

J. F. SMETHELLS.
Fan-Blower.

No. 223,300.

Patented Jan. 6, 1880.

Fig. 1.

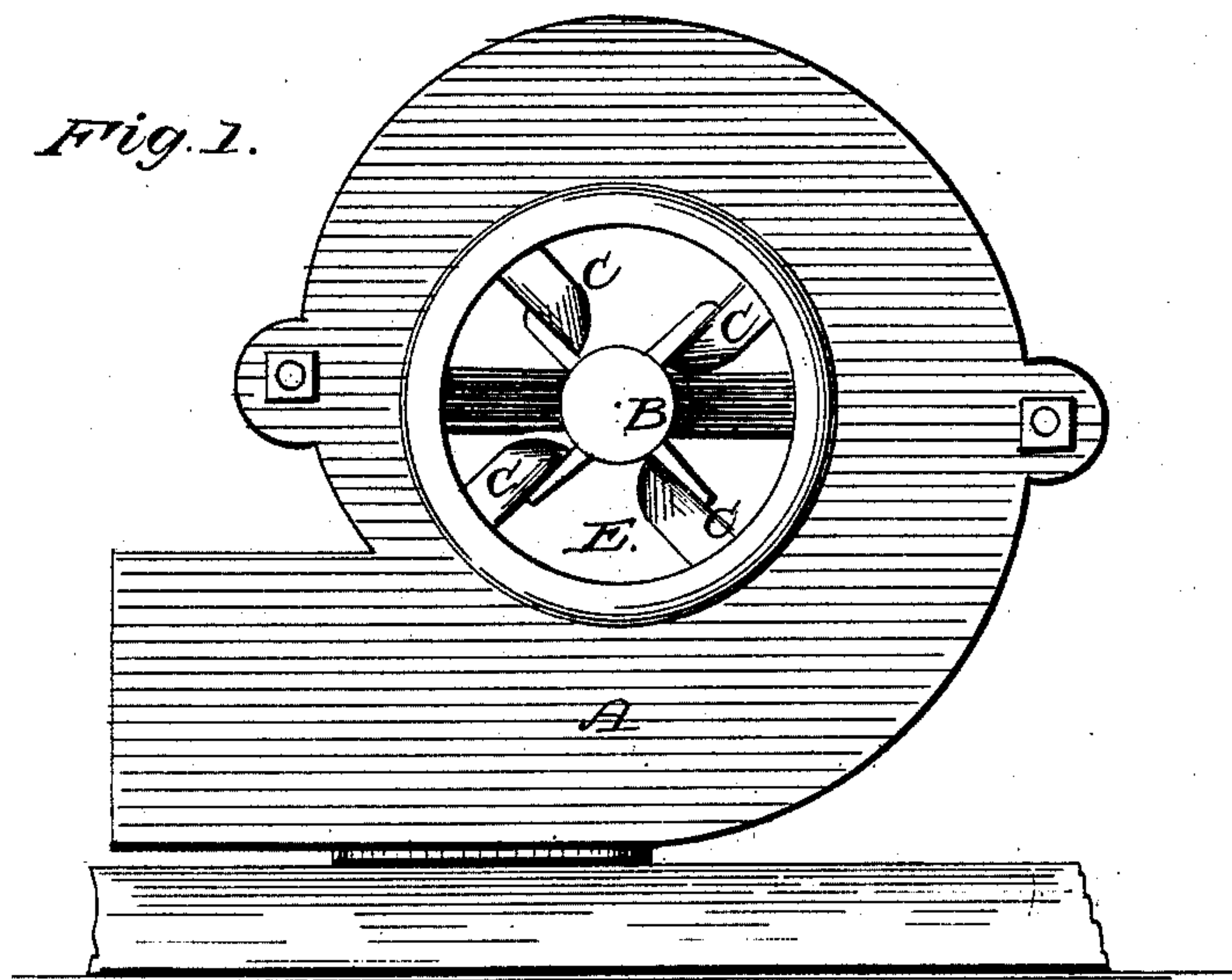


Fig. 2.

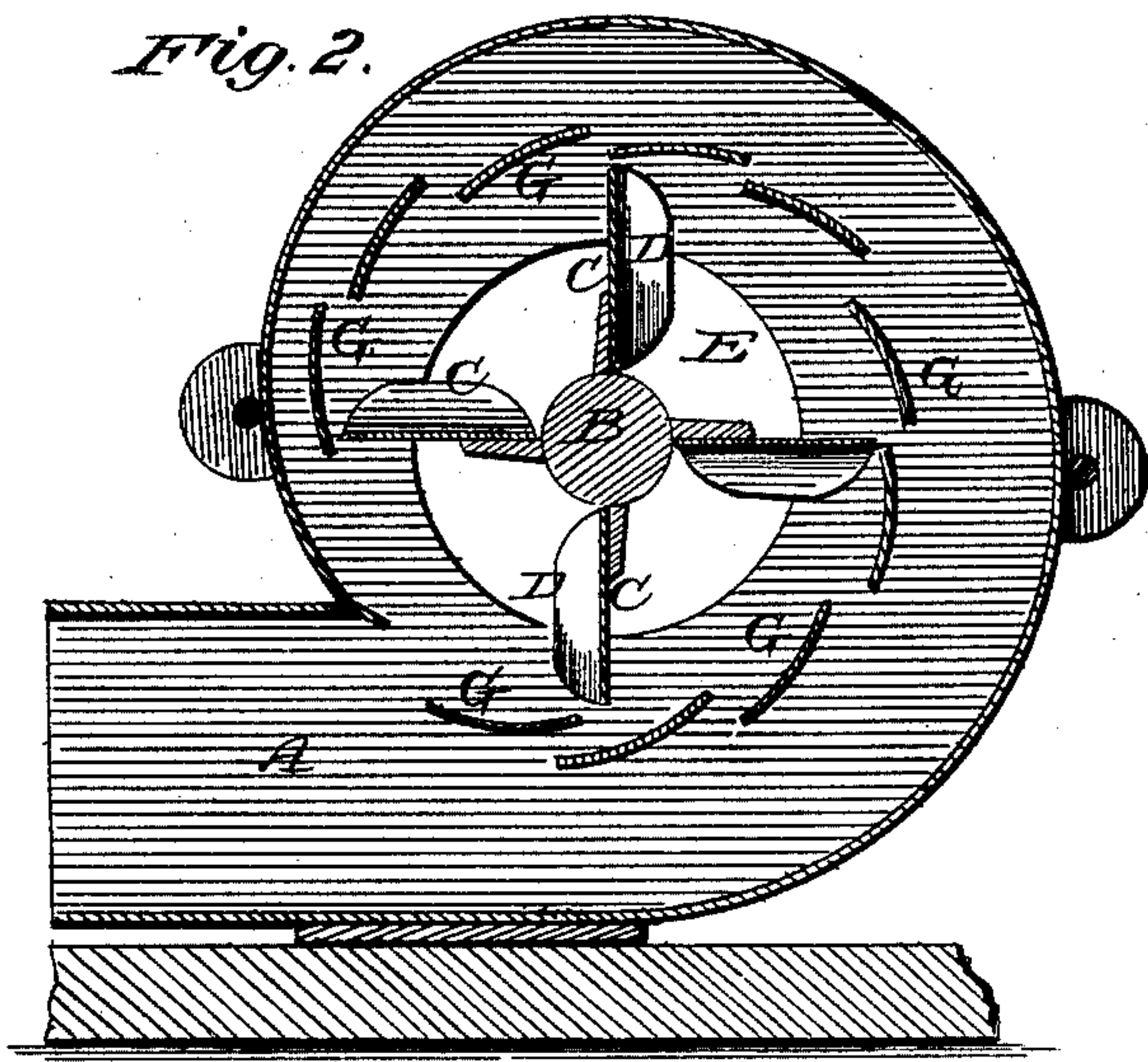


Fig. 3.

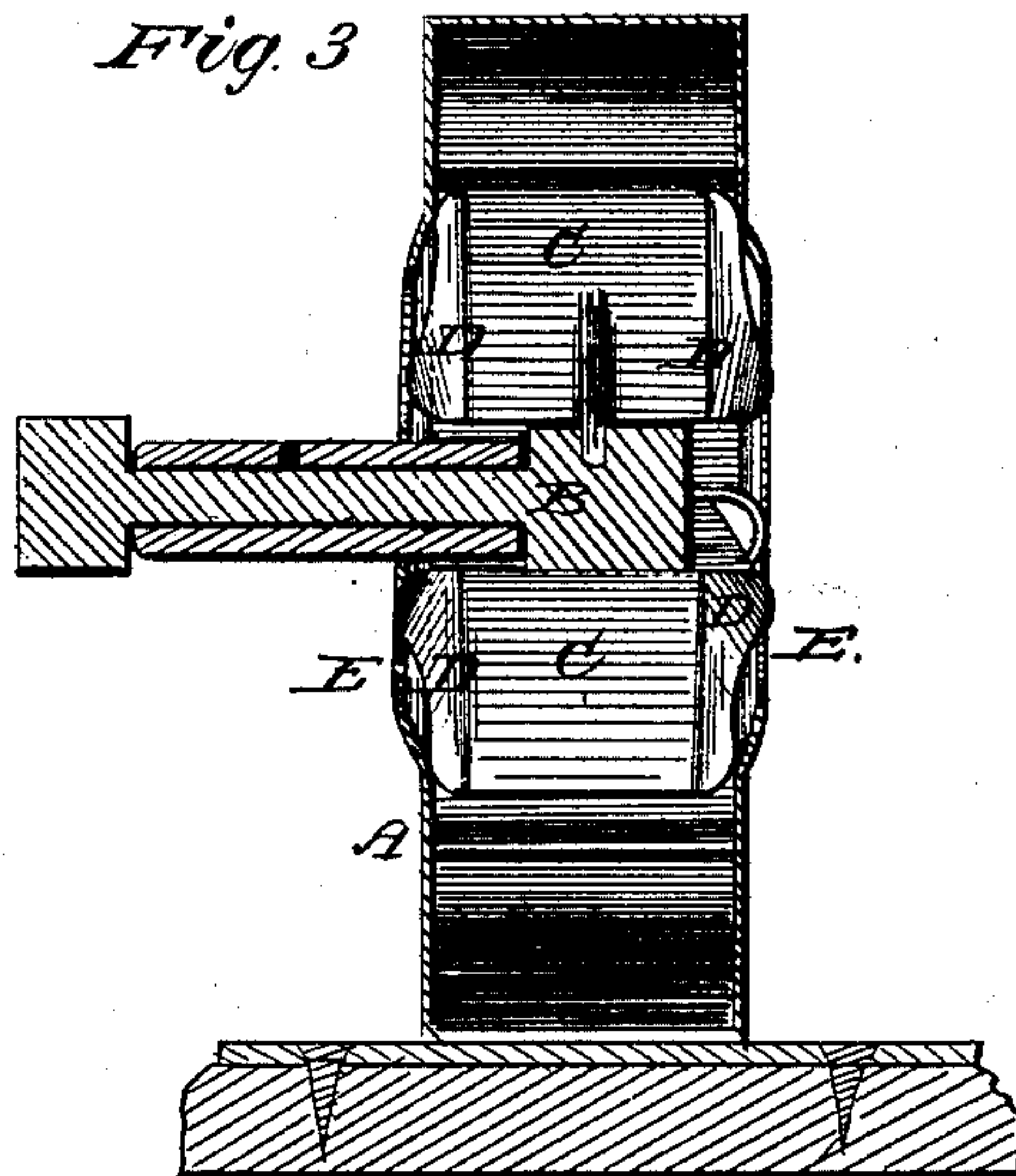
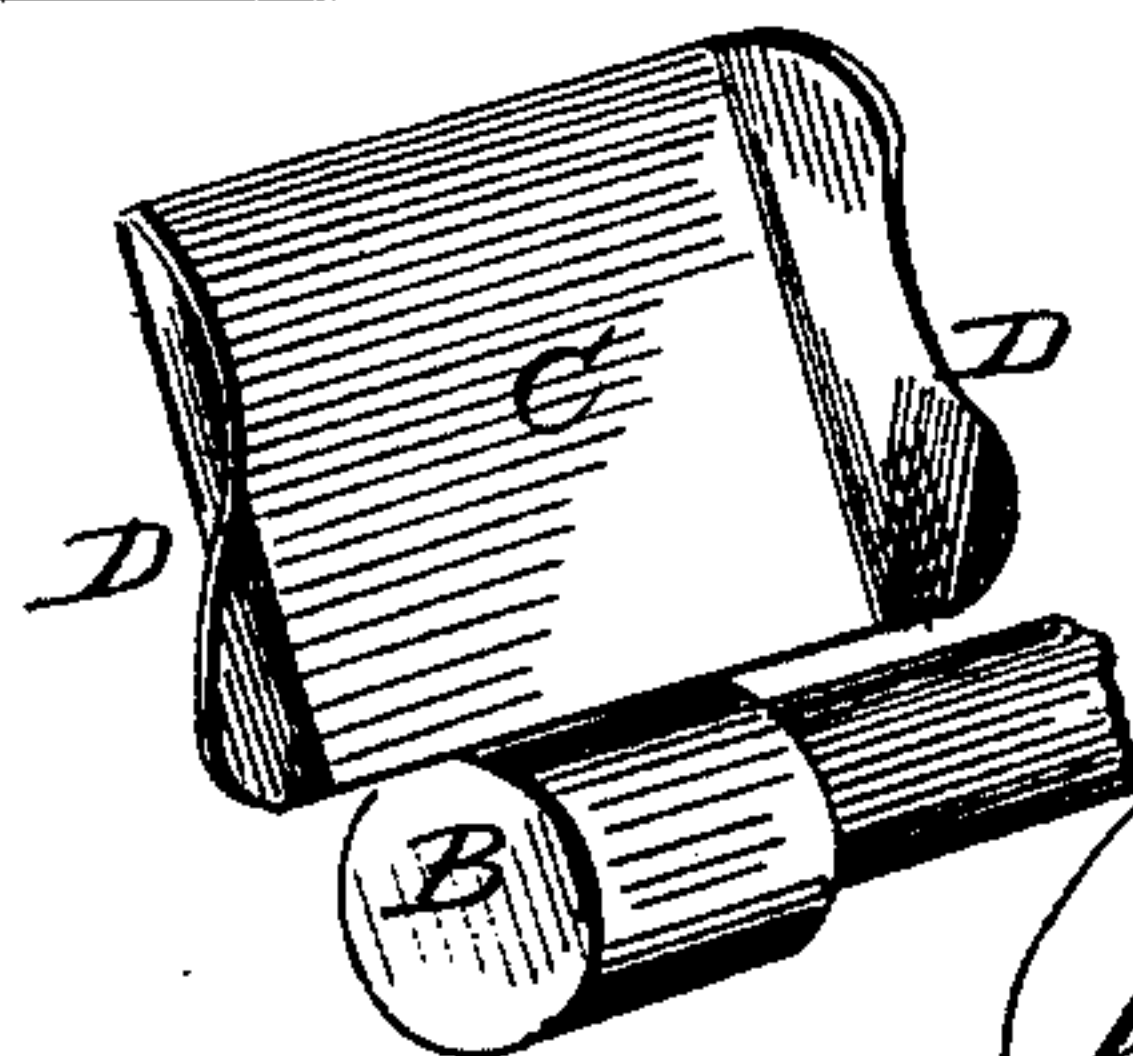


Fig. 4.



Witnesses:
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by - C. A. Snow & Co. Attys.

UNITED STATES PATENT OFFICE.

JOHN F. SMETHELLS, OF CHICAGO, ILLINOIS.

FAN-BLOWER.

SPECIFICATION forming part of Letters Patent No. 223,300, dated January 6, 1880.

Application filed November 13, 1879.

To all whom it may concern :

Be it known that I, JOHN F. SMETHELLS, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful
5 Improvements in Fan-Blowers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings,
10 which form a part of this specification.

Figure 1 is a side view. Fig. 2 is a longitudinal vertical sectional view. Fig. 3 is a transverse vertical sectional view; and Fig. 4 is a
15 detail view, in perspective, of one of the fan-blades, showing its position in relation to the case and the construction of the latter.

Corresponding parts in the several figures are denoted by like letters of reference.

20 This invention relates to rotary fan-blowers; and it consists in certain improvements in the construction of the same, which will be hereinafter more fully described, and particularly pointed out in the claim.

25 In the drawings, A represents the case, which is, in outline, of the usual spiral form, and provided with suitably-arranged bearings for the transverse shaft B, to which the motive power is applied through suitable mechanism.

30 The shaft B carries the fan-blades C C, of which any suitable number project radially into the case, against the sides of which they fit as closely as may be without causing friction.

35 The fan-blades C C are scoop-shaped or provided upon their sides with flanges D D, which are bent in a forward direction, so as to throw or force the air forward through the case.

The openings E E upon the sides of the latter for the admission of air are of unusual size, and are bulged outward, as shown plainly in
40 Fig. 4 of the drawings, so as to accommodate the lower (or inner) ends of the flanges D upon the fan-blades, which may even be bent outward beyond the casing, so as to catch the air
45 and force it into the blower without relying solely upon the centrifugal discharge of air off the fan-blades.

In the casing A a series of curved blades or guides, G G, are spirally arranged, as plainly
50 shown in Fig. 2 of the drawings. Said blades guide the air into the spiral duct, through which it passes to the exit-opening H, and serve to prevent any reaction which might interfere with the successful operation of the de-
55 vice.

The operation of my invention will be readily understood by those skilled in the art to which it appertains. It is simple, inexpensive,
60 and exceedingly powerful.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

The combination, with the casing A, the sides of which are provided with bulging open-
65 ings E E, of the rotary fan, the blades of which, C, are provided with flanges D, bent forwardly and outwardly, substantially as herein shown and described, for the purpose set forth.

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

JOHN F. SMETHELLS.

Witnesses:

F. K. PARKER,

J. B. TERRY.