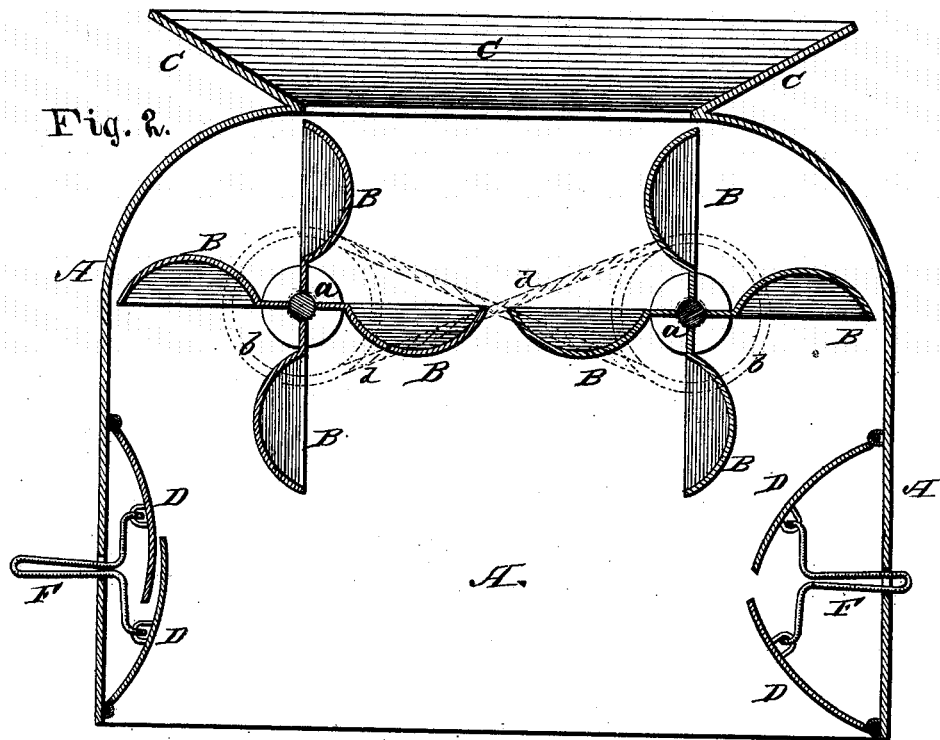
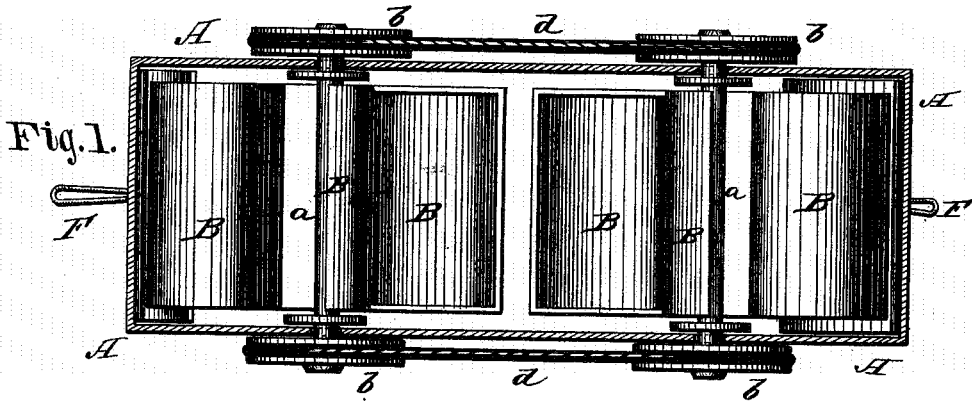


T. W. FLYNN.  
Air-Exhauster for Coal-Mines.

No. 206,101.

Patented July 16, 1878.



Witnesses:  
*P. Dietrich.*  
*Am. S. Upperman.*

Inventor:  
*Thomas W. Flynn*

Per *C. H. Watson & Co* Attorneys.

# UNITED STATES PATENT OFFICE.

THOMAS W. FLYNN, OF POTTSVILLE, PENNSYLVANIA.

## IMPROVEMENT IN AIR-EXHAUSTERS FOR COAL-MINES.

Specification forming part of Letters Patent No. **206,101**, dated July 16, 1878; application filed March 25, 1878.

*To all whom it may concern:*

Be it known that I, THOMAS W. FLYNN, of Pottsville, in the county of Schuylkill and State of Pennsylvania, have invented certain new and useful Improvements in Air-Exhausters for Coal-Mines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, 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 an air-exhauster for coal-mines and similar places, as will be hereinafter more fully set forth.

In the annexed drawing, to which reference is made, and which fully illustrates my invention, Figure 1 is a plan view with the top of the casing removed, and Fig. 2 is a central vertical section of my invention.

A represents a casing, of any suitable form and size, containing two fans, B B, secured to two horizontal shafts, *a a*, upon the ends of which are pulleys *b b*, connected by means of twisted belts or chains *d d*, so that, power being applied to one shaft, both fans will be made to rotate in the proper direction.

The wings or paddles of the fans B B are made concave in the form of segments of a cylinder, so as to operate in an efficient and thorough manner to draw air from a mining-shaft or similar place over which the exhauster is located.

The top of the casing A is contracted above the fans, forming a single central outlet, C. Below the fans in each side of the casing are hinged convex or other suitably-shaped gates D D, operated by means of rods F F, for the purpose of decreasing or increasing the size of the shaft at the upper end, or the lower portion of the casing where the fans operate. By diminishing the size of the shaft a stronger current of air is drawn up than when the shaft is larger.

The concave or scoop-shaped buckets or wings of the fans, operating together, cause a vacuum to be formed, and the air from below is thereby drawn up and forced out. By this device the fire-damp or foul air from mines can be readily and quickly exhausted, lessening the liability of accidents to persons working therein.

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

The hinged gates D D, with their operating-rods F F, in combination with the casing A and fans B B, substantially as and for the purposes herein set forth.

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

THOMAS W. FLYNN.

Witnesses:

JOHN A. KIRKEY,  
FRANKLIN P. MILLER.