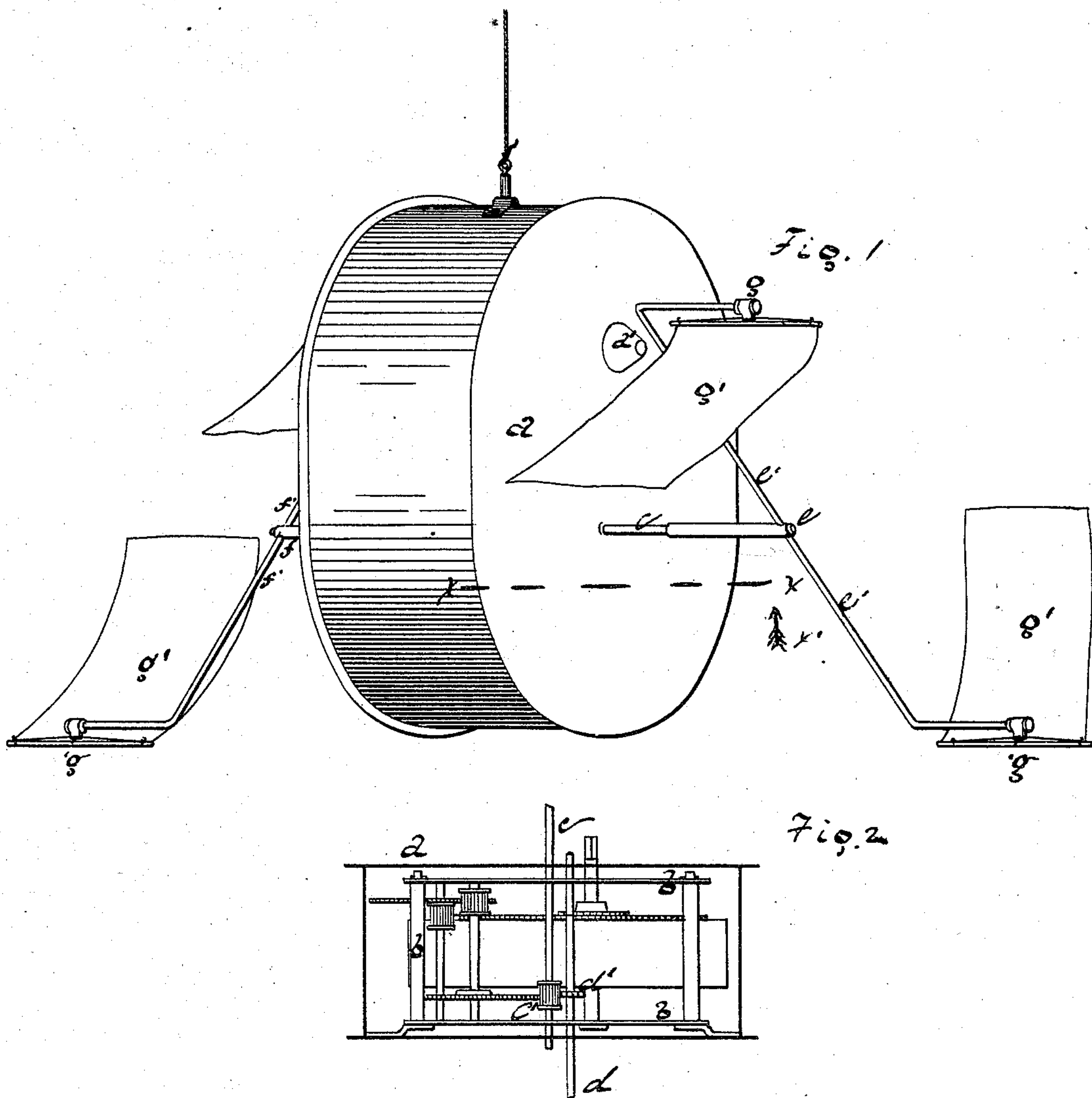


A. B. PALMER & A. E. ELMER.

Automatic Fly-Fan.

No. 162,944.

Patented May 4, 1875.



WITNESSES.  
G. E. Nolan  
Harrison F. Fennell

INVENTORS  
Amos B. Palmer  
Albert E. Elmer  
By W. E. Dimonds  
att

# UNITED STATES PATENT OFFICE

AMOS B. PALMER, OF WILLIMANTIC, AND ALBERT E. ELMER, OF NEW BRITAIN, CONNECTICUT.

## IMPROVEMENT IN AUTOMATIC FLY-FANS.

Specification forming part of Letters Patent No. 162,944, dated May 4, 1875; application filed January 8, 1874.

*To all whom it may concern:*

Be it known that we, AMOS B. PALMER, of Willimantic, in the county of Windham and State of Connecticut, and ALBERT E. ELMER, of New Britain, in the county of Hartford and State of Connecticut, have invented a Revolving Insect-Fan, of which the following is a specification, reference being had to the accompanying drawings, where—

Figure 1 is a perspective view of our apparatus. Fig. 2 is a view of the same in cross-section, on the plane indicated by the dotted line  $xx$ , looking in the direction indicated by the arrow  $x'$ .

The invention is a device to be suspended from the ceiling of a room by a cord, or supported on a pedestal or bracket, or in any other convenient manner, for driving and keeping away flies, mosquitoes, or other insects from the face of a babe, a sick person, a sleeping person, or a well person or persons who desire it. It consists of a clock-work contained in a neat and substantial case, giving contrarily-rotating motion to two shafts, one projecting from either side of the case, on each of which slides a socket bearing arms, to which are attached fans or small banners or floats of light fabric.

The letter  $a$  denotes the containing-case, made, by preference, of sheet metal, with one side to take off like a cover, appropriately ornamented and painted. I show it in the drawing as suspended by a cord. The letter  $a'$  denotes the key-hole, whereby, or whereat, the mechanism is wound up and set in motion. The clock-work, which I will denote collectively by the letter  $b$ , is contained in the case  $a$ , and gives rotary motion to the shaft  $c$ , which, by gears  $c' d'$ , gives rotary motion in the opposite direction to the shaft  $d$ . On the shaft  $c$  slides the socket  $e$ , which can be adjusted toward or from the case. From this socket extend the arms  $e'$ , which can be provided with sockets for holding fans; but we prefer to turn

them at an angle, as shown, and pivot thereon by means of the swivel-rings  $g$  the floats or banners  $g'$ . As these fans or banners revolve, they produce a gentle and cooling agitation of the air, and their action will drive and keep away flies or other insects from their immediate vicinage.

For babes or other persons lying in bed, the case may appropriately be suspended by a cord from the ceiling of the room. For a person reading in a chair, it may be suspended by a cord or mounted on a pedestal or bracket.

The gears  $c' d'$  differ in size, so as to cause one of the shafts  $c d$  to rotate faster than the other, the effect of which is to cause the whole device to rotate horizontally when suspended by a cord. This action can be assisted and increased by adjusting one of the sockets  $e f$  farther from the case  $a$  than the other. The letter  $f$  denotes the sliding socket upon the shaft  $d$ , and  $f' f'$  the arms corresponding to arms  $e'$ .

By means of this adjustability of the sockets  $e f$  upon the shafts  $c d$ , the action of the fans or floats can be made to affect more or less space, as desired.

We claim as our invention—

1. The combination of case  $a$ , clock-work  $b$ , and the contrarily-rotating fan-shafts  $c d$ .
2. The combination of case  $a$ , clock-work  $b$ , and the contrarily-rotating fan-shafts  $c d$ , arranged to have different speeds of rotation.
3. The combination of the two contrarily-rotating fan-shafts  $c d$  with the adjustable fan-bearing sockets  $e f$ .
4. The combination of the contrarily-rotating fan-shafts  $c d$ , adjustable sockets  $e f$ , arms  $e' f'$ , swivels  $g$ , and banners  $g'$ .

In witness whereof we hereto set our hands.

AMOS B. PALMER.  
ALBERT E. ELMER.

Witnesses:

WM. E. SIMONDS,  
CHAS. BUCKLAND.