

No. 665,647.

Patented Jan. 8, 1901.

W. T. WAITE.  
ROTATING FAN.

(Application filed Aug. 7, 1899.)

(No Model.)

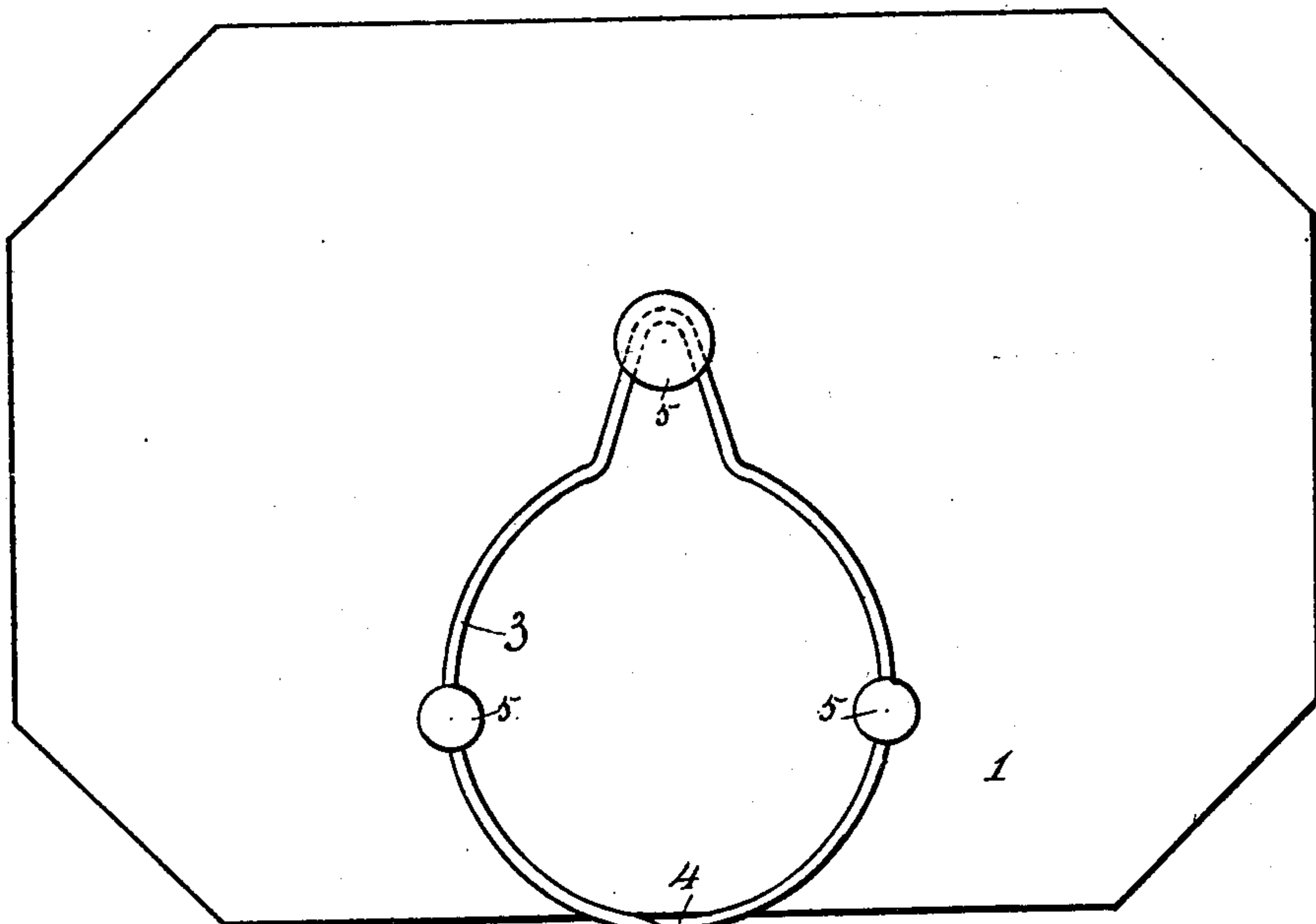


Fig. 1.

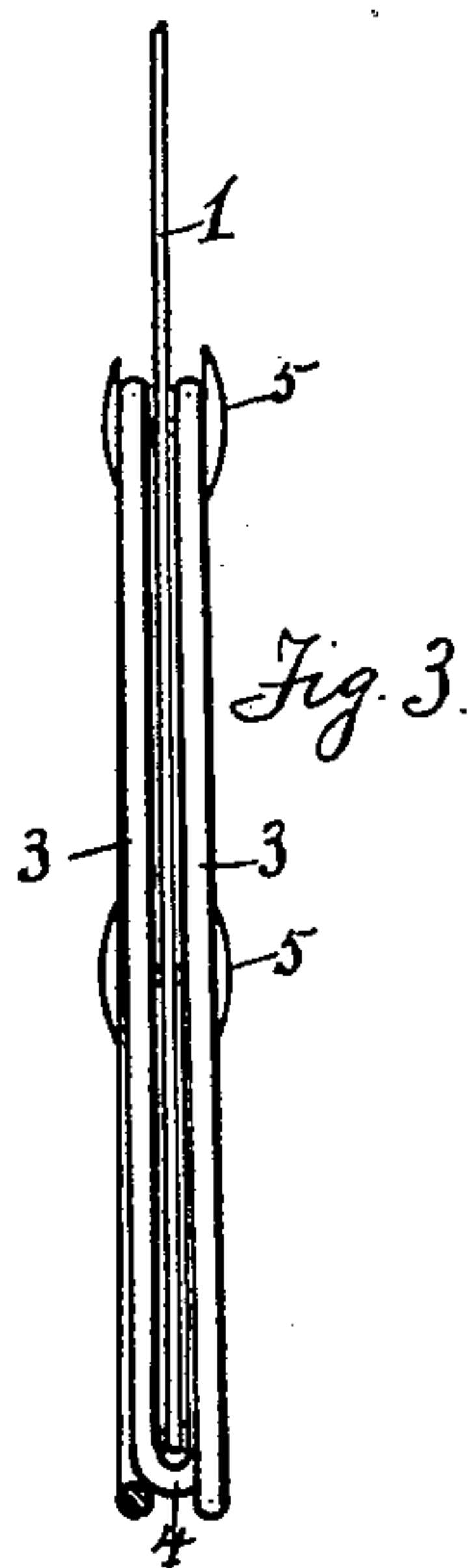


Fig. 3.

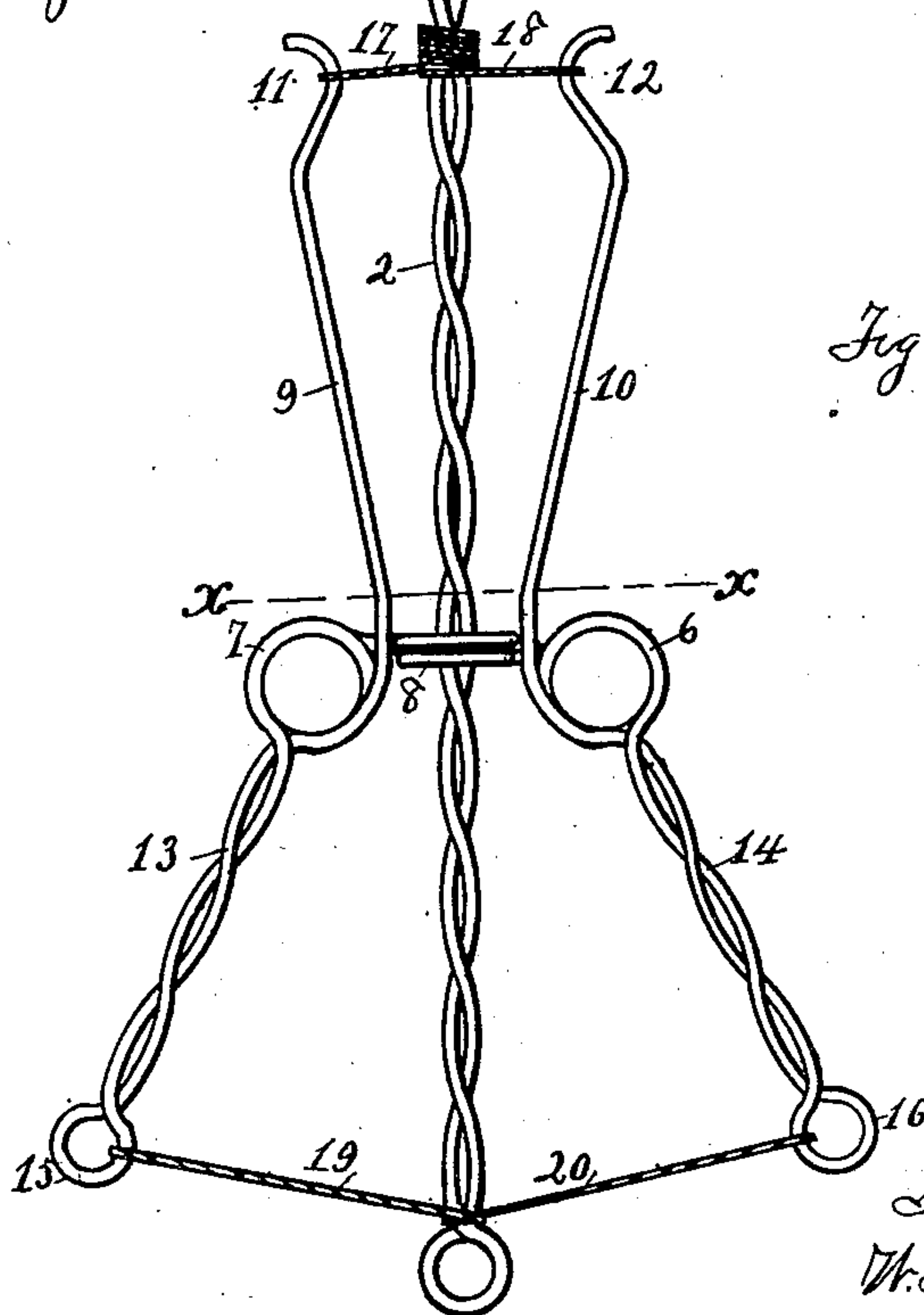
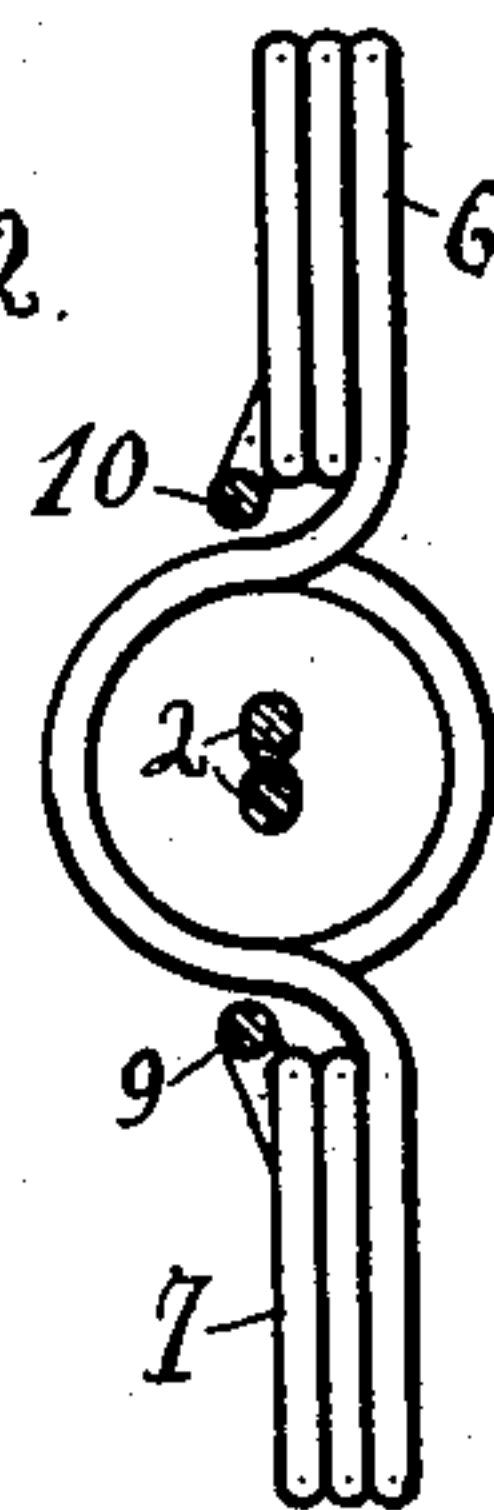


Fig. 2.



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## ROTATING FAN.

SPECIFICATION forming part of Letters Patent No. 665,647, dated January 8, 1901.

Application filed August 7, 1899. Serial No. 726,399. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM T. WAITE, of Kansas City, in the county of Jackson, in the State of Missouri, have invented certain new and useful Improvements in Rotating Fans, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to certain new and useful improvements in rotating fans; and it consists in certain features of novelty hereinafter described, and pointed out in the claims.

Figure 1, represents a side elevation of a rotating fan embodying my improvements. Fig. 2 represents a cross-section on the line X X of Fig. 1. Fig. 3 represents an edge-wise view showing the manner in which the fan-blade is mounted upon and secured to the stem.

Similar numbers refer to similar parts throughout the several views.

1 represents the fan-blade.

2 represents the stem on which is formed the head 3. The stem and head are formed of a single wire, and the fan-blade is secured thereto thus: The part of the wire forming the head is bent, as shown, on one side of the blade, and passing under the blade at 4 is bent into the same form on the other side of the blade, the blade being seated between the two opposing wires, as shown in Fig. 3, and secured thereto by the rivets or studs 5.

6 and 7 represent oppositely-disposed vertically-arranged spring-coils connected by the horizontal coil 8. 9 and 10 represent arms extending upwardly from said coils 6 and 7 and terminating in hooks 11 and 12 immediately under the fan-blade. 13 and 14 represent arms extending downwardly and outwardly from said coils and terminating in the eyes 15 and 16. The fan-stem is passed through said horizontal coil and stands vertically between said arms. Cords 17 and 18 are secured at one end to the stem just below the blade and at the other end to the hooks 11 and 12. Cords 19 and 20 are in like manner secured at one end to the stem at or near the eye in its lower end and at the other end to the eyes 15 and 16, and it will be observed that the fan-stem is supported and carried

entirely by the cords and has no bearings upon the handle or otherwise and is thus entirely free from friction. Now as the arms 13 and 14 are held in the hand and pressed toward each other against the tension of the spring of the coils 6 and 7 the upper arms 9 and 10 are borne or thrown apart or away from each other, unwinding the cords 17 and 18 from about the stem and causing the stem and the fan-blade to rotate rapidly in one direction and at the same time winding the cords 19 and 20 at the lower end of the stem around the stem, and then as the pressure on the arms 13 and 14 is released the resiliency of the spring of the coils will throw or carry said arms apart, unwinding the cords 19 and 20 from the stem and rotating the stem and the fan-blade in the opposite direction and winding up the cords 17 and 18 on the stem ready for further action. Thus is provided a very cheap, durable, and efficient rotating fan in which there is no friction of the stem in a handle or bearings of any kind, the only friction and wear being on the cords which connect and support the stem upon the reciprocating spring-arms and which may be quickly and easily replaced if broken or worn.

Having thus fully described my improvements, what I claim as my invention, and desire to secure by Letters Patent, is—

1. A rotating fan consisting of a fan-stem having a fan-blade mounted thereon, oppositely-disposed, vertically-arranged connected springs, upwardly-extending arms connected with said springs, cords connecting said arms with the fan-stem, downwardly-extending arms connected with said springs, and cords connecting said arms with the fan-stem, when the parts are so arranged that the reciprocating action of the arms will alternately wind said cords upon and unwind the same from said stem, substantially as set forth.

2. A rotating fan consisting of a stem having a fan-blade mounted thereon, oppositely-disposed, connected, spring-actuated reciprocating arms arranged parallel with the stem and cords connected with arms and connected with and supporting the stem and arranged to be unwound from and wound upon the stem as said arms are reciprocated, substantially as set forth.



3. A mechanical movement consisting of a stem or standard, oppositely-disposed, connected, spring-actuated, reciprocating arms arranged parallel with said stem or standard,  
5 and cords connected with said arms and connected with and supporting said stem or standard, and adapted to be wound upon and unwound from said stem or standard by the reciprocation of said arms, whereby said stem or standard is revolved alternately in opposite directions as said arms are reciprocated.

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