

(No Model.)

G. A. SNECKNER & C. E. ROTH.
FAN AND MOTOR THEREFOR.

No. 497,139.

Patented May 9, 1893.

Fig. 1

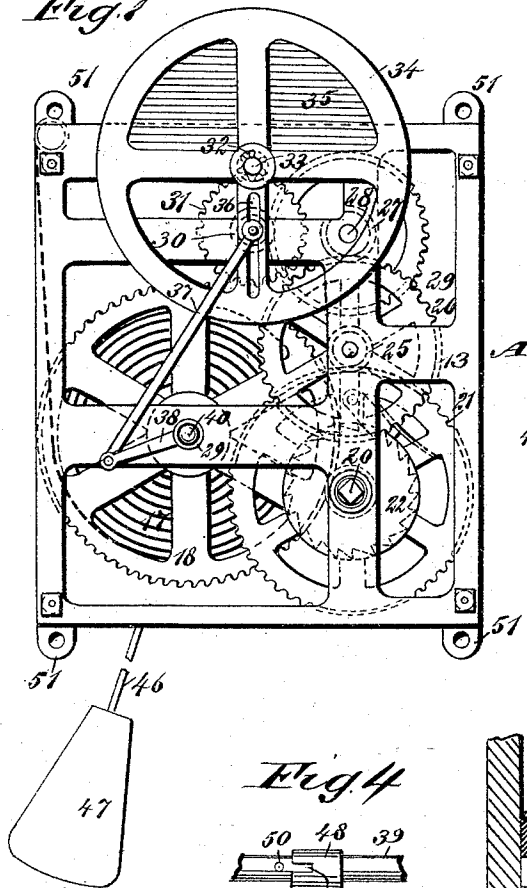


Fig. 2. B

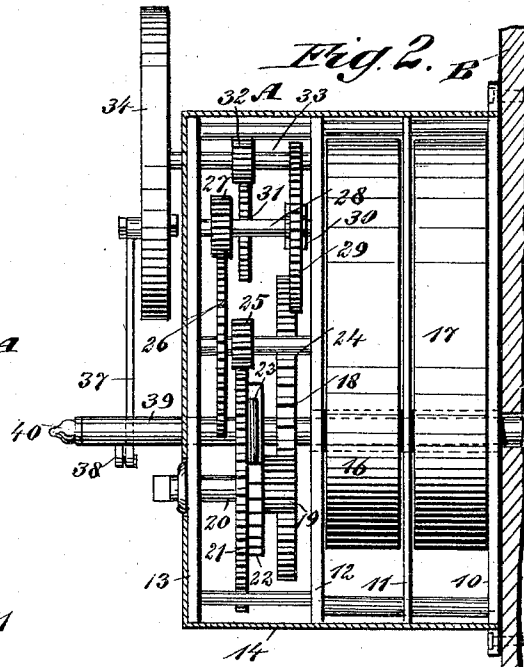


Fig. 4

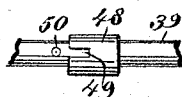
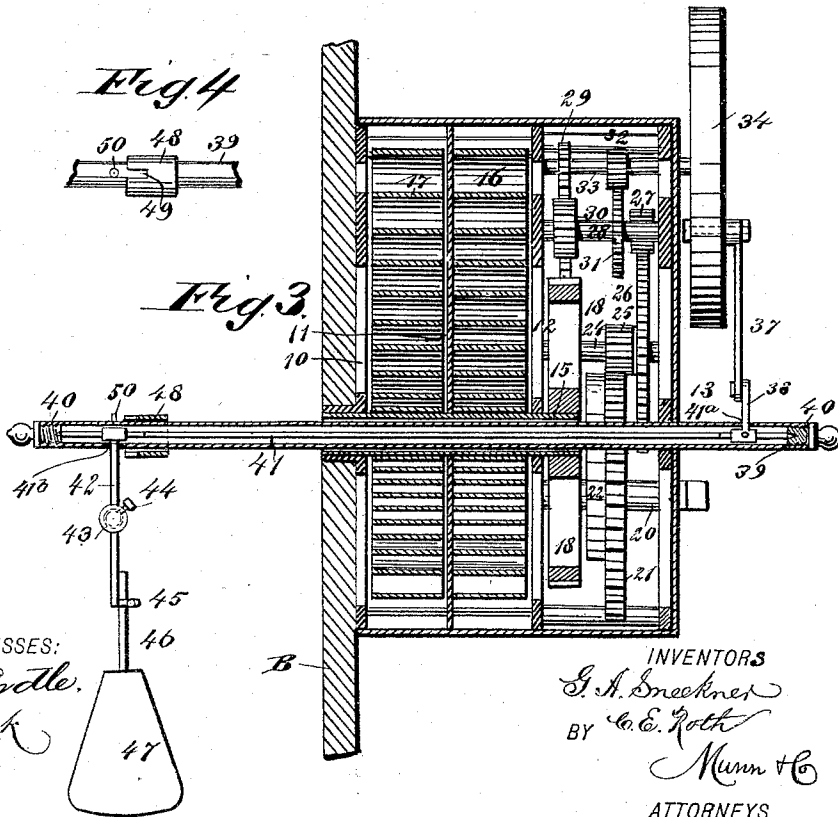


Fig. 3



WITNESSES:

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UNITED STATES PATENT OFFICE.

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FAN AND MOTOR THEREFOR.

SPECIFICATION forming part of Letters Patent No. 497,139, dated May 9, 1893.

Application filed August 13, 1892. Serial No. 442,967. (No model.)

To all whom it may concern:

Be it known that we, GEORGE A. SNECKNER, of San Antonio, in the county of Bexar and State of Texas, and CHARLES E. ROTH, of New York city, in the county and State of New York, have invented a new and useful Improvement in Fans and Motors Therefor, of which the following is a full, clear, and exact description.

Our invention relates to motor-propelled fans, and has for its object to provide a fan capable of being attached to any support, and especially adapted for attachment to a bedstead or other article of furniture.

Another object of the invention is to provide a motor to be used in conjunction with the fan, which motor supplies the propelling power and is exceedingly simple and capable of being manipulated in a convenient manner.

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 figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a rear elevation of the motor and fan. Fig. 2 is a sectional side elevation thereof. Fig. 3 is a vertical section taken through the body of the motor, the fan shaft and the drive or spring shaft; and Fig. 4 is a detail view of a locking or stop device used in connection with the fan.

In carrying out the invention the motor A, which is of a spring pattern, will be first described. The frame of the motor usually consists of four partitions 10, 11, 12 and 13, the partitions 13 and 10 being respectively the rear and front partitions of the frame, while the partitions 11 and 12 are intermediate ones. These partitions are arranged at suitable distances apart, and are of the pattern usually employed in the construction of clock mechanism. Ordinarily the top, back and bottom of the frame is inclosed by a casing 14 of any approved construction, and this casing may be continued over the ends of the frame when-

ever it is found desirable or necessary to exclude dust, or other foreign matter.

Near one end of the frame a hollow shaft 15, is journaled in the intermediate partitions 11 and 12 and in the rear partition 10. This shaft extends beyond the inner partition 11, and between the said inner partition 11 and the next inner partition 12 a spring 16, is coiled, and a like spring 17, is also preferably coiled between the partition 11 and the rear partition 10, and both of these springs are connected with the shaft 15 and are adapted when wound to revolve the shaft. Therefore the shaft 15 may be properly termed the spring or drive shaft.

The shaft 15, carries at its inner end a large gear 18, and this gear meshes with a pinion 19, fast upon a winding shaft 20, which shaft is journaled in the rear partition 10 and extends inward in direction of the next partition 11, as is best shown in Fig. 2. Upon this shaft a spur gear 21, is loosely mounted, and the pinion 19, has secured to one of its side faces a ratchet wheel 22, the ratchet wheel being in close engagement with the inner face of the spur gear 21. The said spur gear carries a pawl 23, adapted for constant engagement with the ratchet, and when the shaft 20 is turned in one direction by means of its pinion 19, a movement is imparted to the large gear 18 upon the winding shaft in such manner as to revolve the shaft in a direction to coil or wind up the springs 16 and 17, and at that time the pawl slips over the ratchet and the loosely mounted spur gear remains stationary. When, however, the large gear 18, is revolved by the action of the springs the winding shaft 20 is turned in a direction the reverse of that in which it travels when it is used for winding purposes, and at that time the ratchet wheel engages with the pawl 23 in such a way as to impart a rotary movement to the loosely mounted spur gear 21. The pawl 23, in practice is constructed of such material, or is provided with such covering that will render it noiseless when it slips over the ratchet wheel.

Above the winding shaft 20, a second shaft 24, is journaled between the partitions 12 and

13, and this shaft carries a pinion 25, which meshes with the loosely mounted spur wheel 21; and the shaft 24, also carries a gear wheel 26, which meshes with a pinion 27 upon a third shaft 28, located above the shaft 24. The shaft 28, has attached thereto a large gear wheel 29, and it in turn meshes with pinion 30, located upon a shaft back of the shaft 28, and this rear shaft carries also a gear wheel 31 which is smaller than the gear 29; and the gear wheel 31, is in mesh with a pinion 32, secured to a shaft 33, located above the shaft upon which the gears 30 and 31, are secured. The shaft 33 is located at the upper central portion of the frame, and extends beyond its rear side; and upon the outer projecting end of the shaft 33 a balance wheel 34, is securely fastened, as illustrated at 35 in Fig. 1, the lower portion being considerably lighter, and this balance wheel is provided in one of its spokes with a diametrically located slot 36, and within this slot the upper end of a pitman 37, is adjustably attached, and the lower end of the pitman has pivotally connected therewith a crank arm 38.

Power is supplied by the springs 16 and 17 and is transmitted by the power or drive shaft 15 through the large gear 18 and the train of gearing embraced between the reference numerals 21 and 33, to the driven shaft 33 and the balance wheel 34, from which the power is communicated by means of the pitman 37 and crank arm 38 to the fan.

With reference to the construction of the fan a hollow fixed shaft 39, is passed through all of the partitions in the frame and through the hollow drive shaft 15, the shaft 39 being secured to the frame in any suitable or approved manner which will prevent it from revolving. Each end of the hollow inner fixed shaft 39, is closed by a plug 40, preferably screwed to place, and in these end plugs the extremities of the fan shaft 41, are journaled, as shown in Fig. 3, the fan shaft being consequently located within the fixed shaft, and said fixed hollow shaft extends some distance beyond the front and rear of the frame of the motor, while the crank arm 38, attached to the pitman 37 is carried through an elongated circumferential slot 41^a in the fixed shaft near one of its ends, and is attached to the fan shaft in such manner as to impart motion thereto.

A hanger 42, is secured to the fan shaft near the forward end thereof, and this hanger passes out through a circumferential slot 41^b produced in the fixed shaft 39. The hanger 42, is made in two sections, and the sections are universally connected. In Fig. 3 of the drawings the sections are shown united by a ball and socket connection 43, and are held in the desired position by a set screw 44, forming a part of the connection. The lower end of the hanger or bracket 42 terminates in a socket 45, and in this socket the shank or handle 46 of any approved form of fan 47, is

adjustably and removably secured. Thus when the spring is wound a rotary movement is imparted to the balance wheel, and a rotary reciprocating movement is conveyed to the fixed shaft by the pitman 37 and crank arm 38, and consequently a rotary reciprocating movement is given to the fan or fans connected with the fan shaft.

When it is desired to stop the fan it is preferably accomplished through the medium of a sleeve 48, which is held to slide upon the fixed tubular shaft 39. The sleeve is provided at one of its ends with two diametrically-opposite slots 49, and immediately over the connection of the hanger with the fan shaft a pin 50 is secured to the tubular fixed shaft. Thus when it is desired to stop the movement of the fan, by slipping the sleeve forward the pin 50 which is stationary, will enter the upper slot in the sleeve and prevent the sleeve from turning, while the hanger may be made to enter the opposite slot in the sleeve and it will be prevented from moving.

This fan may be applied to any article of furniture, a desk, a bedstead, or the like. In the drawings it is illustrated as being secured to the head board B of a bedstead, the fixed tubular shaft extending through the front of the board, and the motor being attached to the rear face thereof through the medium of lugs 51, or the equivalents thereof attached at the forward portion of the frame, and fastening devices which the lugs are adapted to receive.

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

1. In a motor fan, the combination, with a drive shaft, a main or coil spring connected with the drive shaft and a driving mechanism connected with the spring, a driven shaft having rotary movement, and a train of gearing connecting the driven shaft with the spring or drive shaft, of a fixed hollow shaft a fan shaft journaled within the tubular fixed shaft, a fan adjustably and removably connected with the fan shaft, a crank disk connected with the driven shaft of the motor, and a pitman and crank connection between the crank disk and the fan shaft, substantially as shown and described.

2. In a fan motor, the combination, with a motor the same consisting of a hollow shaft journaled in a frame, coiled springs secured to the shaft by means of which it is revolved, a winding mechanism connected with the springs and the shaft, a driven shaft, a train of gearing communicating movement to the driven shaft from the spring shaft, and a balance wheel having a weighted upper face secured to the driven shaft and provided with a slot in its lower face, of a tubular shaft fixed in the frame of the motor passing through the spring shaft beyond opposite sides of the motor frame, a fan shaft journaled in the fixed tubular shaft, a crank arm attached to the fan shaft near one end and extending outward

through the fixed tubular shaft, a pitman connection between the crank arm and the solid portion of the balance wheel, a hanger consisting of two adjustable members secured
5 near the opposite end of the fan shaft and extending outward through the tubular fixed shaft, a fan adjustably and removably secured to the hanger, a pin secured to the fixed tubular shaft above the connection therewith
10 of the hanger, and a sleeve held to slide upon the fixed tubular shaft and provided with openings for the reception of the pin and the

hanger when the movement of the latter is to be stopped, substantially as set forth.

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