H. W. SCHMIDT.

AERONAUTICAL APPARATUS.

APPLICATION FILED OCT. 10, 1916.

1,290,669.

Patented Jan. 7, 1919.

2 SHEETS—SHEET 1.

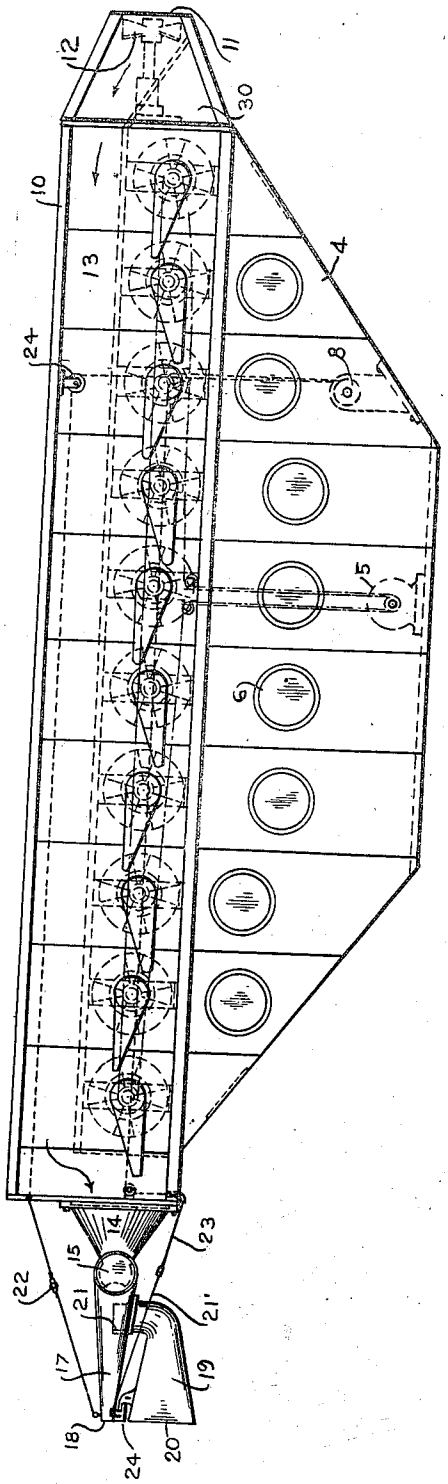



Fig. 1

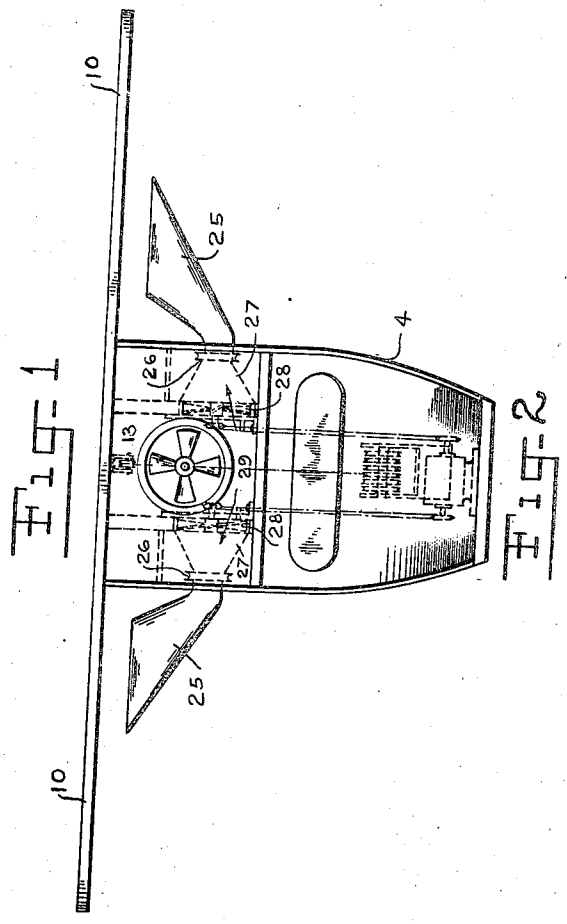



Fig. 2

Henry W. Schmidt, Inventor

By his Attorney

Thomas & Hill.

H. W. SCHMIDT.

AERONAUTICAL APPARATUS.

APPLICATION FILED OCT. 10, 1916.

1,290,669.

Patented Jan. 7, 1919.

2 SHEETS—SHEET 2.

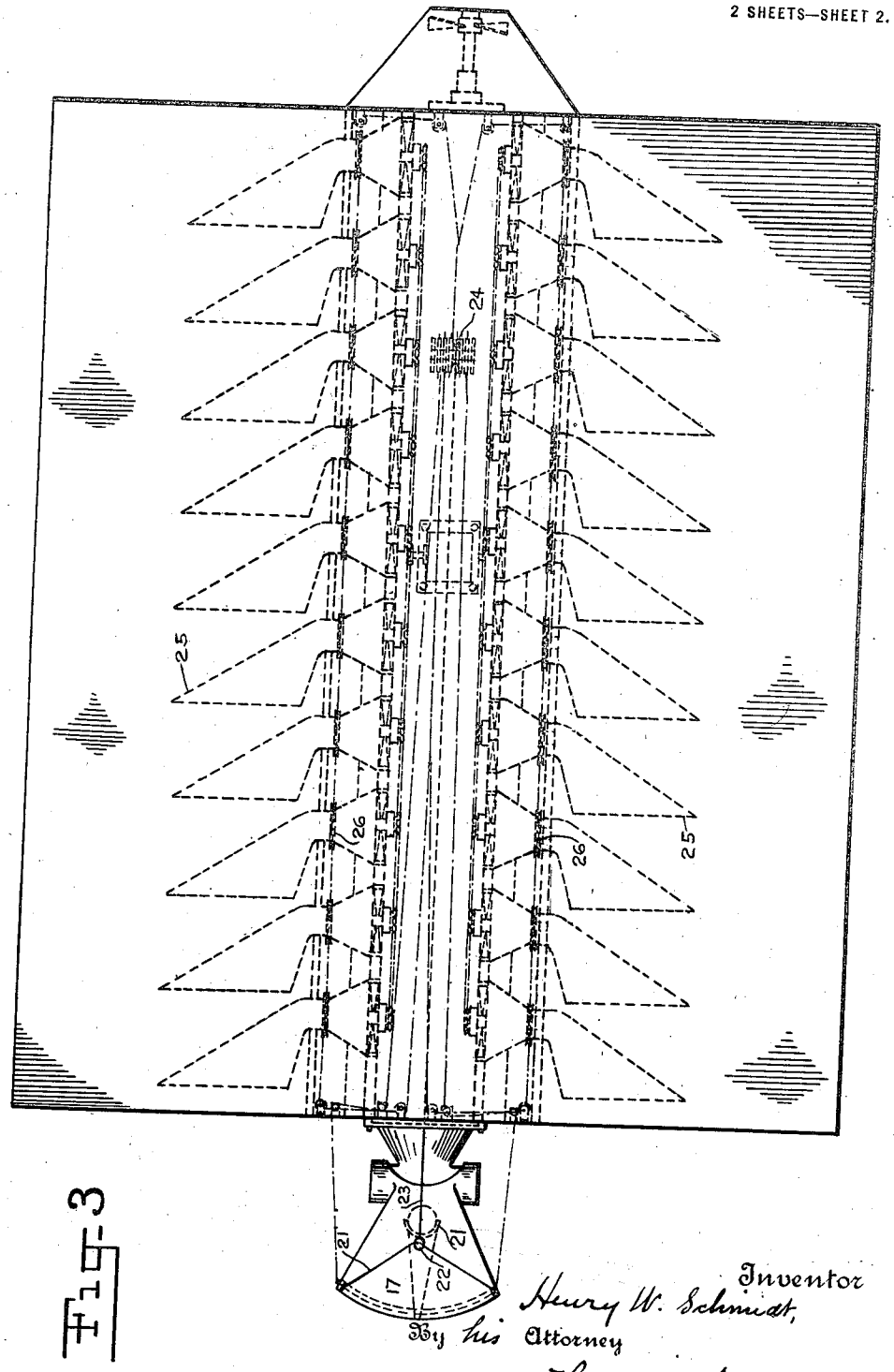



Fig. 3

Inventor
Henry W. Schmidt,
By his Attorney
Thompson & Hiel.

# UNITED STATES PATENT OFFICE.

HENRY W. SCHMIDT, OF NEW YORK, N. Y.

## AERONAUTICAL APPARATUS.

1,290,669. Specification of Letters Patent. Patented Jan. 7, 1919.

Application filed October 10, 1916. Serial No. 124,872.

*To all whom it may concern:*

Be it known that I, HENRY W. SCHMIDT, a citizen of the United States, residing at the borough of Manhattan, New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Aeronautical Apparatus, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in aeronautical apparatus and more particularly has reference to means in combination with either heavier-than-air or lighter-than-air craft for producing motive impulse thereupon in practically any desired direction as hereinafter more fully set forth.

In the accompanying drawings I have illustrated in Figure 1, in side elevation an application of my invention as applied to a suitable form of air craft. Fig. 2, is an end view of the same looking from right to left at Fig. 1 and Fig. 3 is a plan view looking downwardly upon Fig. 1.

4 is a suitable boat structure provided with a suitable motor such as 5 and windows or port holes such as 6, as well as suitable pilot wheels indicated by the reference character 8 and other proper equipment. 10 is a suitable form of aeroplane superstructure mounted above the same. At the front of the machine indicated by the reference character 11, a suitable propeller, such as 12, may be driven to draw air into the passage 13, the same being expelled through the conelike rearward portion 14, which terminates in a transverse cylindrical portion 15 upon which is preferably rotatably mounted another portion terminating in the hollow surface 17, thus permitting the surface 17 to move upwardly and downwardly looking at Fig. 1, the ends of the cylindrical portions 15—16 being closed and the end of the tail surface 17 being opened at 18 to allow for the discharge of air driven rearwardly by the propeller 12.

19 is another hollow flat surface open at the end 20, and serving as a rudder the same being rotatably connected beneath the elevator surface 17 as shown and being movable therewith and provided with an inwardly projecting deflector 21 which is adapted to cause part of the air which passes outwardly from the cone 14 to be deflected through rudder 19 as well as the elevator 17. The elevator 17 is preferably connected at opposite ends by a suitable cable such as 21′, which is connected at 22 with the cable 23 which passes over the pulley 24 and downwardly over one of the pilot wheels 8. A similar connection 21′ is also secured to the other end of the cable 23 so that by operating the pilot wheel the elevator 17 may be raised or lowered as desired. The rudder 19 is also suitably connected by a cable to another of the pilot wheels 8, as shown, and suitable sliding connection is provided between the elevator 17 and rudder 19 as shown at 24.

25 indicates suitable air vents or discharging members rotatably mounted at 26 so as to allow air to discharge therefrom and to strike upwardly beneath the planes 10 or in any other direction according to the position in which the air outlets 25 may be rotated, each of these air vents or outlets being connected to cone shaped passages 27 in the larger ends of which are mounted suitable fans, or propellers such as 28 which draw the air from the passage 29 when rotated by suitable sprockets and chains as shown. In the position shown in Fig. 1 the air outlets 25 are directed aft each succeeding one above or below the other, so as to allow the air to react upon the atmosphere in such a manner as to drive the craft forwardly, the air being drawn into the passage 29 from the front of the machine at 11. By operating one of the pilot wheels 8 these air outlets may be simultaneously rotated downwardly when alighting to reduce the shock of landing.

From the foregoing it will be apparent that in addition to the part 19 providing a rudder surface, the action of the same is augmented by virtue of the reaction of the air emitted from the end thereof and it will also be observed that the same applies to the elevator 17, and of course, it will be understood that a suitable gas bag or other auxiliary attachments may be provided if desirable for lifting the machine in any well known manner. In fact various modifications may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

I claim:

1. In an apparatus of the class described, a horizontal and a vertical rudder therefor,

and means in combination therewith for drawing air from the front of said machine and discharging the same through said rudders out of the trailing edge thereof.

2. In an apparatus of the class described, an air supporting surface, means for drawing in air beneath the front of the same and for discharging said air beneath opposite sides of said surface and at an adjustable angle thereto. hollow vertical and horizontal rudders at the stern thereof, and means for discharging some of said air through the trailing ends of said rudders.

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

HENRY W. SCHMIDT.

Witnesses:
ETHEL GARDNER,
THOMAS A. HILL.