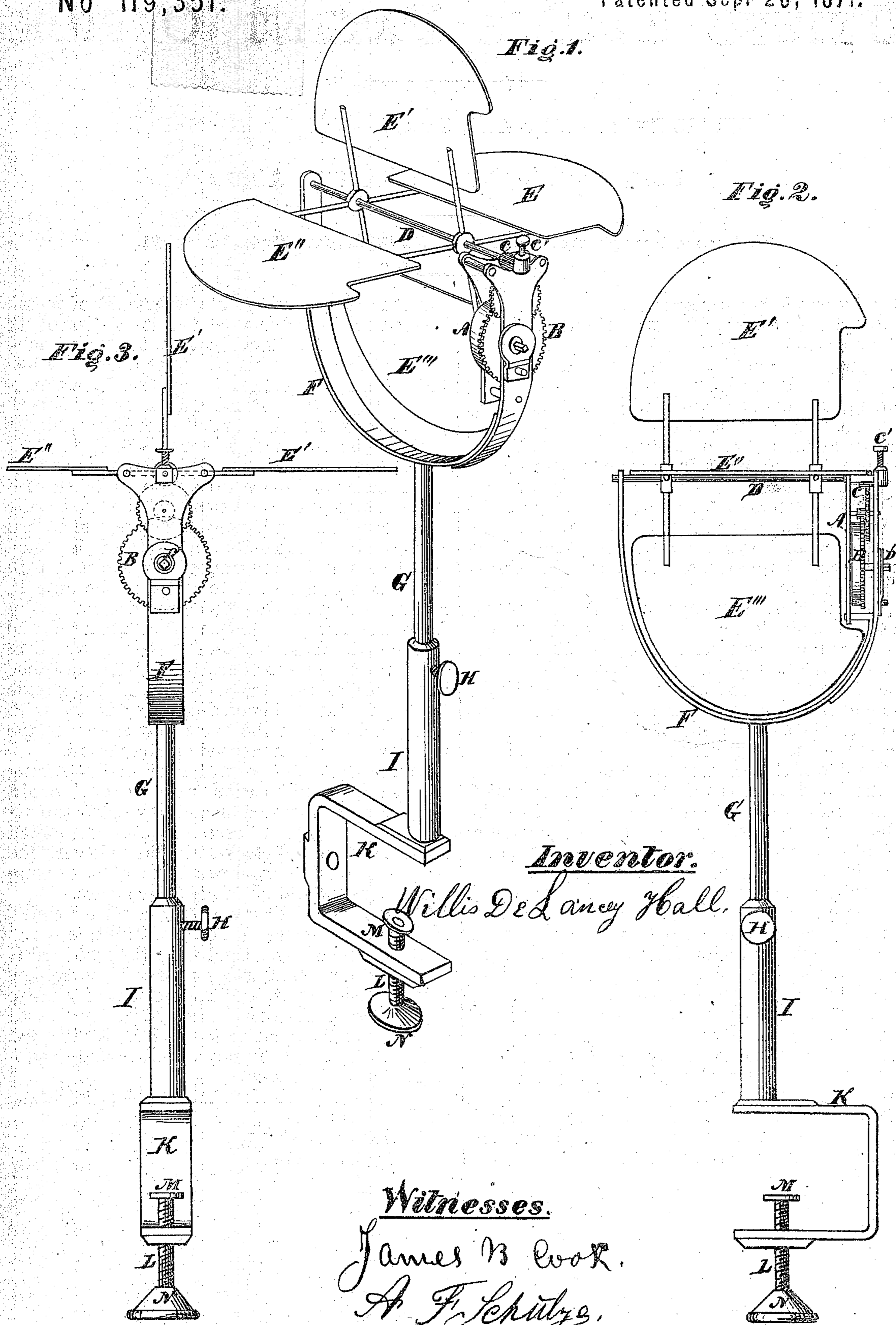


WILLIS DELANCEY HALL.  
Improvement in Automatic Fans.

No 119,351.

Patented Sep. 26, 1871.



# UNITED STATES PATENT OFFICE.

WILLIS DELANCEY HALL, OF MEMPHIS, TENNESSEE.

## IMPROVEMENT IN AUTOMATIC FANS.

Specification forming part of Letters Patent No. 119,351, dated September 26, 1871.

*To all whom it may concern:*

Be it known that I, WILLIS DELANCEY HALL, of the city of Memphis, in the county of Shelby and State of Tennessee, have invented a new and Improved Automatic Fan, for the purpose of producing currents of air upon the head and neck and also upon the shoulders of any person so desiring; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon.

Figure 1 is a perspective view of the automatic-fan apparatus. Fig. 2 is a side elevation of the automatic-fan apparatus. Fig. 3 is an end elevation of the same.

The nature of my invention consists in providing an adjustable standard with a frame conveying a train of clock-work, consisting of a barrel inclosing a mainspring, or a mainspring fixed upon its own axis, a large wheel, and a pinion at the end of a long axle, with any number of intermediate wheels; each end of this axle is held between jaws of a semicircular frame, and attached to the side of this frame is the train of clock-work for driving the pinion and shaft. Upon this shaft is attached the fan-leaves, made of any thin light substance. The leaves may be of any number, according as more or less current is desired. This semicircular frame, carrying this train and long axle with fan-leaves, is attached to and supported by a standard, which standard has a jaw and clamping-screw at its bottom end, so as to attach it to the back of a chair, bed, sewing-machine, or wherever desired; and by the standard being contained in a hollow tube it can be lengthened or shortened as most desirable, or any direction of current obtained. By winding up the spring motion is given to the train, causing the axle with leaves to revolve, thereby agitating or producing currents in the atmosphere.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I construct a semicircular frame, F, of metal, in accordance with the desired dimensions of the fan-leaves. This frame is attached to a round standard, G, which moves up or down in a hollow tube, I, and is held in position by a clamp-screw, H, inserted in the side of hollow tube I. Attached to the bottom of this hollow tube I is a clamp-jaw, K, with a clamp-screw, N. This clamp has a side screw-hole, O, so as to change the position of hollow tube I, so as to make it either horizontal or vertical, or, in fact, to give it, in connection with its other points, a universal movement. Attached to one side of the semicircular frame F is the train of clock-work A, with the pinion C, attached to which is the axle D, running through the diameter of semicircular frame F. Attached to this axle D are arms, and attached to these arms are the fan-leaves E E' E'' E'''. At one end of arm of semicircular frame is a binding-screw, C', binding onto end of axle D. By means of this binding-screw C', by tightening or loosening the same, the motion of the fan-leaves can be increased or diminished.

The machine is operated after first attaching it in the required position at the back of a chair, bed, or sewing-machine and giving it the required elevation and direction; then, being wound up at the spring of clock-train, the axle with the fan-leaves is thereby made to revolve, causing the required agitation of the atmosphere.

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

The automatic fan, combining the standard G in the hollow tube I with set-screw H, clamp-jaw K with set-screw N, and the semicircular frame F supporting the clock-work A, pinion C, and axle D with the arms or wings E E' E'' E''' and set-screw C', all constructed and arranged substantially as described.

WILLIS DELANCEY HALL.

Witnesses:

JAMES B. COOK,  
W. C. COATS.

(51)