

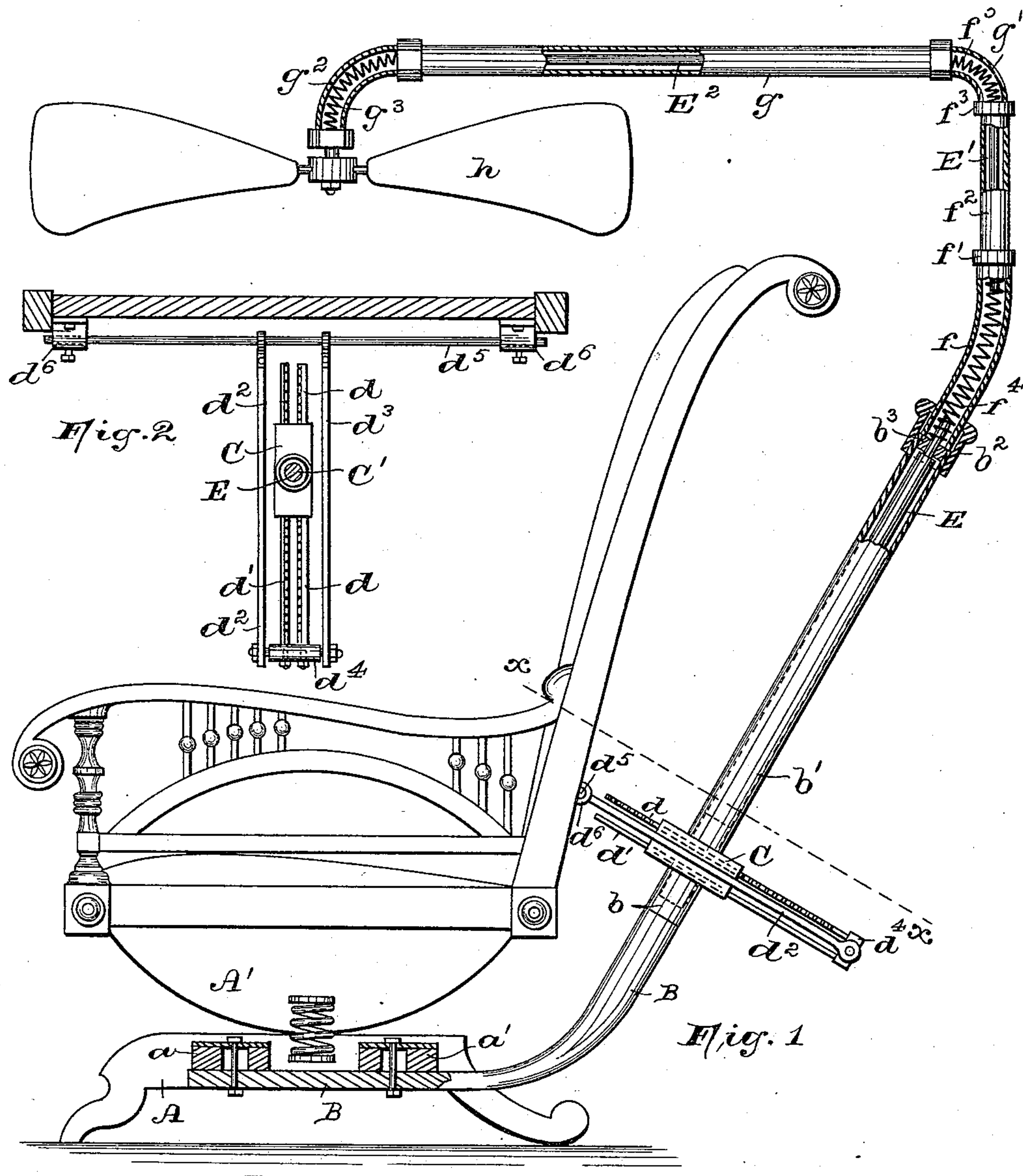
(No Model.)

2 Sheets—Sheet 1.

C. C. SPALSBURY.  
FAN ATTACHMENT FOR ROCKING CHAIRS.

No. 451,188.

Patented Apr. 28, 1891.



WITNESSES:

Henry J. Falk.  
Wm. H. Campfield.

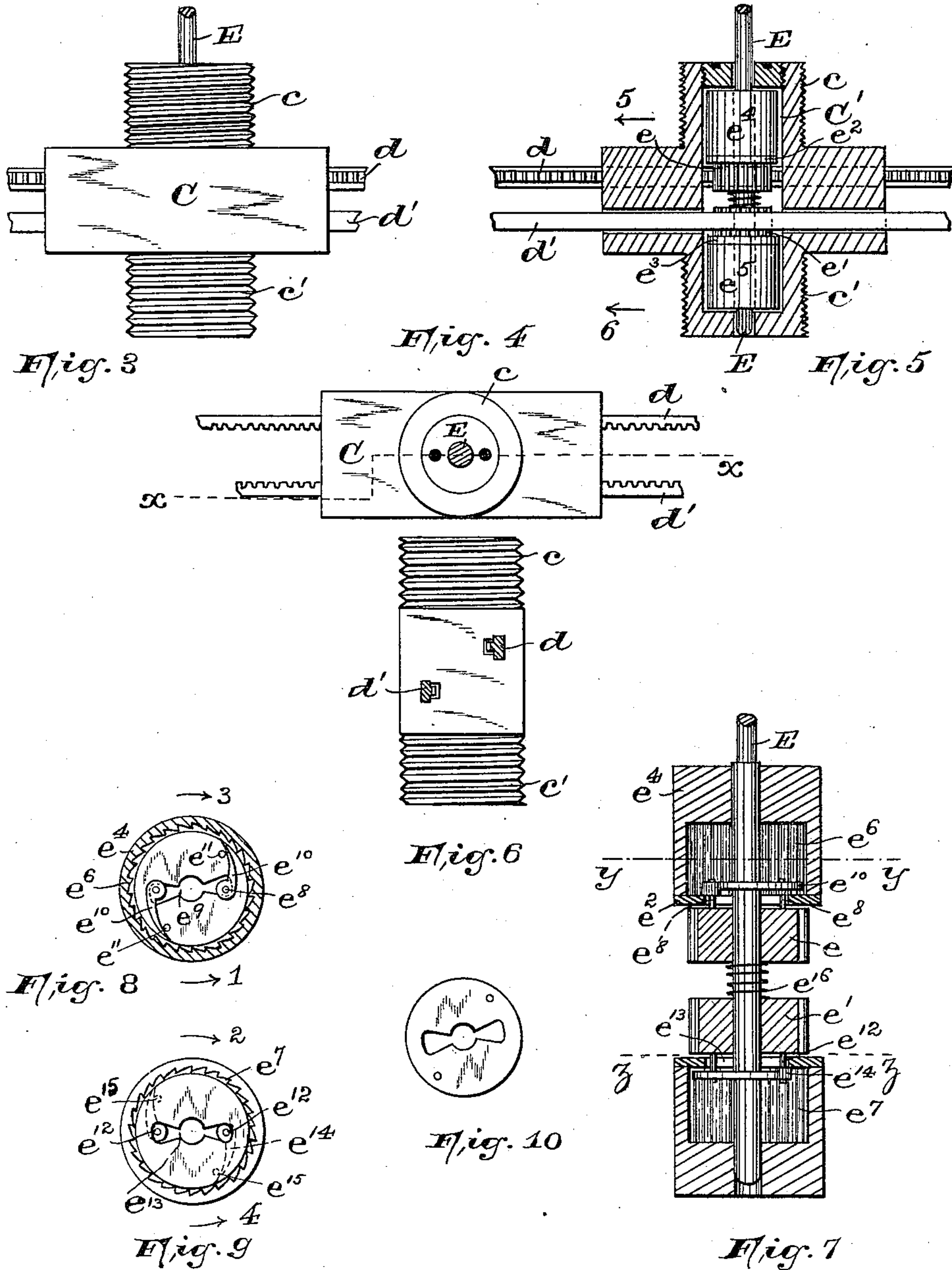
INVENTOR:

Charles C. Spalsbury,  
BY Fred C. Fraentzel, ATT'Y.

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# UNITED STATES PATENT OFFICE.

CHARLES C. SPALSBURY, OF EAST ORANGE, NEW JERSEY.

## FAN ATTACHMENT FOR ROCKING-CHAIRS.

SPECIFICATION forming part of Letters Patent No. 451,188, dated April 28, 1891.

Application filed August 12, 1890. Serial No. 361,794. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES C. SPALSBURY, a citizen of the United States, residing at East Orange, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Fan Attachments for Chairs, &c.; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The herein-described invention relates to improvements in fan attachments adapted to be operated by the movement of rocking-chairs, cradles, and other like articles of furniture, and which is designed to provide an effective and simply-constructed device which is readily operated and the fan-propelling mechanism of which works without the slightest degree of noise.

In the accompanying two sheets of drawings, in which similar letters of reference are employed to indicate corresponding parts in each of the several views, Figure 1 represents a side view of one form of chair provided with my improved fan attachment, certain parts of which are illustrated in section. Fig. 2 is a horizontal section taken on line  $x$  in Fig. 1. Fig. 3 is a side elevation of a casing containing the gear-operating mechanism connected with the fan-propelling shaft. Fig. 4 is a top view of the same. Fig. 5 is a vertical section taken on line  $x$  in Fig. 4, and Fig. 6 is an end view of the casing shown in Fig. 3. Fig. 7 is an enlarged vertical section of the shaft-propelling mechanism adapted to be operated by racks shown in Fig. 5; and Figs. 8 and 9 are horizontal sections taken through lines  $y$  and  $z$ , respectively, in said Fig. 7. Fig. 10 is a plan view of a slotted disk employed in connection with the clutch mechanism shown in Figs. 7, 8, and 9.

In the drawings, A indicates the base of the chair, upon which the same rocks by means of the rockers A'.

To the cross-pieces  $a$  and  $a'$  is attached in any convenient manner an upwardly-projecting arm B, which is provided at its end with a socketed sleeve  $b$ , and upon which is se-

cured in any well-known manner a casing C, containing the shaft-revolving mechanism. Said casing is hollow, forming a chamber C', and is provided upon its upper and lower sides with the threaded portions  $c$  and  $c'$ , the lower one of which is arranged within the socketed sleeve  $b$ , while to the upper one is secured a tube  $b'$ . The body portion of said casing C extends on opposite sides of said portions  $c$  and  $c'$ , being provided on its ends with diagonally-arranged holes  $c^2$  and  $c^3$ , which extend entirely through the casing and form ways or guides in which reciprocate the racks  $d$  and  $d'$ , connected with the back of the chair by means of links  $d^2$  and  $d^3$ . Said racks are secured in any convenient manner to a bar or cross-piece  $d^4$ , and the links  $d^2$  and  $d^3$  are pivotally secured thereto at its ends, passing on opposite sides of the casing C, being linked to a rod  $d^5$ , secured in bearings  $d^6$  on the back of the chair, as clearly illustrated in Fig. 2. When the chair is operated by a person sitting in the same, said links cause the racks to reciprocate in a straight line through the casing C. Engaging with the teeth on said racks within said casing C are pinions  $e$  and  $e'$ , loosely arranged on a straight shaft E, which rotates in bearings in said casing. Two disks  $e^2$  and  $e^3$  are also arranged on said shaft, fitting loosely thereon, being in frictional contact with said pinions. On each side of said disks and secured to said shaft E are socketed clutch-collars  $e^4$  and  $e^5$ , provided within their socketed portions with serrations or teeth  $e^6$  and  $e^7$ .

As shown more especially in Fig. 7, the pinion  $e$  is provided with upwardly-projecting pins  $e^8$ , which project through a slot  $e^9$  in the friction-disk  $e^2$ , (see Fig. 8,) and upon said pins are pivotally secured pawls  $e^{10}$ , and upon said disk are arranged two pins  $e^{11}$ , against which said pawls slide, and are thereby forced in engagement with the teeth or serrations in the socketed portion of the clutch-collar  $e^4$  by the movement of the pinion  $e$ . The pinion  $e'$ , as will be seen from said Figs. 7 and 8, is provided with pins  $e^{12}$ , projecting through a slot  $e^{13}$  in the friction-disk  $e^3$ , and upon said pins are pivotally secured the pawls  $e^{14}$ , which slide against pins  $e^{15}$  on said friction-disk. Between said pinions  $e$  and  $e'$ , encircling the shaft E, is a spring  $e^{16}$ , which causes the close



contact between the pinions, friction-disks, and clutch-collars, as will be evident from Figs. 5 and 7. When the racks are pushed forward, rack  $d$  operates pinion  $e$ , causing the  
 5 pawls thereon to slide against the pins  $e^{11}$  on the friction-disk  $e^2$ , whereby said pawls are thrown into locked engagement with the teeth within the clutch-collar  $e^4$ , which causes the shaft E to rotate in the direction of arrow 1  
 10 in Fig. 8. At the same time the pinion  $e'$  rotates in the direction of arrow 2 in Fig. 9, withdrawing the pawls  $e^{14}$  out of locked engagement with the teeth in the socketed portion in the clutch-collar  $e^5$ . On the return of  
 15 the racks  $d$  and  $d'$  pinion  $e'$  is in locked engagement with clutch-collar  $e^5$ , the same turning in the direction of arrow 4, Fig. 9, and the pinion  $e$  and friction-disk  $e^2$ , having its pawls withdrawn from the locked engagement with  
 20 the teeth in the clutch-collar  $e^4$ , rotates loosely upon the shaft E. Hence during the backward and forward movement of the racks the shaft E will at all times revolve in the same direction. Thus it will be seen that the mo-  
 25 tion of the one pinion carries the pawls thereon against the relatively stationary pins on the friction-disks, thereby throwing the pawls into engagement with the adjacent clutch-collar, while the pawls on the other pinion  
 30 are out of engagement with the teeth in the other clutch-collar.

From Figs. 8 and 9 it will be more clearly seen that the clutch-collars are provided with oppositely-formed teeth, and when the rack  $d$   
 35 moves forward pinion  $e$  rotates the clutch-collar  $e^4$  in the direction of arrow 5, (shown in Fig. 5,) while the pinion  $e'$  rotates loosely on the shaft E, and thereby does not operate the clutch-collar  $e^5$ . During the return of the  
 40 racks, rack  $d'$  operates pinion  $e'$ , which causes clutch-collar  $e^5$  to move in the direction of arrow 6, and the other pinion  $e$  moves loosely on the shaft, from which it will be evident that said shaft E revolves in but one direc-  
 45 tion. The friction-disks have been slotted, as shown, which causes the pawls to be moved back and forth against the pins on said disks, and thrown into or out of engagement with the teeth on the socketed portions of the  
 50 clutch-collars, according to the directions in which the racks move, as will be seen from Figs. 8 and 9.

In Fig. 1 it will be seen that the tube  $b'$ , which contains the shaft E, is provided with  
 55 a cap or collar  $b^2$ , containing a bearing  $b^3$ , through which the end of shaft E projects and rotates. A slightly-curved tube  $f$  is secured within said collar and communicates by means of another collar  $f'$  with a straight tube  $f^2$ ,  
 60 which is provided with the collar  $f^3$ , said collars having bearings in which is arranged the straight shaft E'. A tube  $g$ , having elbows  $g'$  and  $g^2$ , is secured to the tube  $f^2$ , and has arranged therein a straight shaft E'.  
 65 Springs or flexible shafting  $f^4$  and  $f^5$  connect the ends of the straight shafts, as shown. Within the elbow  $g^2$  is arranged the spiral or

spring  $g^3$ , to which is attached a fan  $h$  in such a manner that when in operation the fan rotates in one direction above the chair-seat. 70  
 Of course it will be evident that the collar  $f'$  can be constructed so that the tube  $f^2$  can rotate upon said joint and the fan thereby turned to either side of the chair.

Having thus described my invention, what I claim is— 75

1. In a rocking-chair or other seat, the combination, with the back thereof, of a tube provided with a flexible shaft and a fan, a casing to which said tube is secured, mechanism within said casing and secured to said shaft, racks for operating the same, and links connecting said racks with the back of the chair, all of said parts being arranged and operating to cause said fan to revolve in one 80  
 85 direction during the rocking motion of the chair, for the purposes set forth.

2. The combination, with the base of a rocking-chair or other seat, of a tube provided with means for fastening the same to said 90  
 base, a flexible shaft in said tube provided with a fan, a casing C in said tube containing a shaft-operating mechanism, and racks working through said casing, said racks being connected at their ends farthest away from the 95  
 back of the chair with links which pass on opposite sides of said casing and are attached to the back of the chair, all of said parts being arranged and operating to cause said fan to revolve in one direction during the rocking 100  
 motion of the chair, for the purposes set forth.

3. The combination, with the base of a rocking-chair or other like furniture, of a tube made up of sections adapted to rotate upon 105  
 each other and provided with means for fastening the same to the article of furniture, a flexible shaft within said tube provided with a fan, a casing C, having pinions therein loosely arranged on said shaft, friction-disks 110  
 on said shaft, clutch-collars and means on said disks engaging therewith, and racks for operating said pinions, said racks being operated during the rocking movement of the article of furniture, as and for the purposes set forth. 115

4. The herein-described mechanism for operating a fan-propelling shaft, consisting of two pinions loosely arranged on said shaft, friction-disks thereon, clutch-collars on said shaft, and pawls operated by said friction- 120  
 disks, adapted to engage with said clutch-collars, in combination with a pair of racks engaging with said pinions to cause the rotation of the propelling-shaft, for the purposes set forth. 125

5. The herein-described mechanism for operating a fan-propelling shaft, consisting of two pinions loosely arranged thereon, friction-disks, socketed clutch-collars provided with serrations or teeth, said pinions being pro- 130  
 vided with pins passing through slots or perforations in said friction-disks, pawls on said pins, and pins on the friction-disks for causing said pawls to engage with said serrated



clutch-collars when turned, said parts being arranged within a casing, in combination with a pair of racks engaging with said pinions during the rocking motion of the chair, for the purposes set forth.

6. The combination of a rotary shaft arranged in bearings in a casing C and provided with pinions  $e$  and  $e'$ , fitting loosely thereon, reciprocating racks moving in ways or guides in said casing on opposite sides of said pinions, slotted friction-disks loosely arranged on said shaft and provided with pins thereon, pins on said pinions projecting through said slotted friction-disks, provided with pawls, a spring between said pinions encircling said shaft, socketed clutch-collars secured to said shaft, provided with teeth or serrations in their socketed portions, one of said clutch-collars being in locked engagement with one pinion when the other clutch-collar is out of locked engagement with the other pinion during the forward movement of said racks, and vice versa during the backward movement of said racks, causing the locked engagement of the previously-disengaged clutch-collar and pinion and throwing the engaged clutch-collar and pinion out of mesh, as and for the purposes set forth.

7. The combination, with the base of a rocking-chair, of a tube provided with means for attaching the same thereto, a flexible shaft having attached thereto at one end a fan and secured at its other end to a shaft E, arranged in bearings in a casing C, to which said tube is secured, pinions  $e$  and  $e'$ , loosely arranged on said shaft, provided with pins projecting through slotted or perforated friction-disks  $e^2$  and  $e^3$ , a spring between said pinions encircling said shaft, socketed clutch-collars secured to said shaft, provided with teeth or serrations in their socketed portions, racks on opposite sides of said pinions sliding in ways in said casing, and links connecting said racks with the back of the chair, whereby said racks are caused to reciprocate

through said casing and cause said shaft E to rotate at all times in the same direction, for the purposes set forth.

8. The combination of a tube made up of jointed sections and provided with flexible shafts or springs connected with a solid rod arranged in bearings in one of said sections, means for securing said tube to the base of the chair, mechanism constructed and arranged to cause said shaft to revolve in one direction during the rocking motion of the chair, racks engaging with said mechanism, and links for connecting said racks pivotally to the back of the chair, for the purposes set forth.

9. The herein-described fan attachment for rocking-chairs, consisting of a tube provided with a shaft E and a casing C, said shaft rotating in bearings, pinions  $e$  and  $e'$  on said shaft and a spring therebetween, slotted friction-disks  $e^2$  and  $e^3$ , pins on said pinions extending through said slotted disks, provided with pawls, clutch-collars with which said pawls are caused to engage by means of said friction-disks, racks on opposite sides of said pinion operating the same and sliding through ways in said casing, links for connecting said racks to the back of the chair, whereby they are caused to reciprocate through said casing, causing the shaft to rotate in the same direction, as set forth, tube  $f$ , secured in a collar  $b^2$  on tube  $b'$ , provided with a collar  $f'$ , in which rotates the tube  $f^2$ , a tube  $g$ , secured thereto by means of an elbow, springs or flexible shafting  $f^4$ ,  $f^5$ , and  $g^3$ , provided with intermediately-arranged solid rods, and a fan, all of said parts being arranged as and for the purposes set forth.

In testimony that I claim the invention set forth above I have hereunto set my hand this 8th day of August, 1890.

CHARLES C. SPALSBURY.

Witnesses:

EMMA A. SPALSBURY,  
FREDK. C. FRAENTZEL.