

No. 698,479.

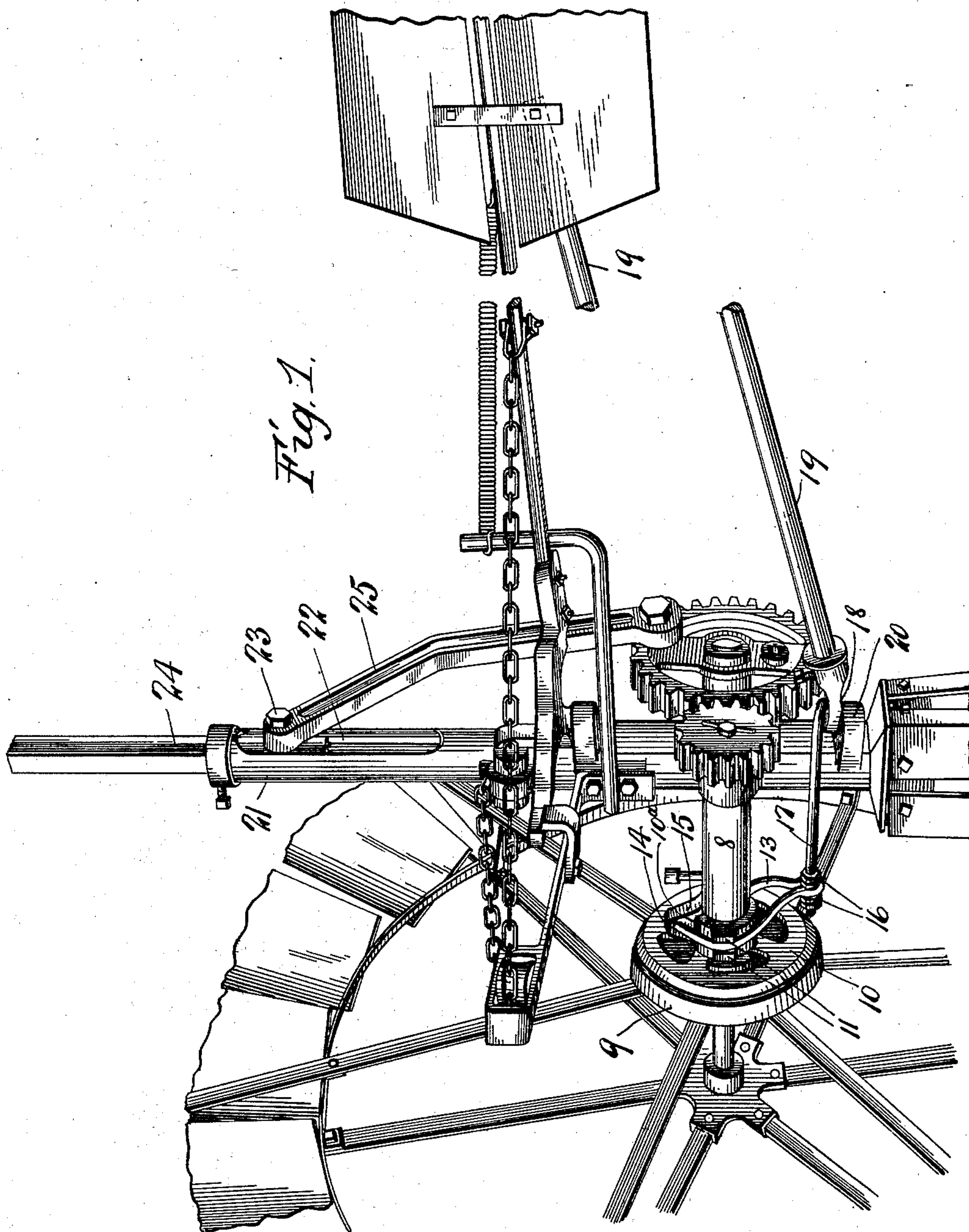
Patented Apr. 29, 1902.

M. W. ELLIOTT, JR.
WINDMILL MECHANISM.

(Application filed Apr. 19, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:
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Paul Carpenter

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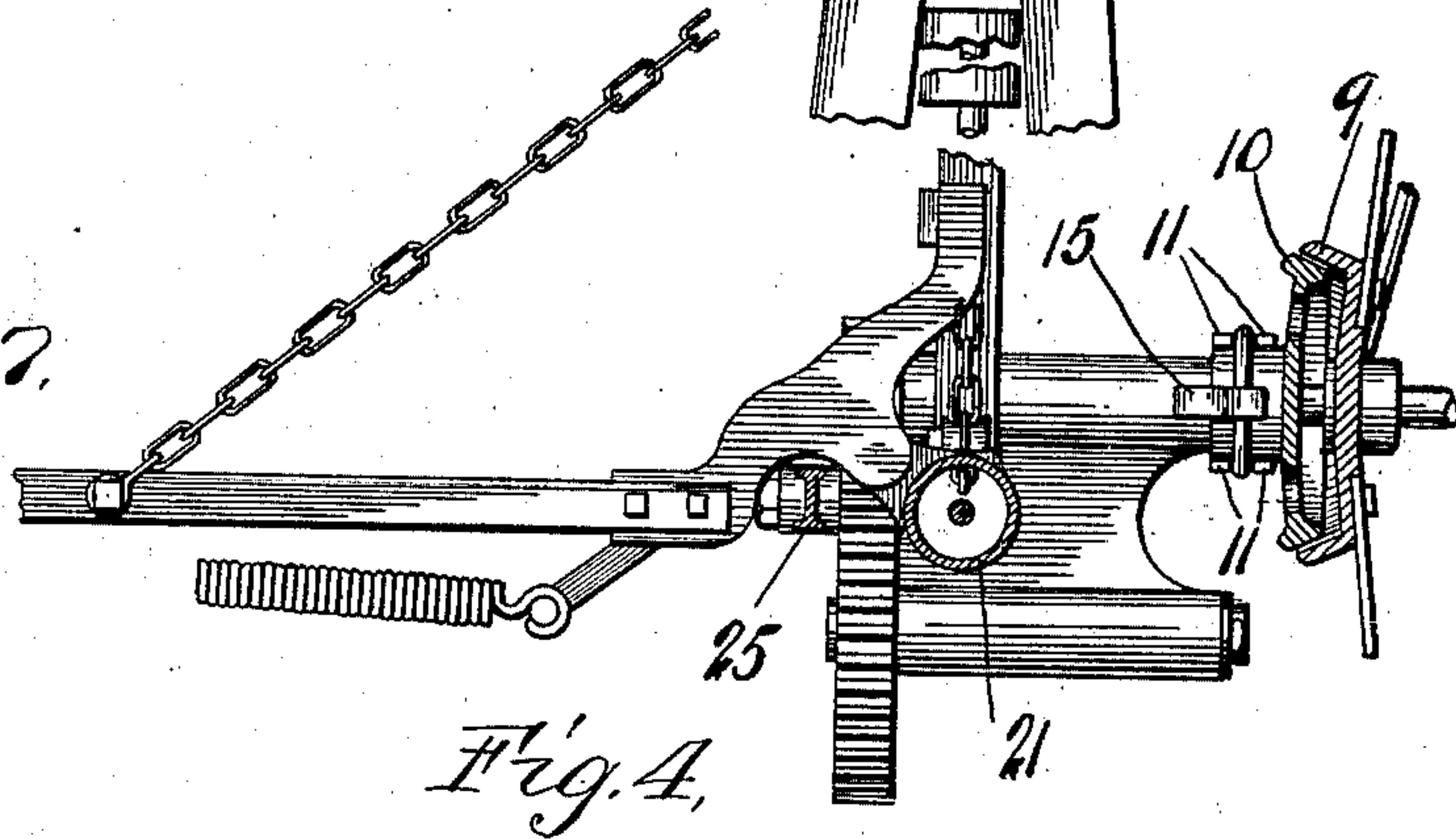
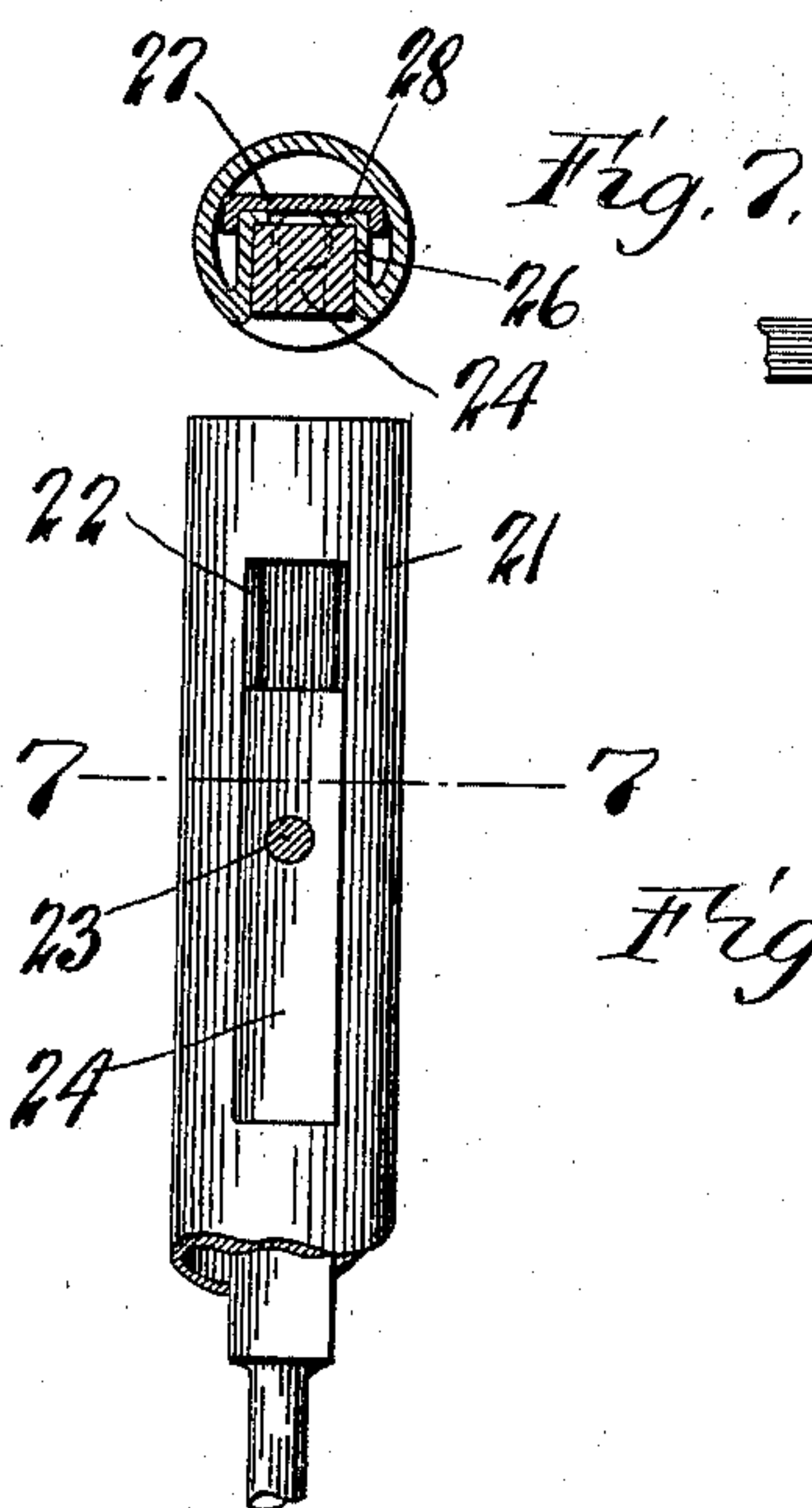
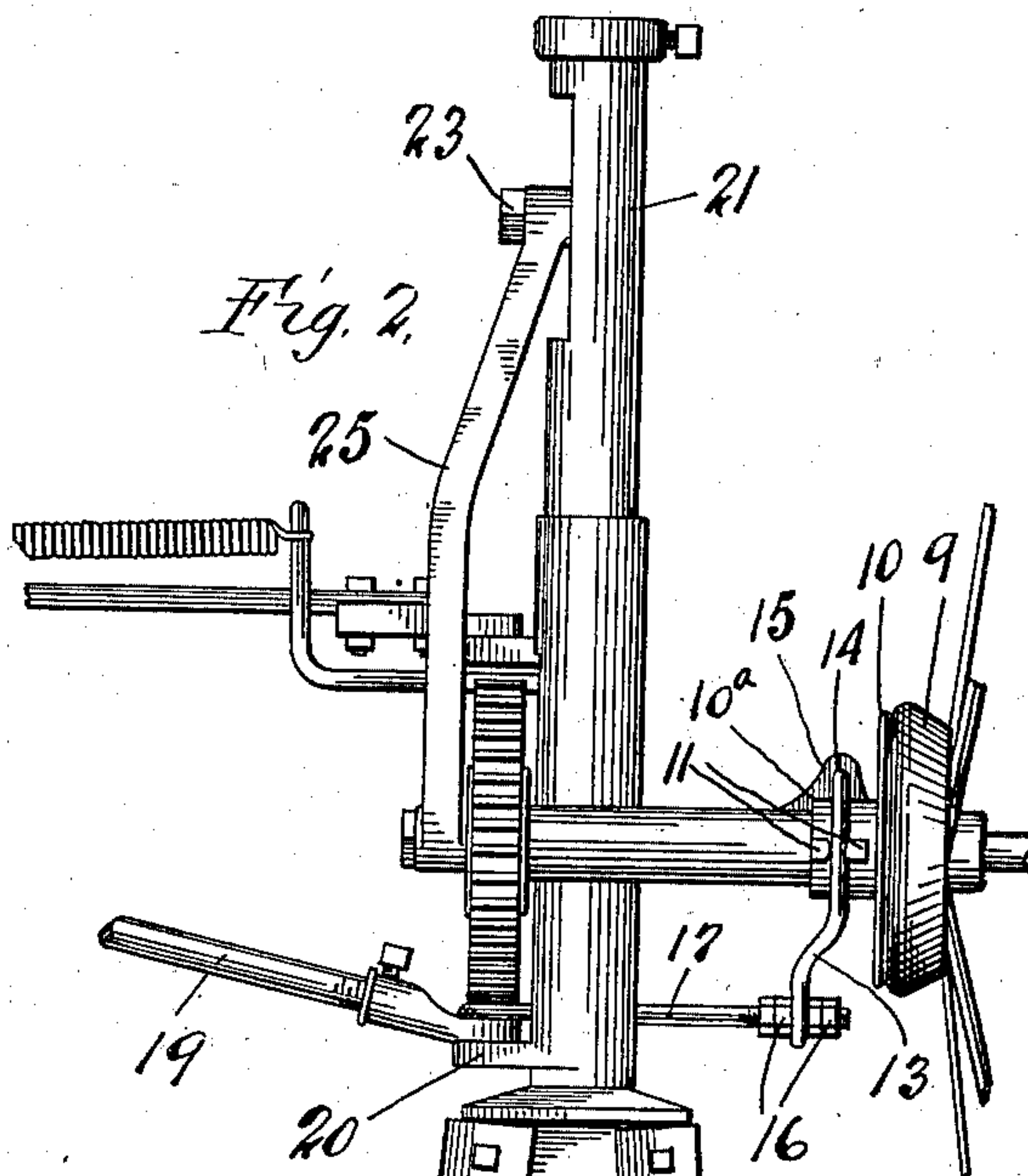
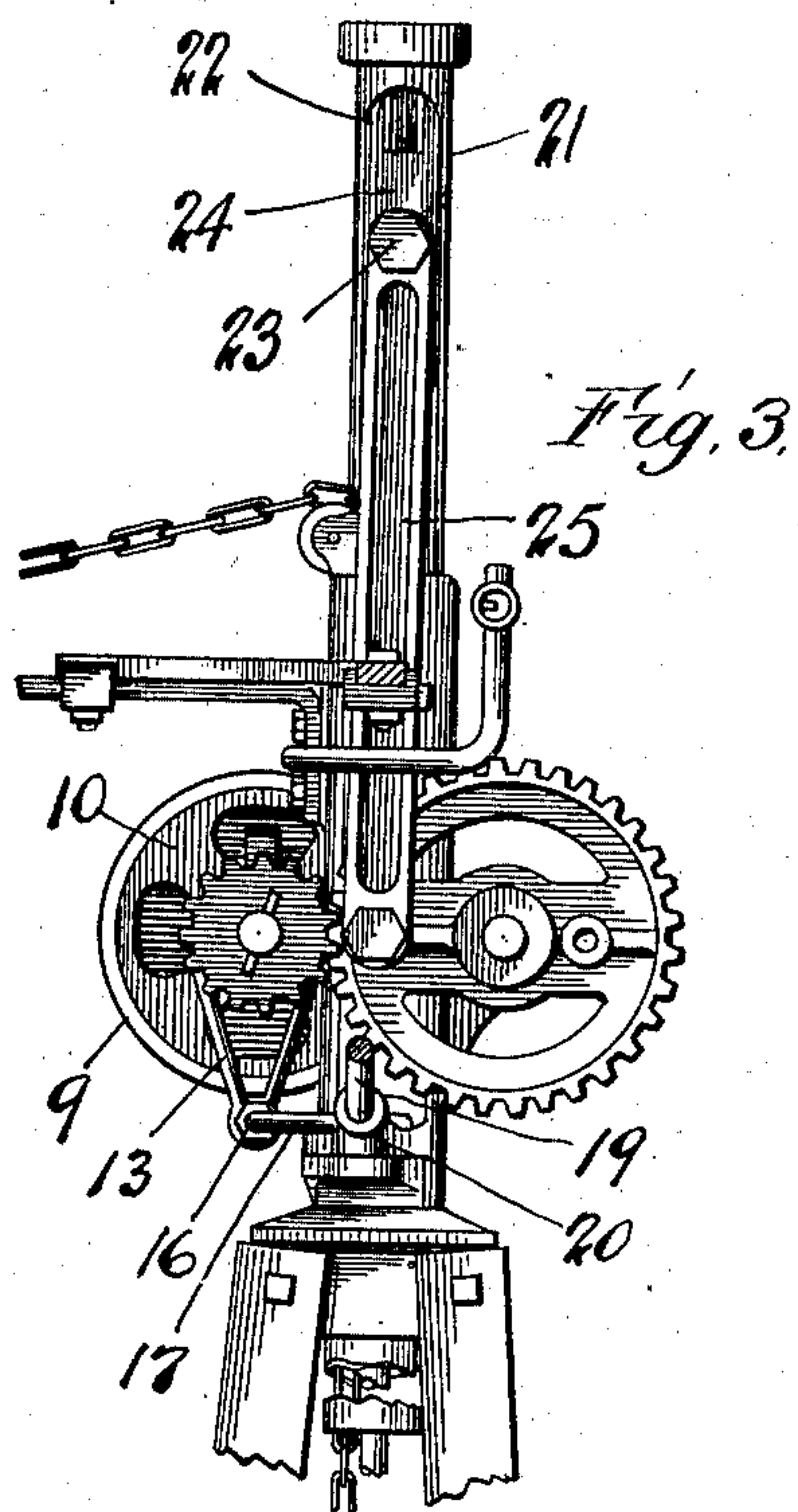


Fig. 4.

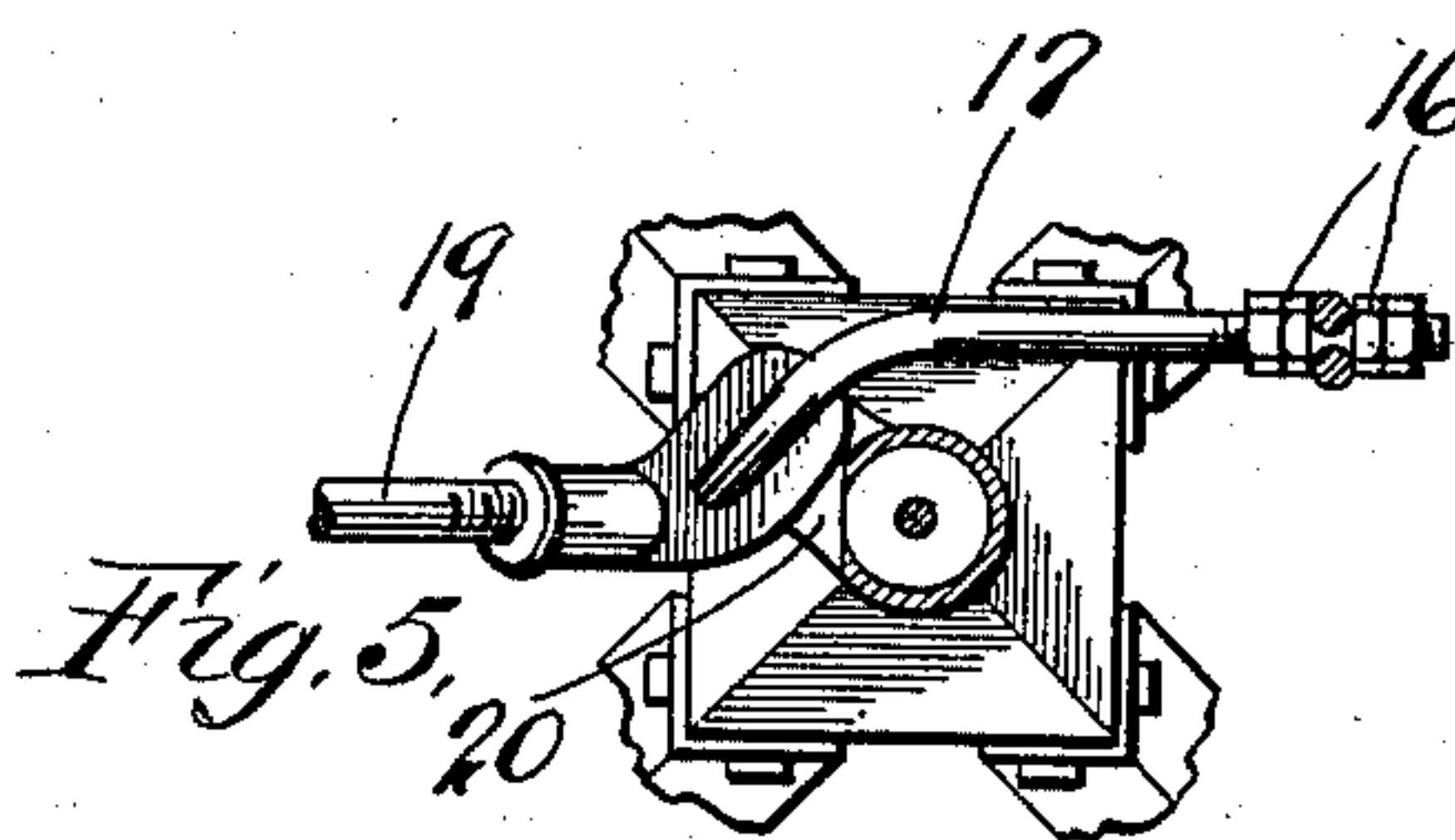


Fig. 5.

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UNITED STATES PATENT OFFICE.

MYRON W. ELLIOTT, JR., OF BELOIT, WISCONSIN, ASSIGNOR TO FAIRBANKS, MORSE & COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

WINDMILL MECHANISM.

SPECIFICATION forming part of Letters Patent No. 698,479, dated April 29, 1902.

Application filed April 19, 1901. Serial No. 56,654. (No model.)

To all whom it may concern:

Be it known that I, MYRON W. ELLIOTT, Jr., a citizen of the United States, residing at Beloit, Rock county, Wisconsin, have invented certain new and useful Improvements in Windmill Mechanism, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention has especial reference to the provision of improved means for braking the wheel, so as to stop the same from rotating when it is furled, and comprises novel devices for automatically accomplishing such result by the relative swinging movement of the wheel and vane.

A further object of my invention has reference to the provision of a novel formation of a guide for the pump-rod, the connection of the latter with the pitman which actuates it, and the support of the rod against the lateral stresses induced by the angularity of the pitman when in operation.

The above, as well as such other objects as may hereinafter appear, I attain by means of a construction which I have illustrated in preferred form in the accompanying drawings, in which—

Figure 1 is a view in perspective, showing my improvement applied to a mill. Fig. 2 is a partial elevation or side view of the same. Fig. 3 is an elevation on a plane at right angles to the plane of Fig. 2. Fig. 4 is a partial plan view of my improved mechanism. Fig. 5 shows a detail of the construction of brake-rod and its connections. Fig. 6 is a view giving a detail of the pump-rod guide; and Fig. 7 is a horizontal section thereof, taken on the line 7 7 of Fig. 6.

Referring now more particularly to Fig. 1, it will be seen that upon the journal-casting 8, which carries the shaft of the wheel, there is mounted a wheel-hub 9, constructed so as to act as a brake-spider, adapted to be engaged by a brake-ring 10, having a slot 10^a therein, which is longitudinally movable upon the journal-casting 8 and provided with a pair of lugs 11 upon each side of its hub 12, adapted to receive the yoke 13, which is fulcrumed at 14 in a fixed bracket 15, projecting upwardly from the casting 8 through the slotted

opening 10^a, so as to prevent rotation of the brake-ring. The yoke 13 at its lower end is connected by means of a couple of adjusting-nuts 16 with a brake-rod 17, having pivotal engagement with the casting 18, which forms the socket or pivot-piece of the vane-bar brace 19 and is pivotally mounted in a bracket 20, so as to permit the vane to swing relative to the wheel.

The pivot-pipe 21 is extended upwardly some distance, as clearly shown in the drawings, and provided with a slotted opening 22, through which the crank-pin 23 forms connection between pump-rod 24 and the pitman 25, which actuates the rod. In forming the slot or opening 22 the metal of the tube which forms the pivot-pipe 21 is bent inwardly at each side of said slot, as clearly shown in Fig. 7, at 26, forming, together with the piece 27 and the inwardly-projecting flanges 28, a guideway for the pump-rod 24, so arranged as to hold the pump against lateral movement either away from the slot 22 or in a sidewise direction relative thereto. By this means the lateral stress due to the inclination of the pitman 25 is taken care of, the whole being formed at a low cost, because it involves the use of little material and is a construction very simple to make.

The operation of my brake mechanism is as follows: As the vane-bar brace 19 is drawn out of gear or into a plane parallel with the face of the wheel, as is done when the mill is furled, it moves the brake-rod 17 in a direction to push the brake-ring 10 against the brake-spider formed in the hub 9 of the wheel, because of the engagement of the yoke 13 with the lugs 11 and the fulcrum-bracket 15 on the journal-casting 8, thus causing a stoppage of the rotation of the wheel. If the brake parts wear or from some other cause it is desirable to regulate the amount of pressure between the brake-ring 10 and the hub 9, it can be readily done by proper adjustment of the nuts 16 on the brake-rod 17.

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

1. An improvement in windmill mechanism comprising a journal-casting, a wheel-hub

constructed to act as a brake-spider, a brake-ring longitudinally movable upon said journal-casting, a lever for moving said brake-ring, a fulcrum-bracket for said lever fixed
5 relative to said journal-casting, and means for imparting movement to said lever when the mill is furlled, said fulcrum-bracket preventing a rotation of the brake-ring without a strain on said operating means, substantially as described.
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2. An improvement in windmill mechanism comprising a journal-casting, a wheel-hub constructed to act as a brake-spider, a brake-wheel longitudinally movable upon said journal-casting and provided with a collar having
15 a slotted opening, a projection upon said journal-casting passing through said slotted opening to prevent rotation of said collar and brake-ring, and means operatively connected
20 to said projection for imparting longitudinal motion to said brake-ring, substantially as described.

3. An improvement in windmill mechanism comprising a pivot-pipe, a pump-rod operating therein, a slot in one side of said pivot-
25 pipe, a pitman for actuating said pump-rod, a connection between said pitman and said pump-rod passing through said slot, and a guide for said pump-rod within said pivot-pipe, said guide being external relatively to
30 the pump-rod, substantially as described.

4. An improvement in windmill mechanism comprising a pivot-pipe, a pump-rod operating therein, a slot in one side of said pivot-
35 pipe, a pitman for actuating said pump-rod, a connection between said pitman and said pump-rod passing through said slot, and a guide for said pump-rod within said pivot-pipe formed by bending a portion of the walls
40 of the pipe inward, substantially as described.

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Attest:

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