forward movement of the vessel.

It is obvious that my propeller will operate effectually when it is desired to back the vessel or reverse its movement by simply reversing the movement of the shaft on which the propeller is mounted.

The blades of my propeller are substantially triangular in cross-section, as shown in Fig. 4 of the drawings, with the shorter side of the angle in the direction in which the propeller is to be rotated when driving the vessel forward. This construction of the blades affords greater strength, as the longer side of the angle braces the blade against the force of the volume of water.

Having thus fully described my invention,

what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of two cone-shaped pieces or mantles having screw-threaded portions at their bases to unite them, and provided with dove-tail grooves extending from their bases toward their apexes, with a series of blades fitted in said grooves and held in position by the mantles, substantially as described.

2. The combination of the hollow oval shaped piece D, with the hollow cone-shaped pieces E, and E', provided with screw-threaded portions *e*, and *e'*, at their bases and dove-tail grooves *e*², on their outer surfaces, a series of blades having shoulders *f*, fitted in said grooves, substantially as described.

ALBERT VIERT.

Witnesses:

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