

(No Model.)

A. L. ELIEL.
HAT VENTILATOR.

No. 432,728.

Patented July 22, 1890.

Fig. 1.

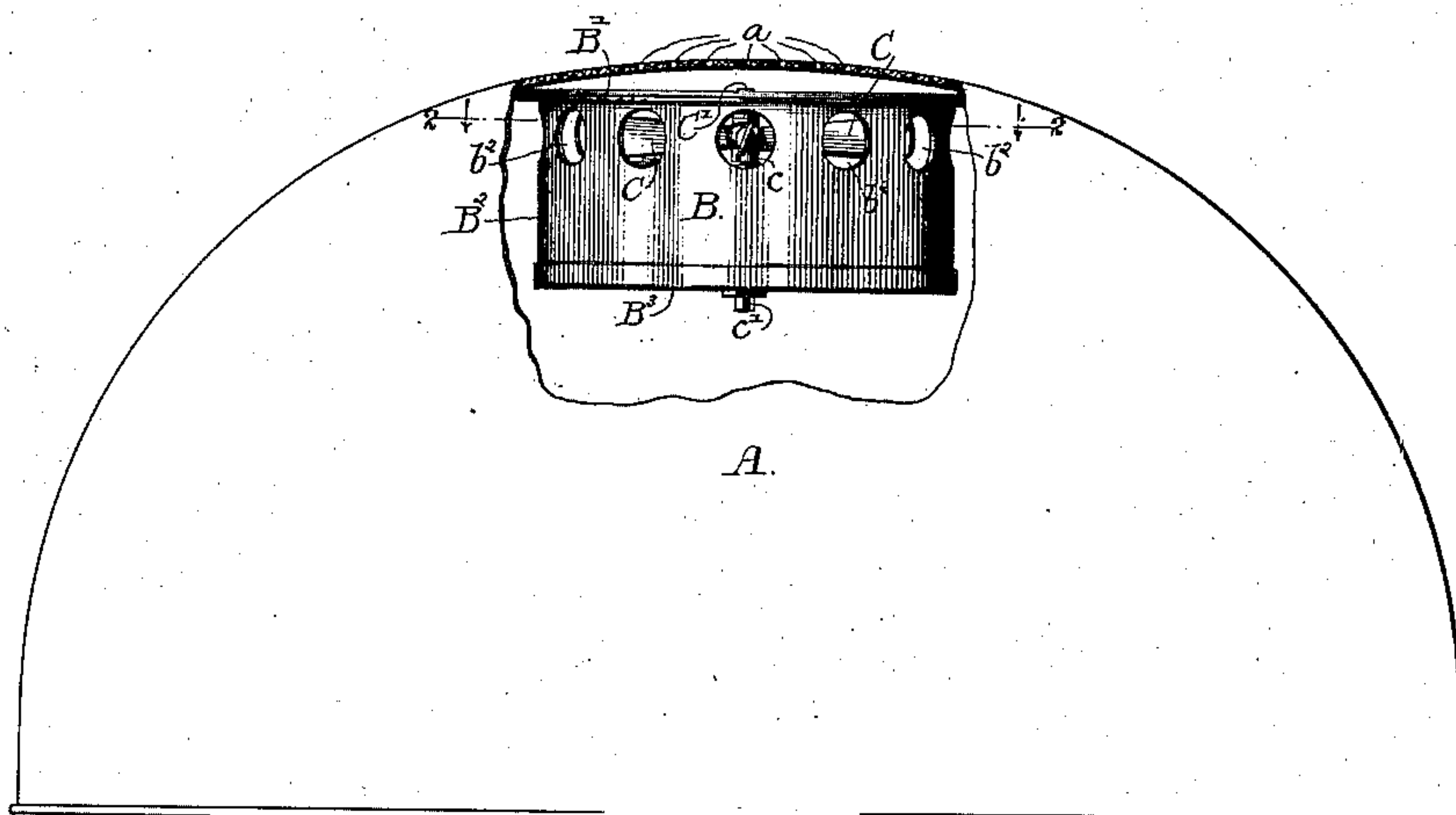


Fig. 2.

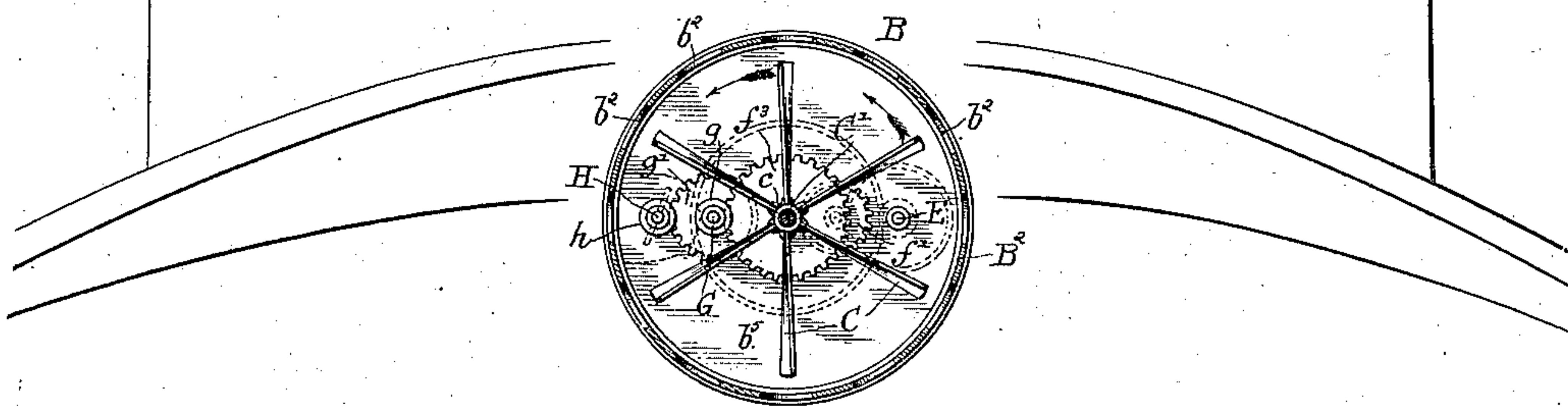
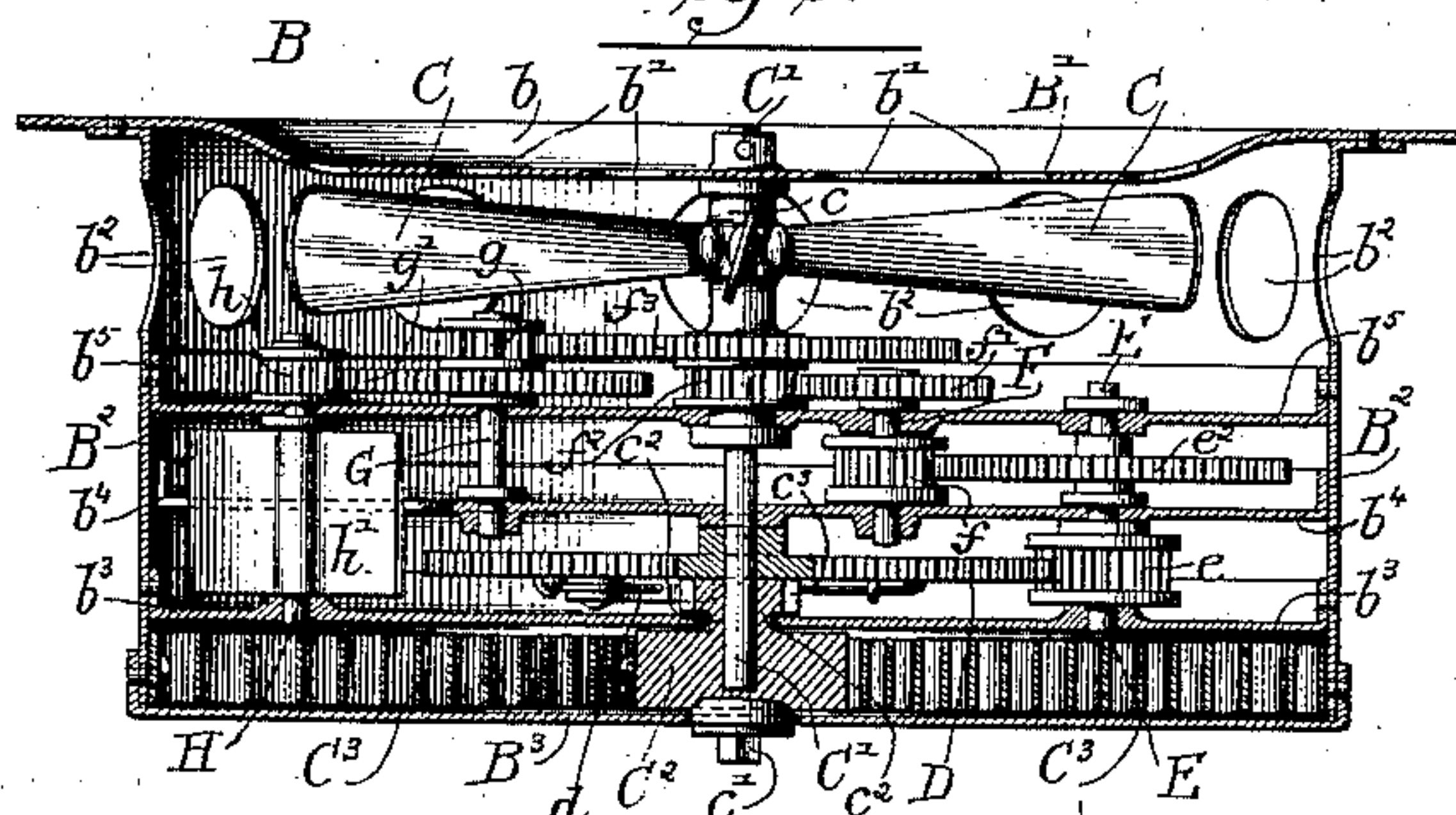


Fig. 3.



Witnesses:-

Louis M. Whitehead.

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UNITED STATES PATENT OFFICE.

ALBERT LEE ELIEL, OF LA SALLE, ILLINOIS.

HAT-VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 432,728, dated July 22, 1890.

Application filed April 16, 1889. Serial No. 307,495. (No model.)

To all whom it may concern:

Be it known that I, ALBERT LEE ELIEL, of La Salle, in the county of La Salle and State of Illinois, have invented certain new and useful Improvements in Hat-Ventilators; 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.

This invention relates to an improved ventilator for hats and like articles adapted to be secured within the crown of the hat and adjacent to a series of perforations therein.

The object of the invention is to provide a mechanical device of this description that will induce an upward and outward current of air from the interior of the hat.

The invention consists in the features of construction and combination of parts hereinafter fully described, and pointed out in the appended claim.

I have shown in the drawings one form of apparatus embodying my invention by which it may be carried into effect, and in which—

Figure 1 is a side view of a hat provided with a ventilator embodying my invention and having portions broken away to illustrate the same. Fig. 2 is a plan view of the ventilator detached and having the top piece removed. Fig. 3 is a vertical transverse sectional view taken on a line passing through the center of the casing of the device.

In said drawings, A indicates a hat having a series of perforations *a a* formed in the crown thereof.

B indicates a cylindrical casing containing the ventilating devices and secured to the inside of the hat and adjacent to the perforations *a a*. The ventilator B comprises a cylindrical casing having a top piece *B'*, provided with a central depressed portion *b*, formed with a series of openings *b' b'*, a surrounding wall *B²*, having near its upper edge openings *b² b²*, and a bottom *B³*.

b³, b⁴, and b⁵ indicate parallel plates secured within the casing at convenient distances from each other, to afford bearings for the several moving parts of the motor.

C is an exhaust-fan arranged horizontally in the upper part of the casing and adjacent to the openings *b' b'* and *b² b²*. The blades

composing the fan C are attached to a sleeve *c*, which is loosely mounted upon a vertical stationary shaft *C'*, secured at its upper end to the top piece *B'* and extending downwardly through the plates *b³, b⁴, and b⁵*, and resting in a winding-barrel *C²*, located between the plate *b³* and the bottom of the casing.

C³ is a spiral spring arranged between the plate *b³* and the bottom of the casing, having one end suitably connected to the wall of the casing and its other end to the winding-barrel *C²*.

c' is a flat-faced stud formed on the winding-barrel and projecting through the bottom of the casing, by means of which the spring is wound up. The winding-barrel is provided with an upwardly-projecting sleeve *c²*, which passes through the partition *b³* and embraces the lower end of the shaft *C'*. *c³* is a ratchet-wheel formed on said sleeve.

D is a gear-wheel loosely mounted on the shaft above the sleeve *c²*, and provided with a spring-pawl *d*, which engages the ratchet-wheel *c³*.

E is a vertical shaft supported in bearings in the plates *b³, b⁴, and b⁵*, and provided at a point between the plates *b³* and *b⁴* with a fixed pinion *e*, which intermeshes with the gear-wheel D. *e²* is a gear-wheel fixed to said shaft E between the plates *b⁴* and *b⁵*. This gear-wheel intermeshes with a gear-pinion *f*, fixed on a shaft F, supported in bearings in the plates *b⁴* and *b⁵*, extending above the plate *b⁵*, and provided with a fixed gear-wheel *f'* thereon, which intermeshes with a gear-pinion *f²*, fixed on the lower end of the sleeve *c*.

f³ is a gear-wheel fixed to the sleeve *c*, which intermeshes with a pinion *g* on a shaft G, supported in bearings in the plates *b⁴* and *b⁵*. A gear-wheel *g'* is also fixed to said shaft and intermeshes with a gear-pinion *h*, fixed to the upper end of a shaft H, which is supported in bearings in the plates *b³* and *b⁵*.

The plate *b⁴* is cut away a suitable distance around the said shaft H, and a fan-wheel *h'*, secured to said shaft, is adapted to revolve in said cut-away portion. The ventilator, as thus described, is secured inside the crown of a hat opposite the ventilating-openings usually formed therein. The spring *C³* is wound up, and it will be obvious that through the intermediacy of the train of gearing herein de-

scribed the exhaust-fan C will be revolved. The revolution of the exhaust-fan C induces an upward and outward current of air from the inside of the hat through the openings 5 $b^2 b^2$, $b' b'$, and $a a$, respectively, which has the effect of maintaining a supply of fresh air within the hat and keeping the wearer's head cool. The fan-wheel h' , which is suitably geared to the exhaust-fan C, acts as a 10 speed-governor to prevent a too rapid revolution of said exhaust-fan. It is intended to construct the several parts of the device of thin and light material, so that its attachment to a hat will not cause the wearer any 15 discomfort.

It will be understood that I do not intend to restrict myself to the use of the form of motor herein described, as an electric or other suitable motor could be substituted

without departing from the spirit of my invention. 20

I claim as my invention—

The combination, with a hat provided with a series of ventilating-openings, of a casing secured to the interior of the hat, an exhaust- 25 fan located in the top of said casing, and a motor located in the lower part of said casing, said casing having a series of openings near its top adjacent to the openings in the hat, and having also a second series of open- 30 ings formed in its sides.

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

ALBERT LEE ELIEL.

Witnesses:

C. CLARENCE POOLE,
HARRY COBB KENNEDY.