No. 769,122. PATENTED AUG. 30, 1904.

C. S. WARNOCK.

MOTOR CONTROLLED FAN.

APPLICATION FILED OCT. 16, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1

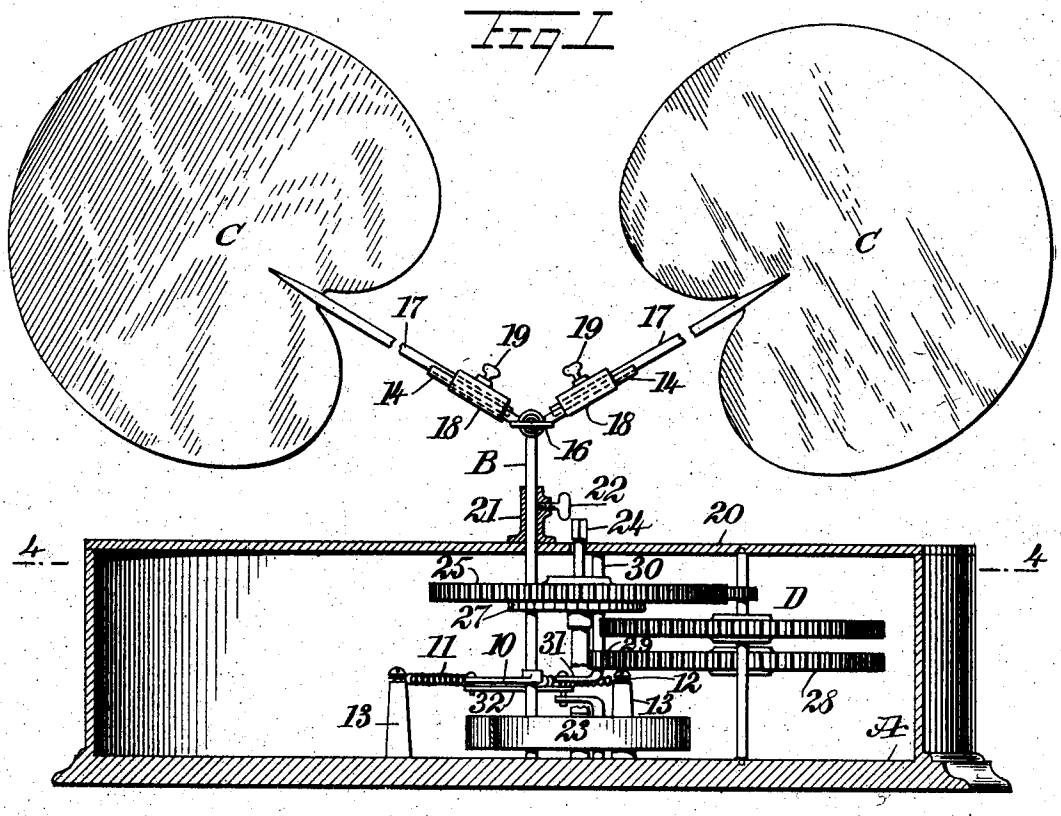


Fig. 2

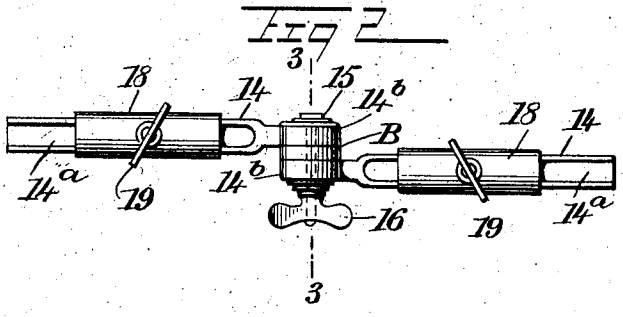
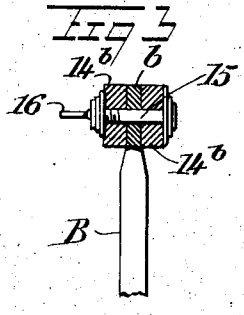


Fig. 3



WITNESSES:

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INVENTOR

Charles S. Warnock

BY

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 4

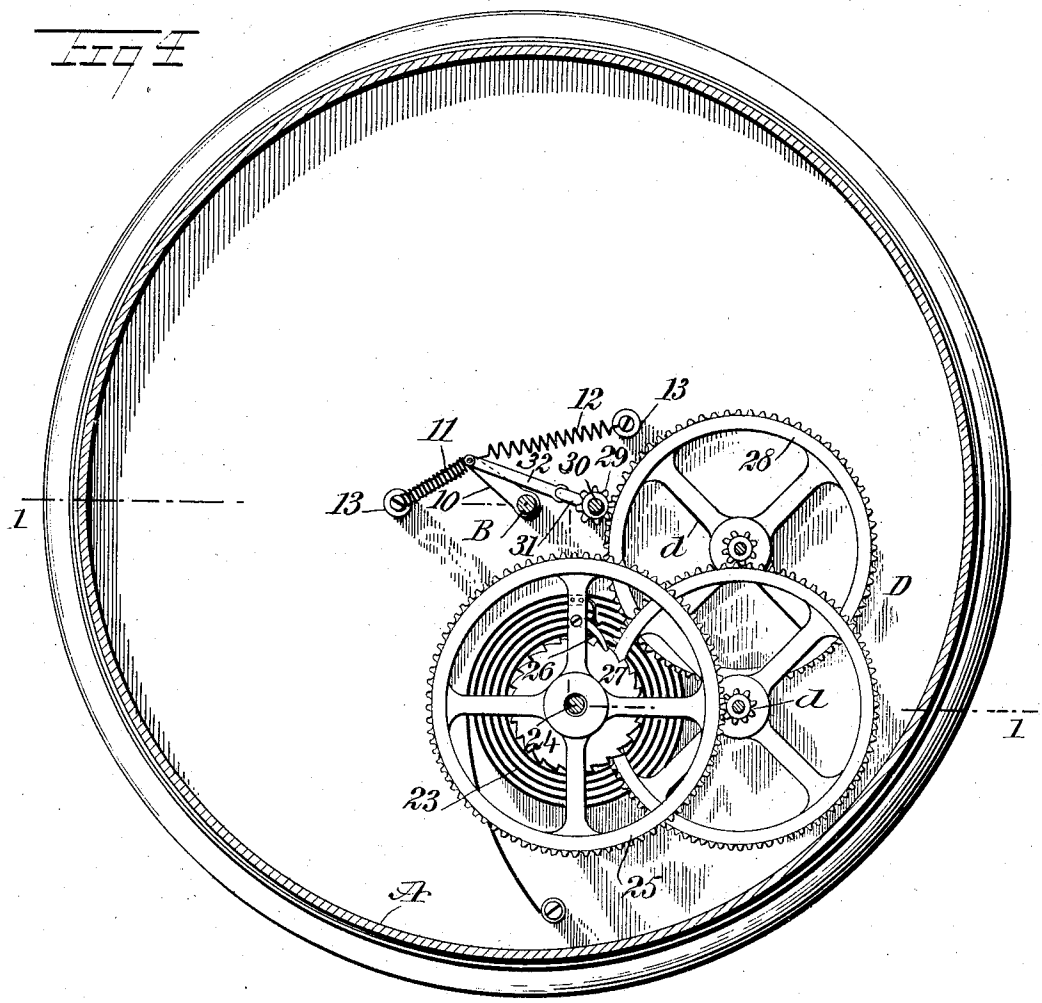
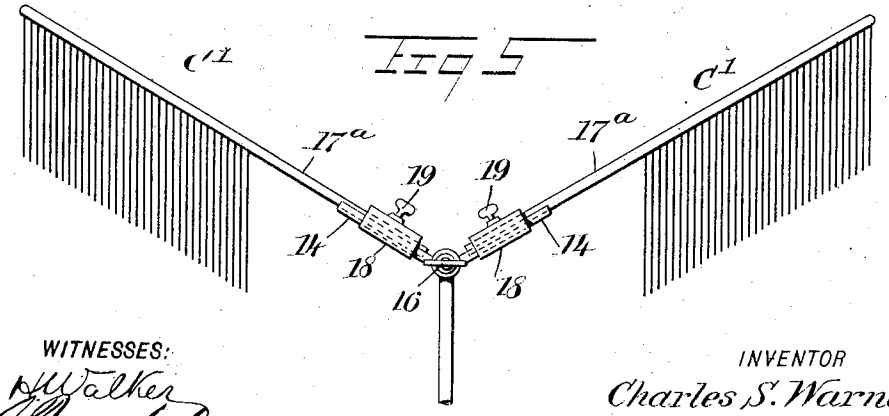


Fig. 5



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No. 769,122. Patented August 30, 1904.

UNITED STATES PATENT OFFICE.

CHARLES S. WARNOCK, OF AMERICUS, GEORGIA, ASSIGNOR OF ONE-HALF TO JUAN B. DE LA GARZA, OF TAMPICO, MEXICO.

MOTOR-CONTROLLED FAN.

SPECIFICATION forming part of Letters Patent No. 769,122, dated August 30, 1904.

Application filed October 16, 1903. Serial No. 177,301. (No model.)

To all whom it may concern:

Be it known that I, CHARLES S. WARNOCK, a citizen of the United States, and a resident of Americus, in the county of Sumter and State of Georgia, have invented a new and Improved Motor-Controlled Fan, of which the following is a full, clear, and exact description.

My invention relates to an improvement in motor-actuated fans, especially fans operated by a spring-actuated motor.

The purpose of the invention is to provide a simple device of the character described which will be durable and economic and wherein the fan-blades or fly-brushes, whichever are used, will operate with a vibratory motion, enabling the device to be placed upon a table or other support quite close to a person, if desired, without inconveniencing the person.

A further purpose of the invention is to provide means for securely holding the fan or brush carrying arms in operating connection with a rocking support, together with a simple means for imparting a cushioned rocking or vibratory motion to the rocking support from a shaft revolved by the motor, and also to provide a convenient and ready lateral and vertical adjustment for the fan-carrying arms.

Another purpose of the invention is to provide a means which will enable the fan-carrying shaft to be stopped at any time desired or its motion rendered slower, if necessary.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a vertical section through the device, taken practically on the line 1 1 of Fig. 4. Fig. 2 is an enlarged plan view of the upper portion of the fan-carrying shaft and the devices employed for adjustably connecting the fan or brush carrying arms with the said shaft. Fig. 3 is a section taken practically on the line 3 3 of Fig. 2. Fig. 4 is a horizontal section taken practically on the line 4 4 of Fig. 1, and Fig. 5 is a side elevation of the upper portion of the fan carrying or rocking shaft and brushes adjustably connected with the shaft.

A represents a casing, which is preferably a box-casing, and while it is shown as of circular formation it may be given any desired shape. Preferably at the central portion of the casing A a fan-post B is mounted. This fan-post, which is to have a rocking or vibratory motion, extends above the top 20 of the casing A, as is shown in Fig. 1, and within the said casing a crank-arm 10 is attached to and projects from the fan-post B. The outer end of the crank-arm 10 is pivoted to opposing cushion-springs 11 and 12 of equal strength, the inner terminals of the springs being attached to the free end of the crank-arm, as is shown in Fig. 4, and the outer terminals of the springs 11 and 12 are secured to posts 13, extending usually from the bottom of the casing A.

The upper end of the fan-post B is preferably flattened and provided with an aperture, and in connection with the upper portion of the fan-post B, I employ usually two opposing carrier-arms 14, the body portions of said carrier-arms being segmental in cross-section, as the said body portions are provided with longitudinal gutters or grooves 14^a, as is best shown in Fig. 2, and at the inner end of the body portion of each carrier-arm 14 an eye 14^b is formed. The eyes of the carrier-arms 14 are placed one at each side of the apertured upper portion of the fan-post B, and a bolt 15 is passed through the said eyes and the upper end of the post, as is shown best in Fig. 3. This bolt is tightened up when desired preferably by means of a thumb-nut 16. Thus it will be observed that the carrier-arms 14 may be placed and held in a horizontal position or at any inclination above and below a horizontal position and practically in a vertical position, if so desired. The grooved portions of the carrier-arms 14 are adapted to receive the free ends of the shanks 17 of fans C or the free ends or shanks 17^a of brushes C′, as is shown, respectively, in Figs. 1 and 5. When the shanks 17 or 17^a have been placed

in the grooves of the carrier-arms 14, they are held locked to such arms by sleeves 18, slipped over the carrier-arms and the entered portions of the said shanks, the said sleeves having set-screws 19, which extend through them and engage with the upper faces of the said shanks, enabling the shanks not only to be held firmly in engagement with the adjustable carrier-arms, but also enabling the fans or brushes to be adjusted laterally, as may be desired. A collar 21 is secured to the outer face of the top 20 of the casing A, and the fan-post B freely turns in this collar, as is shown in Fig. 1. The collar 21 is provided with a set-screw 22, capable of being brought more or less forcibly in engagement with the fan-post B, thus enabling the fan-post to be moved as slowly as may be desired, according to the extent of the engagement between the set-screw 22 and the post, and also enabling a person to instantly stop the movement of the fan-post at any time.

The fan-post is driven by a motor D, which motor is a spring-motor, preferably what is known as the "claw" pattern, as is shown in Figs. 1 and 4. This motor consists of the usual winding-post 24, mainspring 23, master-gear 25, and pawl and ratchet 26, having suitable connection with the mainspring and the said master-wheel, and a train of gearing *d*, actuated from the master-wheel. The outermost gear 28 of the said train of gearing *d* meshes with a pinion 29, located within the casing, as is all the gearing, and this pinion 29 is secured upon a shaft 30, the said shaft having a crank-arm 31 formed thereon. The crank-arm 31 is connected by a link pitman or rod 32 with the outer end of the crank-arm 10 of the fan-post B. The springs 11 and 12 serve in a measure to cushion the said arm, so that the device will be noiseless at the time of reversal, and the springs 11 and 12 likewise tend to assist in the reversing movement of the crank-arm 10, since one spring is compressed when the arm is moved in one direction, expanding as the arm is moved in the opposite direction.

It will be observed that by reason of the crank-and-pitman connection between the shaft 30 and the fan-post B the fan-post is given a vibratory motion, making, for example, about one-quarter of a turn backward and forward; but the extent to which the fan-post B shall have movement, as will be understood, depends on the length of the crank-arm 10, carried by such post.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a mechanical fan, a fan-post, a driven shaft, cranks extending from the post and the shaft, a link connection between the two cranks, a motor, a driving connection between the motor and the shaft connected with the fan-post, and cushion-springs located at opposite sides of the crank-arm of the post, said springs being attached to the free end of the said crank-arm and to fixed supports, as set forth.

2. In a mechanical fan, a fan-post, carrier-arms pivotally attached to the fan-post, capable of upward and downward movement, means for locking the carrier-arms in adjusted position, each carrier-arm being provided with a longitudinal groove, sleeves held to slide over the grooved portions of the carrier-arms, and set-screws carried by the said sleeves, for the purpose specified.

3. In mechanical fans, a fan-post, carrier-arms located at each side of the upper portion of the fan-post, a bolt pivotally carried through both arms and the fan-post, a nut for one end of the said bolt, the carrier-arms having longitudinal grooves produced in their upper faces, sleeves mounted to slide on the carrier-arms, and set-screws located at the upper portion of the sleeves, adapted to extend to the grooved portions of the carrier-arms, as set forth.

4. In mechanical fans, the combination with a casing, a stop-collar on the casing, a fan-post within the casing and loosely passed through the said stop-collar, and a set-screw on the stop-collar, engaging with the fan-post, of means for imparting vibratory motion to the fan-post, longitudinally-grooved carrier-arms located at each side of the upper portion of the fan-post and adjustably and pivotally connected therewith, sleeves mounted on the carrier-arms, and locking devices for the sleeves engaging the grooved portion of the carrier-arms, as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES S. WARNOCK.

Witnesses:

J. FRED. ACKER,

JNO. M. RITTER.