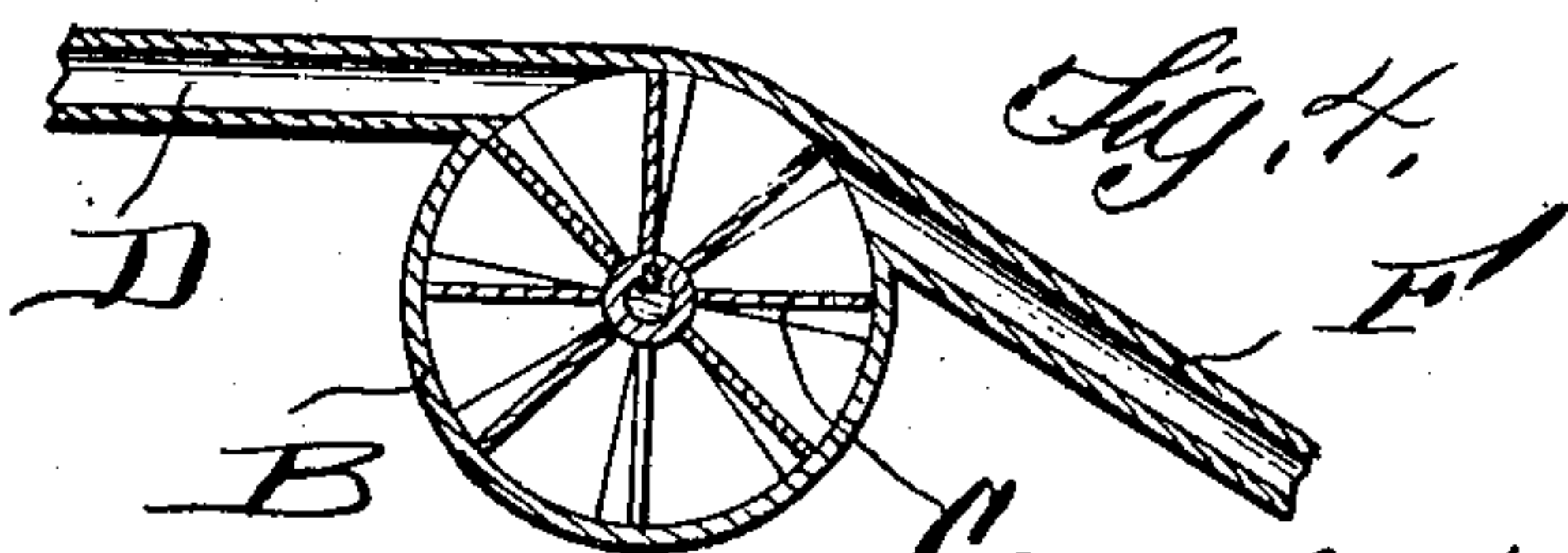
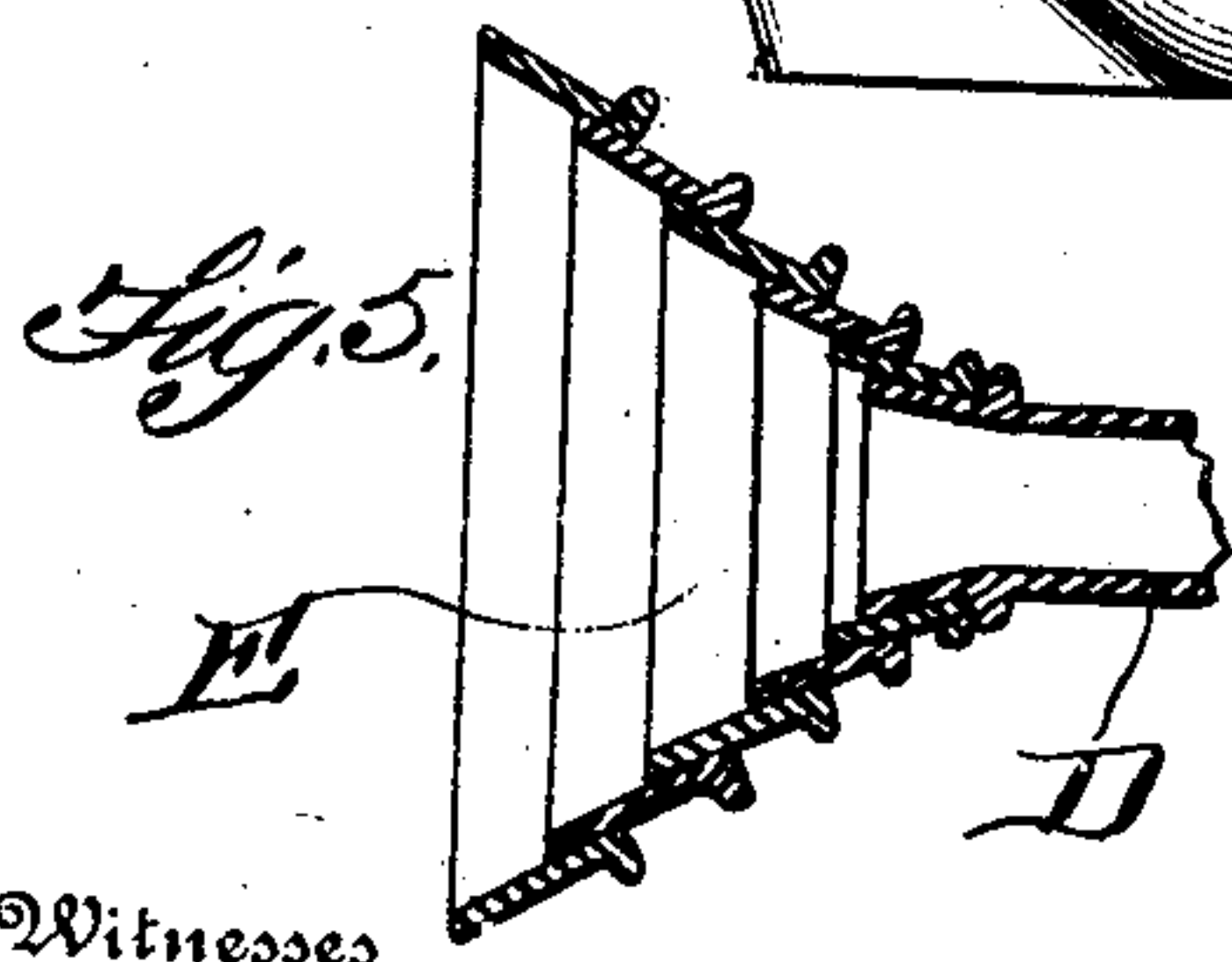
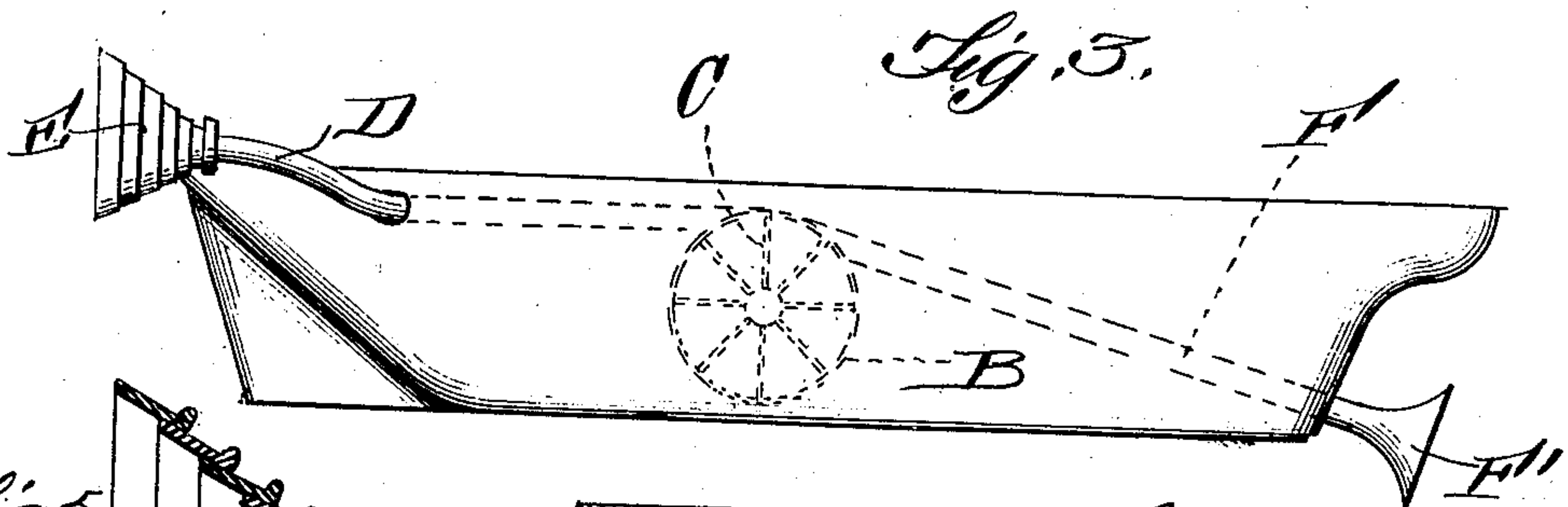
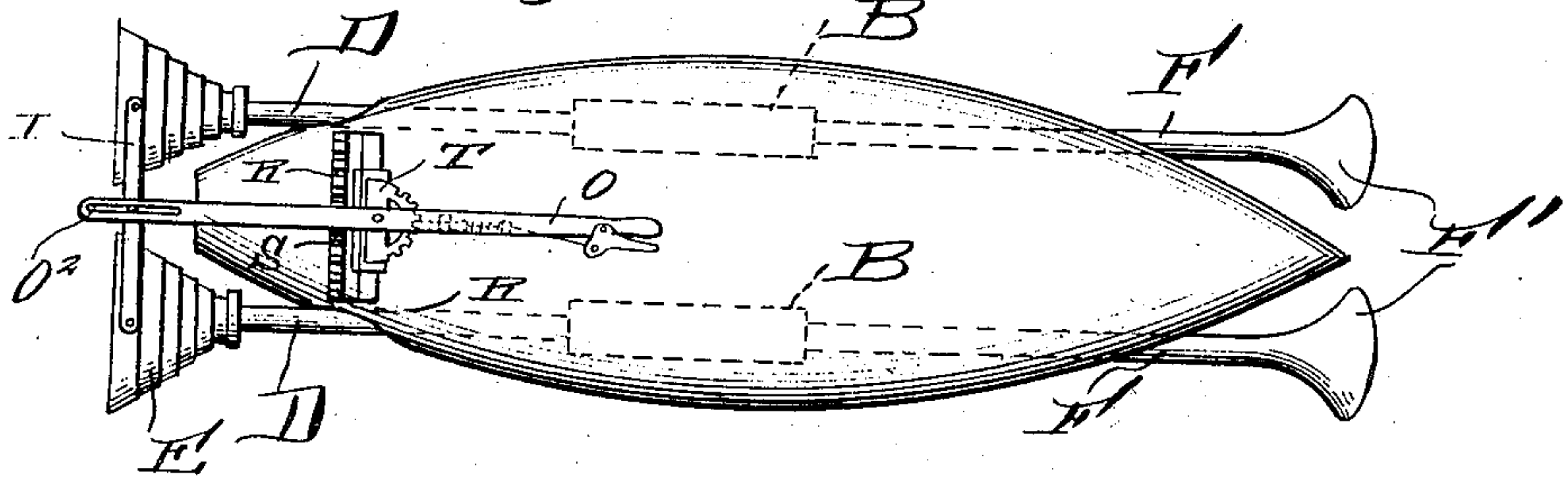
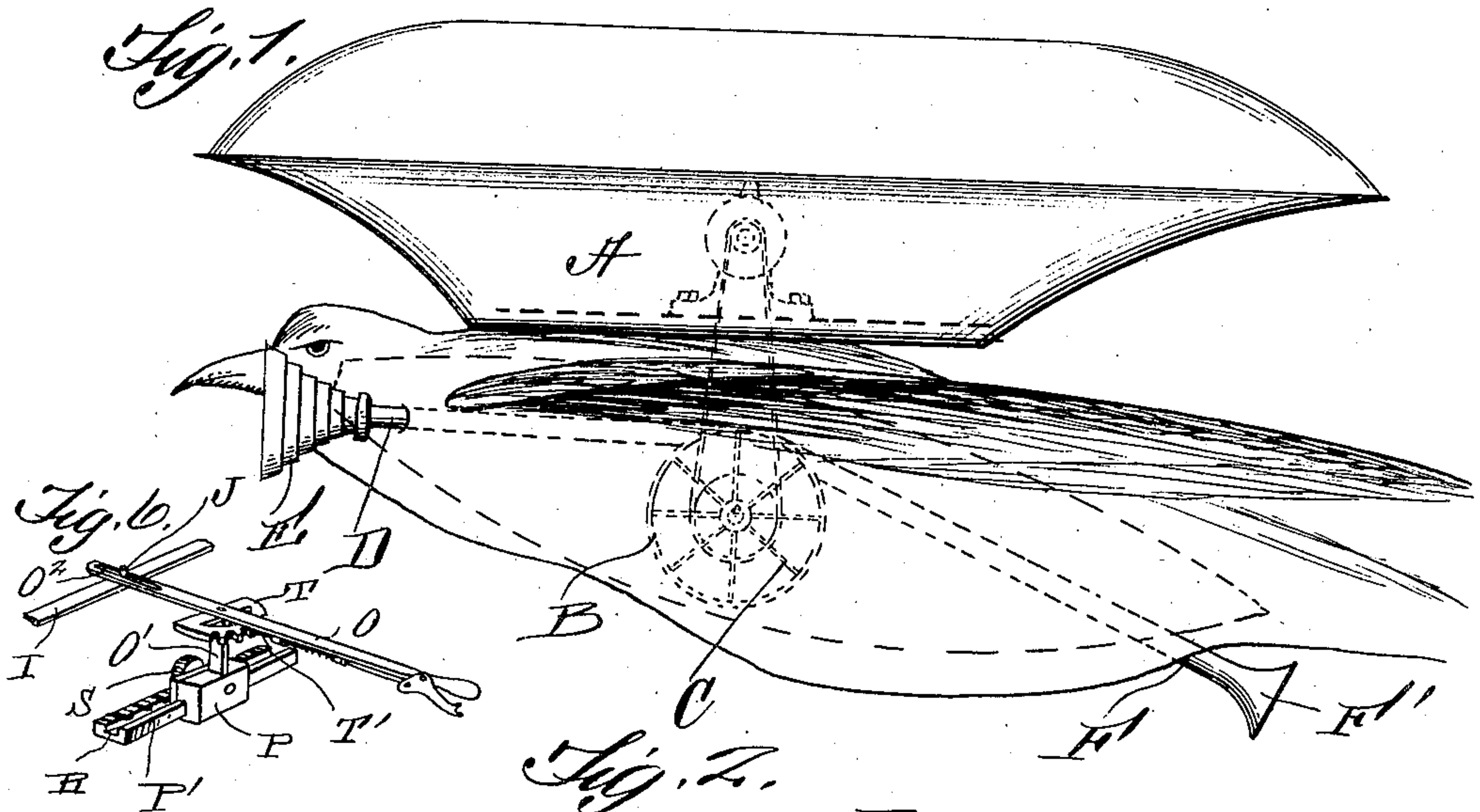


No. 898,081.

PATENTED SEPT. 8, 1908.

D. L. WOLF.
PROPELLING DEVICE FOR AERIAL SHIPS.
APPLICATION FILED MAR. 25, 1908.



Witnesses

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UNITED STATES PATENT OFFICE.

DAVIS LEVI WOLF, OF ARCHER CITY, TEXAS.

PROPELLING DEVICE FOR AERIAL SHIPS.

No. 898,081.

Specification of Letters Patent.

Patented Sept. 8, 1908.

Application filed March 25, 1908. Serial No. 423,198.

To all whom it may concern:

Be it known that I, DAVIS L. WOLF, a citizen of the United States, residing at Archer City, in the county of Archer and State of Texas, have invented certain new and useful Improvements in Propelling Devices for Aerial Ships; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in propellers for aerial navigating apparatus and comprises especially a pneumatic means for drawing air into a tube and forcing it out the other end, thereby creating a suction in front of the tube and exerting a propelling force.

The invention comprises various details of construction, combinations and arrangements of parts which will be hereinafter fully described and then specifically defined in the appended claims.

My invention is illustrated in the accompanying drawings, in which:—

Figure 1 shows the application of the apparatus to an aerial ship. Fig. 2 is a bottom plan view showing the means for moving the telescoping funnel sections at end of the apparatus. Fig. 3 is a side elevation showing a slight modification of the apparatus. Fig. 4 is a sectional view through the fan. Fig. 5 is a detail sectional view, and Fig. 6 is a detail perspective view of the apparatus for moving the flexible portions of the pipes.

Reference now being had to the details of the drawings by letter, A designates an aerial ship which may be of any construction and in the body portion thereof is mounted a fan casing B with a fan C therein, and D—D are tubes extending forward from the fan casing and having an opening at any convenient location, the tubes extending preferably through the casing of the aerial ship. At the forward ends of said tubes are connected the flexible tapering rings E telescoping over one another and provided so that the flaring end

of each tube may be turned in different positions, accordingly as it may be desired to cause the apparatus to be drawn in different directions as air is drawn through the funnel ends and expelled through the pipes F which have flaring ends F'.

In Fig. 6 of the drawings, I have shown a means for simultaneously moving the flexible ends of the pipes D, in which figure a lever O is shown as pivoted upon a pin O' rising from the block P, which latter has a sliding movement upon the rib P' of the rack bar R. S is a wheel having teeth meshing with the teeth of the rack bar. T is a segment having teeth upon one edge thereof and designed to be engaged by a spring-pressed pawl T'. The lever O has an elongated slot O² at one end through which a pin J passes forming a sliding pivotal connection. A bar I connects the two flaring ends of the tubes D and serves to move the two tubes simultaneously as the bar is given a longitudinal movement. By the provision of the lever O, it will be noted that the two tubes may be moved simultaneously in one direction or the other accordingly as it may be desired to cause the apparatus to be drawn in one direction or the other.

The operation of my apparatus is as follows:—The fan being driven by any suitable motor, air is drawn in the front flaring ends of the tubes D, creating a suction and, as it is forcibly expelled through the rearwardly projecting tubes, a pushing force whereby the vehicle to which the tubes are attached may be propelled through the air. By the turning in different positions of the flexible ends of the tubes D, the craft to which the apparatus is applied may be guided.

What I claim to be new is:—

1. A propelling apparatus for aerial ships, etc., comprising fans, pipes projecting therefrom, the forward ends of said pipes having conical telescoping sections, a cross-piece connecting the outer of each of said conical shaped sections, a pin upon said cross-piece, and a pivotal lever having sliding pivotal connection with said pin, as set forth.

2. A propelling apparatus for aerial ships, etc., comprising fans, pipes projecting therefrom, the forward ends of said pipes having

conical telescoping sections, a cross-piece
connecting the outer of each of said conical
shaped sections, a pin upon said cross-piece,
a pivotal lever having sliding pivotal con-
5 nection with said pin, a rib upon the frame of
the apparatus, rack teeth upon said rib, a
sliding block upon the latter, a pinion wheel
carried by the latter and in engagement with
said ratchet teeth, and a projection upon

said block upon which said lever is pivotally 10
mounted, as set forth.

In testimony whereof I hereunto affix my
signature in the presence of two witnesses.

DAVIS LEVI WOLF.

Witnesses:

H. R. McDAVID,
M. E. WOODWARD.