

D. RISSINGER.

Cross-Paddle Propeller Fans for Ventilating Mines.

No. 139,330.

Patented May 27, 1873.

Fig. 1.

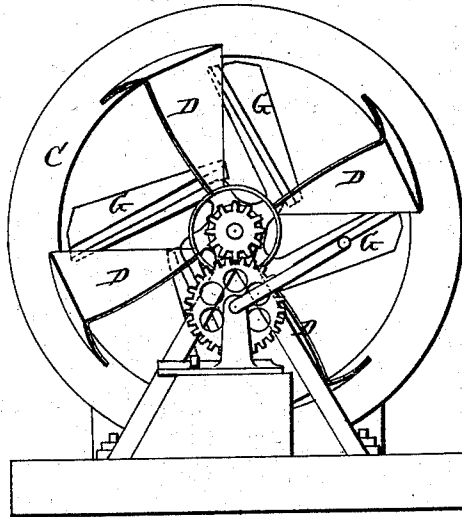
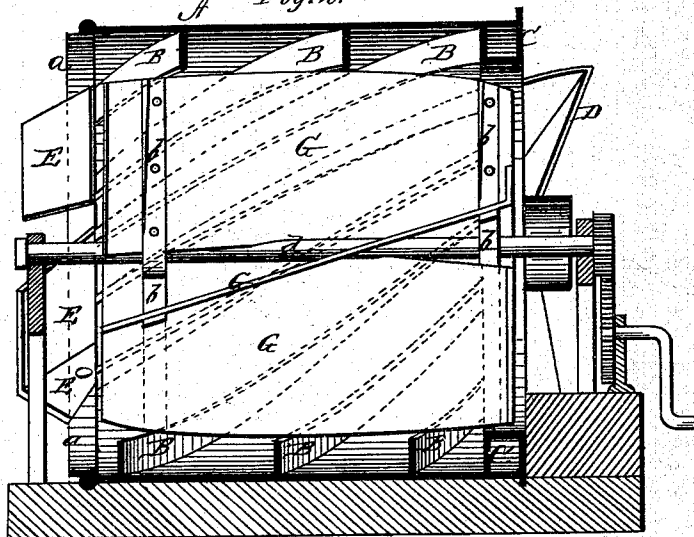


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

DANIEL RISSINGER, OF MAHANOEY CITY, PENNSYLVANIA.

IMPROVEMENT IN CROSS-PADDLE PROPELLER-FANS FOR VENTILATING MINES.

Specification forming part of Letters Patent No. **139,330**, dated May 27, 1873; application filed April 14, 1873.

To all whom it may concern:

Be it known that I, DANIEL RISSINGER, of Mahanoe City, in the county of Schuylkill and State of Pennsylvania, have invented certain new and useful Improvements in Cross-Paddle Propeller-Fans; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification—

The nature of my invention consists in the construction and arrangement of a cross-paddle propeller-fan, for ventilating mines, for blast-furnaces, blacksmith-shops, driving air in mines, for propelling or drawing air, or for any other purpose where a fan is needed.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a front elevation, and Fig. 2 a longitudinal vertical section of my fan.

A represents a cylindrical casing supported in a horizontal position by any suitable means. Around the interior of this casing are secured, in a diagonal or winding position, a series of paddles, B B, which terminate at the front end of the casing close up to a ring or flange, C, projecting inward from the casing, and of the same width as said paddles. On the front end of the casing A is secured a series of

pockets, D D, and at the rear end of the casing is inserted or attached a ring, *a*, with a series of wind-scoops, E E, which stand in about the same position as the outer stationary wind-paddles B B, and close up to the inner revolving wind-paddles G G. These latter paddles are attached in a diagonal or winding position to arms *b b* on a shaft, *d*, passing horizontally through the center of the casing A and revolved by any suitable or convenient power. This fan receives its air in front by the air-pockets D D and discharges through the grooves between the outer paddles B B and wind-scoops E E, throwing the air to the outer part of the fan. The revolving paddles G G work square or nearly square across the outer stationary paddles B B.

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

The combination of the casing A, ring or flange C, paddles B B, air-pockets D D, scoops E E, and revolving paddles G G, all constructed and arranged substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

DANIEL RISSINGER.

Witnesses:

ELI REESE,
P. J. MULDOWNEY.