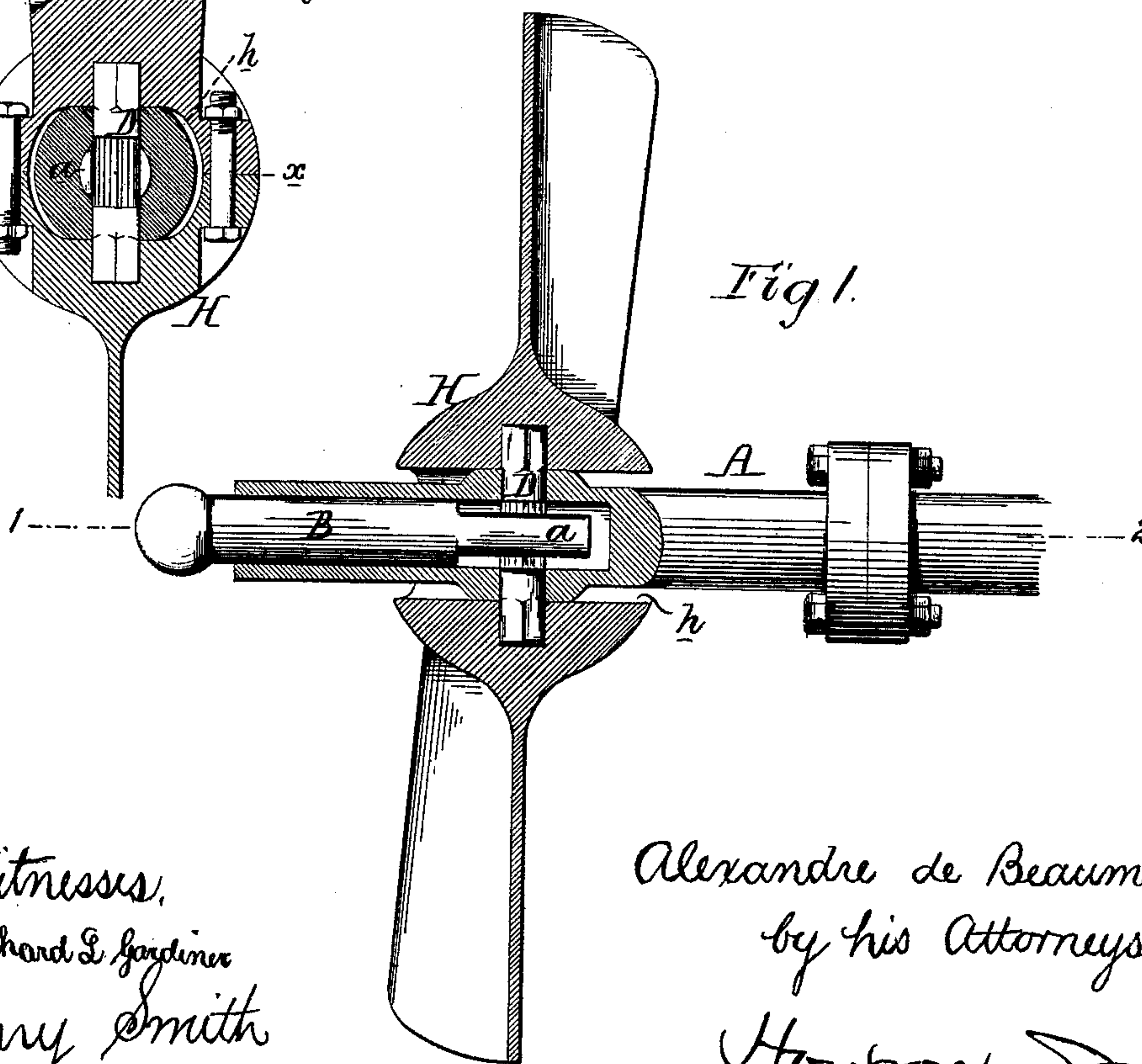
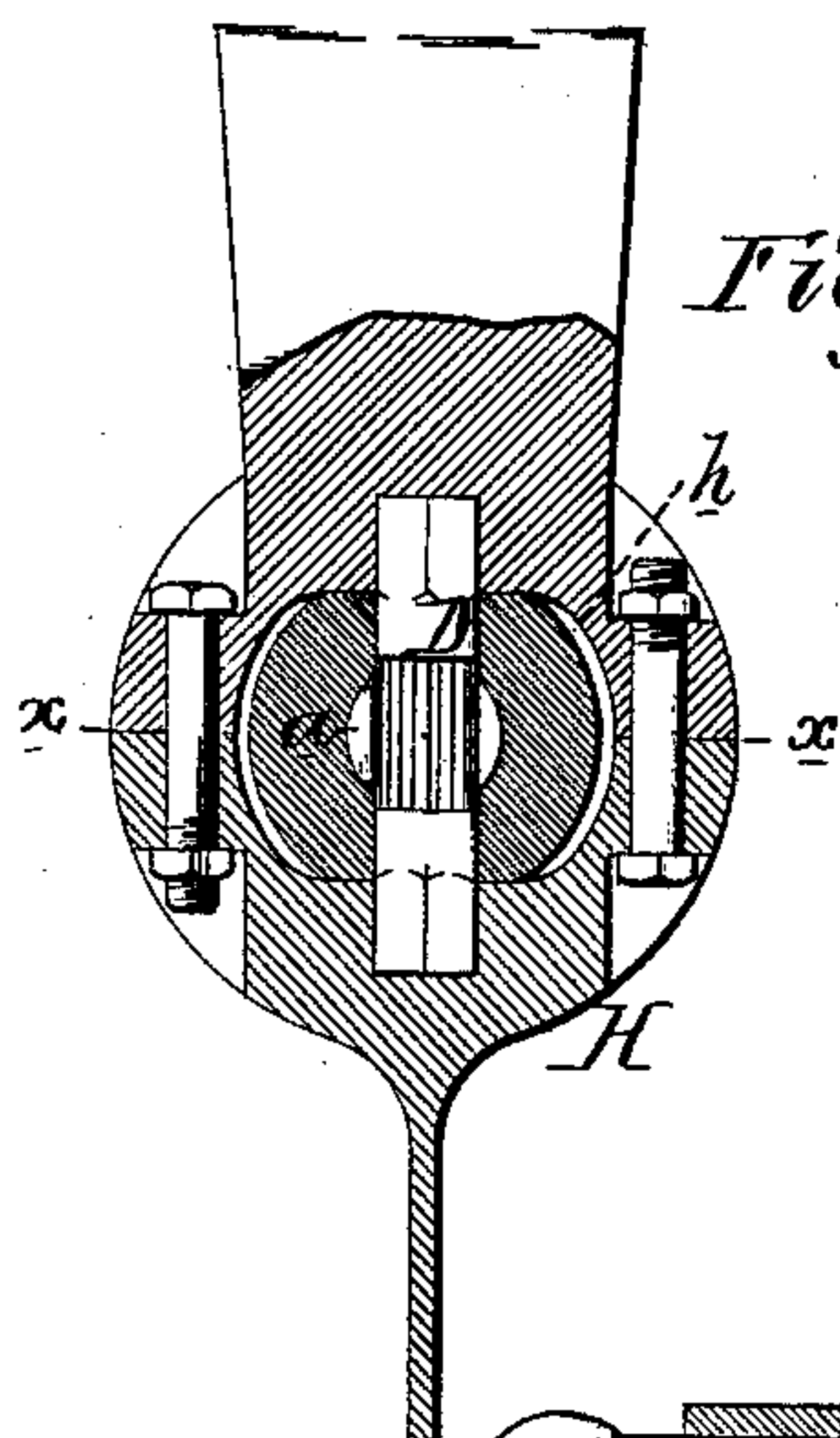
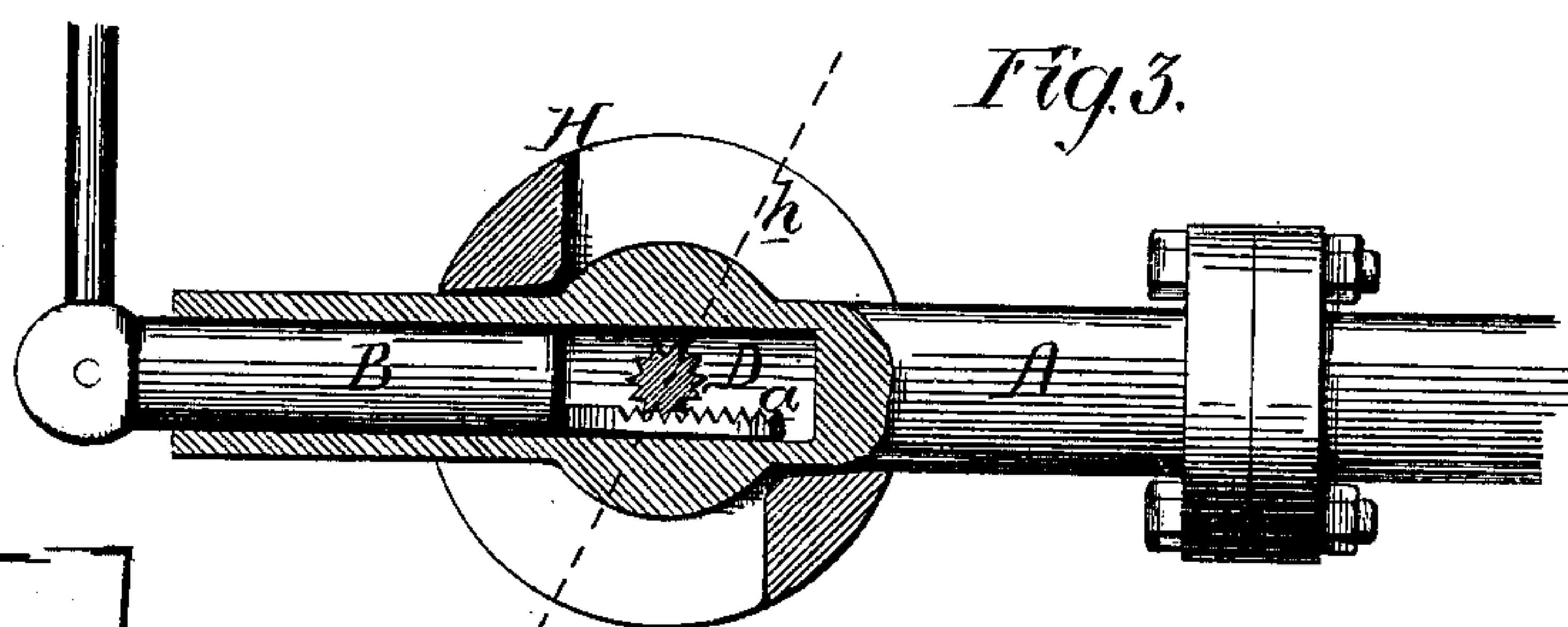
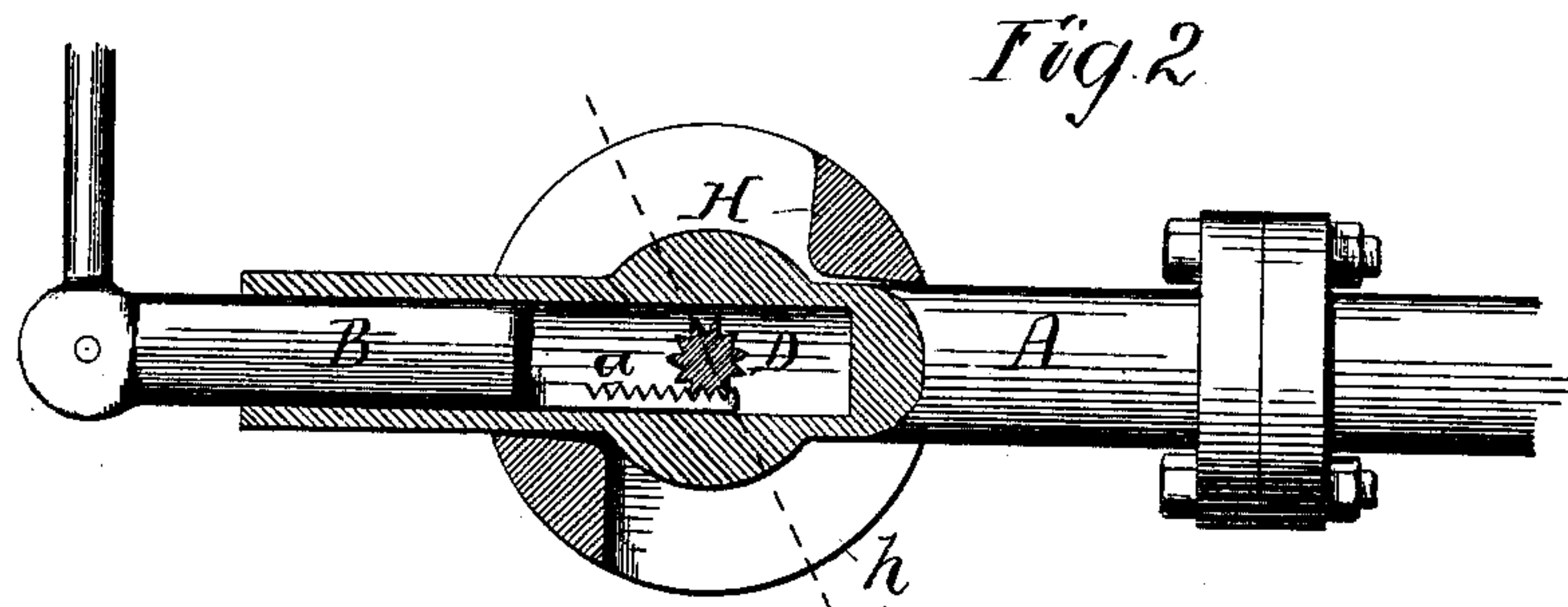


A. De BEAUMONT.
SCREW-PROPELLER.

No. 188,106.

Patented March 6, 1877.



Witnesses,
Richard L. Gardiner
Harry Smith

Alexandre de Beaumont
by his Attorneys,
Hobson and Son

UNITED STATES PATENT OFFICE

ALEXANDRE DE BEAUMONT, OF PHILADELPHIA, PA., ASSIGNOR OF ONE-HALF HIS RIGHT TO WILHELM ROTHE, OF BERNBURG, GERMANY.

IMPROVEMENT IN SCREW-PROPELLERS.

Specification forming part of Letters Patent No. **188,106**, dated March 6, 1877; application filed January 8, 1877.

To all whom it may concern :

Be it known that I, ALEXANDRE DE BEAUMONT, of Philadelphia, Pennsylvania, have invented a new and useful Improvement in Screw-Propellers, of which the following is a specification:

My invention relates to an improvement in screw-propellers with reversible blades, the object of my invention being to so construct a propeller of this class that it will be strong and not liable to get out of order.

In the accompanying drawing, Figure 1 is a section through the hub, shaft, and blades of the propeller; and Figs. 2 and 3, sections on the line 1 2, Fig. 1, illustrating the manner of altering the position of the blades.

The rear portion of the propeller-shaft A is made hollow for the reception and guidance of the rod B, on which is a rack, *a*, the teeth of the latter gearing into teeth on a shaft, D, which passes through and has its bearings in the shaft B, where the latter is externally enlarged, as shown in Fig. 1. The opening *h* in the hub H of the propeller is elongated in one direction, as shown in Fig. 4, and to the hub are secured the opposite ends of the shaft D, as seen in Fig. 1.

The propeller should be divided at the hub on the line *x*, Fig. 4, and the two parts bolted together, as there shown, the opposite sides of the enlargement on the shaft being made flat for the opposite sides of the opening in the hub to bear against, so as to steady the propeller on the shaft.

The end of the tubular shaft should be continued through and have its bearings in the stern-post of the vessel, on the outside of which the rod B is to be connected to any appropriate appliances whereby it can be readily

moved to and fro in the shaft, and the blades caused to assume either of the positions shown in Figs. 2 or 3, or to any intermediate position, by the operation of the rack *a* of the rod B on the teeth of the shaft D.

It will be seen that when the blades have been moved to one extreme position the propeller will serve to move the vessel ahead, and when in the other extreme position to back the vessel, and that the blades become effective steering mediums by adjusting them to intermediate positions.

Very little effort will be required to adjust the propeller in steering the vessel, for the strain exerted on one blade is counteracted by an opposing strain on the other blade.

I am aware that propellers have been heretofore made with blades separate from the hub, and attached to the ends of a shaft similar to the shaft D; but these are objectionable on account of their weakness and liability to get out of order—objections which I overcome by making both hub and blades a unit in effect, and turning the whole structure.

I claim as my invention—

The combination of the hub H of a propeller, having two blades and a recess, *h*, with the tubular portion of the shaft A, the pivot-pin D, the rod B, adapted to the shaft A, and mechanism, substantially as described, whereby the movement of the rod is communicated to the propeller, as herein described.

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

ALEXANDRE DE BEAUMONT.

Witnesses:

HERMANN MOESSNER,
HARRY SMITH.