

Jan. 23, 1934.

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1,944,525

TWIN PROPELLER

Filed March 28, 1932

2 Sheets-Sheet 1

Fig. 1.

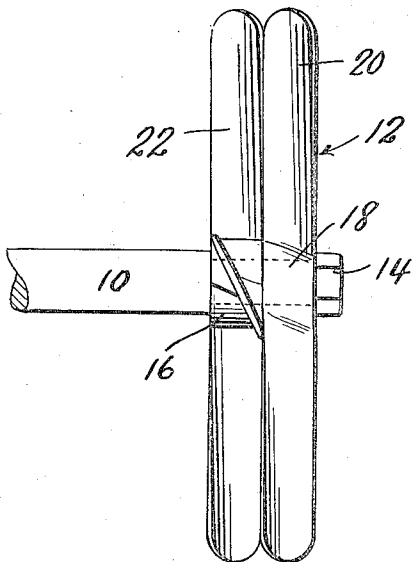
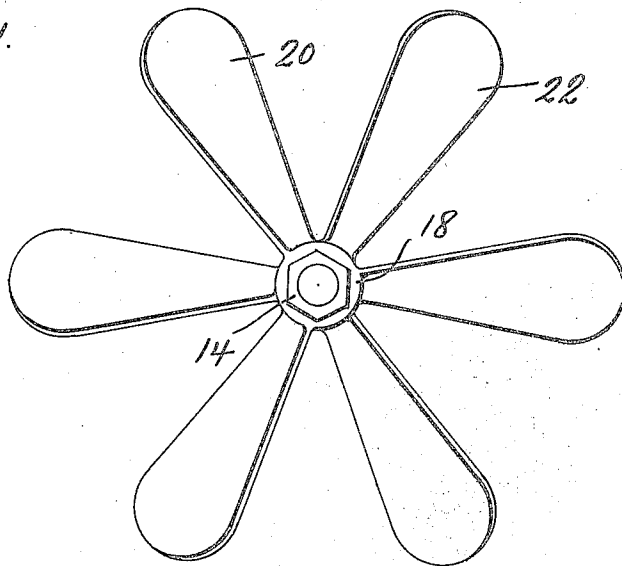


Fig. 2.

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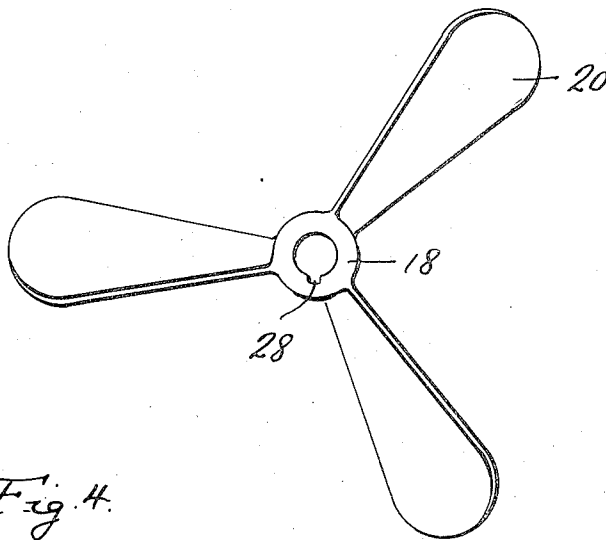
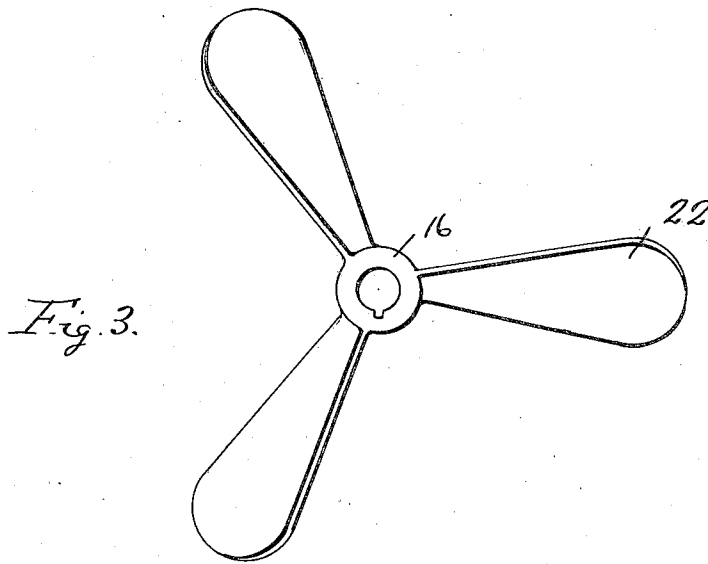
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1,944,525

TWIN PROPELLER

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Application March 28, 1932. Serial No. 601,619

1 Claim. (Cl. 170—165)

This invention relates to propellers especially adapted for use in connection with marine vessels, although as the description proceeds, it will be apparent that the invention is capable of other uses.

Briefly stated, an important aim of this invention is to provide a propeller embodying a plurality of successive propelling units in which the leading propelling unit is arranged with the blades thereof in staggered relation to the propelling unit immediately behind so that the operation of the blades of the leading unit will expel or direct the water contacted thereby rearward into the space between the blades of the following propelling unit bringing about the maximum employment of the power of the prime mover, of whatever nature it happens to be, and at the same time allowing of the employment of a propelling mechanism of a reduced weight as compared to such mechanisms of conventional design.

A further object is to provide a propeller of the character specified which is of highly simplified construction, durable in use, cheap to manufacture and one which may be applied in lieu of the present propeller, without elaborate alteration in design.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings, forming a part of this application and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a rear elevation of the improved twin propeller,

Figure 2 is a side elevation of the improved twin propeller,

Figure 3 is a front elevation of one of the propelling units,

Figure 4 is a similar view of the other propelling unit.

In the drawings, wherein for the purpose of illustration is shown a preferred embodiment of the invention, the numeral 10 designates a propelling shaft having a tapered or other end portion, upon which the improved twin propeller generally designated by the numeral 12 may be mounted. At this point, it might be noted that the propelling shaft 10 may have a conventional propelling attaching means formed with a key way for the reception of a key and a nut 14 may be mounted on the outer portion of the shaft to hold the propeller firmly in place.

The improved propeller embodied in this application consists of a pair of propelling units, one located in advance of the other with the hubs or bosses 16 and 18 thereof located closely together and held firmly in place on the shaft 10 thru the medium of the nut 14.

In carrying out the invention, the blades 20

of the following propeller are located in staggered relation to the blades 22 of the leading propeller, so that the water or other fluid expelled or directed rearwardly by the blades of the leading propeller is contacted by the blades 20 of the following propeller.

More specifically, the blades 20 of the following propelling units are located mid-way of the blades of the leading propelling unit to provide a balanced structure and to provide for the most advantageous operation.

In carrying out the invention, the hub or boss of the leading propelling unit is keyed upon the shaft 10 by the original key way of the shaft 10 and when it is desired to place the following propelling unit in place, it is required that the shaft or more particularly, the propeller attaching portion thereof, be marked for the formation of a key way 28 in the hub of the rear propeller. By the formation of a special key way in the shaft the accurate positioning of the propelling unit with respect to the leading propelling unit is assured.

A propeller constructed in accordance with this invention has a high degree of efficiency because the water expelled by the leading propeller unit is positioned in the path of travel of the following propeller unit, increasing the speed of the vessel with a given expenditure of power.

A propeller constructed in accordance with this invention is of a weight less than that of a single propeller and, of course, has a smaller diameter increasing the safety factor.

It is to be understood that the form of invention herewith shown and described is to be taken merely as a preferred example of the same and that such minor changes in arrangement and construction of parts may be made as will remain within the spirit of the invention and the scope of what is claimed.

What is claimed is:

In a twin propeller, leading and following propelling units each having three radially extending blades, said blades being staggered one with respect to the other and having a uniform pitch, the forward edges of the blades of said following propelling units being aligned circumferentially with the rear edges of the blades of said leading propelling unit, the blades being equally spaced so as to provide a balanced structure and the hubs thereof being in abutting relation.

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