

(No Model.)

W. W. GREEN.
EXHAUST OR BLOWER FAN.

No. 272,542.

Patented Feb. 20, 1883.

Fig. 1.

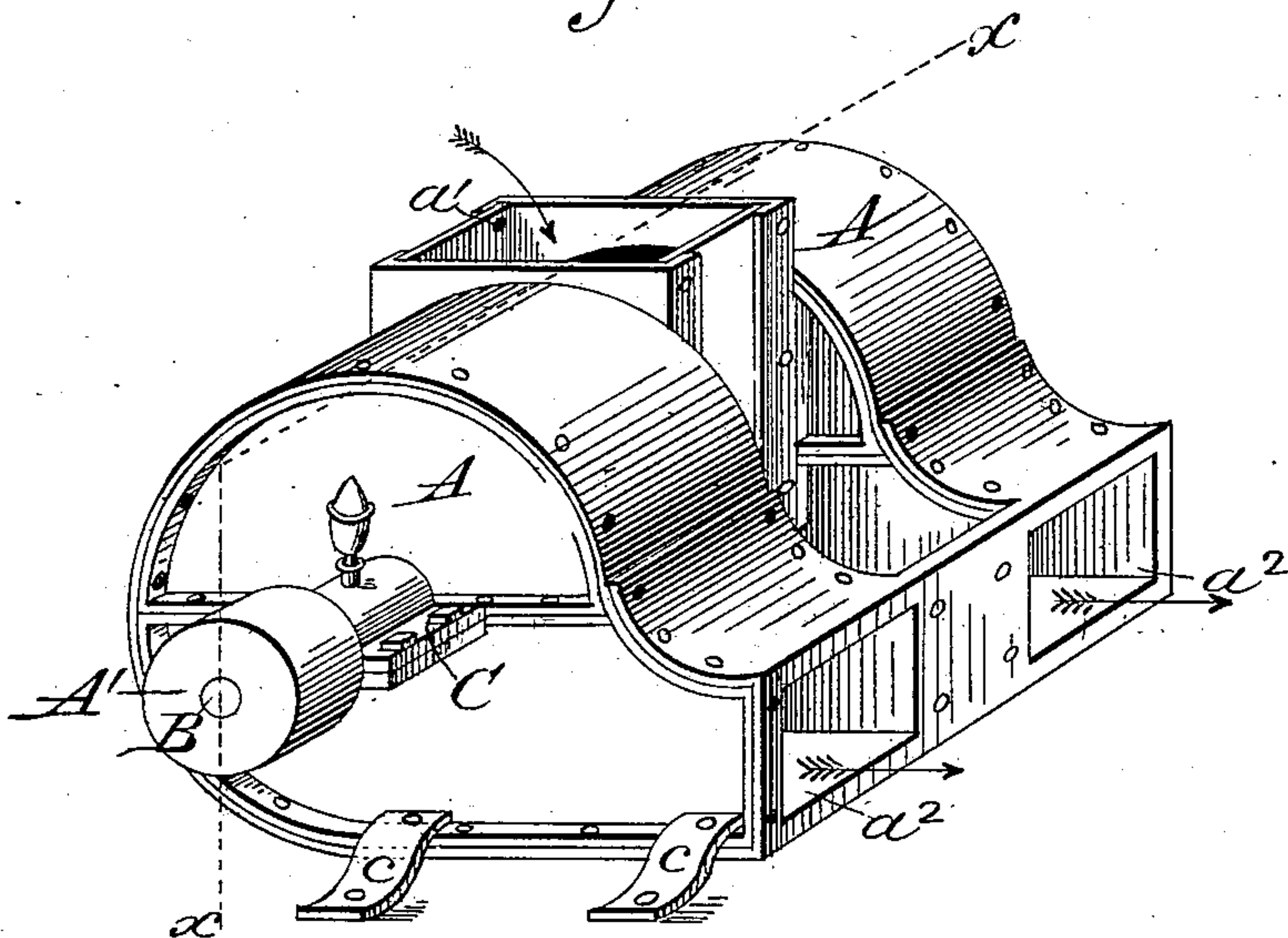


Fig. 2.

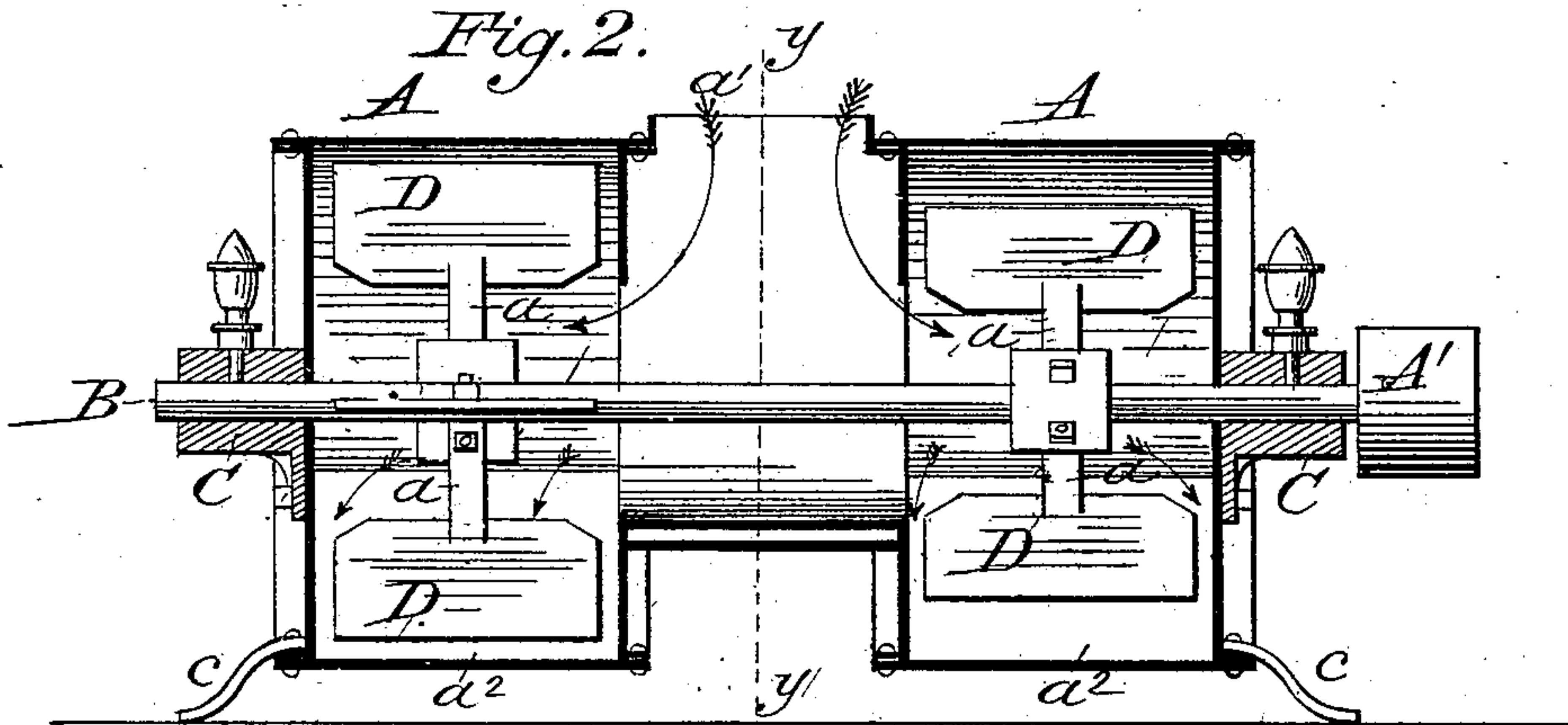
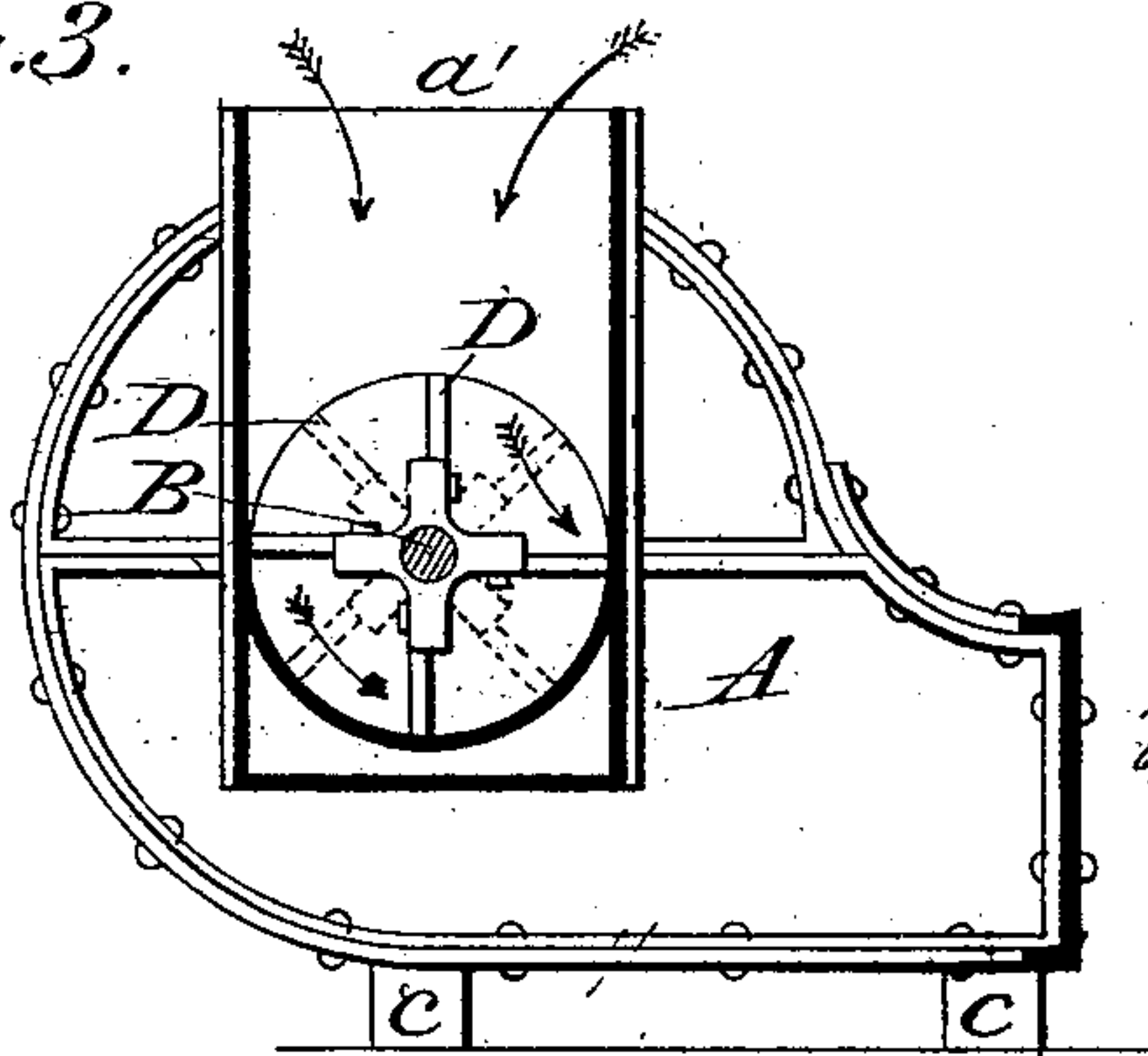


Fig. 3.



Attest:

H. H. Schott
for A. Stockman.

Inventor:

William W. Green
By W. Burris
Atty.

UNITED STATES PATENT OFFICE.

WILLIAM W. GREEN, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE GARDEN CITY FAN COMPANY AND LEWIS G. STARK, OF SAME PLACE.

EXHAUST OR BLOWER FAN.

SPECIFICATION forming part of Letters Patent No. 272,542, dated February 20, 1883.

Application filed January 16, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. GREEN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Exhaust or Blower Fans, of which the following is a specification, reference being had therein to the accompanying drawings.

10 The object of this invention is an improvement in exhaust or blower fans adapted to be used for the varied purposes to which mechanism of this nature is usually applied; and it consists of certain novel features and arrangements of parts, as will be hereinafter more fully described.

Figure 1 is a perspective view of the machine. Fig. 2 is a vertical longitudinal section on the plane xx of Fig. 1. Fig. 3 is a vertical transverse section on line yy of Fig. 2.

20 In the drawings, A designates a cylindrical casing or shell inclosing the fan-wheels, which are adjusted upon the shaft B, arranged to revolve in the bearings C. The casing is provided with a central air-inlet, a' , and an outlet, a^2 , for each fan. On the extended end of the shaft is a pulley, A', for carrying the driving-belt.

30 D D designate a series of fan-wings, connected by arms a with the shaft forming the fan-wheels. The machine is provided with legs c , attached to the lower part of the casing. Any required number of these fan-wheels may be employed, but in the drawings two only are shown, one near each end of the shaft, forming in this machine a double fan, each having four wings. (See Figs. 2 and 3 of the drawings.) The wings of the one fan are not set in the same plane as the wings of the other fan, but are adjusted on the shaft, so that each wing will be opposite a point equidistant from two of the wings of the other fan, as indicated by dotted lines in Fig. 3 of the drawings. These two fans of four wings each are enabled at

each revolution to cut the air at eight different points, securing thus a continuous and steady motion of the fans; and by this construction and arrangement fans of comparatively small diameter exert more power and do better work with less driving-power than the ordinary fans of larger diameter.

The casing A is divided horizontally through the center to allow the upper part to be removed to give ready access to the fans for examination and repairs.

55 An air-conductor leading off in any direction may be connected with the central inlet. In operation the air enters at the central inlet, a' , and passes thence to each fan, thence out through the openings $a^2 a^2$.

60 What I claim as new, and desire to secure by Letters Patent, is—

1. A double fan having the wings or blades forming the fan-wheels proper placed on the same shaft and arranged alternately in the plane of revolution relative to each other, combined with an inclosing-case which has a central air-inlet common to both of said fans, substantially as described.

2. In a double fan, the blades whereof are arranged in alternate planes, as hereinbefore described, the combination, with two or more fan-wheels located on the same shaft, of the central inlet or receiving passage, a' , and the outlet or discharge passages $a^2 a^2$, substantially as set forth.

3. In combination with the cylindrical casing A, provided with the central receiving-inlet, a' , and the discharge-outlets $a^2 a^2$, the shaft B, the arms $a a$, and the series of fan-wings D, arranged in alternate planes on the shaft, substantially as and for the purposes described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM W. GREEN.

Witnesses:

JOHN W. COLLINS,
B. F. AYER.