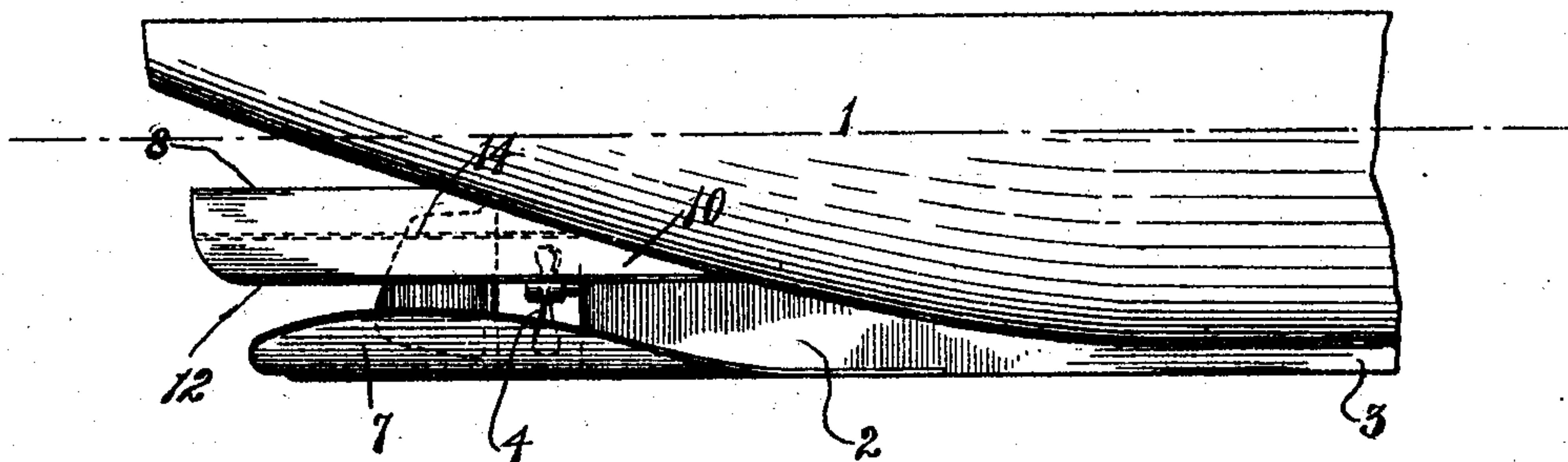


No. 806,484.

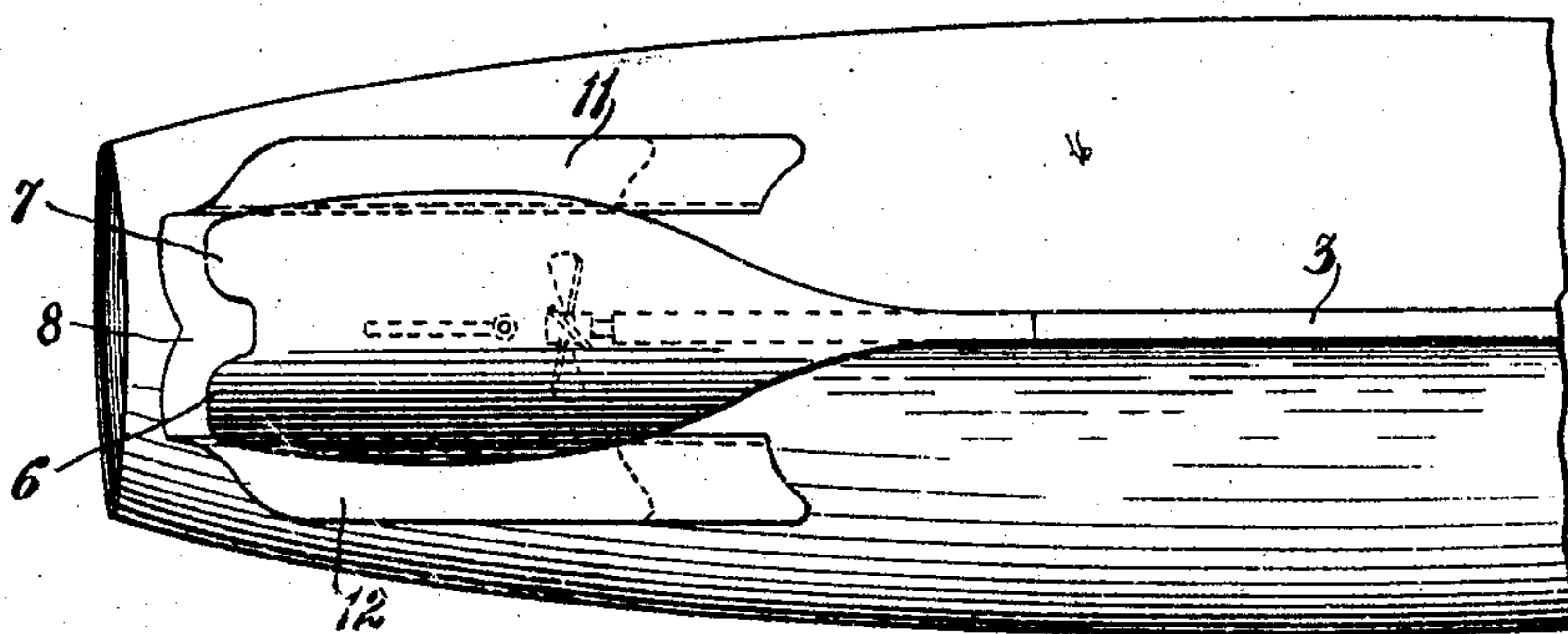
PATENTED DEC. 5, 1905.

I. E. PALMER.  
HULL OF VESSELS.  
APPLICATION FILED OCT. 14, 1904.

*Fig. 1.*

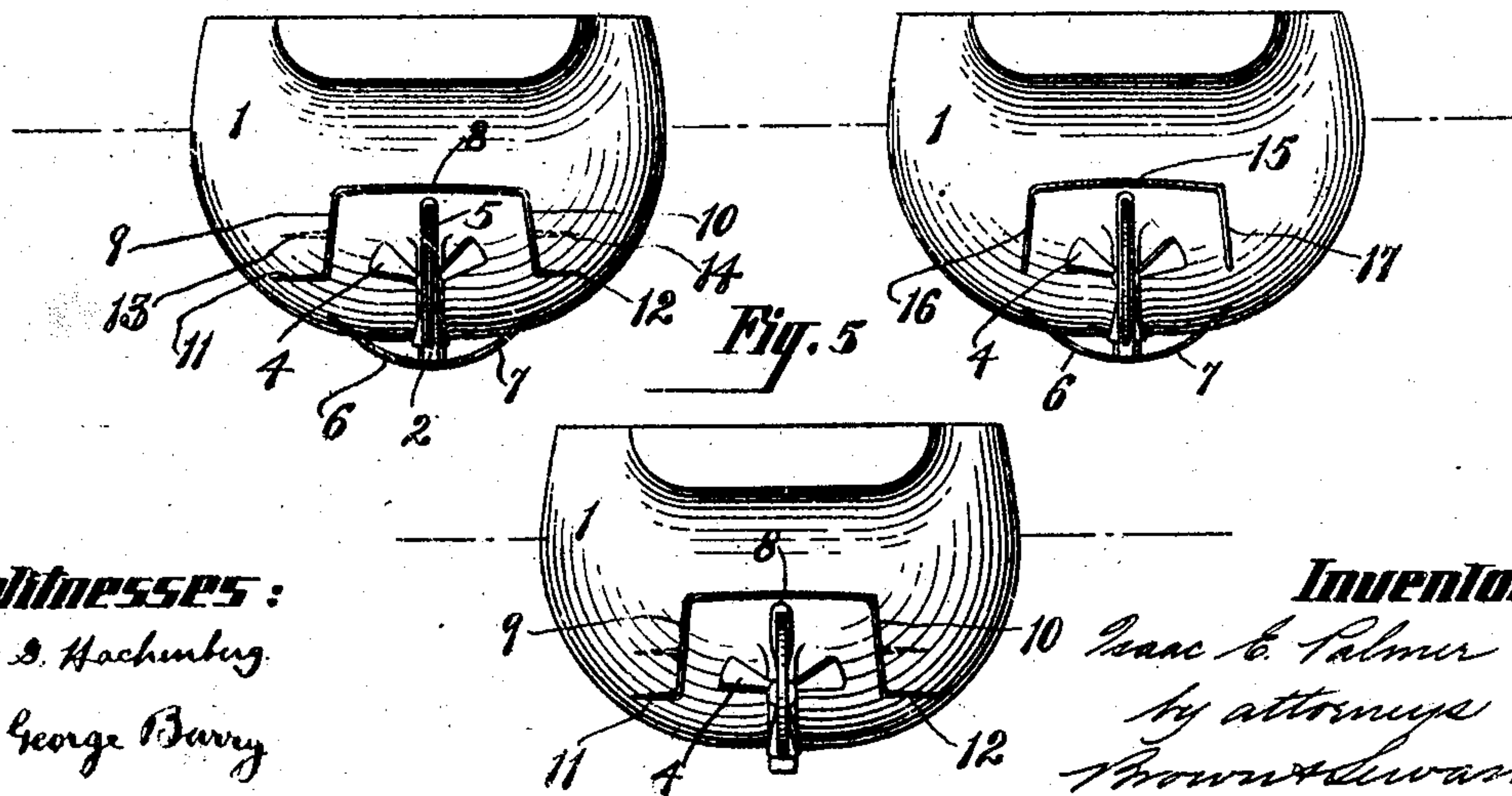


*Fig. 2.*



*Fig. 3.*

*Fig. 4.*



**Witnesses:**  
J. B. Hachmberg  
J. George Barry

**Inventor:**  
I. E. Palmer  
by attorneys  
Brown & Shward



# UNITED STATES PATENT OFFICE.

ISAAC E. PALMER, OF MIDDLETOWN, CONNECTICUT.

## HULL OF VESSELS.

No. 806,484.

Specification of Letters Patent.

Patented Dec. 5, 1905.

Application filed October 14, 1904. Serial No. 228,392.

*To all whom it may concern:*

Be it known that I, ISAAC E. PALMER, a citizen of the United States, and a resident of Middletown, in the county of Middlesex and State of Connecticut, have invented new and useful Improvements in Hulls of Vessels, of which the following is a specification.

My invention relates to hulls of vessels, and more particularly to means for preventing the vessel from plunging, and for directing and holding the water about the wheel in power vessels, and thereby preventing the wheel from racing and causing it to operate in a solid mass of water, while at the same time it is protected from damage from floating pieces of wood or other foreign substance through which the boat is propelled.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 is a view of the stern portion of a vessel in side elevation embodying the features of my invention. Fig. 2 is a bottom plan view of the same. Fig. 3 is a view of the same in end elevation. Fig. 4 is a view in end elevation showing a modified form, and Fig. 5 is a similar view showing another modified form.

The body of the vessel is denoted by 1. The body 1 is here shown as provided with a skag 2, forming a continuation of the keel 3.

The screw-wheel for propelling the vessel is denoted by 4, and the rudder for steering the vessel is denoted by 5.

Underneath the wheel 4 and rudder 5, and preferably extending laterally in opposite directions from the central line of the bottom of the keel 3 and skag 2, I provide wings 6 and 7, which may be parts of a continuous plate, as shown in the accompanying drawings, and which as they extend forward gradually approach and merge into the keel 3. The said wings 6 and 7 are further shown as curved upwardly on the opposite sides of the central line of the keel.

Over the rudder, preferably a short distance below the surface of the water, the stern of the vessel is provided with a rearwardly-extending plate 8, having its opposite sides 9 and 10 turned downwardly, forming a hood-like extension covering the top and sides of the rudder and also the opposite sides of the wheel throughout a considerable part of the upper portion of the wheel, a half of it, more or less. This hood-like extension is rigidly fixed to the stern of the vessel, so as to be-

come a part thereof so far as its movement is concerned.

I prefer to make downwardly-turned sides 9 and 10 of the hood extension vanish into the top plate 8 at their rear ends, as clearly shown in Fig. 1, and at their forward ends vanish into the bilges of the vessel in order that the hood may have a free run through the water without tending to leave any vacuum spaces behind it.

The bottom edges of the sides 9 and 10 are spaced from the outer edges of the wings 6 and 7, so as to leave the water free to escape from the wheel between the downwardly-turned sides 9 and 10 and the wings 6 and 7.

The hood-like stern extension in addition to its top plate 8 and its downwardly-turned sides 9 and 10 has also the additional lateral extensions 11 and 12, which may project outwardly from the lower edges of the downwardly-turned sides 9 and 10, as shown in full lines, Fig. 3 and 5, or may occupy some other position on the downwardly-turned sides—such, for example, as that shown by the dotted lines 13 14. It is intended that these lateral extensions when employed shall gradually approach the body of the vessel as they extend forwardly, as clearly shown in Fig. 2, so as to enter the water with as little resistance as possible during the forward progress of the vessel.

In Fig. 4 I have shown the hood-like extension as consisting simply of the top plate and downwardly-turned sides without the fin-like or plate extensions 11 to 14, inclusive. The top plate in this modified form is denoted by 15, and the downwardly-turned sides freed from their fin-like extensions are denoted, respectively, by 16 and 17.

In the form shown in Fig. 5 the wings 6 and 7 below the wheel and rudder are omitted and the hood-like extension over the rudder is alone relied upon.

In operation the water as the body of the vessel slides through it is admitted freely between the wings 6 and 7 below, when these wings are employed, and the hood-like extension and is held to the wheel 4 by the top plate 8 and its downwardly-turned sides 9 and 10, either alone or coacting with the wings 6 and 7, thereby keeping the wheel working in a solid mass of water, while any tendency of the vessel to pitch is checked to a very considerable extent by the resistance offered by the top plate of the hooded extension and by the laterally-extended fins when these are employed, as well



as by the wings below the rudder and wheel when they are employed. In fact, the stern of the vessel is prevented to a great extent from lifting out of the water by the mass of  
5 water, which must be lifted or displaced in order to permit the hood firmly attached to the stern to rise, and thus the wheel is prevented from racing and is kept at work propelling the vessel forward.

10 What I claim is—

1. The combination with the hull of a vessel provided with a propelling-wheel, of a hood-like extension consisting of a top plate and downwardly-turned sides extending rear-  
15 wardly from the stern of the vessel near the water-line and above the propelling-wheel, the said hood-like extension being provided with laterally-projecting fins.

2. The combination with the hull of a ves-  
20 sel, of a hood-like extension consisting of a top plate and downwardly-turned side plates extending from the stern portion thereof, the said hood-like extension thereof being provided with laterally-extending fins.

3. The combination with the hull of a ves- 25  
sel provided with a power-wheel, of a rearwardly-projecting plate fixed to the stern portion thereof and extending rearwardly above the wheel and laterally-projecting wings on the keel below the said wheel arranged to co- 30  
act with the plate above the wheel to hold the water to the wheel.

4. The combination with the hull of a vessel, of a hood-like extension fixed to and projecting rearwardly from the stern of the ves- 35  
sel above the rudder of the vessel and wings fixed to and projecting laterally from the keel of the vessel and spaced from the hood-like extension at their outer edges.

In testimony that I claim the foregoing as 40  
my invention I have signed my name, in presence of two witnesses, this 24th day of September, A. D. 1904.

ISAAC E. PALMER.

Witnesses:

PAUL S. CARRIER,  
CHAS. M. SAUER.