

(No Model.)

B. L. OLDS.

SPEED REGULATOR FOR HORSE POWERS.

No. 250,958.

Patented Dec. 13, 1881.

Fig. 2

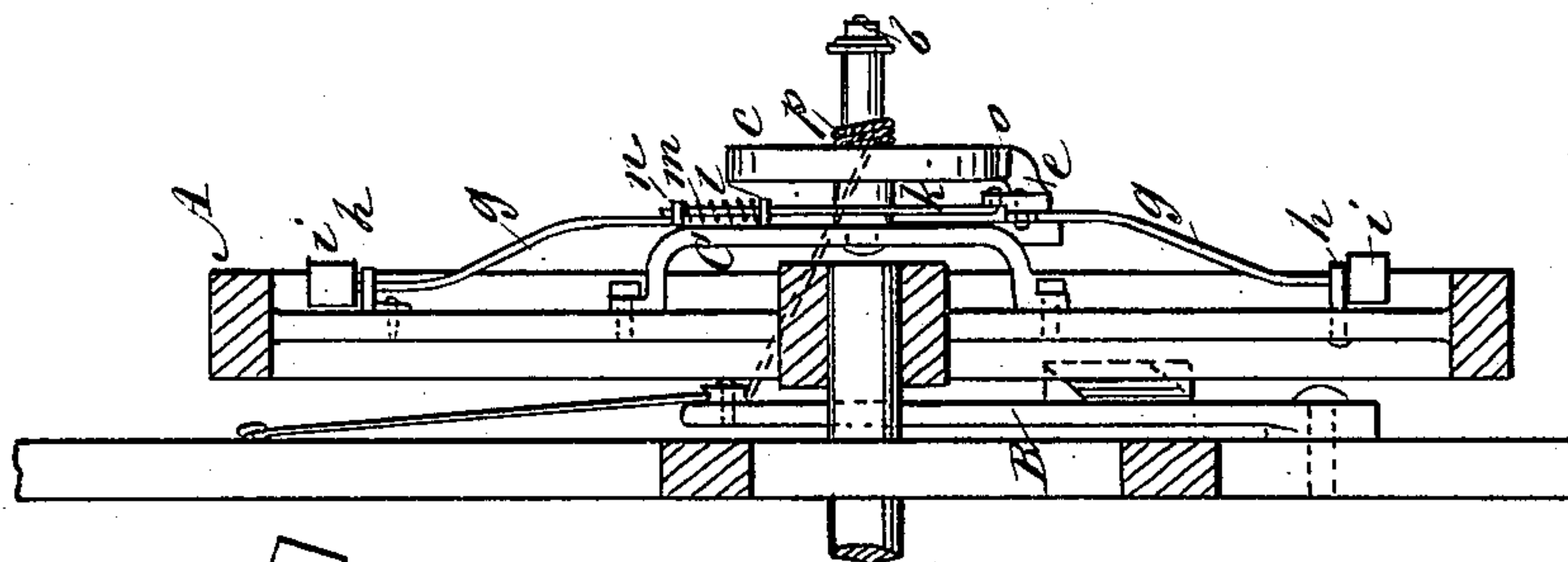
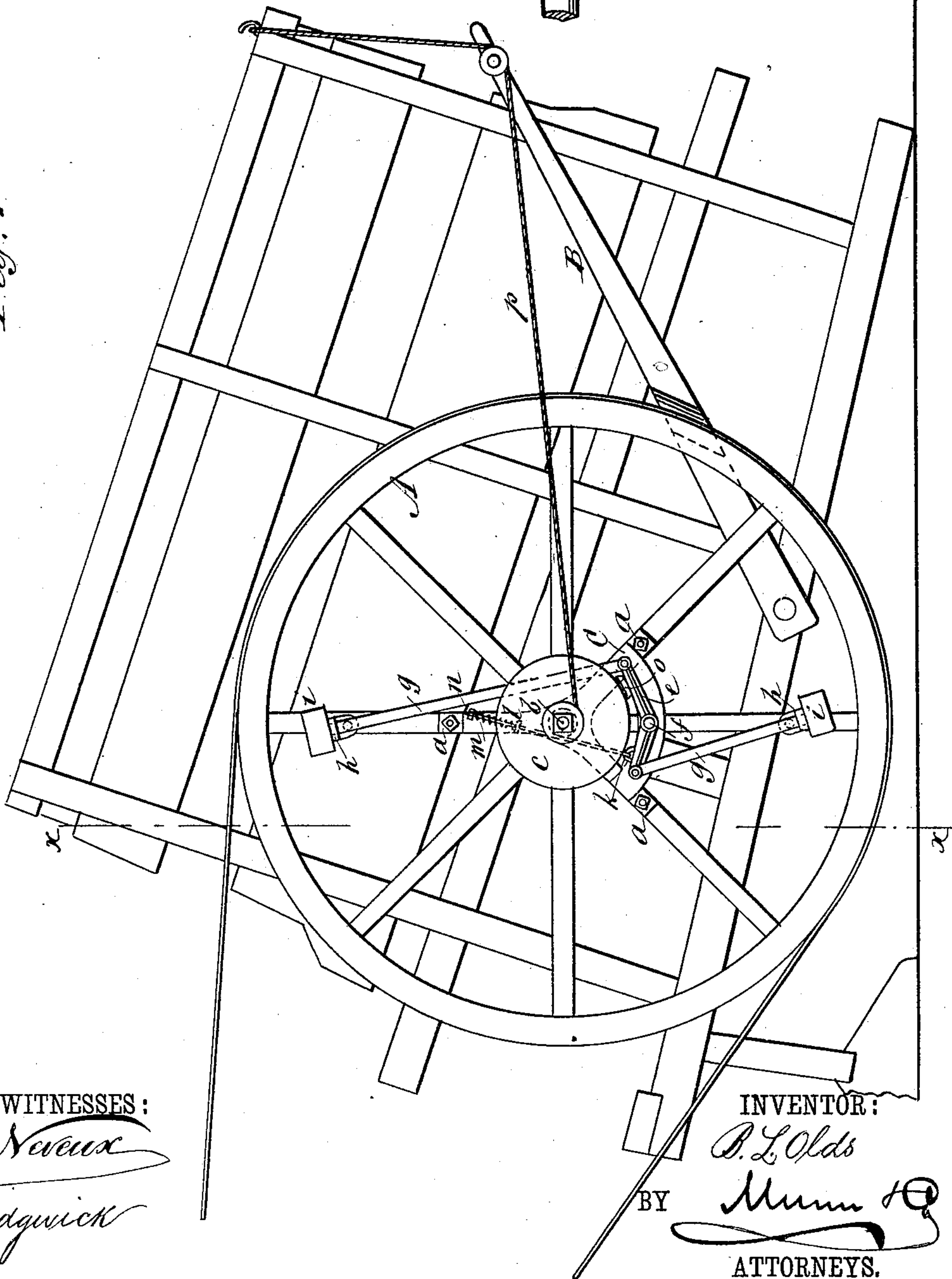


Fig. 1



WITNESSES:

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UNITED STATES PATENT OFFICE.

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SPEED-REGULATOR FOR HORSE-POWERS.

SPECIFICATION forming part of Letters Patent No. 250,958, dated December 13, 1881.

Application filed September 13, 1881. (No model.)

To all whom it may concern:

Be it known that I, BARNARD L. OLDS, of St. Albans, in the county of Franklin and State of Vermont, have invented a certain new and useful Improvement in Speed-Regulators for Horse-Powers of which the following is a full, clear, and exact description.

My invention relates to devices for insuring regular and uniform motion to horse-powers and preventing sudden increase of speed in case of accidents, such as belts slipping from their pulleys.

The invention consists in an equalizing-lever, combined with centrifugally-acting weights and a winding-drum, for operation on the brake, as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

In the drawings, Figure 1 is a side elevation of a horse-power fitted with my improved regulator, and Fig. 2 is a section of the fly-wheel and regulator on line *x x* of Fig. 1.

A is the fly-wheel, and B the brake-lever, pivoted on the sill of the power for action on the fly-wheel, as usual. The regulator is applied to the fly-wheel as follows:

C is a tripod-plate secured by bolts *a* to spokes of the wheel.

b is a stud fixed on plate C and projecting in front of the wheel A at the center.

c is a disk formed with a tubular hub and secured loosely on the stud *b*.

e is a lever hung by a pin, *f*, on plate C; and *g g* are arms connected with the ends of lever *e* and extending through loops *h h*, that are attached near the outer ends of two opposite spokes.

i i are weights fixed on the outer ends of arms *g*.

k is a rod connected to lever *e* and extending through a fixed guide, *l*, on plate C.

m is a spiral spring around rod *k*, between a nut, *n*, thereon and the guide *l*, so that by adjustment of the nut the spring shall act with more or less tension to draw one end of lever *e* toward disk *c*.

o is a brake shoe or block secured on lever *e*, in position for being pressed to disk *c*, by outward movement of the weights *i*.

p is a rope connected to disk *c* and passing beneath a roller on the outer end of brake-lever B to a fixed connection above on the frame of the machine.

For operation, the lever *e* is set with its brake-shoe clear of disk *c* and the brake-lever B supported by rope *p* out of contact with wheel A. The weights on the arms *g* being near the wheel-rim travel with the most rapidly moving portion of the wheel and are for that reason most sensitive to centrifugal action. When the weights move out the lever *e* presses against disk *c*. The disk is thus carried around and the rope wound on the disk-hub. The rope acts to raise lever B and draw its brake-shoe into contact with the fly-wheel, thus checking the speed until by such reduction of speed the spring *m* can draw the arms *g* inward and release lever *e*. By adjustment of spring *m* the speed at which the centrifugal weights act is determined. The lever *e* serves to equalize the centrifugal force of the weights upon the disk *c*, so that the pressure is uniform.

With this regulator the speed of the fly-wheel can be kept down to a uniform point when light work is being done, while for heavy work the regulator can be set to act only when the work is thrown off by accident or otherwise.

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

1. In speed-regulators, the weighted arms *g*, lever *e*, rod *k*, spring *m*, loose disk *c*, and rope *p*, connected to a brake-lever, combined together and with the fly-wheel A, substantially as shown and described, for operation as set forth.

2. The plate C, provided with stud *b*, the loose winding-disk *c*, having a tubular hub, spring-actuated lever *e*, connected with centrifugally-acting weights, and rope *p*, connected to the winding-disk and brake-lever, substantially as shown and described, combined for operation as set forth.

BARNARD L. OLDS.

Witnesses:

ELLIOT K. BREWER,
ALMERIN TINKER.