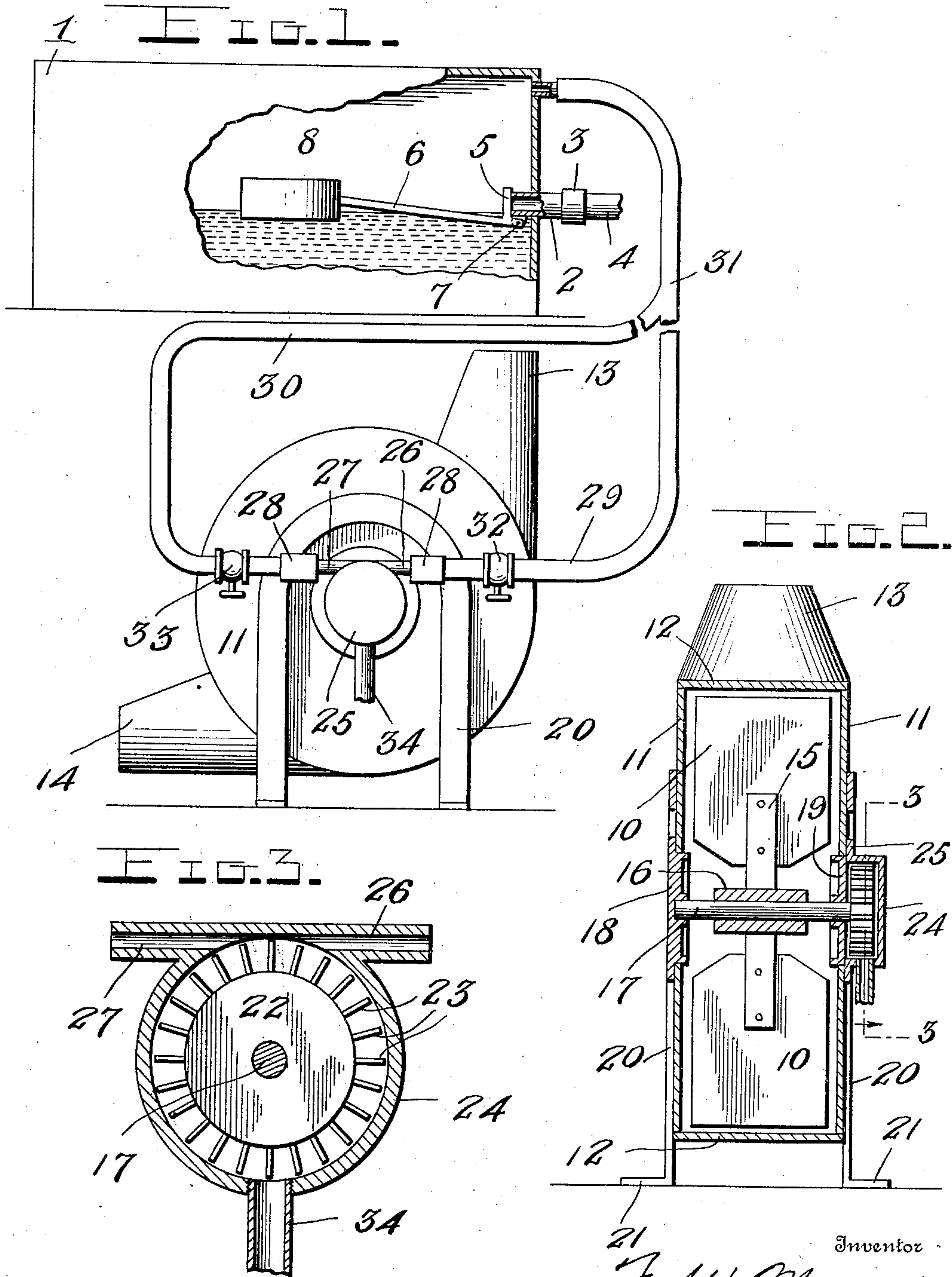


F. W. MEYER.  
 ROTARY STEAM MOTOR.  
 APPLICATION FILED OCT. 12, 1908.

915,200.

Patented Mar. 16, 1909.



Witnesses

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# UNITED STATES PATENT OFFICE.

FERDINAND W. MEYER, OF NORMAN, OKLAHOMA.

## ROTARY STEAM-MOTOR.

No. 915,200.

Specification of Letters Patent. Patented March 16, 1909.

Application filed October 12, 1908. Serial No. 457,421.

*To all whom it may concern:*

Be it known that I, FERDINAND W. MEYER, a citizen of the United States, residing at Norman, in the county of Cleveland and State of Oklahoma, have invented certain new and useful Improvements in Rotary Steam-Motors, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention relates to improvements in rotary steam engines and more particularly one designed for operating a rotary fan for ventilating or cleaning purposes.

15 The object of the invention is to provide a simple, inexpensive and practical device of this character which is especially adapted for use in a dwelling house and which will not require the services of an attendant.

20 With the above and other objects in view, the invention consists of the novel features of construction and the combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

25 Figure 1 is a side elevation of the invention, parts being broken away and in section; Fig. 2 is a vertical section through the motor and the fan or blower which it operates; and Fig. 3 is a detail section taken on the plane indicated by the line 3--3 in Fig. 2.

30 In the drawings 1 denotes a steam boiler of any suitable form and construction adapted to be placed upon a stove, hung over an open hearth or otherwise heated. It is provided with a water inlet pipe 2 connected by a coupling 3 to a hydrant or other water supply pipe 4 containing a suitable cut-off valve. A float valve 5 controls the inlet pipe 2 and, as illustrated, is formed on a float lever 6 which is pivoted at one end, as at 7, and carries a suitable float 8 at its other end. This float valve maintains a constant level of water in the steam boiler or receptacle 2.

45 10 denotes a rotary fan mounted in a casing consisting of two circular heads 11 united by an annular band or ring 12 and having two pipe connections 13, 14 which are disposed in planes at right angles to each other and either one of which may be used as an inlet while the other as an outlet for the fan casing. The blades of the fan 10 are fixed to arms 15 which radiate from a hub 16 suitably fixed to a shaft 17 suitably journaled in bearing plates 18, 19 secured in concentric openings in the heads 11 of the fan casing. The latter is supported by means of two inverted

U-shaped supports 20 secured to the outer faces of the heads 11 and having their arms or ends depending and bent outwardly at right angles to provide supporting and attaching feet 21.

Fixed to the projecting end of the shaft 17 is a rotary engine or turbine 22 provided with radiating blades 23 and arranged for rotation in a casing 24 within which the blades 23 form pockets. The casing 24 is substantially cylindrical, one of its sides being open and provided with a surrounding flange 25 which is secured to one of the heads 11 concentrically therewith, so that said open side of the casing 24 is closed by the bearing plate or member 19, as clearly shown in Fig. 2 of the drawings. Formed upon the casing at its top are two oppositely projecting steam inlet connections or pipes 26, 27 which are connected by means of couplings 28 to the branches 29, 30 of a steam supply pipe 31 which is in communication with the steam space of the boiler 1. The branches 29, 30 are provided with controlling or cutoff valves 32, 33 so that the steam generated in the boiler 1 may be admitted to either of the tangentially arranged steam inlet pipes or connections 26, 27 of the engine to permit the wheel 22 to be rotated in either direction, thereby permitting the fan 10 to be used either as a blast fan or a suction fan. When one of the valves 32, 33 is open the other is closed, and the steam, after being directed against the blades 23 of the wheel 22, escapes from the casing 24 through an outlet pipe 34 arranged at the bottom of said casing.

The apparatus above described may be used for ventilating purposes, cleaning purposes, etc., and to either or both of the tapered or cone-shaped connections 13, 14 of the fan casing may be connected suitable pipes or systems of pipes and by reversing the direction of the motor as above explained, the fan may be rotated in either direction to either force or suck air through such pipes.

Having thus described the invention what is claimed is:

The combination with a fan casing, a rotary fan therein, a shaft for the fan and projecting through one wall of the casing, of a motor casing consisting of a circular head, an annular side wall projecting from said head, and an annular radially projecting attaching flange projecting from the side wall, said flange being engaged with and secured to said wall of the fan casing concentric with



said shaft, whereby the wall of the fan casing closes the rear side of the motor casing, the annular side wall of the motor casing being formed at its top with oppositely disposed  
5 tangentially arranged integral inlet pipes, a vertically disposed outlet pipe arranged in the center of the bottom of the annular side wall of the motor casing, and a rotary wheel in the motor casing fixed to the shaft and formed

with radially projecting blades which provide pockets in the motor casing.

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

FERDINAND W. MEYER.

Witnesses:

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