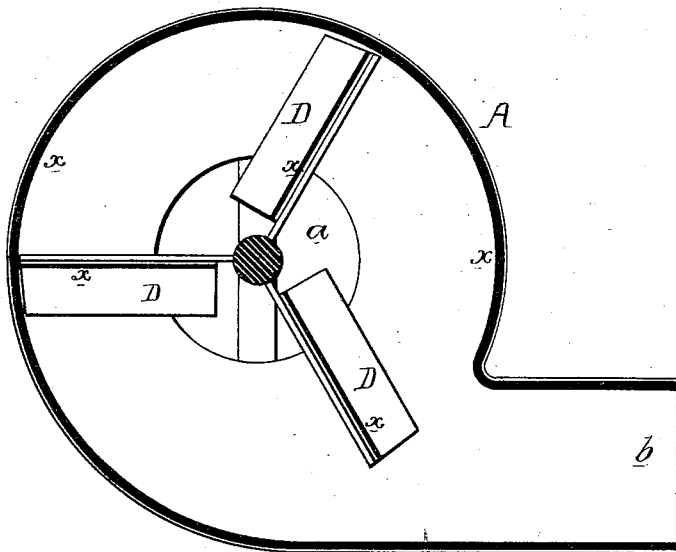


F. ROHRBACHER & F. HORMANN.

EXHAUST AND BLOWING FAN.

No. 192,285.

Patented June 19, 1877.



Witnesses  
John M. Deemer  
Harry Smith

Inventors  
Frederick Rohrbacher  
and  
Ferdinand Hormann  
by their Attorneys,  
Howson and son

# UNITED STATES PATENT OFFICE.

FREDERICK ROHRBACHER AND FERDINAND HORMANN, OF PHILADELPHIA,  
PENNSYLVANIA.

## IMPROVEMENT IN EXHAUST AND BLOWING FANS.

Specification forming part of Letters Patent No. **192,235**, dated June 19, 1877; application filed  
May 26, 1877.

*To all whom it may concern:*

Be it known that we, FREDERICK ROHRBACHER and FERDINAND HORMANN, both of Philadelphia, Pennsylvania, have invented a new and useful Improvement in Exhaust and Blowing Fans, of which the following is a specification:

Our invention relates to an improvement in the exhaust fans used in carrying out the sand-blast process of engraving and cutting glass and other hard materials by the percussive force of particles of sand; and the object of our invention is to prevent the wearing away of the interior of the casing and of the blades of the fan.

In sand-blast operations more or less of the sand gains access to the interior of the exhaust-fan, and the particles of sand are struck with such force by the rapidly-revolving blades, and are so forcibly projected against the interior of the casing, that the latter and the blades themselves are soon worn through by the triturating action of the sand.

In order to obviate this defect we line the interior of the casing with gutta-percha, rubber, leather, rawhide, or other material or composition of such a yielding character that the sand can have no injurious effect on the metal.

In the accompanying drawing, A represents the casing of the fan, and *b* the outlet from the same. In the opposite sides of the casing are the usual exhaust-openings *a*, communicating with the sand-blast apparatus in the usual manner.

The fan may be made in accordance with any of the styles of modern blowers; but in carrying out our invention the interior of the casing must be lined, as indicated by the thick black line *x*, the inner faces of the opposite side plates of the fan being also lined, and the faces of the blades *D* covered.

We have found in practice that gutta-percha is the best material for the lining of the casing and facing of the blades, for independently of its durability it can be very easily applied to the metal surfaces in sheets through the medium of cement.

We claim as our invention—

1. A fan having a casing lined with gutta-percha, leather, or other yielding material capable of resisting the abrasive action of sand impelled against the said casing by the action of the blades or paddles of the fans, as set forth.

2. The combination, with the fan blades or paddles, of gutta-percha or other equivalent yielding material secured to the front of the said blades, all as set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

FREDERICK ROHRBACHER.  
FERDINAND HORMANN.

Witnesses:

HERMANN MOESSNER,  
HARRY SMITH.