

(No Model.)

F. W. TUERK, Jr.
VENTILATING FAN.

No. 546,630.

Patented Sept. 17, 1895.

Fig. 1.

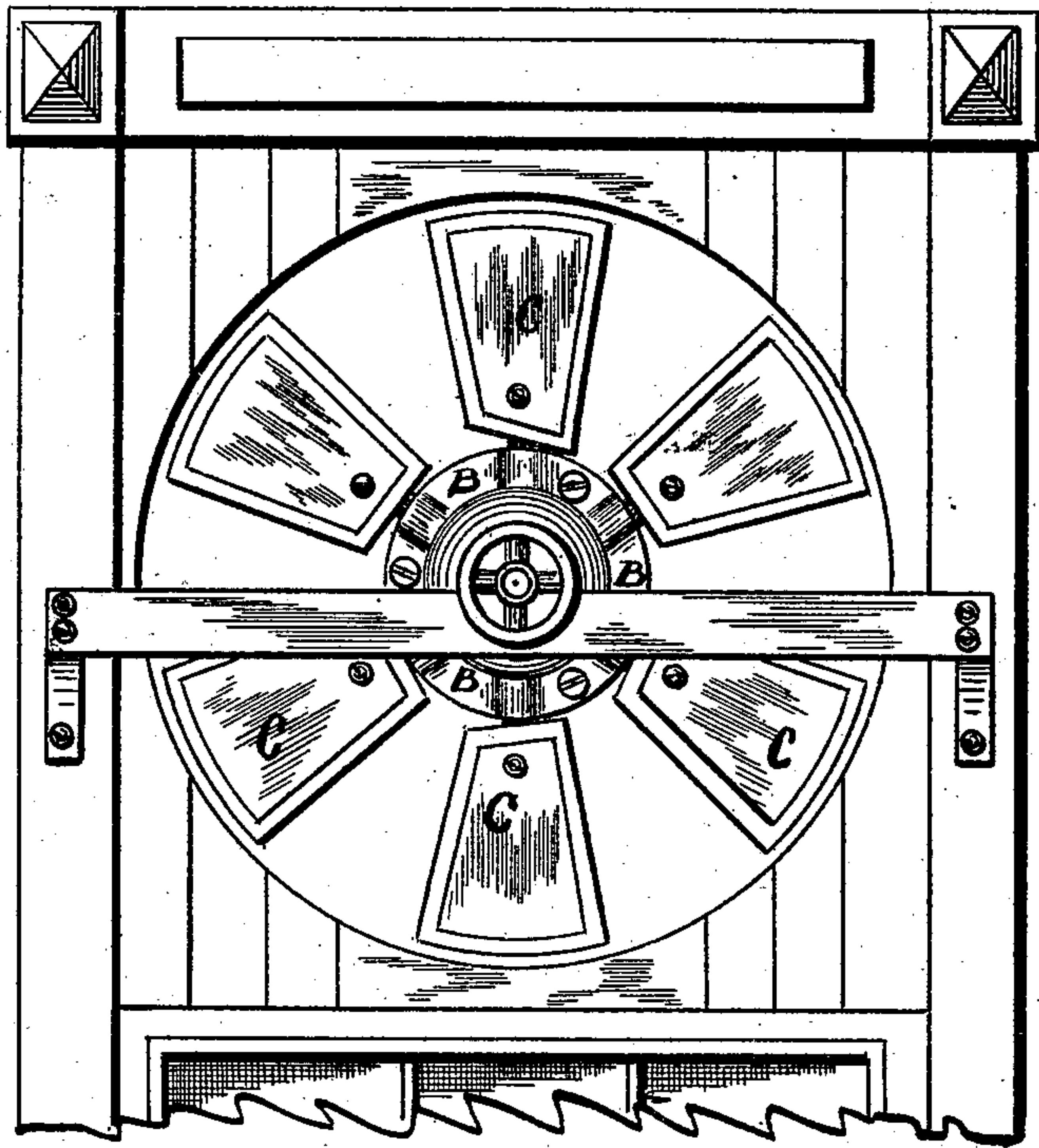


Fig. 2.

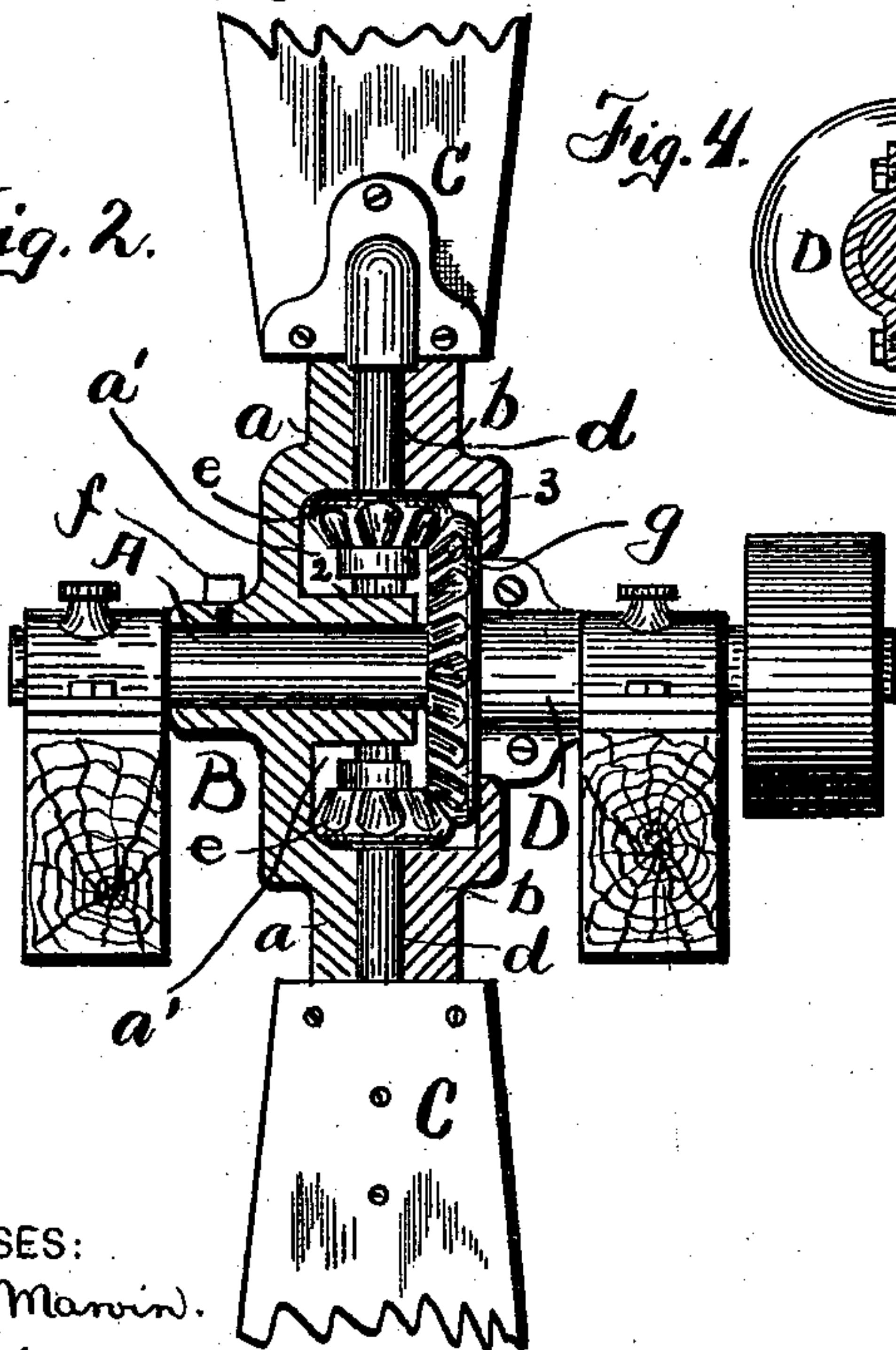


Fig. 4.

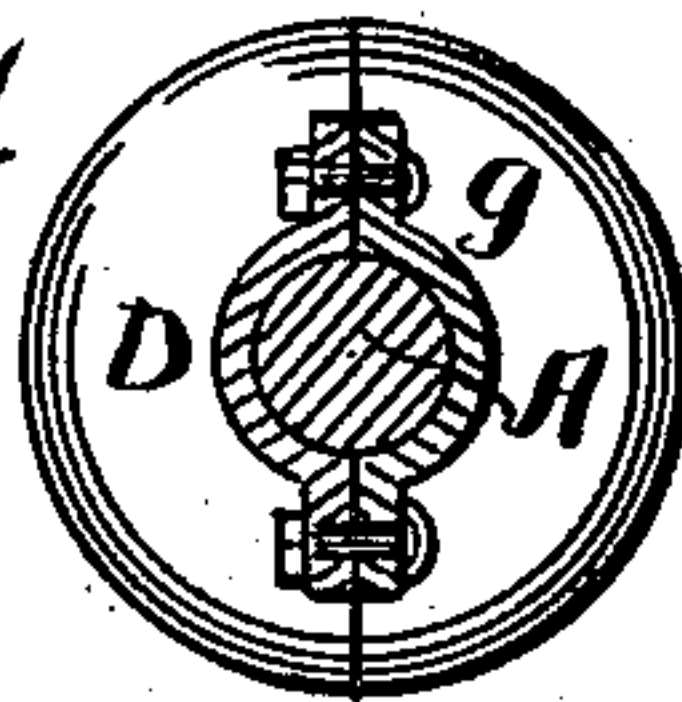
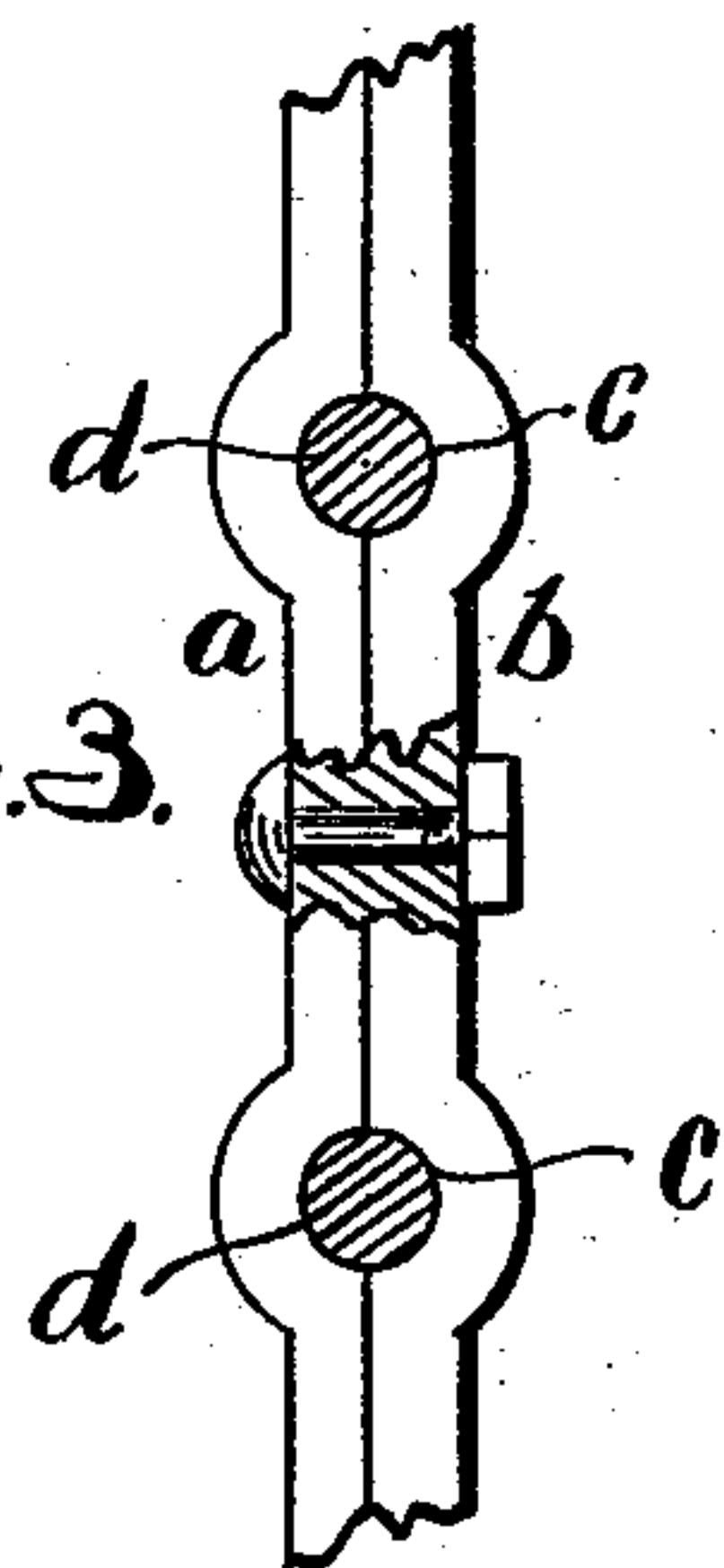


Fig. 3.



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FREDERICK WILLIAM TUERK, JR., OF FULTON, NEW YORK.

VENTILATING-FAN.

SPECIFICATION forming part of Letters Patent No. 546,630, dated September 17, 1895.

Application filed March 25, 1895. Serial No. 543,034. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK WILLIAM TUERK, Jr., of Fulton, in the county of Oswego, in the State of New York, have invented
5 new and useful Improvements in Ventilating-Fans, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to ventilating-fans,
10 and more particularly to the means for adjusting or changing the blades to any angle desired.

My object is to produce a changeable blade mechanism, by which I am enabled to enlarge
15 or diminish the scope of the fan, easily and readily operated, cheap and durable in its construction, and of great utility; and to that end my invention consists in the several new and novel features and combination of parts
20 hereinafter described, and which are specifically set forth in the claim hereunto annexed.

It is constructed as follows, reference being had to the accompanying drawings, in which—

25 Figure 1 shows an inner face view of the fan mounted ready for operation. Fig. 2 is a sectional view of the means for changing the angles of the blades. Fig. 3 is a view of the periphery of the gear-case. Fig. 4 is an
30 outer end view of the movable split clamp and split collar.

A is the arbor, upon which is mounted an annular frame B, made in two parts *a b*, having an interior annular recess *a'* and openings *c* upon its periphery. Formed integrally
35 with the frame B is the sleeve 2, which extends beyond the center of the frame and forms not only a long bearing for the shaft A to prevent any possible vibration, but also
40 forms a bearing for the inner end of the shanks *d*. Also formed integrally with the frame B is the circular flange 3, which extends at right angles with the sleeve 2, and which catches against the outer side of the toothed slip-collar D, and holds it in gear with the pinions *e*.
45 Thus constructed, the operating parts are

braced at every point, and a very compact and strong frame is produced.

d are shanks mounted in the openings *c* and have the fan-blade C secured to the outer end
50 and the conical cog *e* upon its inner end located within the annular recess *a'*, as shown. Means are also provided for securing the frame rigidly to the arbor A, as by a set-screw *f*, or by
55 any other common and well-known means.

D is a slip-collar having a cog *g* upon its inner end adapted to mesh with the cogs *e*. The slip-collar D may be split and provided
60 with screws or an equivalent mechanism *h* for holding the collar and the cog upon its inner end in position and in mesh with the cogs *e*. It will also be observed that one half of the sleeve and cog *e* may be in one piece and the other half of the sleeve separate.

When I desire to change the angle of the
65 blades C, I loosen the sleeves D upon the shaft, turn one of the fan-blades to the angle desired, and inasmuch as all of the blades are in gear with the cog *g* the remaining fan-blades will move correspondingly in the same
70 direction. I then tighten the sleeve D upon the shaft, so that all of the blades are held at the same angle.

Having described my invention, what I claim, and desire to secure by Letters Patent,
75 is—

In a ventilating fan, an annular frame, formed of two parts and having the sleeve 2 and flange 3 formed integral therewith, and openings in its periphery, combined with
80 shanks mounted in said openings and having their inner ends bearing against the sleeve and provided with pinions, and their outer ends provided with fan blades C; and the toothed slip collar made in two parts and secured to the shaft, substantially as described.
85

In witness whereof I have hereunto set my hand on this 15th day of October, 1894.

FREDERICK WILLIAM TUERK, JR.

In presence of—

C. E. KRUPSLER,
WM. WEBER.