

No. 711,140.

C. WELLS.
WINDMILL.

Patented Oct. 14, 1902.

(No Model.)

(Application filed Apr. 25, 1902.)

2 Sheets—Sheet 1.

Fig. 1.

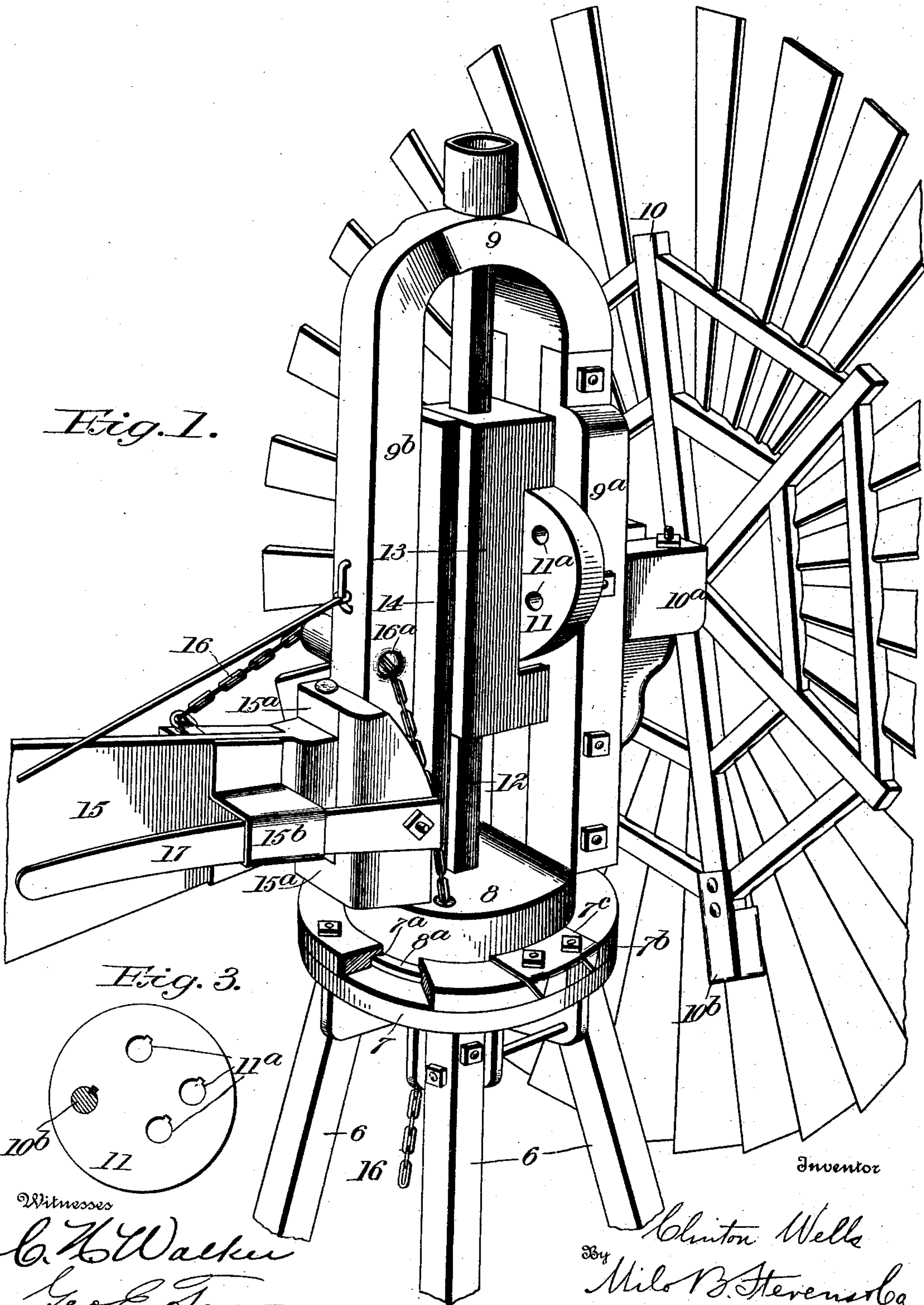
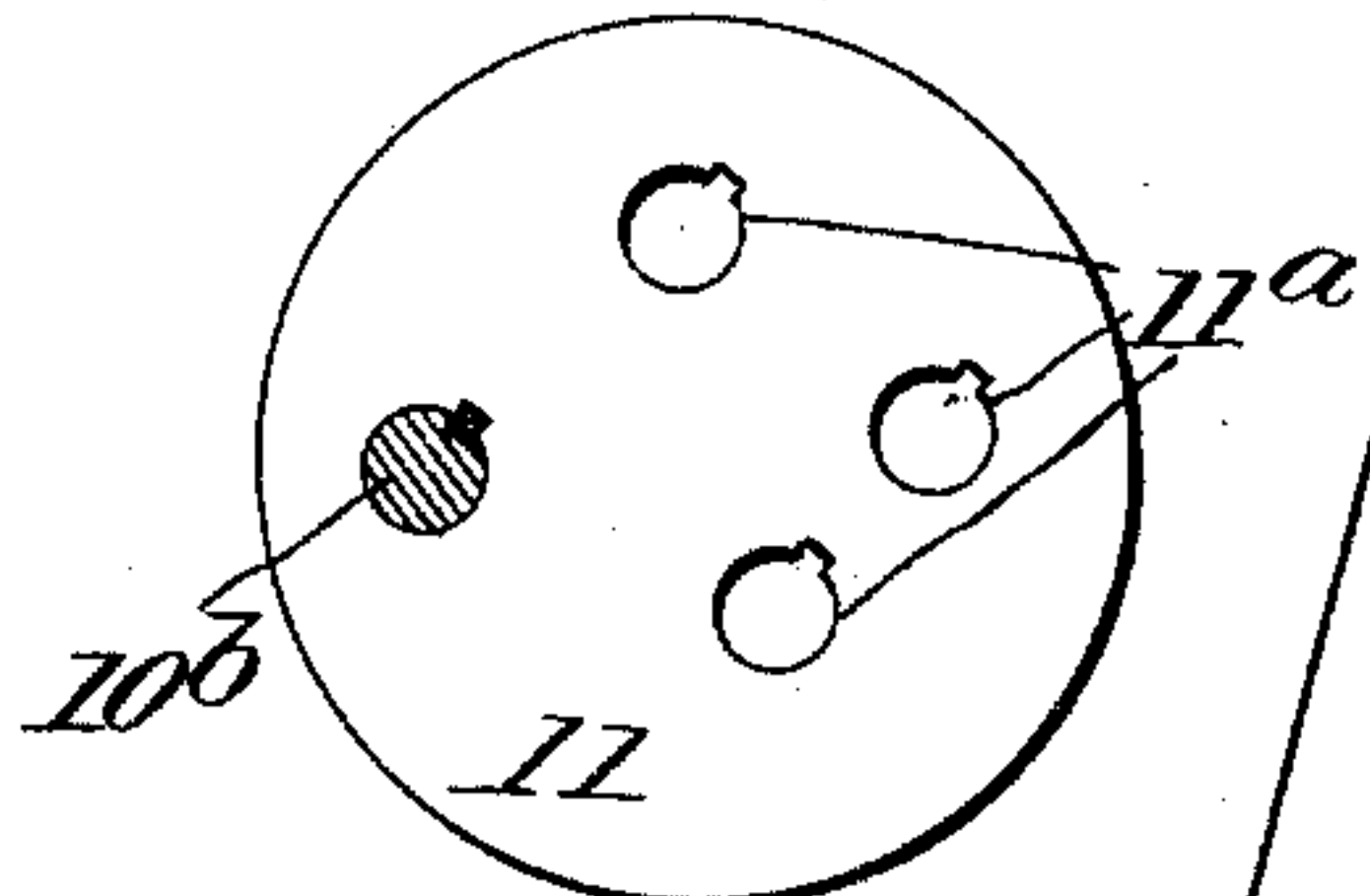


Fig. 3.



Witnesses

C. H. Walker
Geo. E. Tew,

Inventor
Clinton Wells
By
Milo B. Stevens & Co.
Attorneys

No. 711,140.

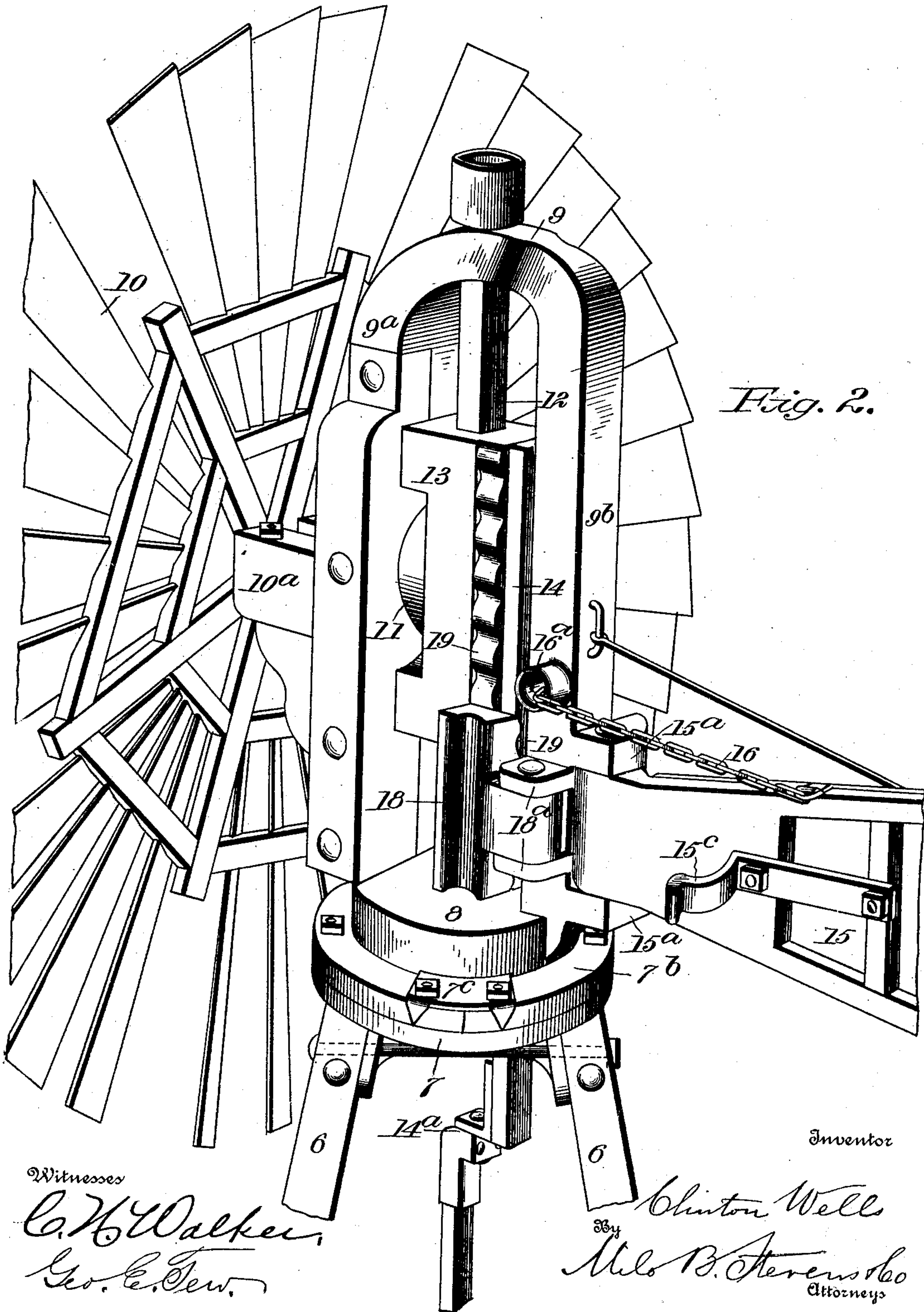
Patented Oct. 14, 1902.

C. WELLS.
WINDMILL.

(Application filed Apr. 25, 1902.)

(No Model.)

2 Sheets—Sheet 2.



UNITED STATES PATENT OFFICE.

CLINTON WELLS, OF SEIBERT, COLORADO.

WINDMILL.

SPECIFICATION forming part of Letters Patent No. 711,140, dated October 14, 1902.

Application filed April 25, 1902. Serial No. 104,941. (No model.)

To all whom it may concern:

Be it known that I, CLINTON WELLS, a citizen of the United States, residing at Seibert, in the county of Kit Carson and State of Colorado, have invented certain new and useful Improvements in Windmills; 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 the figures of reference marked thereon, which form a part of this specification.

15 This invention relates to windmills.

The object of the invention is to construct an improved driving mechanism to communicate and convert the motion of the wheel-shaft to the pump-rod.

20 A further object is to construct an improved brake mechanism to stop the motion of the wheel when it is thrown out of the wind.

25 A further object is to construct an improved turn-table on which the driving parts are mounted.

30 A further object is to generally simplify and improve the construction of windmills, involving the use of an eccentric on the wheel-shaft, which communicates motion to a sliding block supported by a suitable guide on the turn-table and to which block the pump-rod is attached.

35 In the accompanying drawings, Figure 1 is a perspective view of one side of the windmill, and Fig. 2 is a perspective view of the other side. Fig. 3 is a detail showing the shaft and eccentric attachment.

40 Referring more specifically to the drawings, the standards of the tower are indicated at 6, to the top of which is bolted or otherwise secured a bed-plate 7, on which the turn-table 8 is mounted and rotates. The bed-plate has a central circular recess which receives the turn-table and an undercut groove (indicated at 7^a) into which projects an annular flange 8^a on the turn-table. The groove of the bed-plate is preferably formed by a split ring 7^b, which is bolted to the top of the bed-plate proper. By removing the ring the turn-table may be unshipped. The ends of the halves of the split ring are joined by plates 7^c, which

overlap the ends and sides of the halves and are firmly secured by the bolts.

55 An arch is indicated at 9, the front and rear pillars (indicated at 9^a and 9^b) of which rise vertically from the turn-table.

60 The wheel is indicated at 10, and the shaft 10^b thereof passes through the front pillar and through a bearing-box 10^a, supported thereon. An eccentric 11 is keyed or otherwise secured to the inner end of the shaft. The eccentric is provided with a number of holes 11^a at different distances from its periphery, and the shaft may be keyed in any one of these openings to vary the throw of the eccentric. A weight 10^b is secured to one of the arms of the wheel opposite the point of greatest eccentricity of the eccentric, and said weight serves to balance the wheel and insure a steady motion thereof irrespective of the direction of throw of the eccentric.

75 A vertical guide-post 12 extends from the center of the turn-table to the top of the arch. This post is preferably rectangular in form and forms a guide on which slides the reciprocating block 13, to which the pump-rod 14 is attached. The eccentric works in a recess formed in the face of the sliding block and gives the block an up-and-down motion as the eccentric revolves. The pump-rod passes through an opening in the turn-table and is provided below the turn-table with a swiveling joint 14^a, which is offset sufficient to bring it directly below the axis of the turn-table. This is necessary, because the pump-rod extends through the turn-table to one side of the center thereof.

80 The vane is indicated at 15, pivoted to brackets 15^a, projecting from the rear pillar. The vane is turned to throw the wheel out of the wind by means of a chain 16, which is connected to the vane and extends through a transverse opening 16^a, formed in the rear pillar, and thence down through a hole in the turn-table to the bottom of the tower in a position to be operated by hand in the usual manner. The opening 16^a is preferably provided with a bushing or tube which extends laterally to a sufficient distance to give a side purchase on the vane when the chain is pulled. The vane is normally held in the axis of the wheel-shaft by a spring 17, which is fixed at one end to the rear pillar and ex-

tends under a strap 15^b, secured to the vane. When the vane is turned, the spring bends and draws through the strap. When the chain is released, the force of the spring re-

5 turns the vane to its former position.

A brake-block is indicated at 18 and is pivoted between brackets 18^a, secured to the rear pillar. It is so positioned that it may be thrown into contact with the reciprocating block 13 to clamp the same when the wheel is thrown out of the wind. An arm 15^c projects from the side of the vane, and when the vane is turned across the wind it strikes the brake-block and throws the same against the reciprocating block, effectually braking the same. The side of the reciprocating block and the engaging face of the brake-block are provided with shallow teeth, as indicated at 19, for the purpose of assisting the clamping operation. The teeth are made shallow and rounded, so that a certain amount of slip is allowed to prevent the wheel from stopping too suddenly.

By the construction shown a wide bearing is formed for the turn-table. It rests solidly upon the bed-plate with little or no danger of pinching or binding. The construction permits the mill to be readily set up or taken down from the top of the tower.

30 The bearing-surfaces in the reciprocating block against which the eccentric works are preferably inclined and slightly concaved to readily take the lifting thrust of the eccentric and to prevent any side draft.

35 The brake is positive in its action and so simple that it will not readily get out of order.

What I claim is—

1. In a windmill, the combination with a turn-table, of a vertical guide, a block slidable on the guide, a wheel, means to communicate motion from the wheel to the block, a swinging vane, and a vane-actuated brake engaging the block. 40

2. In a windmill, the combination with a vertically-reciprocating block and means to drive the same, and a swinging vane, of a vane-actuated brake-block engaging the said block to clamp the same when the vane is swung to throw the wheel out of the wind. 45

3. In a windmill, the combination with a wheel, a reciprocating block to which the pump-rod is attached, means to communicate motion from the wheel to the block, and a swinging vane, of a brake-block carried by the vane into contact with the sliding block when the wheel is thrown out of the wind. 55

4. In a windmill, the combination with a turn-table, of an arch supported thereon, a vertical guide within the arch, a reciprocating block sliding on the guide, a pump-rod attached to the block, a wheel-shaft extending through one pillar of the arch and having an eccentric at the inner end thereof engaging the block, a vane pivoted to the other pillar of the arch, and a vane-actuated brake-block pivoted adjacent the reciprocating block. 65

In testimony whereof I affix my signature in presence of two witnesses.

CLINTON ^{his} X WELLS.
mark

Witnesses:

C. D. HUTCHENS,
M. B. HENDRICKS.