(No Model.)

J. W. COLLINS.

FAN BLOWER.

No. 262,642. Patented Aug. 15, 1882.

Fig. 2.

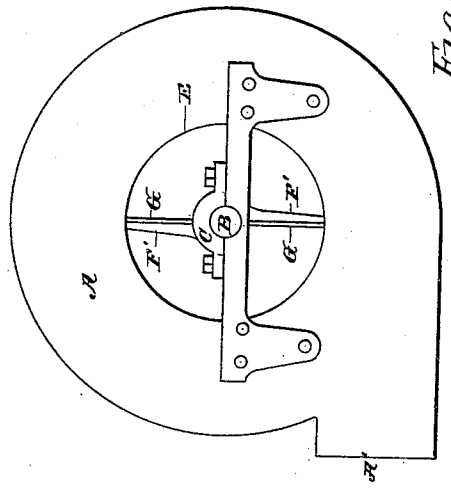


Fig. 4.



Fig. 3.

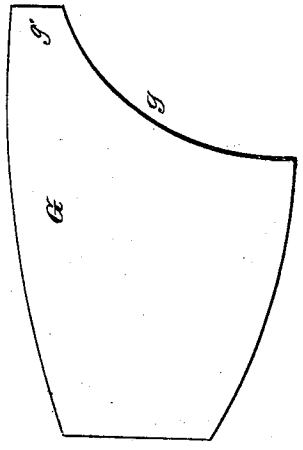
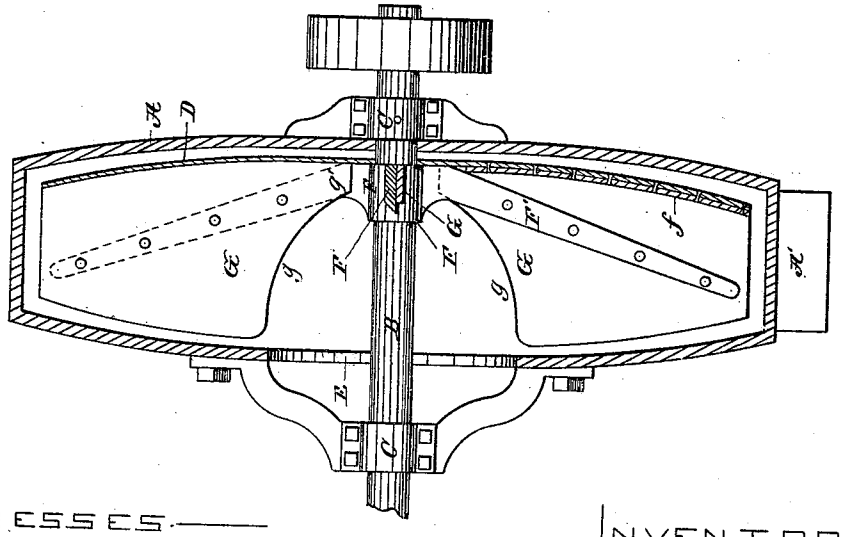


Fig. 1.



WITNESSES.

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UNITED STATES PATENT OFFICE.

JOHN W. COLLINS, OF CHICAGO, ILLINOIS.

FAN-BLOWER.

SPECIFICATION forming part of Letters Patent No. 262,642, dated August 15, 1882.

Application filed March 11, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. COLLINS, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Fan-Blowers; 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 invention relates to rotary fan-blowers, and has for its object to provide a construction in which shavings or similar substances, being forced forward by the blower, may not collect about the arms when the speed of the blower is slackened.

To this end the invention consists in locating the fan-hub adjacent to the rotary inner fan-disk, providing diagonal arms extending from said hub forward and outward for the support of the fans, and in cutting away the edges of the fans opposite the ingress-opening backward to the hub, said fans being extended on their rear edges in contact with the rear or inner disk to their extremities or near the hub. By this means the fans are supported wholly from the rear portion of the fan-chamber, and all space behind the fan-arms is closed, so that it is impossible for shavings or other string-like substances to encircle or attach to them, so as to clog the machine.

In the drawings, Figure 1 is a central horizontal section of a fan-blower case, and also of the rear rotating fan-disk thereof, revealing two opposite fans in horizontal position, the upper vertical fan being cut away near the hub. Fig. 2 is an elevation of the blower, presenting the ingress-opening to the eye, the side of the case or blower having said opening being herein called the "front," and the opposite side the "rear," of the machine. Fig. 3 is a plan view of one of the fans proper detached. Fig. 4 is a perspective view of a portion of one of the fans and attached fragments of the supporting disk and arm.

A represents the stationary shell or case of the blower, and A′ its discharge.

B is the fan-shaft.

C C are bearings of said shaft.

D is the rear rotating disk, to which the fans are attached.

E is the ingress-opening of the blower-case.

F is the fan-hub.

F′ are arms projecting from said hub for the support of the fans, and G G are the fans.

The hub F is secured to the shaft B at the rear side of the fan-chamber and in contact with the inner disk, D. (Shown in central section in Fig. 1.) Said hub is provided with arms F′ for the support of the fans, which arms are directed outward and forward, as shown, in order to properly sustain the outer or front edges of the fans. The fans G are extended throughout the length of their rear edges in contact with the full disk D, or nearly to the hub F, and are secured to said disk in the usual or any suitable manner, as shown. The fans G are narrowed or cut away at *g*, opposite the ingress-opening E, preferably in the curved form shown, the curved edge *g* being extended backward to the hub F or arms F′, to which the fans are attached.

By the construction shown no space is afforded behind the fan-arms to admit shavings or similar string-like substances, so that it is impossible for them to be entwined about any part, and to thereby clog or impede the machine.

An outer annular disk may be secured to the front edges of the fans' exterior to the opening E in the shell, if desired, as commonly done; but this is not essential to my invention.

I claim as my invention—

In a fan-blower, the combination of the disk D, located on the fan-shaft at the rear of the fan-chamber, the hub F, placed next the disk D, and provided with forwardly and outwardly extended arms F′, and the fans G, extending on their rear edges in contact with the disk D to, or nearly to, the hub, substantially as shown, and for the purposes set forth.

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

JOHN W. COLLINS.

Witnesses:

M. E. DAYTON,

JESSE COX, Jr.