

(Model.)

2 Sheets—Sheet 1.

D. H. BRENNER.

WEIGHT MOTOR.

No. 277,875.

Patented May 22, 1883.

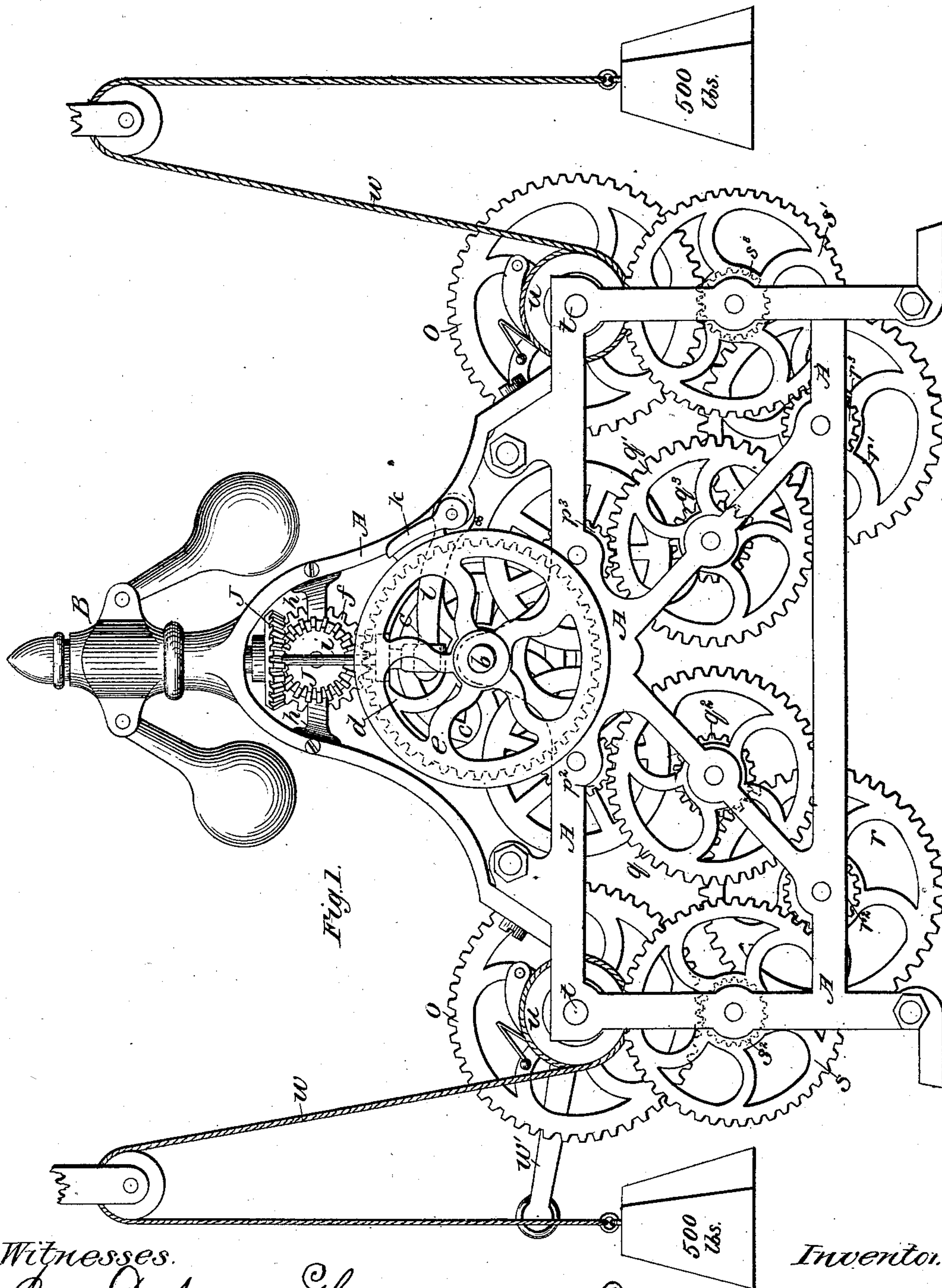


Fig. 1.

Witnesses.

Jay D. Staysmith
J. D. French

Inventor.

David H. Brenner
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attys

(Model.)

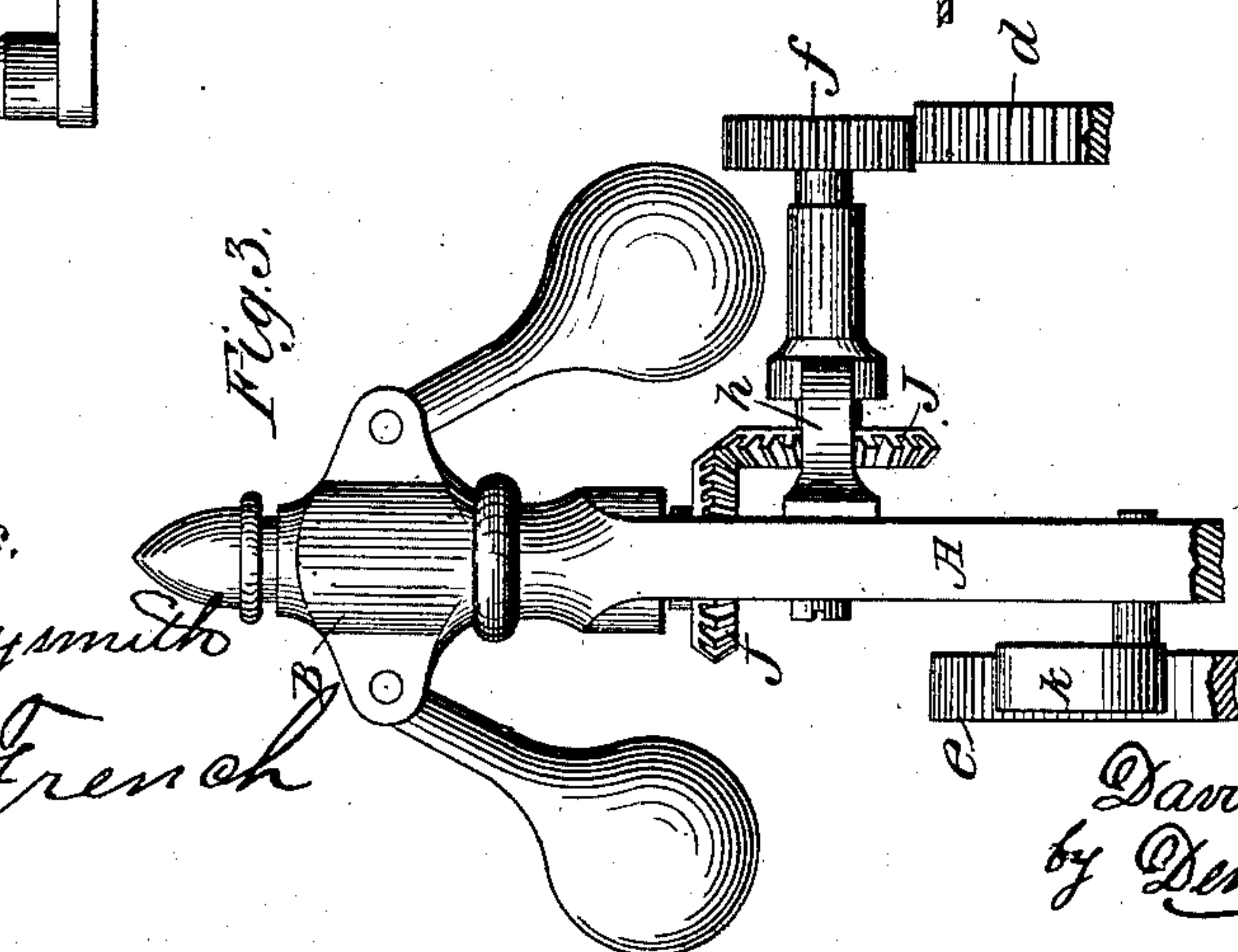
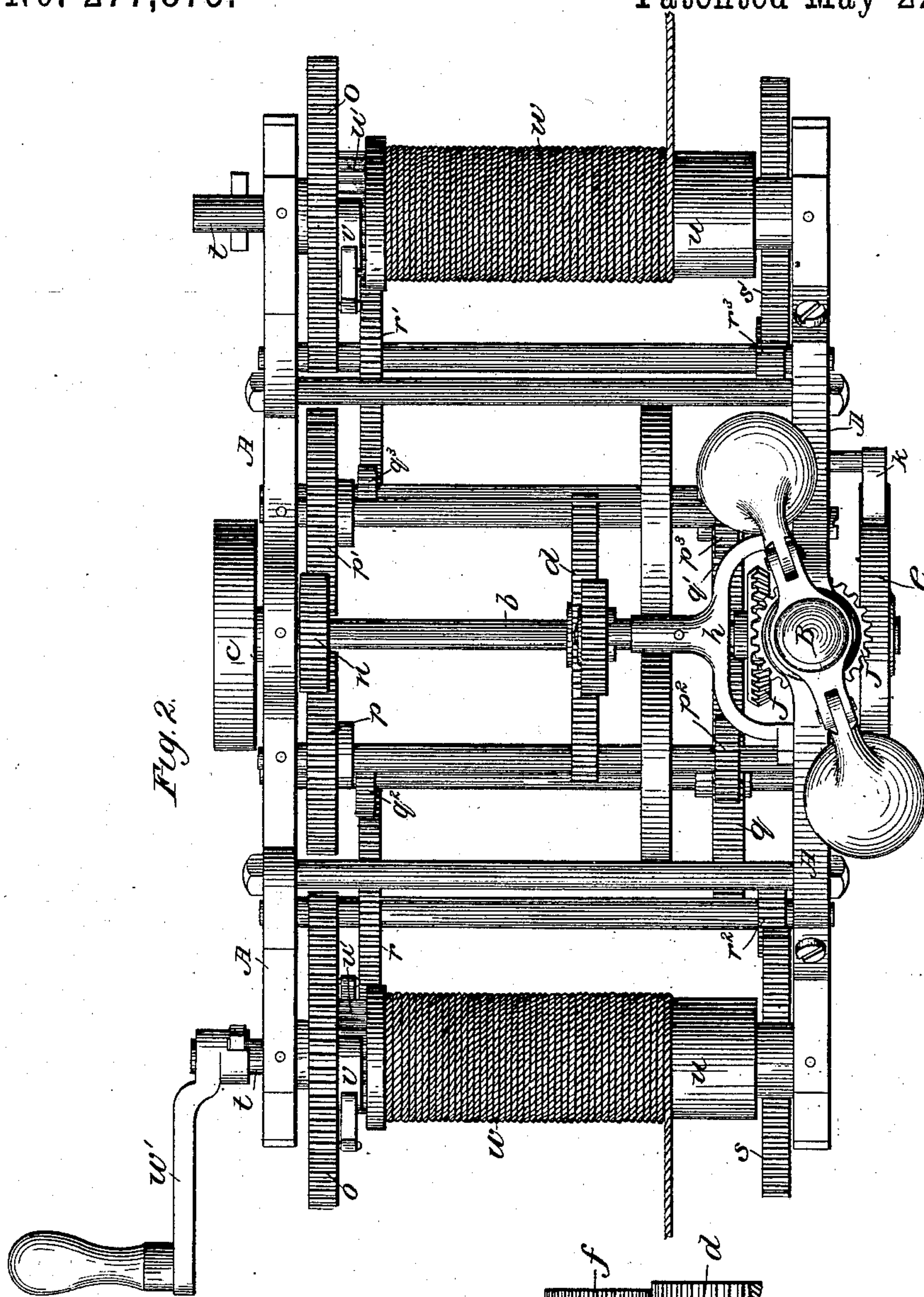
2 Sheets—Sheet 2.

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No. 277,875.

Patented May 22, 1883.



Witnesses.

Gay Knyamth
Wm J. Fren.

Inventor:

David H Brenner
by Dennis L Rogers Atty

UNITED STATES PATENT OFFICE.

DAVID H. BRENNER, OF GRAND RAPIDS, MICHIGAN.

WEIGHT-MOTOR.

SPECIFICATION forming part of Letters Patent No. 277,875, dated May 22, 1883.

Application filed October 25, 1882. (Model.)

To all whom it may concern:

Be it known that I, DAVID H. BRENNER, of the city of Grand Rapids, county of Kent, and State of Michigan, a citizen of the United States of America, have invented a new and useful Improvement in Weight-Motors, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to the construction and arrangement of a motor power or machine designed to render available as a motive power for general purposes the gravity of falling weights.

In the drawings, Figure 1 is a front view or elevation of my improved motor. Fig. 2 is a vertical plan of the same. Fig. 3 shows a detached part.

Similar letters of reference refer to corresponding parts throughout the several figures. A A represent the frame-work of the machine, composed of iron or other suitable material. The central shaft, *b*, having its ends projecting at either side, is journaled into said frame horizontally, near the center of the upper bar, about equidistant from either end, and has the wheel-crank *c* for connecting with the machinery to be driven, the pinion *w*, the spur-wheel *d*, and the fly-wheel *e* mounted and attached securely thereon.

The governor B is constructed like the ordinary steam-governor applied to steam-engines, is mounted over the center of the back of the machine upon a suitable frame attached to the top of the back end of the frame A, and is actuated by the spur-wheel *d*, which communicates with it by the spur-pinion *f* and the bevel-gears *j j*, secured to the governor-frame by the yoke *b*, having a hollow stem, through which passes the shaft connecting the gears *j j* and *f*, as shown. The stem *i* acts upon the fly-wheel *e* by means of the lever-brake C, composed of the parts *k* and *l*, pivoted together and journaled into the frame A, so as to operate like a crank. The shoe *k* is provided with a covering of rawhide or other suitable material, and the lever *l* is secured to the stem *i*, being arranged in this manner. If the stem *i* is depressed through the increased velocity of the machine, the brake-shoe *k* will be applied to the fly-wheel *e*, thus decreasing the

speed of the machine. Provision is also made for lengthening the stem for regulating the speed.

The pinion *n* is connected with the master-wheels *o o* through the train of connecting duplicate speeding-gears *p p' p² p³ q q' q² q³ r r' r² r³ s s' s² s³*, mounted upon their several shafts, having their ends journaled into the frame A A in three separate parallel lines, extending in either direction from pinion *n*. The master-wheels *o o* are mounted loosely upon their shafts *t t*, having their bearings in the opposite upper corners of the frame A A. Upon each shaft is secured a drum, *u*, provided with a ratchet-wheel, *u'*, into which takes the spring-pawl *v*, secured to the master-wheel *o*. Upon the drum is wound a cord or cable, *w*, which passes upward and outward over a pulley secured to a building or frame in any suitable manner, at any desired height, and has a weight attached to the end. To the projecting ends of the shafts *t t* is fitted a crank, *w'*, designed to wind up the cable by turning the shaft, thus causing the drum to revolve, (or a back gearing may be attached and applied for increase of leverage in winding up heavy weights, if desired.) The unwinding of the cables by the pulling of the weights then causes the master-wheels *o o* to revolve, and these, through the medium of the connecting speeding-gear described, impart a rotary motion to the center-shaft *b*. The speed is regulated and motion controlled by the governing mechanism described. If less speed and more power are desired, some of the speeding-gears may be removed and more direct connection formed between the master-wheels *o o* and the pinion *n*; but this will cause the machine to run down sooner. Constructed, as described, with a fall of twenty feet for the weights, the machine will run for ten hours.

Instead of weights, the master-wheels may be run by spring-power, if desired.

The weight to be used will depend upon the kind of machinery to be run. For operating an ordinary well or cistern pump and raising water thirty to forty feet, I calculate one thousand pounds. Five hundred on each side will be sufficient.

I am aware that weight-motors having a

central shaft operated by master-wheels driven by weights are not new; but I am not aware of any having the master-wheels communicating with the center-shaft by speeding-gears and provided with governing mechanism similar to mine. I am also aware that a device has been patented for utilizing the gravity of falling weights by adjusting the same upon a rocking frame connected with speeding-gear to a rotary shaft, and to this I make no claim; but

What I claim to have invented, and desire to secure by Letters Patent of the United States, is—

In a weight-motor, the combination, with the center-shaft *b* and its pinion *n*, operated upon by the two master-wheels *o o* through the train of speeding-gears *p p' p² p³ q q' q² q³ r r' r² r³ s s' s² s³* and the spur-wheel *d* and fly-wheel *e*, of governor B, brake C, and frame A A, arranged substantially as described, and for the purposes set forth.

DAVID H. BRENNER.

Witnesses:

JAY D. NAYSMITH,
DENNIS L. ROGERS.