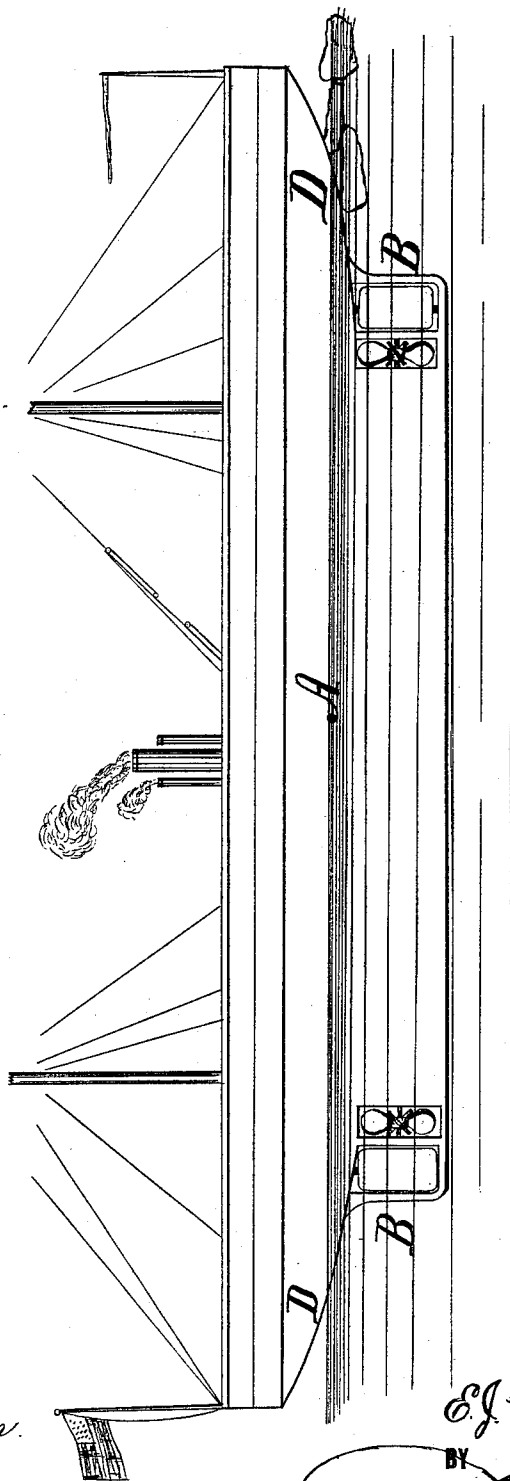


E. J. WEEDERMANN.
Ice Breaking Vessels.

No. 168,436.

Patented Oct. 5, 1875.



WITNESSES:

A. B. Robertson.
John A. Kemmer

INVENTOR:

E. J. Weedermann
BY *[Signature]*

ATTORNEYS.

UNITED STATES PATENT OFFICE.

ERICH JACOB WEEDERMANN, OF COPENHAGEN, DENMARK.

IMPROVEMENT IN ICE-BREAKING VESSELS.

Specification forming part of Letters Patent No. **168,436**, dated October 5, 1875; application filed August 15, 1874.

To all whom it may concern:

Be it known that I, ERICH J. WEEDERMANN, of Copenhagen, Kingdom of Denmark, have invented a new and useful Improvement in Ice-Breaking Vessels; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming a part of this specification.

The accompanying drawing represents side elevations of my improved ice-breaking vessels.

The invention will first be fully described, and then pointed out in the claim.

A represents a steamboat of any kind, which is constructed at both ends with sharp, strong, and powerful prows B. The sharp cutting-prow B is not placed immediately under and in line with the stern-post, but at some distance back of the same, leaving a bow portion, D, with sharp inclined keel in front of the same.

The projecting bow D produces the same inclined position of the vessel when propelled against the ice as if weighted by a water-reservoir, being raised above the same, so as to cut and break the ice in similar manner by the weight of the vessel.

For the purpose of propelling the vessel with equal facility in forward or backward direction, I construct the screw preferably with straight blades, placed under angle of forty-five degrees to the axis, without any spiral winding. The blades are made narrower and stronger near the shaft, with thinner border, and rounded off at the outer ends, so that a greater pressure on the water is obtained than with the ordinary screw, as it twists and disperses the water less. The same screw may, therefore, be used with the same effect for forward and return motion of the vessel, by which the application and usefulness of the ice-breaking vessels is greatly enhanced.

What I claim is—

An ice-breaking vessel having a sharp cutting-prow, B, some distance back of the stern-post, and a front bow portion, having sharp upwardly-inclined keel D, as and for the purpose described.

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

E. J. WEEDERMANN.

Witnesses:

A. STERNBERG,

E. J. WEEDERMANN, Jun.