

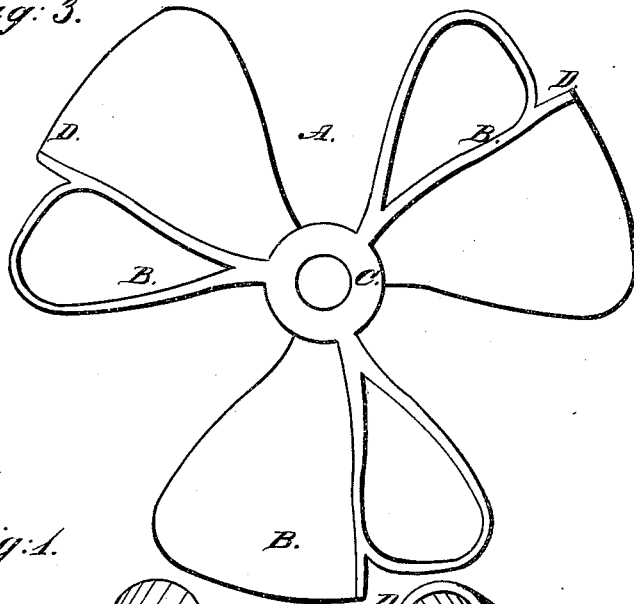
*F. Jacob,*

*Screw Propeller.*

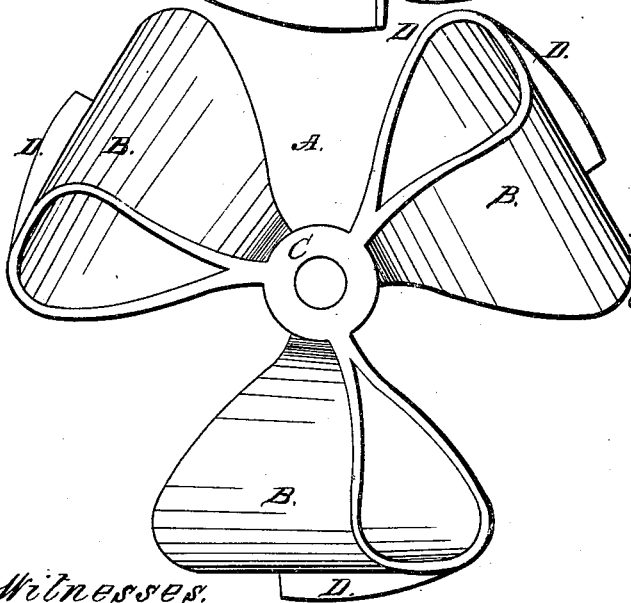
*No. 50,714.*

*Patented Oct. 31. 1865.*

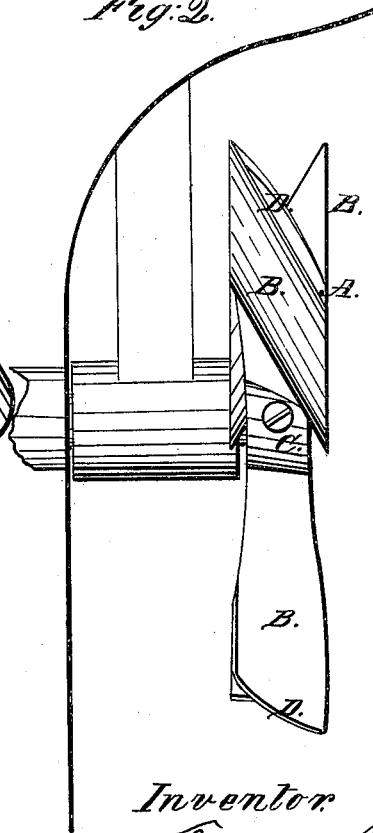
*Fig. 3.*



*Fig. 1.*



*Fig. 2.*



*Witnesses.*

*W. Kauff*

*W. Dean Overell*

*Inventor*

*Fritz Jacob*

# UNITED STATES PATENT OFFICE.

FRITZ JACOB, OF NEW YORK, N. Y.

## IMPROVED PROPELLER.

Specification forming part of Letters Patent No. 50,714, dated October 31, 1865.

### *To all whom it may concern:*

Be it known that I, FRITZ JACOB, of the city, county, and State of New York, have invented a new and useful Improvement in Screw-Propellers; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a front view of this invention. Fig. 2 is a side elevation of the same. Fig. 3 is a rear view of the same.

Similar letters of reference indicate corresponding parts.

This invention relates to a certain improvement on that class of propellers which are constructed with hollow wings, and on which a patent was granted to me on the 24th day of January, 1865.

The present improvement consists in the application of fins formed by a prolongation of the rear side of each wing in such a manner that the propelling-surface of said wings is increased, and that propellers of the ordinary construction can be readily converted in hollow-wing propellers simply by securing to their blades the hollow wings, either by rivets or any other suitable means.

A represents a propeller, the wings B of which are hollow, as shown in Figs. 1 and 3 of the drawings. Said wings may be cast solid with the hub C, or they may be made of sheet metal and secured in the hub either by cast-

ing them in or in any other suitable manner.

From the rear surface of each of the hollow wings B rises a fin, D, formed by elongating said rear surface. These fins can either be secured to hollow wings by rivets, screws, or other suitable means, or, if an ordinary screw-propeller is to be converted into one of my hollow wing propellers, the blades of the ordinary propeller can be left intact, and if the hollow wings are attached thereto by rivets, screws, or other suitable means, the outer edges of said blades project beyond the hollow wings and form the desired fins. By these fins the propelling-surface of the hollow wings is increased without materially increasing the expense, and I am enabled to convert an ordinary propeller into one of my hollow-wing propellers without difficulty or loss of time.

As far as I am enabled to judge from experiments made on small scale, the effect of this improved hollow-wing propeller is much greater than that of an ordinary propeller, and also greater than that of my old hollow-wing propeller without the fins.

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

The combination of fins D with the hollow wings B of a screw-propeller, substantially as and for the purpose set forth.

FRITZ JACOB.

Witnesses:

W. HAUFF,  
M. M. LIVINGSTON.