

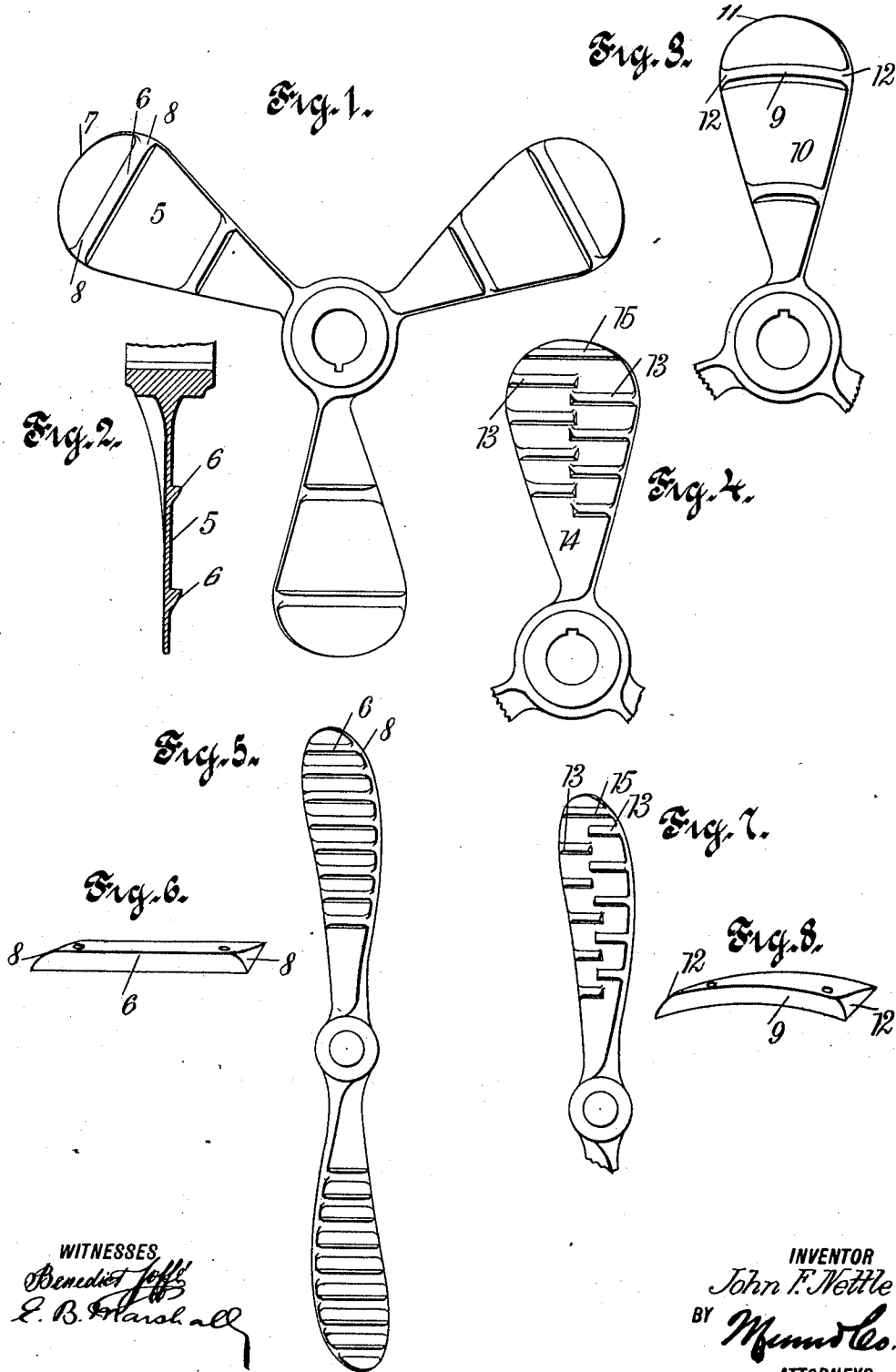
J. F. NETTLE.

PROPELLER.

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1,022,203.

Patented Apr. 2, 1912.



WITNESSES
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UNITED STATES PATENT OFFICE.

JOHN F. NETTLE, OF BUTTE, MONTANA.

PROPELLER.

1,022,203.

Specification of Letters Patent.

Patented Apr. 2, 1912.

Application filed July 5, 1911. Serial No. 636,835.

To all whom it may concern:

Be it known that I, JOHN F. NETTLE, a citizen of the United States, and a resident of Butte, in the county of Silverbow and State of Montana, have invented a new and Improved Propeller, of which the following is a full, clear, and exact description.

My invention relates to propellers and it has for its object to provide a propeller having a blade on the driving face of which there is secured a projecting member to prevent the water from slipping on the said face of the blade.

Additional objects of the invention will appear in the following specification, in which the preferred form of my invention is described.

Similar reference characters refer to similar parts in all the views, in which—

Figure 1 is an end view of the propeller; Fig. 2 is a longitudinal sectional view of one of the propeller blades; Fig. 3 is an end view of a propeller blade showing a modified form of the invention; Fig. 4 is an end view of a propeller blade showing another form of the invention; Fig. 5 is an end view of an aerial propeller provided with my improved ribs; Fig. 6 is a perspective view of one of the ribs; Fig. 7 is an end view of an aerial propeller blade provided with the modified form of the invention shown in Fig. 4 of the drawings; and Fig. 8 is a perspective view showing the rib used with the modified form of the invention shown in Fig. 3 of the drawings.

By referring to the drawings it will be seen that propeller blades 5 are provided with transverse projecting members or ribs 6, these ribs extending from the driving faces of the propeller blades and being tapered in the direction of the free terminals 7 of the propeller blades, the projecting members or ribs being also tapered at their ends 8.

In the modified form of the invention shown in Fig. 3 of the drawings, the projecting members or ribs 9 are curved across the propeller blade 10. These curved projecting members or ribs 9 are tapered in the

direction of the free terminals 11 of the blades, and they also taper at their ends 12 in the manner indicated with reference to the form of the invention shown in Fig. 1 of the drawings.

In the modified form of the invention shown in Fig. 4 of the drawings, there are two series of projecting members or ribs 13, which are disposed side by side on the driving face of the propeller blade 14, projecting members or ribs 13 in one of the series being disposed between the longitudinal planes of the projecting members in the other series. In this form of the invention I prefer to make use of a projecting member or rib 15 which extends completely across the propeller blade 14 in close proximity to the free terminal of the said propeller blade.

The form of the invention shown in Fig. 5 corresponds substantially with the form of the invention shown in Fig. 1, the only difference being that the ribs are mounted on an aerial propeller instead of on a marine propeller, such as shown in Fig. 1 of the drawings.

The arrangement of the projecting members or ribs on the form of the invention shown in Fig. 7 of the drawings corresponds with the arrangement of the projecting members or ribs shown in Fig. 4 of the drawings, but in Fig. 7 of the drawings, I show the invention as applied to aerial propeller, while in Fig. 4 of the drawings, I show the invention as applied to marine propeller.

It will be understood that the projecting members or ribs will prevent the water or air from slipping over the driving surfaces of the blades, thereby adding to the efficiency of the blades, without any corresponding increase in driving power.

I prefer to have the projecting members or ribs tapering in the direction of the free ends of the blades so as to prevent the formation of eddies. The projecting members or ribs are also tapered at their terminals so that they will offer the least possible resistance.

Having thus described my invention, I

claim as new and desire to secure by Letters
Patent:

In a propeller, a blade having a face, and
two series of projecting members disposed
5 side by side and transversely of the blade,
the projecting member in one series being
disposed between the longitudinal planes of
the projecting members in the other series.

In testimony whereof I have signed my
name to this specification in the presence of 10
two subscribing witnesses.

JOHN F. NETTLE.

Witnesses:

WILLIAM J. KITTO,
GEORGE HOOPER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
