

Feb. 7, 1928.

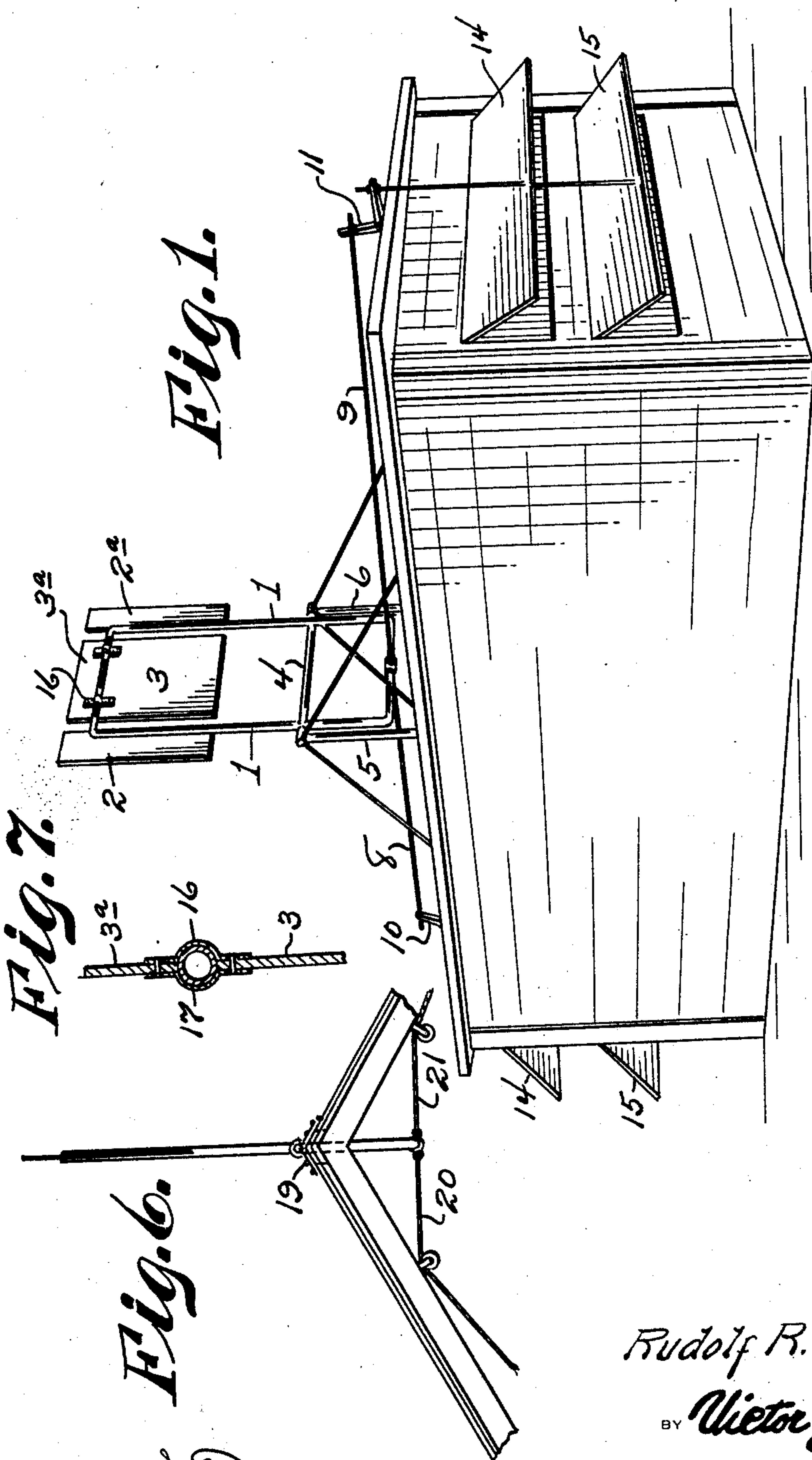
1,658,663

R. R. BLESIE

VENTILATOR

Filed Sept. 22, 1926

2 Sheets-Sheet 1



WITNESS:

John D. Moran

Rudolf R. Blesie
INVENTOR

BY *Victor J. Evans*
ATTORNEY

Feb. 7, 1928.

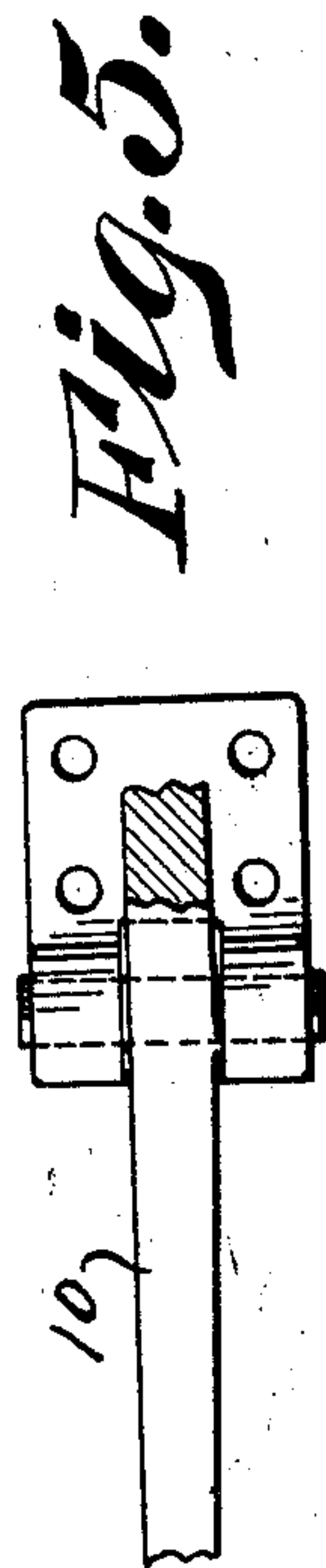
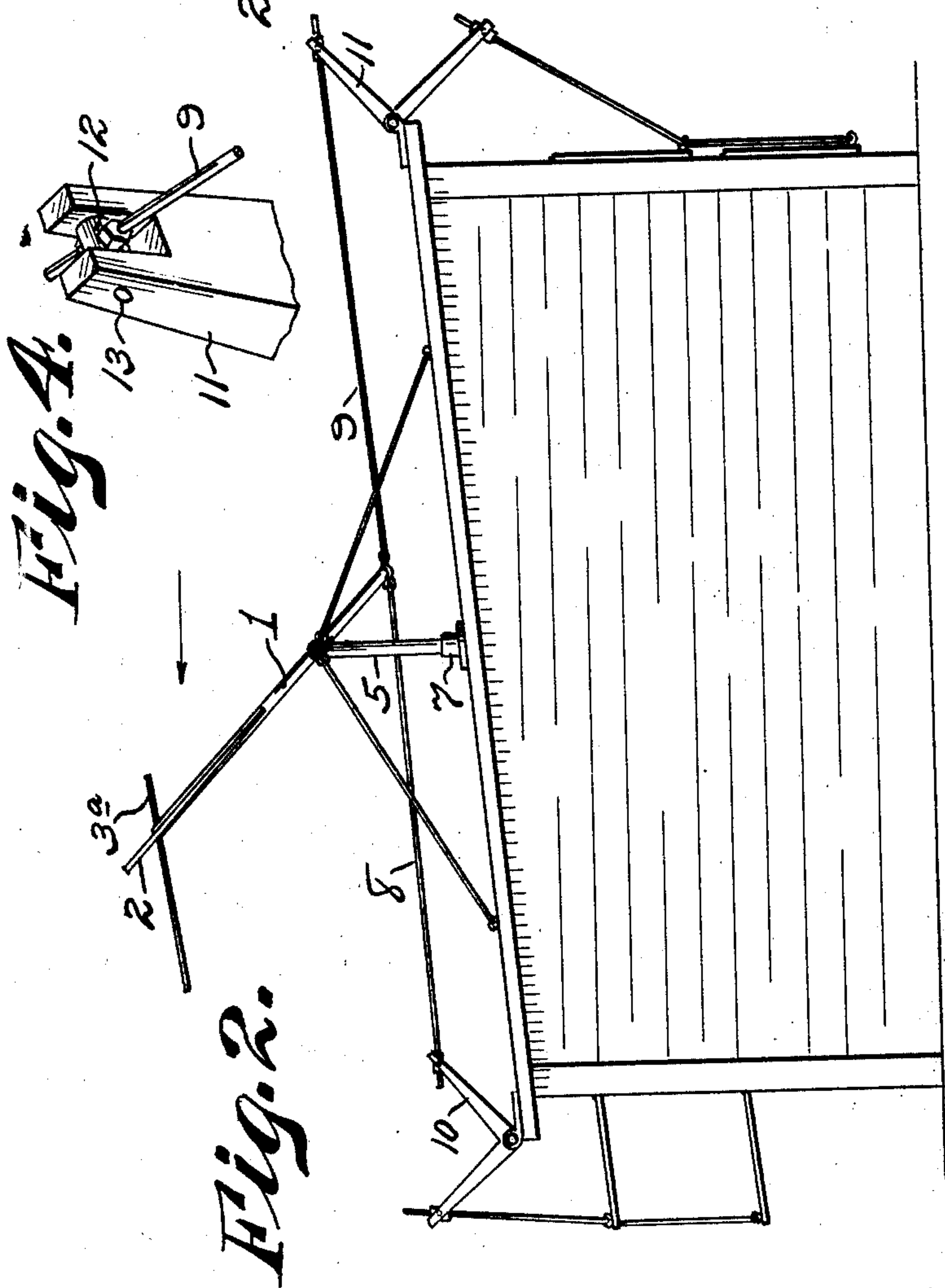
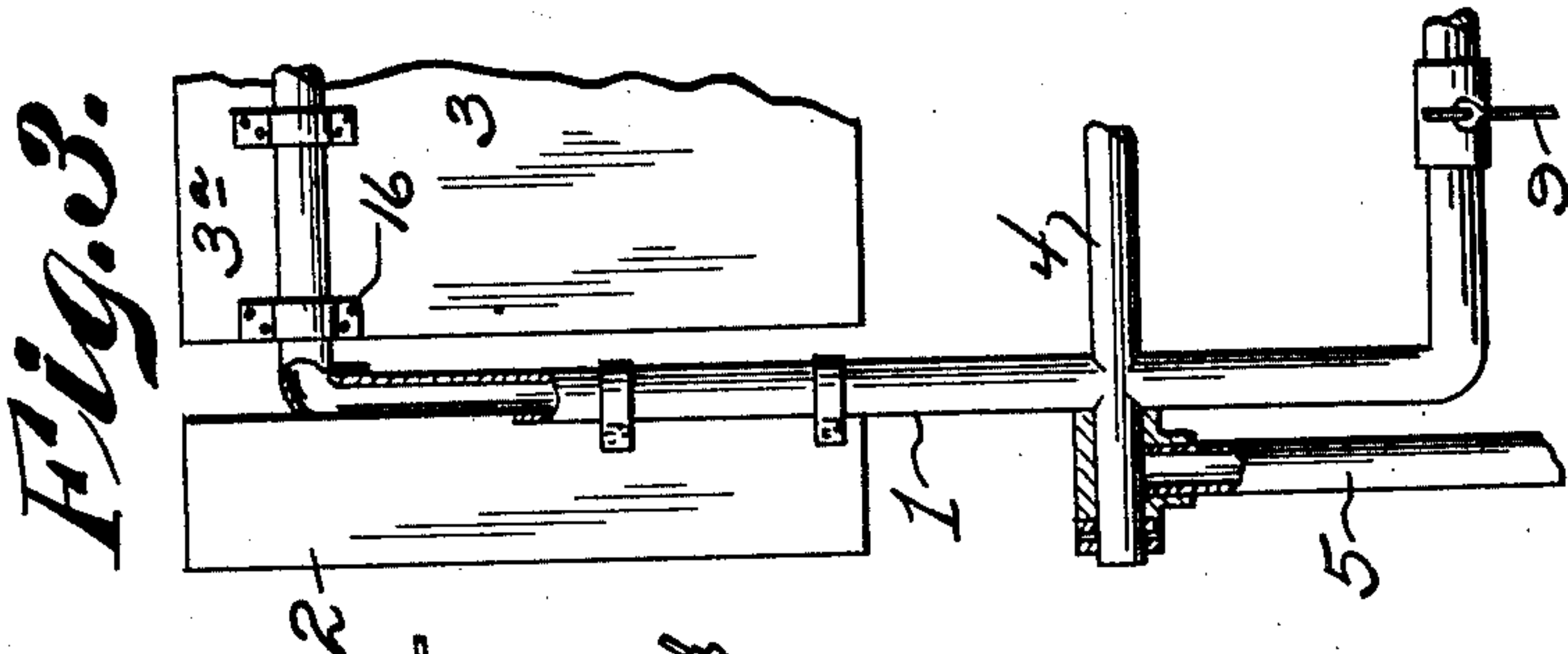
1,658,663

R. R. BLESIE

VENTILATOR

Filed Sept. 22. 1926

2 Sheets-Sheet 2



WITNESS:

John Donovan

Rudolf R. Blesie
INVENTOR

INVENTOR

BY

Victor J. Evans

ATTORNEY

Patented Feb. 7, 1928.

1,658,663

UNITED STATES PATENT OFFICE.

RUDOLF R. BLESIE, OF RENWICK, IOWA.

VENTILATOR.

Application filed September 22, 1926. Serial No. 137,104.

This invention relates to wind operated ventilating systems and is designed to provide a combined ventilating system and door control of special advantage in certain farm buildings, such as barns, chicken coops, hog pens, and the like. In my invention a proper supply of fresh air is automatically controlled by air currents closing the doors or other openings on the windward side, and opening corresponding doors on the leeward side, thus guarding against the beating in of rain and simultaneously insuring a liberal supply of wholesome air, irrespective of the weather, and promoting the health of the fowls or animals by a uniform supply of air at all times.

In carrying out my invention I mount on the roof of the building containing the stock or fowls a pivoted vane supported sufficiently above the roof level to permit it to swing pivotally and swing forwardly or backwardly, by either rigid or flexible means, for simultaneously closing the openings on the windward side and opening them on the leeward side. My invention in its broadest phase, therefore, comprises a wind vane pivotally mounted on the roof of the building to simultaneously regulate ventilating doors by wind power, closing the windward openings and opening the leeward openings.

The invention also comprises more specific features, the novelty of which will hereinafter be described and will be definitely indicated in the appended claims.

In the accompanying drawings:

Figure 1 represents an isometric projection of the ventilating system embodying my improvement.

Figure 2 is a view of the same system looking at a different angle.

Figure 3 is a detail view illustrating the mode of mounting the wind vane.

Figure 4 is a detail of a bell-crank regulating the movements of the ventilating doors.

Figure 5 is a plan of a bracket and connected bell-crank, of which Figure 4 is a detail in enlarged proportion.

Figure 6 is a modification in which the wind vane acts upon the ventilators from the inside of the building.

Figure 7 is a detail in section on an enlarged scale of the auxiliary vane.

Referring now in detail to the structure, and first with reference to the type shown in Figures 1 to 5, 1 represents a rectangular

frame formed of metal piping carrying at its upper side two pairs of wind vanes 2, 3, 2^a, 3^a, one pair 2, 2^a being fixed and the other pair pivoted. The fixed vanes are set in a slot (see Fig. 3) of a tubular frame 1, and similarly with respect to the companion fixed vane 2^a on the other side of the tubular rectangular frame. The vane 3 is pivotally mounted and swings on its pivot, so as to tilt under the influence of the wind as the lower section acts as a counter-weight the upper section being of less area than the lower section. The depending section, therefore, acts as a counter-weight and by varying the vane angle the rocking tendency of the frame 1 is graduated according to the force of the wind, thus producing a variable compensating effect for the movement due to the resultant of fixed arms 2, 2^a and pivoted arm 3, 3^a.

The rectangular frame 1 is mounted on an axis 4 turning in vertical tubular posts 5, 6 fixed in standards 7 mounted upon the roof of the building. The lower side of the frame 1 carries a casting in which is fixed the ends of rods 8, 9 connecting pivotally with bell-crank levers 10, 11, being pivotally mounted in the recess at the outer end of the rods, as will be more particularly seen in Figure 4, the operating rods being secured to a tube 12 rotatable upon a pin 13 spanning slot walls on the ends of the bell-crank lever. A similar pivotal relation with the front and rear ventilating doors is provided. The upper and lower doors 14, 15 are pivotally connected so as to swing together to a closed or open position under control of the bell-crank levers. The vane 2 is fixed in the sides of the tubular frame 1, but the vane 3 is supported pivotally by a plurality of straps 16, 17. The vane 3 further has an overhanging section 3^a to reinforce the wind acting upon the side vanes 2, 2^a, making a partially augmented resultant effect on the segments 3, 3^a of the pivoted vane, on the vanes 2, 2^a considerably less in cross section. The combined construction provides a more stable structure in strong blows and more sensitive in regulation under moderate blows.

In Figure 6 I have shown a modification in which the transmission of power may be carried to the ventilating doors from the inside of the structure. As here shown the frame of the vane is pivoted in an angular bracket 19 and is attached at the bottom to

flexible leads, as ropes, 20, 21 passing through respective windward and leeward ventilating doors. These are only partly shown by reason of insufficient space in the field of the drawing, but the structure in other respects is similar to that already described and will be easily understood.

I have thus described the best construction I have hitherto devised for carrying out my improvement, but I desire it to be understood that modifications may be made within the scope of my claims without departing from the invention.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. A ventilating system for a closed building comprising a plurality of pivoted doors swinging in a vertical plane operated in unison, located in the front and back walls of the building, a wind vane on the roof mounted on a horizontal axis to swing in a single vertical plane only pivoted to obey the direction of the wind, and mechanical connections between the bottom of the vane and both front and rear door groups to simultaneously shift one set open and the

other closed, according to the direction of the wind.

2. A ventilating system for a closed building comprising ventilating doors in the front and rear walls, a pivotal wind vane fixed on the roof, pivotal rods connected to the bottom of the vane, bell-cranks fixed on the roof over the front and rear walls, and rods leading therefrom to the doors, the doors being relatively positioned so that when one is closed the other is open, whereby the wind will automatically regulate the ventilation by varying the opening of one and closing the other, according to its direction.

3. A power transmitting system comprising a movable wind vane obeying the direction and force of the wind, composed of two cooperating members each exposed to the wind, one being fixed relatively to the power transmitting shaft and the other pivoted, with its upper section of less area than the lower, whereby the power delivered is graduated by their resultant differential.

In testimony whereof I affix my signature.

RUDOLF R. BLESIE.