G. A. C. MEYER.

Automatic Fan.

No. 203,358. Patented May 7, 1878.

Fig. 2.

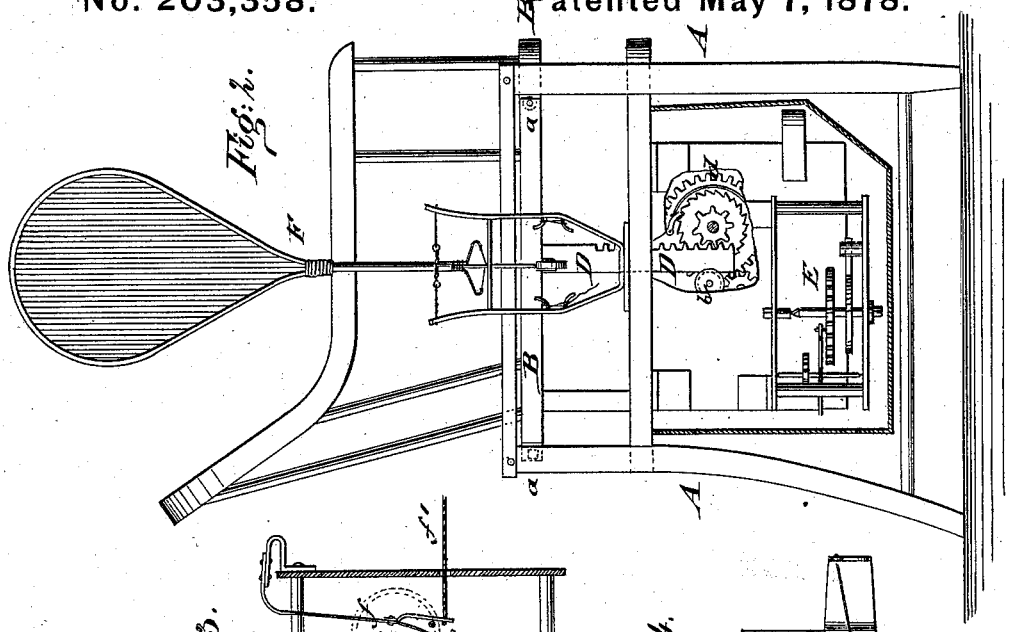


Fig. 3.

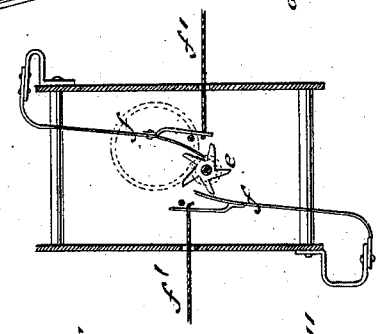


Fig. 4.

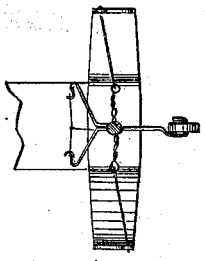
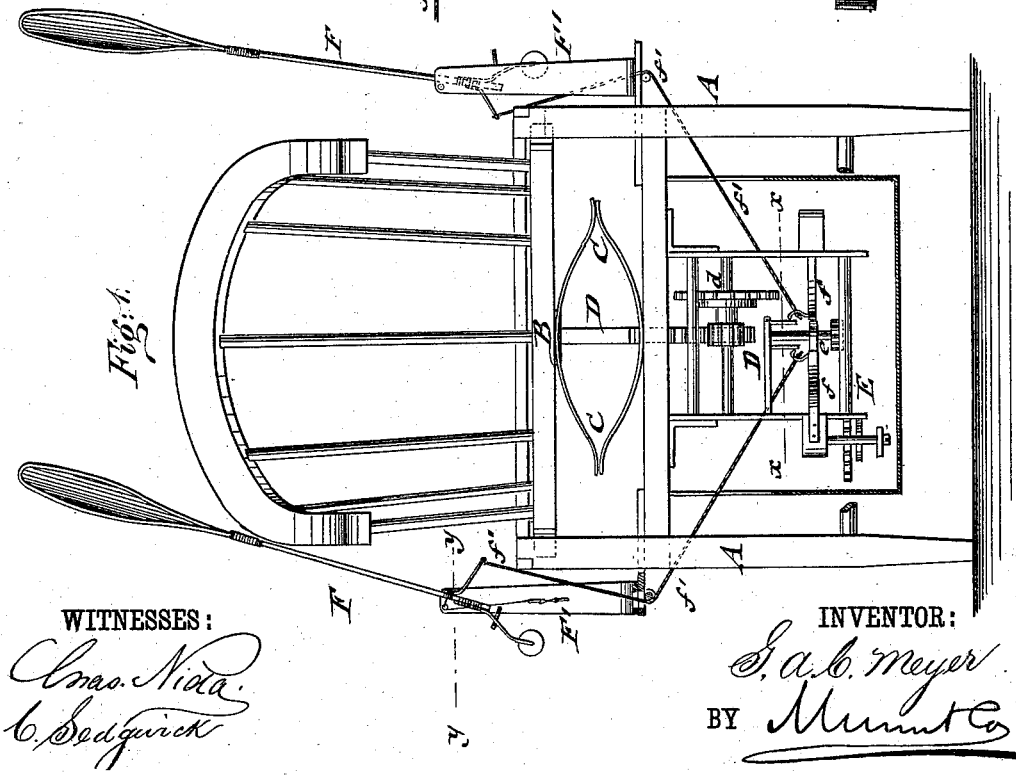


Fig. 1.



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UNITED STATES PATENT OFFICE.

GUSTAV A. C. MEYER, OF HANNIBAL, MISSOURI.

IMPROVEMENT IN AUTOMATIC FANS.

Specification forming part of Letters Patent No. **203,358**, dated May 7, 1878; application filed March 12, 1878.

To all whom it may concern:

Be it known that I, GUSTAV A. C. MEYER, of Hannibal, in the county of Marion and State of Missouri, have invented a new and Improved Driving Attachment to Chairs, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a front view of a chair with my improved driving attachment; Fig. 2, a sectional side elevation of the same; Fig. 3, a detailed top view, partly in section, on line *x x*, Fig. 1, of the actuating mechanism for operating fans or setting machinery in motion; and Fig. 4 is a top view, partly in section, on line *y y*, Fig. 1, showing method of suspending the fans at the side of the chair.

Similar letters of reference indicate corresponding parts.

The object of this invention is to provide chairs with a driving attachment that is operated by the weight of the body seated in the chair, for the purpose of setting fans, sewing-machines, lathes, or other small machinery in motion without any effort or exertion by the occupant of the chair.

The invention consists of a seat-frame supported on strong springs, and guided by anti-friction rollers on rails of the corner-posts of the supporting-frame of the chair. The lowering of the seat-frame by the weight of the body causes the engagement by a fixed vertical rack-bar of the seat with a suitable transmitting wheel train and mechanism. The rack-bar is guided along an anti-friction roller bearing on its rear side, and the seat and rack-bar are elevated by the springs by raising the body from time to time from the chair.

The speed of the transmitting mechanism is regulated by an anchor-escapement and fan-governor, as will be hereinafter more fully set forth.

By referring to the drawing, A represents the supporting-frame of a chair, and B an independent seat-frame, which is guided by anti-friction rollers *a* at the corners along rails of the corner-posts of the supporting-frame A. The seat-frame rests on elliptic or other springs, C, that are applied to the under side of the seat and to the top part of the supporting-frame A. A vertical rack-bar, D, is rigidly secured to the under side of the seat-frame, at the center thereof, and extended through a guide-hole of the top plate of the frame A, below the same, and guided by an anti-friction roller, *b*, that bears on the rear side of the rack-bar. The rack-bar D engages the pinion of a lateral shaft, to which a transmitting gear-wheel, *d*, with spring pawl and ratchet mechanism is applied. The ratchet mechanism serves to lock the gear-wheel to the shaft when the rack-bar is descending, so as to actuate the power-transmitting mechanism. When the rack-bar is raised by the action of the springs the gear-wheel turns loosely on its shaft. The gear-wheel transmits the motion imparted by the rack-bar to a train of gear-wheels, E, which is arranged in analogous manner as in a clock-train, and regulated in corresponding manner by an anchor or other suitable escapement. The train of gear-wheels E finally sets in motion a vertical shaft with a spur-wheel, *e*, that engages spring-pawls *f*, to the arms of which connecting-cords *f'* are fastened, that pass through openings at the sides of the casing of the transmitting mechanism to crank-arms of the hinged and balanced fans F, that are hung to forked spring-supports F', applied to the sides of the supporting-frame A.

The spur-wheel *e* engages alternately the spring-arms *f*, and sets thereby the fans alternately in motion, so as to cause the continuous fanning of the occupant of the chair. The regulating-escapement of the transmitting train of wheels neutralizes the difference in the weight of the persons sitting on the chair, and secures the uniform motion of the fans.

Instead of fans, belt and pulley mechanism, or other equivalent means may be employed and connected to the driving-shaft of a sewing-machine, lathe, or other small machinery, which may be thereby, by the weight of the body of the occupant, set in motion without the least exertion, it simply requiring the lifting of the body from time to time, so that the rack-bar and seat are returned into raised position by the action of their cushioning-springs, and admit the working of the machine by the driving force imparted by the weight of the body and the transmitting mechanism to the machine.

Having thus fully described my invention, I

claim as new and desire to secure by Letters Patent—

1. The combination of a supporting chair-frame with vertically-sliding and spring-supported seat-frame, having downward-extending rack-bar, and with transmitting mechanism for setting fans or other light machinery in motion, substantially as and for the purpose described.

2. A vertically movable and guided seat-frame, supported on springs, and having a fixed rack-bar, in combination with transmitting mechanism and swinging and balanced fans, hung to spring-supports at the sides of the supporting-frame, substantially as specified.

3. The combination, with a vertically movable and guided seat-frame, having fixed rack-bar, with steadying-roller bearing on its rear side, and with driving and speed-regulating mechanism attached to the supporting-frame of the chair, substantially as and for the purpose specified.

GUSTAV A. C. MEYER.

Witnesses:
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