

(No Model.)

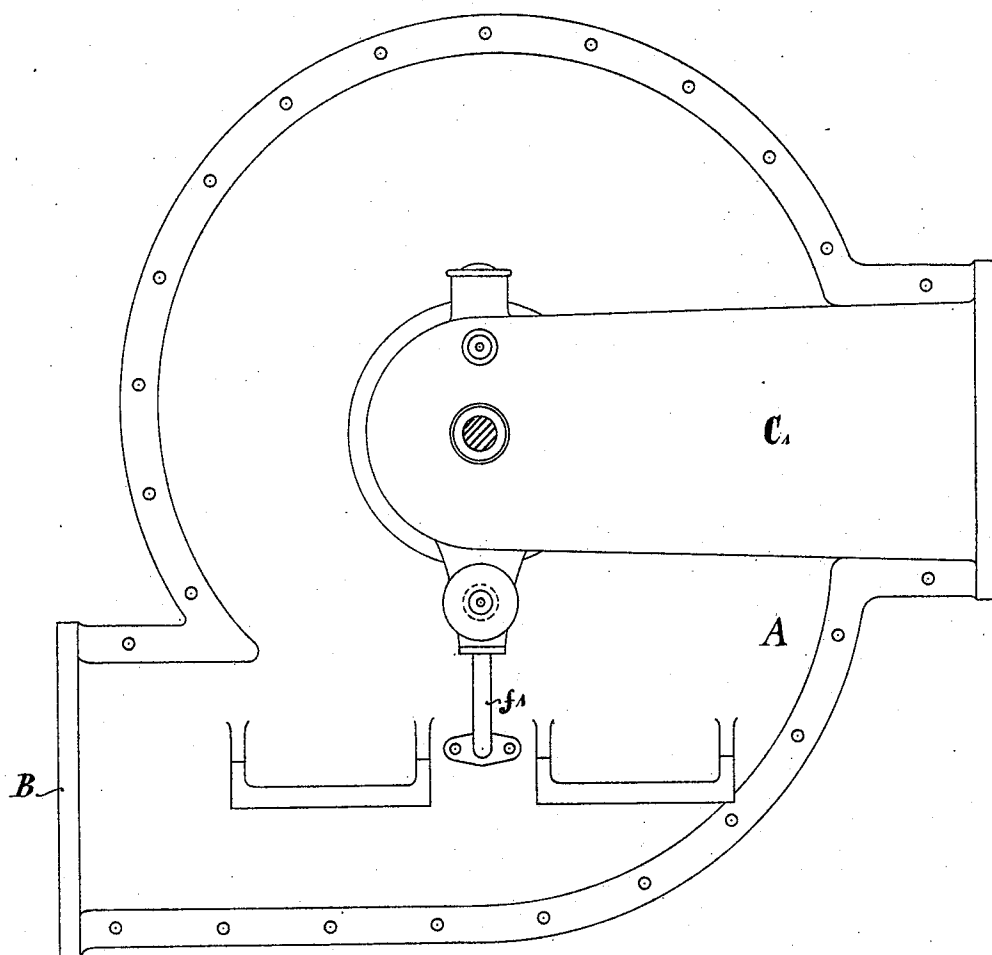
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F. EISENBEIS.
BLOWER.

No. 578,096.

Patented Mar. 2, 1897.

Fig. 1.



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Inventor:
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per
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2 Sheets—Sheet 2.

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Fig. 2.

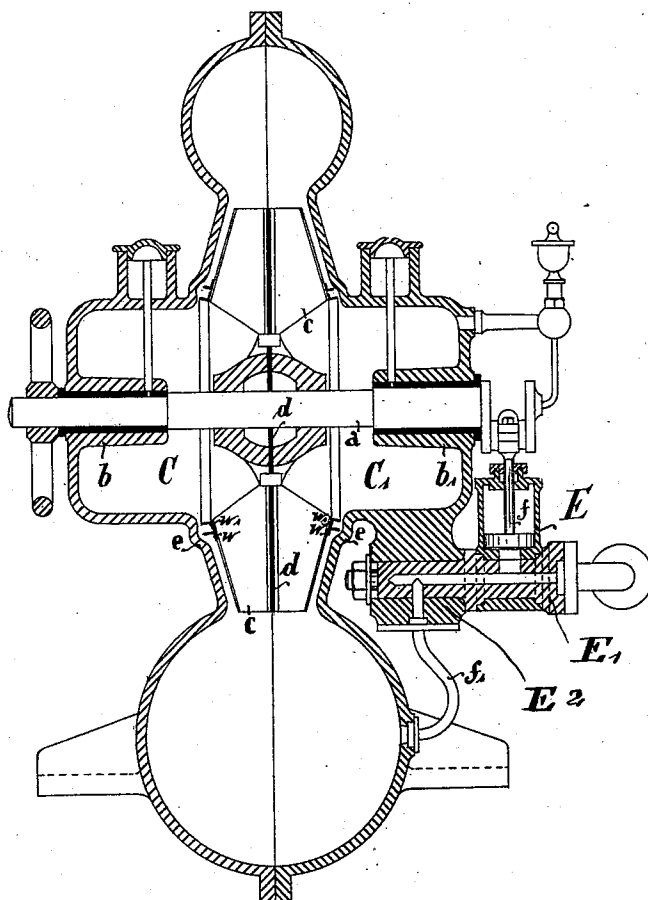
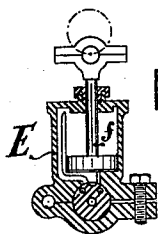


Fig. 3.



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UNITED STATES PATENT OFFICE.

FRIEDRICH EISENBEIS, OF WELLESWEILER, GERMANY.

BLOWER.

SPECIFICATION forming part of Letters Patent No. 578,096, dated March 2, 1897.

Application filed October 18, 1895. Serial No. 566,128. (No model.)

To all whom it may concern:

Be it known that I, FRIEDRICH EISENBEIS, a subject of the King of Prussia, German Emperor, and a resident at Wellesweiler, near Trier, in Rhenish Prussia, German Empire, have invented certain new and useful Improvements in Blowers and Similar Apparatus, of which the following is a full, clear, and exact description.

The object of the present invention is to produce a ventilator for mines having great efficiency and of compact construction; and in order to render the present specification more easily intelligible reference is had to the accompanying drawings, in which similar letters denote similar parts throughout the several views.

Figure 1 represents the ventilator in side elevation, and Fig. 2 in vertical cross-section. Fig. 3 is a detail view of the arrangement of the compressed-air cylinder.

The ventilator is driven by a directly-coupled oscillating compressed-air engine and is provided with two centrally-arranged suction-pipes, of which one is secured at each side of the ventilator-casing.

A is the casing, having central openings to admit the suction-air, B the discharging-pipe, and C C' the two suction-pipes. The shaft *a*, mounted in the bearings *bb'*, extends through the middle of the ventilator-casing. This axle carries the wings *c*. They are divided by a partition *d*, arranged on center line of the casing and standing at right angles to the axle in such a manner that two adjoining chambers are formed by two wings and the part of the partition lying between them. Thus the fan-wheel is divided into a group of chambers lying to the right and to the left of the partition *d*, each of which carries the air, by suction, from the suction-pipe C or C' belonging to it, the air taken up being conducted to the common delivery or discharging-pipe D.

In order to obtain a complete tightness between the casing of the ventilator and the

fan, *i. e.*, in order to prevent the air from passing around the fans, two angle-iron rings W W' are arranged at each side to project into an annular depression *e* of the casing. 50

As already mentioned, the ventilator is driven by an oscillating compressed-air engine, which is situated outside the casing. The shaft, having a crank at the end, is driven by the piston-rod *f*, which is actuated by the piston of the oscillating cylinder E, (specially illustrated in Fig. 3,) mounted on the hollow trunnion E', adapted to oscillate in a bearing E² of the ventilator-casing. The compressed air is conducted to the cylinder from a compressed-air reservoir and escapes, after being used, through the hollow trunnion and tube *f'* into the delivery-pipe of the ventilator. The delivery-pipe may be arranged above the ventilator instead of below, and if steam connections are present the ventilator may also be driven by an oscillating steam-engine.

I claim as my invention—

A ventilator having lateral suction-pipes and central lower delivery-pipes, and a fan *c* having central partition *d*, angle-rings W W' and a corresponding annular depression formed in the fan-casing, a fan-shaft having crank exterior of the casing, a compressed-air cylinder E to drive said fan-shaft, a hollow trunnion E' mounted in the ventilator-casing the interior of said trunnion communicating with the bottom of said cylinder and a pipe connection to conduct the exhaust-air into the blower, and means for supplying compressed air to the cylinder and suitable ports in said trunnion and cylinder substantially as described. 75 80

In testimony whereof I have signed this specification in the presence of two subscribing witnesses. 85

FRIEDRICH EISENBEIS.

Witnesses:

FRANZ GREIN,
FRITZ SCHRÖDER.