

(No Model.)

ALONSO CARDOSO DE LOS RIOS.

PROPELLING APPARATUS FOR VESSELS.

No. 298,234.

Patented May 6, 1884.

fig. 1.

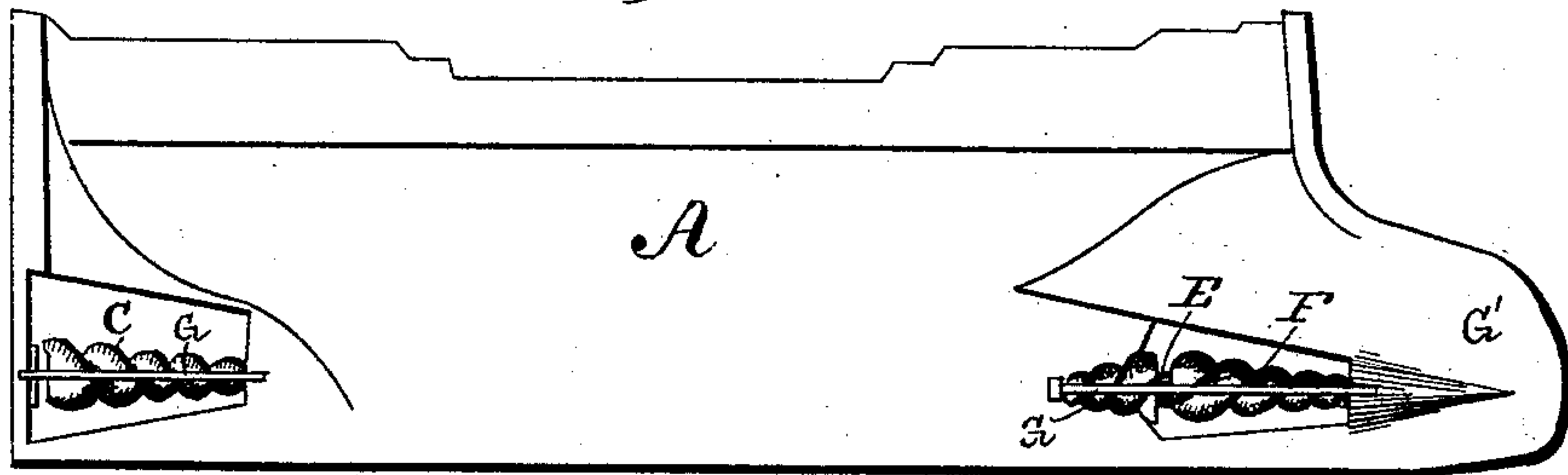


fig. 2.

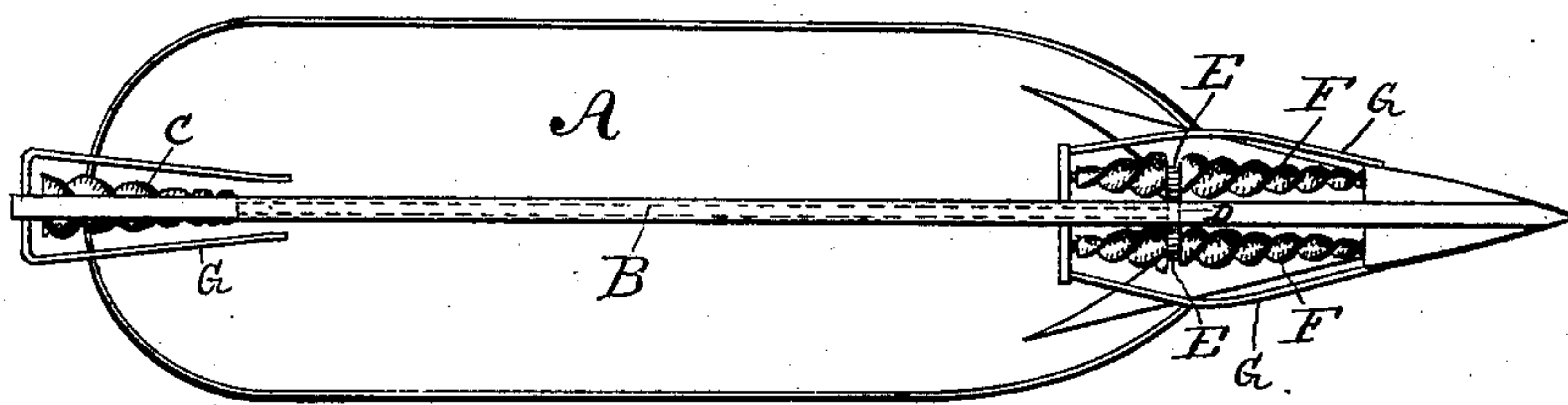
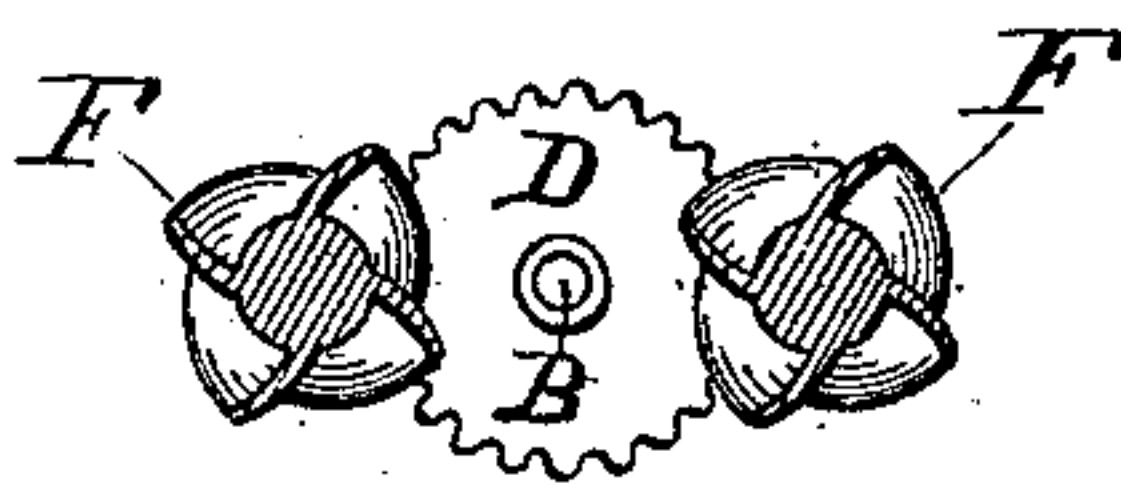


fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE,

ALONSO CARDOSO DE LOS RIOS, OF NEW ORLEANS, LOUISIANA.

PROPELLING APPARATUS FOR VESSELS.

SPECIFICATION forming part of Letters Patent No. 298,234, dated May 6, 1884.

Application filed October 13, 1883. (No model.)

To all whom it may concern:

Be it known that I, ALONSO CARDOSO DE LOS RIOS, of New Orleans, in the parish of Orleans and State of Louisiana, have invented a new and useful Improvement in Propelling Apparatus for Vessels of Navigation, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, forming part of this specification.

10 This invention relates to screw-propellers for vessels; and the invention consists of the construction hereinafter described and claimed.

In the drawings, Figure 1 is a side elevation of a vessel, showing my invention. Fig. 2 is 15 a bottom plan view showing the propelling apparatus, and Fig. 3 is a cross-section of the front propelling-screws.

A indicates the hull of a vessel, in the lower part of which is located a driving-shaft, B. 20 To the rear end of this shaft is attached a screw-propeller, C, and to the forward end is secured a pinion, D, which meshes with two other pinions, E E, mounted on the shafts of two other parallel screw-propellers, F F. These pro- 25 pellers are made with a comparatively long axis and spiral leaves, and they may be either cylindrical or conical.

The rear propeller is shown as conical, with the larger end hindmost; and the front pro- 30 pellers are shown as made in two sections each,

which also are conical, with the larger ends of the two sections turned toward each other, and the pinions E arranged on a shaft between said sections. The ends of the screws are to be supported in suitable bearings. 35

G G are guards for the propellers. With steam-power the working of the propellers would be simplified to advantage.

To protect my front propellers I have adopted a peculiar shape of forefront of vessel, as appears at G' in the drawings. This forefront 40 of vessel I provide not only as a protection, but as combining also the properties of both a buoy and cut-water, it being hollow in its nature and terminating at sharp angles in 45 front.

What I claim is—

The combination of the driving-shaft B, the conical screw-propeller C, arranged with its larger end hindmost and attached to the rear 50 end of said shaft, the two parallel propellers F F, made smaller at the ends than at the center, and having pinions E, and the pinion D, secured to the forward end of the shaft and geared with pinions E, substantially as speci- 55 fied.

ALONSO CARDOSO DE LOS RIOS.

Witnesses:

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