(No Model.)

F. J. AGABEG.

FAN.

No. 489,913. Patented Jan. 17, 1893.

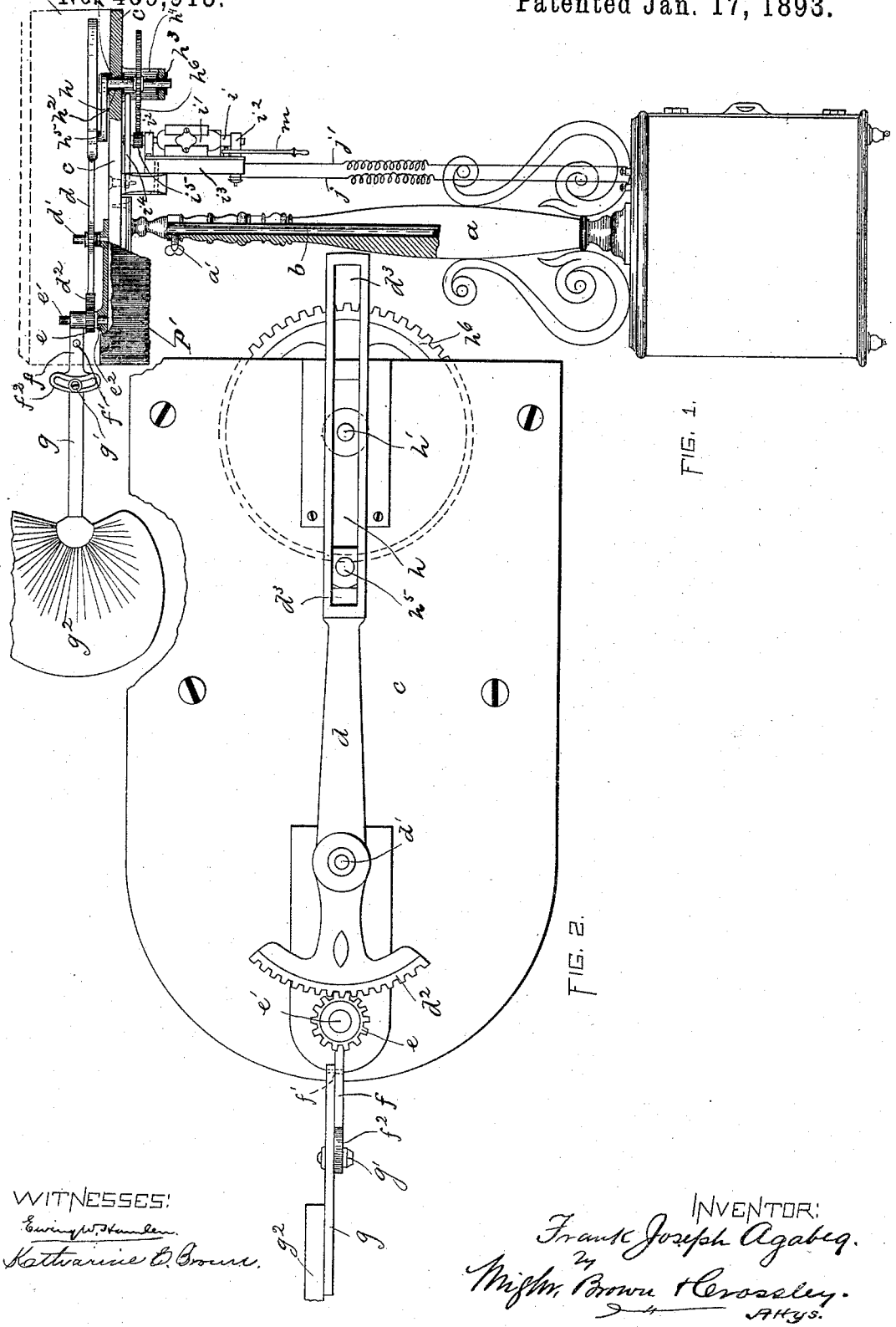

FIG. 1.

FIG. 2.

WITNESSES:
Ewing W. Hamlen.
Katharine E. Brown.

INVENTOR:
Frank Joseph Agabeg.
by Wilkin, Brown & Crossley.
Attys.

UNITED STATES PATENT OFFICE.

FRANK. JOSEPH AGABEG, OF CHARANPORE, INDIA.

FAN.

SPECIFICATION forming part of Letters Patent No. 489,913, dated January 17, 1893.

Application filed August 22, 1891. Serial No. 403,472. (No model.) Patented in India November 15, 1890, No. 42.

To all whom it may concern:

Be it known that I, FRANK. JOSEPH AGABEG, of Charanpore, in the district of Burdwan and Province of Bengal, East India, have invented certain new and useful Improvements in Fans, (for which I have obtained in British India Patent No. 42, dated November 15, 1890,) of which the following is a specification.

This invention has for its object to provide improved means whereby an oscillating motion is given to a fan or the like, and it consists in the improvements which I will now proceed to describe and claim.

In the accompanying drawings forming a part of this specification, Figure 1 represents a partial side view and partial section of my improved mechanism, the cover being shown in dotted lines. Fig. 2 represents a top plan view of the same, the cover being removed.

The same letters of reference indicate the same parts in both the figures.

In the drawings—a represents a standard of any suitable construction, which receives a rod or support b to the upper end of which is affixed the table c, which supports my improved fan operating mechanism. The support b is adjustable in the standard a, and slides therein, and the standard is provided with a screw a' which is adapted to fasten the support b at different positions in the standard a.

d represents a lever which is pivoted on a fixed support d' on the table c. One end of said lever d is provided with a segmental gear d^2 which meshes with a pinion e mounted on a stud or shaft e' which rotates in a bearing e^2 near the front end of the table c.

f represents a short arm which is affixed to the shaft or stud e' and projects at right angles therefrom.

g represents an arm which is pivoted at one end to the short arm f at f'. The short arm f is provided with a piece or plate f^2 at its forward end, said plate having a segmental slot therein, the circle of which said segment forms a part having its center at the pivot point f'. The arm g has an adjusting screw g' which projects through the segmental slot in the plate f^2, said screw being adapted to hold the arm g in different positions to which it may be adjusted with relation to the short arm f. It will be readily understood that the arm g may be swung upwardly or downwardly on its pivot f', and may be fixed in any desired position by means of its adjusting screw g', by turning up the latter till the plate f^2 is firmly bound to the arm g. To the outer end of the arm g is affixed a hand fan g^2 of any desired construction or shape, the common palm-leaf fan answering all purposes admirably. The rear end of the lever d is provided with an elongated slot d^3, as shown in Fig. 2.

h represents a crank which is affixed to a shaft h' mounted in a bearing h^2 in the table c and having its lower end mounted in a bearing h^3 in a suitable bracket h^4 below said table. The crank h is provided with a pin h^5 entering the slot d^3 in the lever d, the said lever d being set sufficiently high above the table c to allow room for the crank h, as shown in Fig. 1.

h^6 represents a gear wheel with which the shaft h' is provided, the said gear wheel being preferably below the table c.

i represents the shaft of a suitable electric motor i', the said shaft i being journaled in bearings i^2 i^2 on a suitable bracket i^3 projecting downwardly from the table c. The motor shaft i is preferably provided with a fly wheel i^4, and is also provided with a pinion i^5 which meshes with the gear wheel h^6 on the shaft h'.

Power is supplied to the motor from a suitable battery, placed at the foot of the standard or elsewhere, by wires j j'. In the drawings I have shown the lower portion of the standard constructed as a small cabinet adapted to contain cells of a battery suited to supply an electric current to the motor i'. A switch m, of any common and well known form, is provided, by which the current from said battery may be closed or broken as may be required.

The operation of the device is as follows: The current being closed by means of the switch m, the motor i' begins to operate and rotates the shaft i. The pinion i^5 on the motor shaft, meshing with the gear wheel h^6 on the shaft h', operates the crank h, which, by the engagement of its pin h^5 with the slot d^3, moves the lever d, giving the rear end of said lever a movement from side to side. The front end of the lever d is thus also caused

to move back and forth from side to side, and the segmental gear d^2 carried by said lever, meshing with the pinion e, causes the said pinion to rotate first in one direction, as the arm d moves to one side, and then in the opposite direction, as the arm d moves to the other side, thus causing a sidewise back and forth movement of the short arm f and the fan carrying arm g attached thereto, and thus causing the fan to wave back and forth from side to side.

It will be seen that by means of the support or rod b sliding in the standard a, and adjustable therein, the fan may be adjusted at any desired height, and may be adjusted so as to project in any direction from the standard a. It will also be seen that by means of the pivotal connection of the fan carrying arm g with the arm f, and the segmentally slotted plate f^2 on the latter and the binding screw g' on the former, the fan may be adjusted at any required angle so as to direct the line of its greatest air disturbance in any required direction.

I prefer to provide the standard a with suitable casters, so that the whole device may be readily moved about, and forms a very commodious portable automatic fan.

I prefer to cover over the working parts of the device by attaching a cover p to the table c in any suitable way, the upper surface of said cover forming a flat surface which may be used as a table, or as a stand for flowers, &c. I also prefer to provide the cover p with a deep ornamental fringe p', which hangs down all around the table c and conceals the working mechanism, or the most part of it, from view, the whole device thus forming a very artistic as well as useful addition to the furniture of a room.

I do not limit myself to the precise construction and arrangement of parts here shown and described, as the same may be changed in various particulars without departing from the nature or spirit of my invention.

I claim:

The improved portable fan, comprising a standard, a rod or support journaled in said standard and adjustable therein, the table affixed to said rod or support, a lever pivoted on a fixed support on said table and having at one end a segmental gear and at the other end an elongated slot, a pinion mounted on a stud or shaft journaled in said table, and meshing with said segmental gear, fan-carrying arm affixed to and projecting at right angles from said stud or shaft, a shaft h' mounted in bearings at the other end of the table from the said stud or shaft, a crank on said shaft h' having a pin entering the elongated slot in the said lever, a gear on said shaft h', a shaft i journaled in suitable bearings below the table and provided with a pinion meshing with the gear on the shaft h', an electric motor on said shaft i, and a source of electricity, as a battery, suitably connected with said motor, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 20th day of April, A. D. 1891.

FRANK. JOSEPH AGABEG.

Witnesses:

ALBEE KING,

AGABEG A. AGABEG.