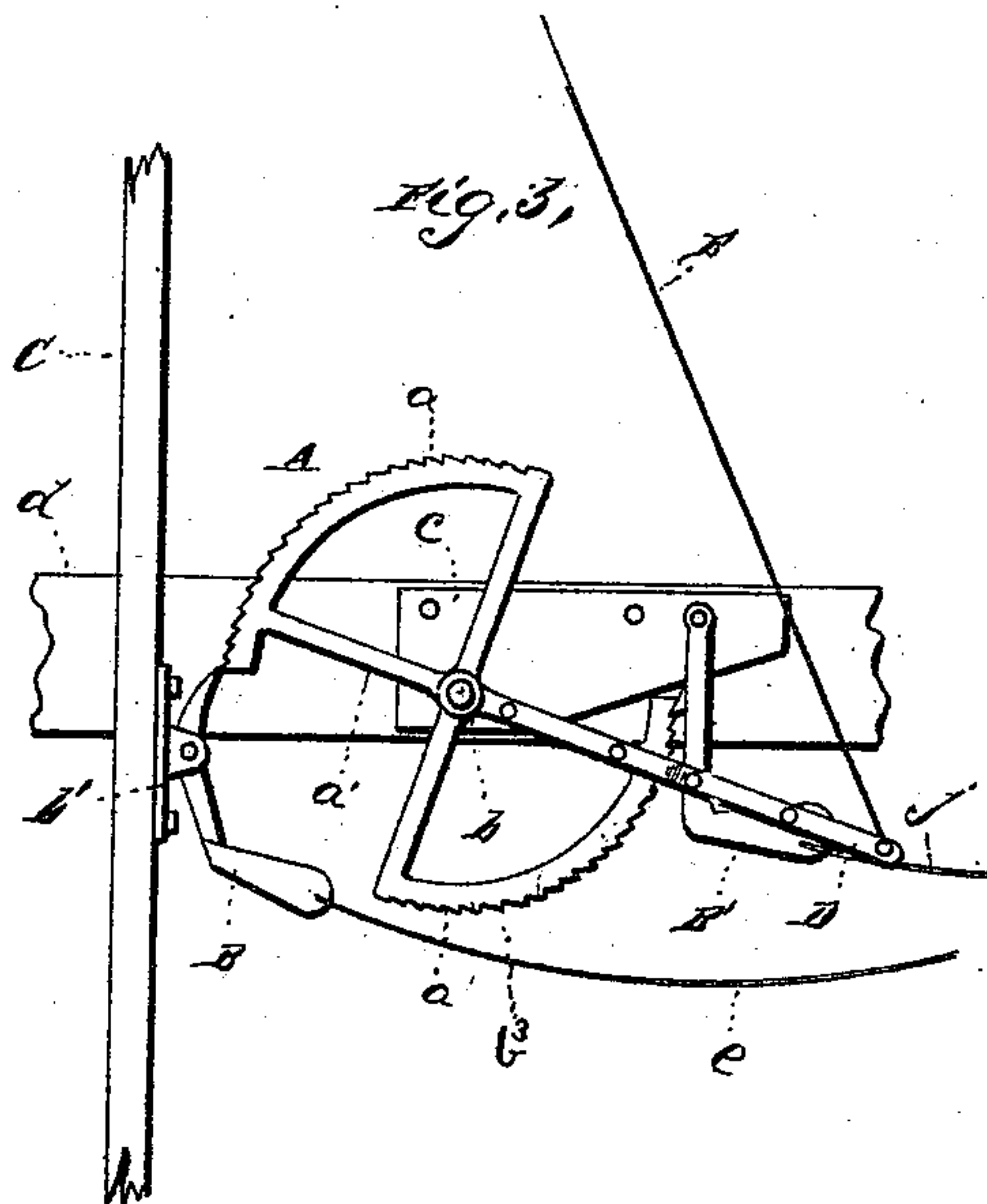
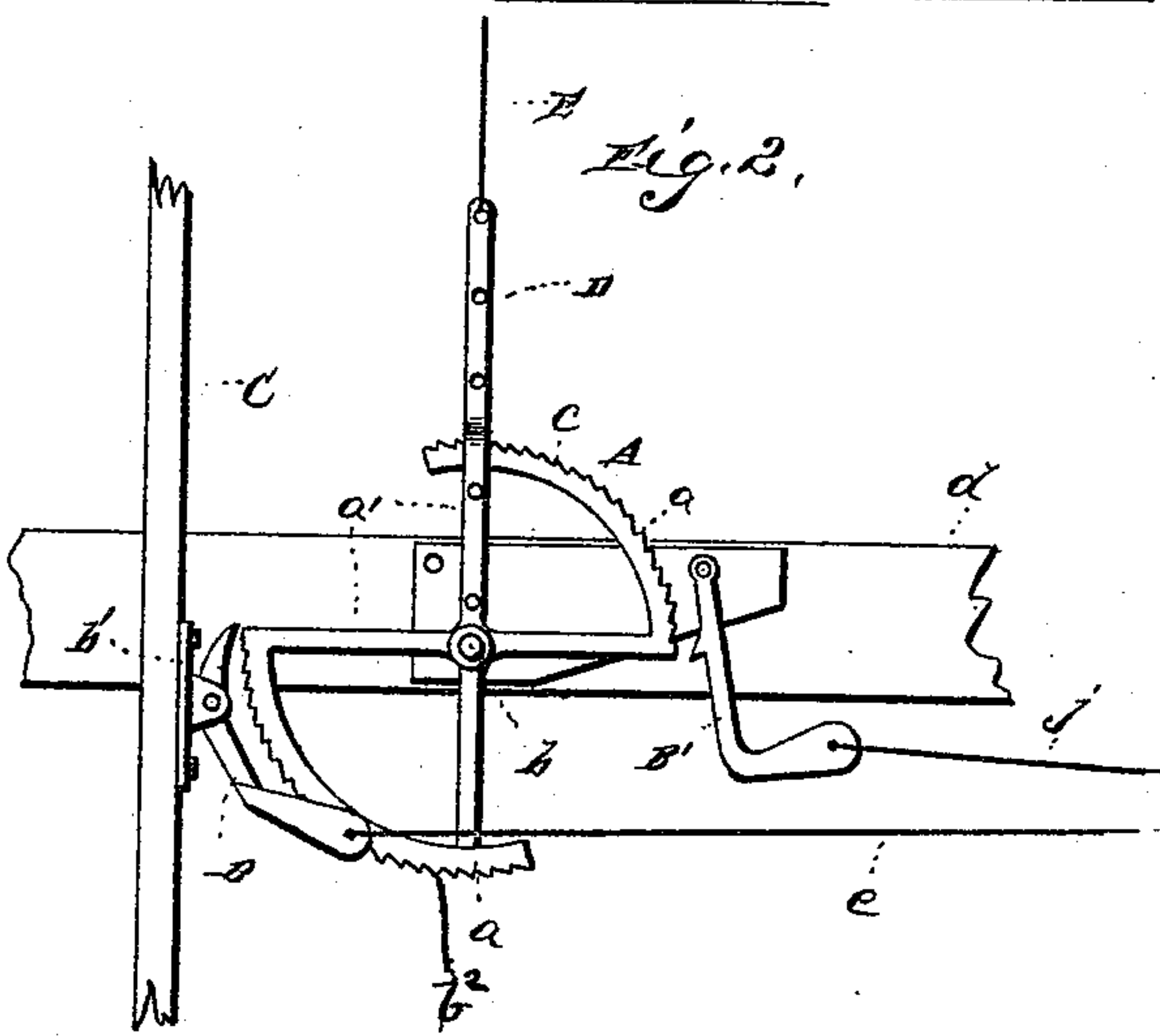
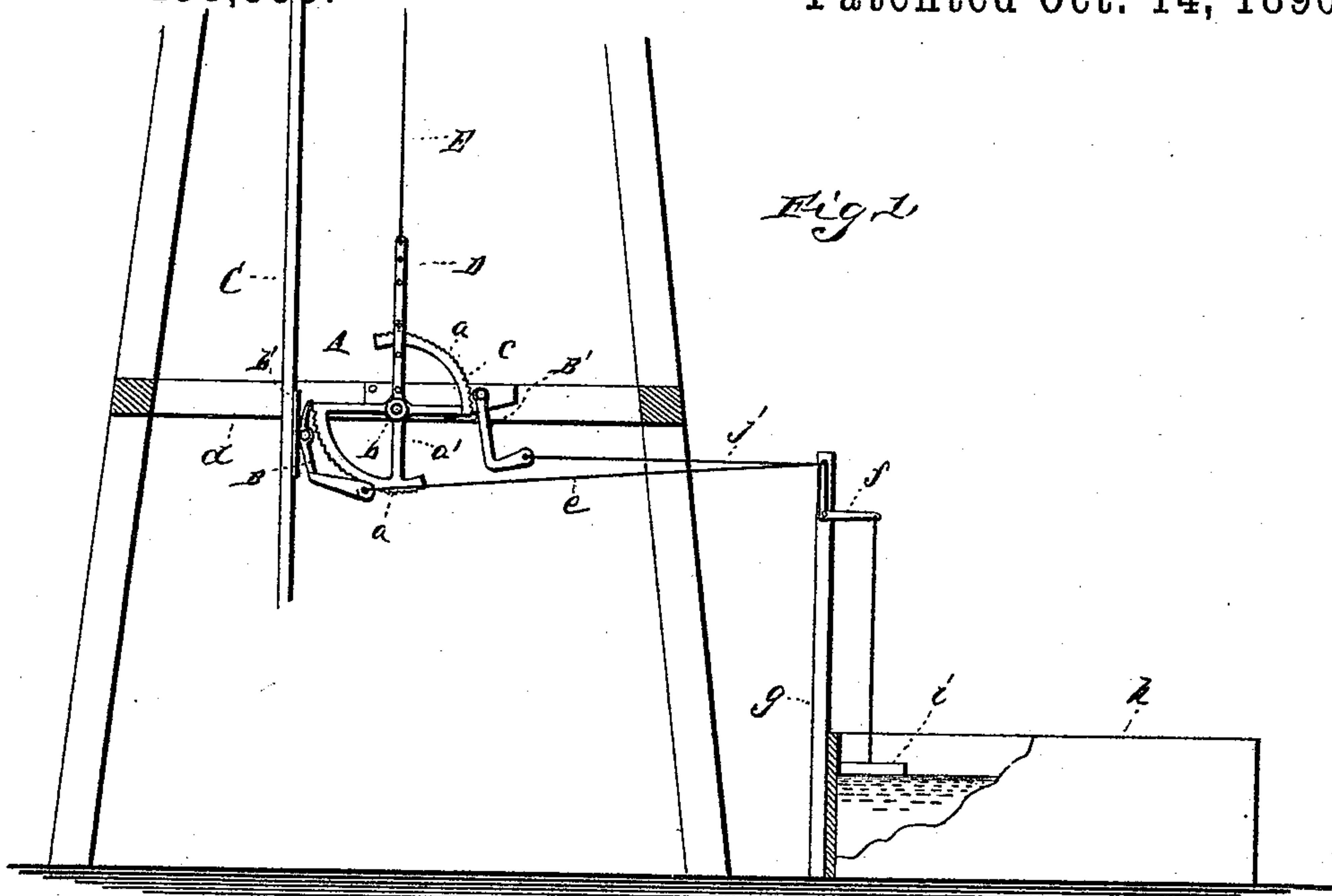


(No Model.)

W. R. MCGOWEN.
REGULATOR FOR WINDMILLS.

No. 438,555.

Patented Oct. 14, 1890.



WITNESSES

Chas. L. Taylor
Phil. M. Case

INVENTOR

W. R. McGowen,
by E. W. Anderson
his Attorney

UNITED STATES PATENT OFFICE.

WILLIAM R. MCGOWEN, OF RANDALIA, IOWA.

REGULATOR FOR WINDMILLS.

SPECIFICATION forming part of Letters Patent No. 438,555, dated October 14, 1890.

Application filed June 21, 1890. Serial No. 356,223. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. MCGOWEN, a citizen of the United States, and a resident of Randalia, in the county of Fayette and State of Iowa, have invented certain new and useful Improvements in Regulators for Windmills; and I do 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.

Figure 1 of the drawings is a side view of the regulator. Fig. 2 is an enlarged view of same, partly broken away. Fig. 3 is a side view with the bar D pulled down.

This invention relates to certain improvements in windmill-regulators; and it consists in the construction and combination of parts, as hereinafter disclosed.

In the drawings, A refers to a double segmental rack or ratchet, it having two toothed or ratchet segments *a a* spanning the intermediate spaces between the diverging ends of the arms of the X-shaped casting *a'*, said segments extending or projecting a short distance beyond opposite sides of arms in alignment.

The rack A is centrally pivoted or hung upon a stud or pivot *b*, projecting from a plate *c*, bolted to a support or board *d*, suitably secured in the lower part of the windmill-tower.

B B' are two pawls engaging the two segments *b² b³* of the rack or ratchet A, one being suitably hung or pivoted in a bracket *b'*, bolted to the pump-rod C, and the other pivoted to the plate *c*. From the propelling-pawl B extends a wire or line *e*, connecting with an elbow or angle lever *f*, pivoted upon a support or upright *g*, secured in the watering-tank *h*, a float *i* being connected by a rod to said angle or elbow lever. The other or holding pawl B' has also connected to it a line or wire *j*, which is fast to the same angle or elbow *f* as the wire or cable *e* is connected to.

A rod or bar D is secured to the normally-

vertical upper arm of the rack A, and connects with the wire or line E for pulling the wind-wheel out of the wind.

It will be seen that as the supply of water in the watering-tank rises to a certain height it carries with it the float *i*, causing the slackening of the wires or lines *e* and *j*. This permits the engagement by gravity of the pawls B B' with the two segments of the double segmental rack A. Therefore as the pump-rod makes its upstroke the pawl B will be carried with it, elevating its end segment of the said rack out of engagement with the pawl B, the holding-pawl B' permitting the descent of its end segment of the rack, but preventing the rising of the latter, thus holding it out of engagement with the pump-rod or propelling-pawl B.

In the descent of the segment *b³* of the rack A the bar or rod D will be depressed, pulling downward upon the wire E, thus taking the wheel out of the wind and stopping the pumping operation.

When the water in the watering-tank has again fallen to a certain level, the float will actuate the angle-lever, pulling upon the lines or wires *e j*, effecting the disengagement of the pawls B B' from the rack A, consequently allowing the latter to turn on its pivot and permitting the rod D to rise, thereby slacking the cord or wire E and permitting the wheel to again turn into the wind and setting the pump in operation. The water again reaching the given height in the tank the action of the parts as described will be repeated, thus continually regulating the operation of the pump and the height of water in the tank.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

1. The wind-wheel regulator having the pivoted double segmental rack or ratchet connected to the wheel-actuating line, in combination with the propelling and holding pawls, one connected to the pump-rod and both connected by lines to the float-lever, substantially as set forth.

2. In a windmill-regulator, the combination, with the pivoted double segmental rack hav-

ing the bar or rod connected to a line or cord
for pulling the wheel out of the wind and the
pawls, one engaging each segment of the said
rack, of the float in the water-tank having
5 a flexible connection with one arm of an elbow
or angle lever actuated by said float, and the
flexible connections between the other arm
of the said angle or elbow lever and the said

pawls, substantially as and for the purpose
described. 10

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

WILLIAM R. MCGOWEN.

Witnesses:

L. A. BRATT,

H. D. SIMAR.