

(No Model.)

C. A. SMITH.
Rotary Blower.

No. 232,559.

Patented Sept. 21, 1880.

Fig. 1.

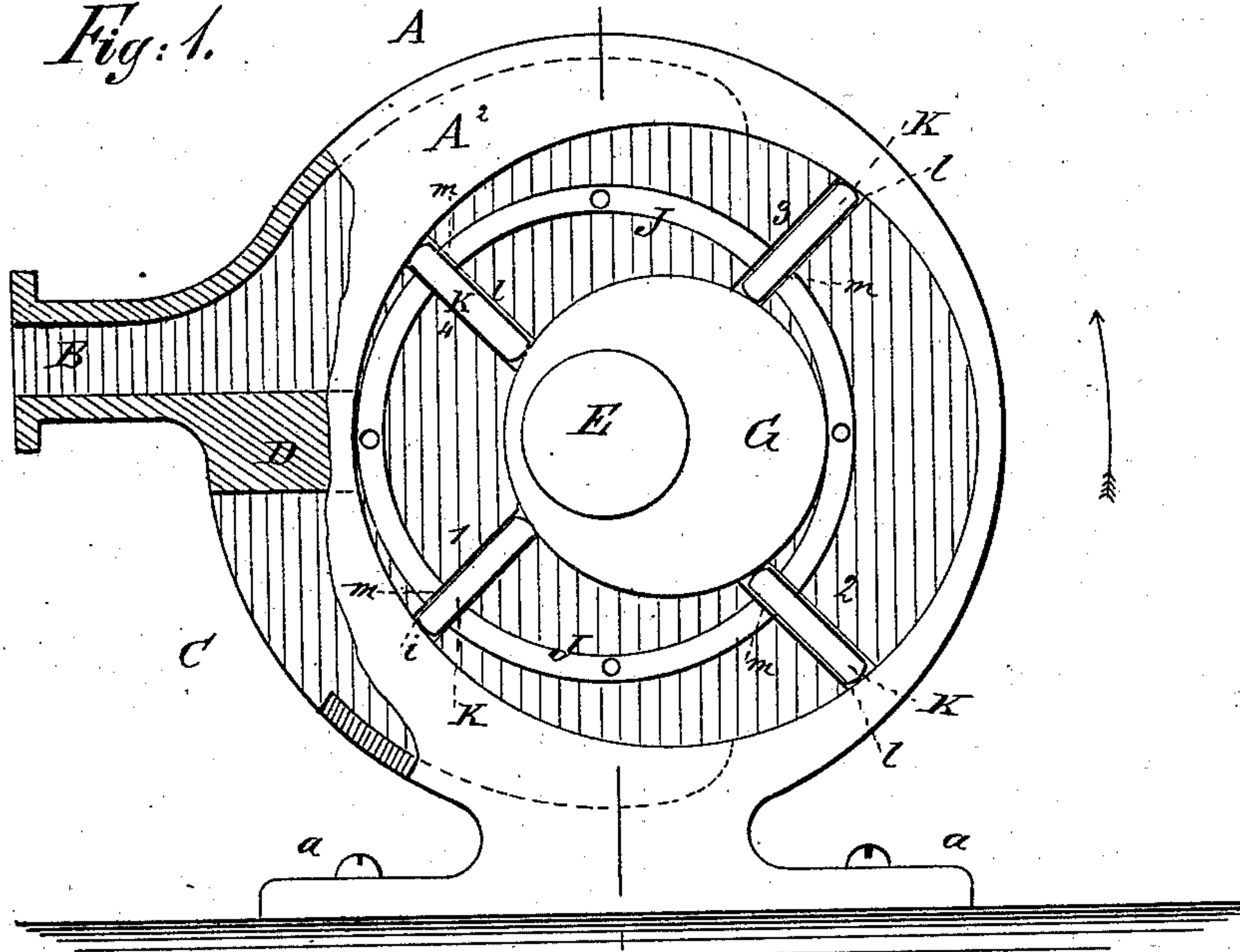


Fig. 2.

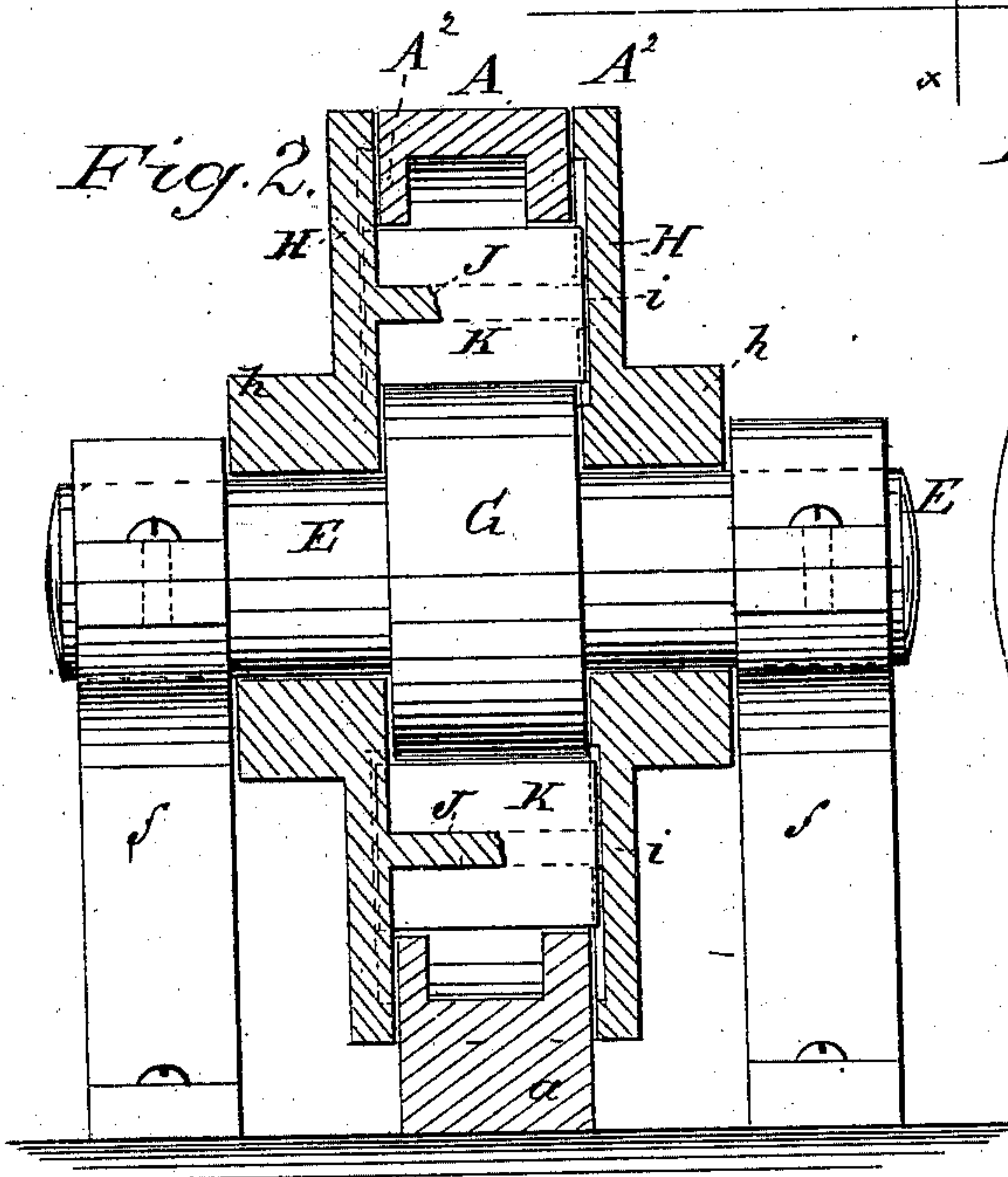
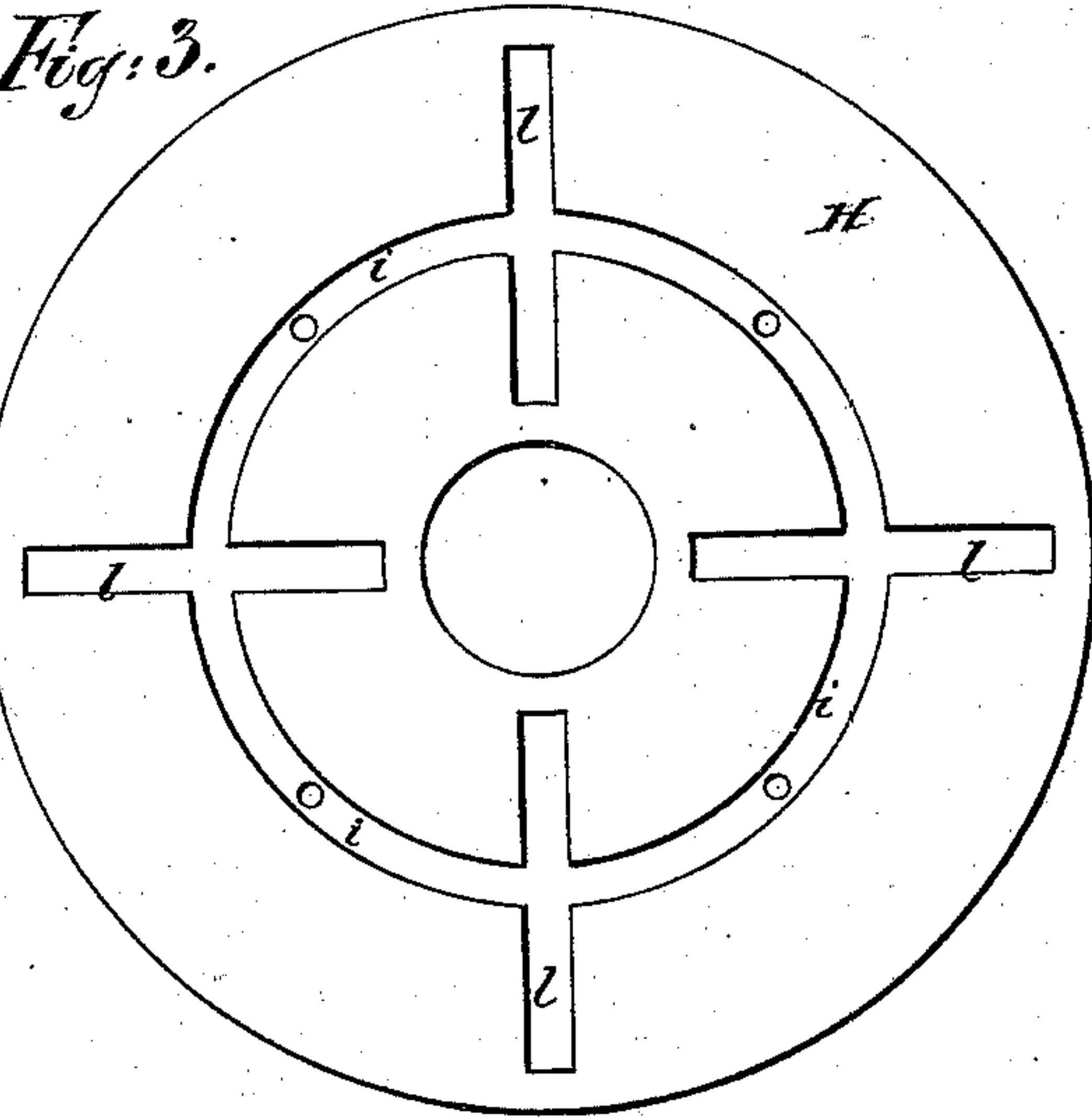


Fig. 3.



WITNESSES:

Chas. Vida.
C. Sedgwick

INVENTOR:

C. A. Smith
BY Munn & Co.
ATTORNEYS.

UNITED STATES PATENT OFFICE.

CHARLES A. SMITH, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
HIMSELF AND THOMAS McFADDEN, OF SAME PLACE.

ROTARY BLOWER.

SPECIFICATION forming part of Letters Patent No. 232,559, dated September 21, 1880.

Application filed March 24, 1880. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. SMITH, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Rotary Blowers, of which the following is a specification.

This invention consists in certain novel details of construction and arrangement of parts, as hereinafter particularly described, whereby a simple, cheap, and efficient blower is produced.

In the accompanying drawings, Figure 1 is a longitudinal vertical section of an apparatus embodying my improvements. Fig. 2 is a transverse vertical section taken in the line x x , Fig. 1. Fig. 3 is a detail view.

A represents the shell or case, provided with feet a , for securing it to the floor by bolts. The general form of the shell is cylindrical outside and eccentric inside. It is provided with a spout or outlet-nozzle, B, for the exit of the blast, which nozzle projects from the shell in a radial direction. Below the nozzle is the inlet-port C, for the entrance of the blast, and between the nozzle and the inlet-port is a partition, D.

In the sides A^2 of the shell A are openings which are exactly circular in shape but are eccentric with relation to the periphery of the shell and also with relation to a stationary shaft, E, which passes through the center of the shell, and has its ends secured in standards f f , attached to the floor. The shaft E has fixed to it an eccentric, G, the surface of which is arranged exactly parallel with the circumference of the circle described by the openings in the sides A^2 of the shell.

The fan-wheel works on the stationary shaft E, and may be driven by any suitable means. This wheel is composed of two flange-like side pieces, H H, a central concentric rim or band, J, and four sliding blades or wings, K. The band or rim J is made in one piece with one

of the side pieces, H, and fits in an annular groove, i , in the other side piece, which is secured by screws engaging with said band.

On the outer sides of the side pieces, H, are bosses h , which form the bearings for the fan-wheel, and together with the band or rim J constitute a hollow hub for the wheel. The diameter of the side pieces, H, corresponds with that of the exterior of the shell.

On the inner side of each of the side pieces, H, are radial grooves l , and in the band or rim J are slots m , exactly in line with said grooves. The sliding plates or wings K work in these slots, and their ends are guided by the grooves.

As the wheel rotates in the direction of the arrow the outer edges of the wings K follow the line of the circular openings in the sides A^2 , and their inner edges follow the surface of the eccentric G. The air-space in the shell, between its inner surface and the surface of the eccentric, is diminished by the arrangement of the eccentric, as shown, so that the air included between the wings marked 1 and 2 is compressed when the said wings reach the positions marked 2 and 3, and after passing the position marked 3 it reaches the nozzle with greater force.

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

The shell A, eccentric on the inside, having exit-nozzle B, and inlet-port C, separated by partition D, and provided in the sides A^2 with circular openings eccentric to its periphery and to central shaft, E, in combination with the eccentric G, and a fan-wheel consisting of side pieces, H, rim J, and the four sliding blades K, the rim J being in one piece with a side, H, as shown and described.

CHARLES A. SMITH.

Witnesses:

EBENEZER COBB,
MATHEW BEARDWOOD.