W. E. Wilcox,

Fan Blower,

No. 45,447. Patented Dec. 13, 1864.

Fig. 1.

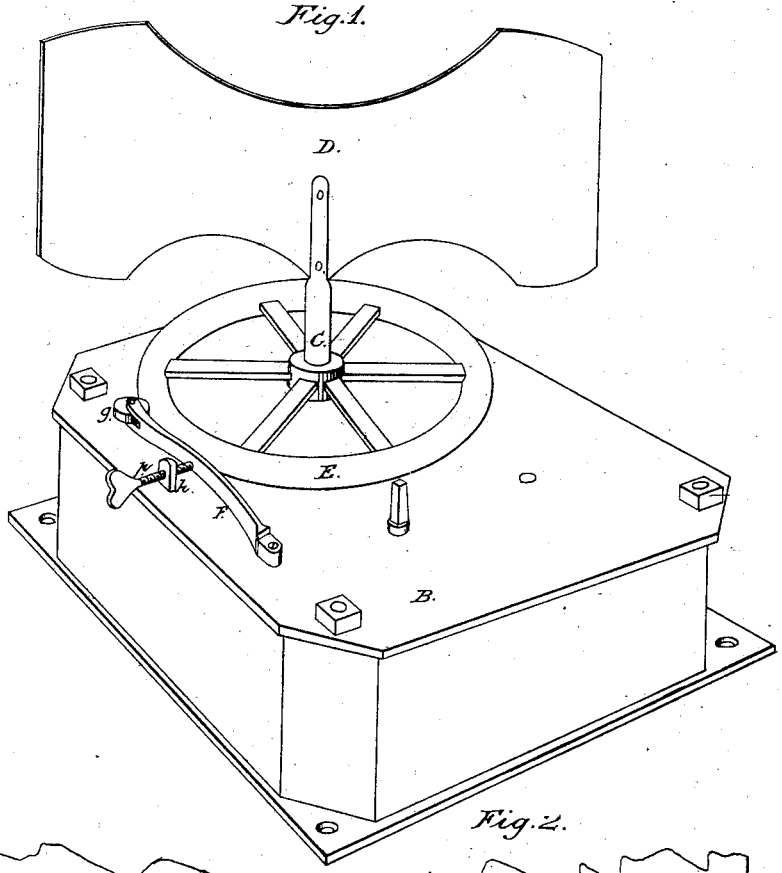
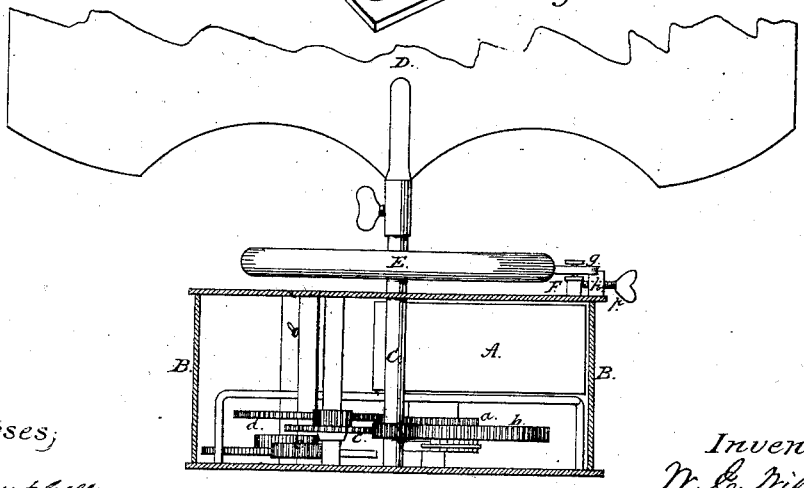


Fig. 2.



Witnesses;
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UNITED STATES PATENT OFFICE.

WILLIAM E. WILCOX, OF ST. LOUIS, MISSOURI, ASSIGNOR TO HIMSELF AND BERNARD F. MYERS.

IMPROVEMENT IN FAN-POWERS.

Specification forming part of Letters Patent No. **45,447**, dated December 13, 1864.

To all whom it may concern:

Be it known that I, WILLIAM E. WILCOX, of St Louis, county of St. Louis, and State of Missouri, have invented a new and useful Fan-Power; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of my invention arranged for operation. Fig. 2 is a sectional view of Fig. 1, showing the mechanism for giving motion to the fan.

Similar letters of reference indicate corresponding parts in both figures.

The object of this invention is to provide for regulating the speed of fans which are actuated by springs or weights acting upon a train of wheel-work, so that the main spindle can be made to run fast or slow at pleasure, as will be hereinafter described.

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

In the accompanying drawings I have represented my invention applied to a fan shaft which is rotated by a spring, A, acting upon a train of wheel work, *a b c d e*, which parts are all inclosed within a box, B, in such manner that they can be readily got at when it is necessery to clean or to oil them. This train of wheels may be operated by a spring or by a weight in the manner of an ordinary clock; but I prefer to use springs, as above stated, when the machine is portable, but when the machine is fixed in some established place the weights and cords may be used as a motive power. The box B is intended to have some convenient contrivance applied to it by which the machine can be readily secured to a bedstead or other article of furniture and removed therefrom at pleasure. In hospitals the box B may be screwed to the partition over or alongside of the bed, so that the patient lying in bed will receive the benefit of the fan.

The main spindle C carries on its upper end a fan, D, which may be made of a stiff sheet of metal, of thin wooden boards, or of bows covered with light paper or muslin and ornamented to suit the taste. This spindle C has affixed to it a large balance or "fly wheel," E, to which I apply a spring-brake, that is constructed and operated as follows: F represents a spring which is arranged in a tangential position to the circumference of the fly-wheel E, and secured at one end to the top of the fan-box, so that the opposite end, or that which is nearest to the circumference of said wheel, shall be allowed to have a free play. This latter end of the spring F receives a friction-wheel, *g*, which is allowed to rotate freely in a plane parallel to the top of the box B, and this wheel may have its periphery covered with india-rubber or some other soft substance. *h* is a fixed standard, which projects up from the fan-box top, and has a horizontal thumb-screw, *p*, tapped through it, the end of which touches the spring F. By setting this screw up, the spring F, with its wheel *g*, will be moved toward the circumference of the fly-wheel E, and the friction-wheel can thus be made to act upon the fly-wheel with greater or less pressure, according to circumstances. When the screw *p* is set back, the spring F will recede from the wheel E and allow this wheel to receive the full force of the motive power; but if it is desired to stop the motion of the fan-shaft the screw is set up so as to force the friction-wheel *p* very tight against its surface.

By my improved brake the motion of the fan can be regulated at pleasure or stopped, and a patient can without any difficulty operate the machine when arranged within his reach.

The advantage of the use of a brake, besides that just stated, is, that the motion of the fan can be regulated according to the varying force of the spring A, so that a gentle breeze can be obtained when the spring is fully wound up, and also when it has nearly expended its force. With such a brake the fan can be made to work a much longer time with a comparatively short spring, and hence a small machine can be made to run uniformly for many hours at one winding up.

My improvement can be used in motive power which is adapted for operating light machinery—such as churns and washing-machines—by removing the fan and applying a crank or a belt wheel in its stead.

Having thus described my invention, what

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

1. The application of a friction-brake to a balance-wheel, which is keyed to a spindle receiving its motion from a train of wheel-work, substantially as and for the purposes described.

2. The combination of a spring, F, friction-wheel *g*, and an adjusting-screw, *p*, with a balance-wheel, E, and fan D, substantially as described.

Witness my hand in the matter of my application for a patent for a fan-power.

WM. E. WILCOX.

Witnesses:

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