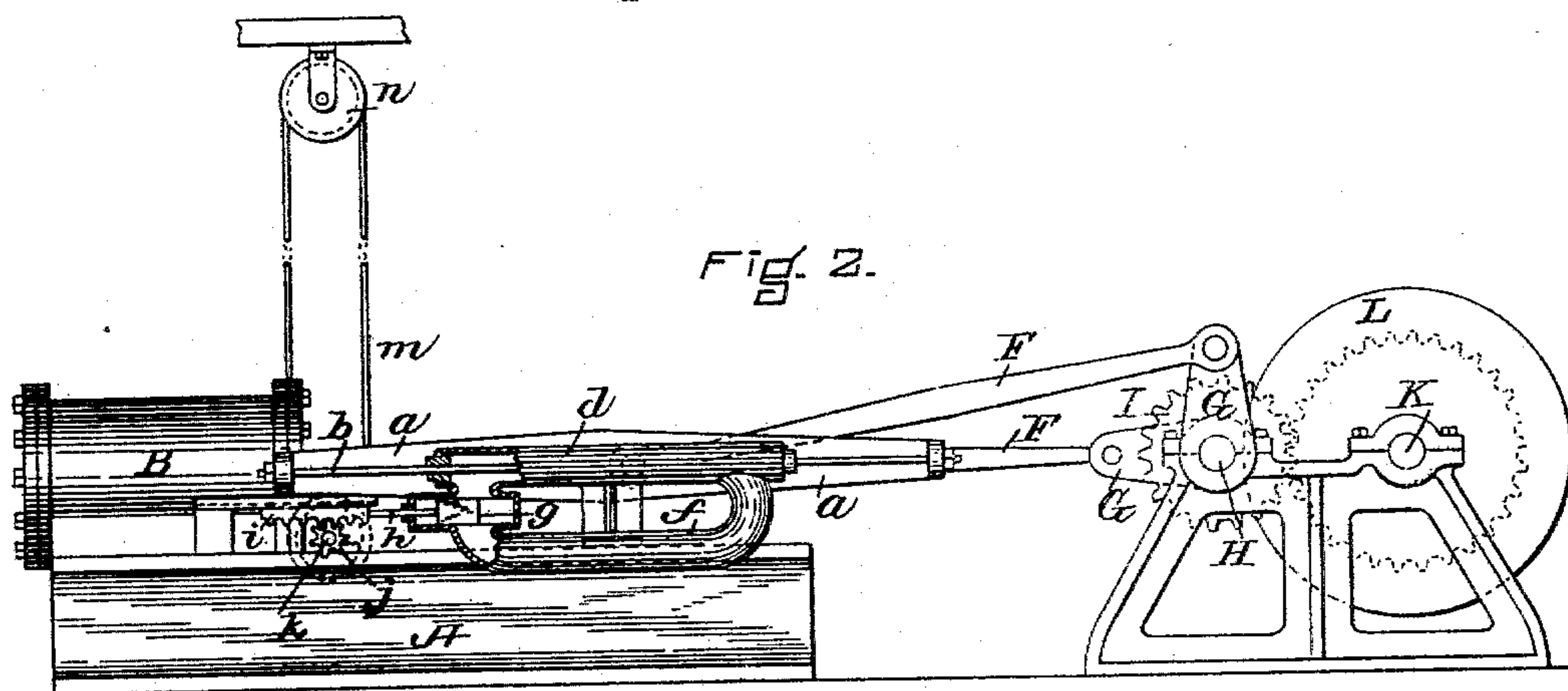
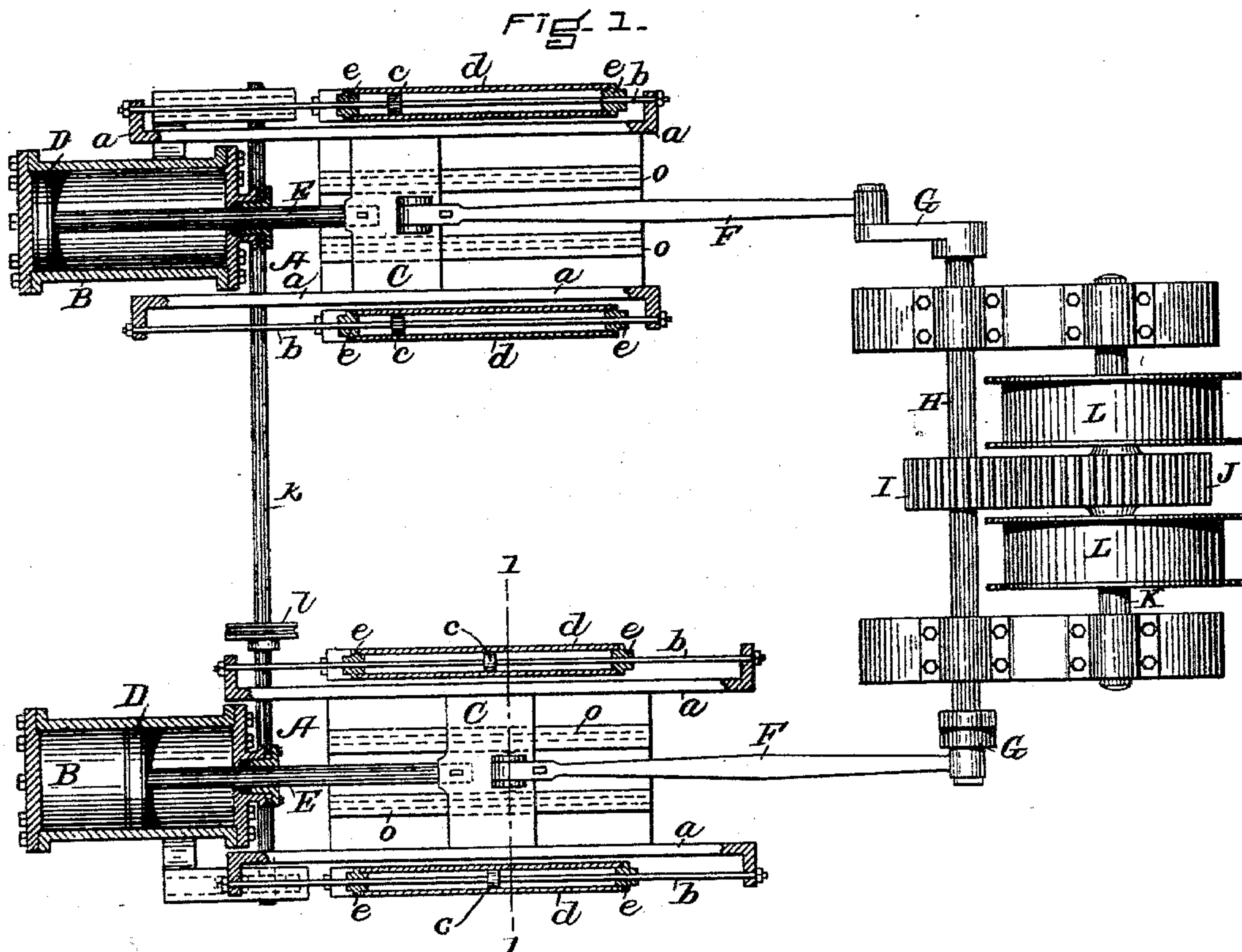


(No Model.)

P. GATELY.
ELEVATOR REGULATOR.

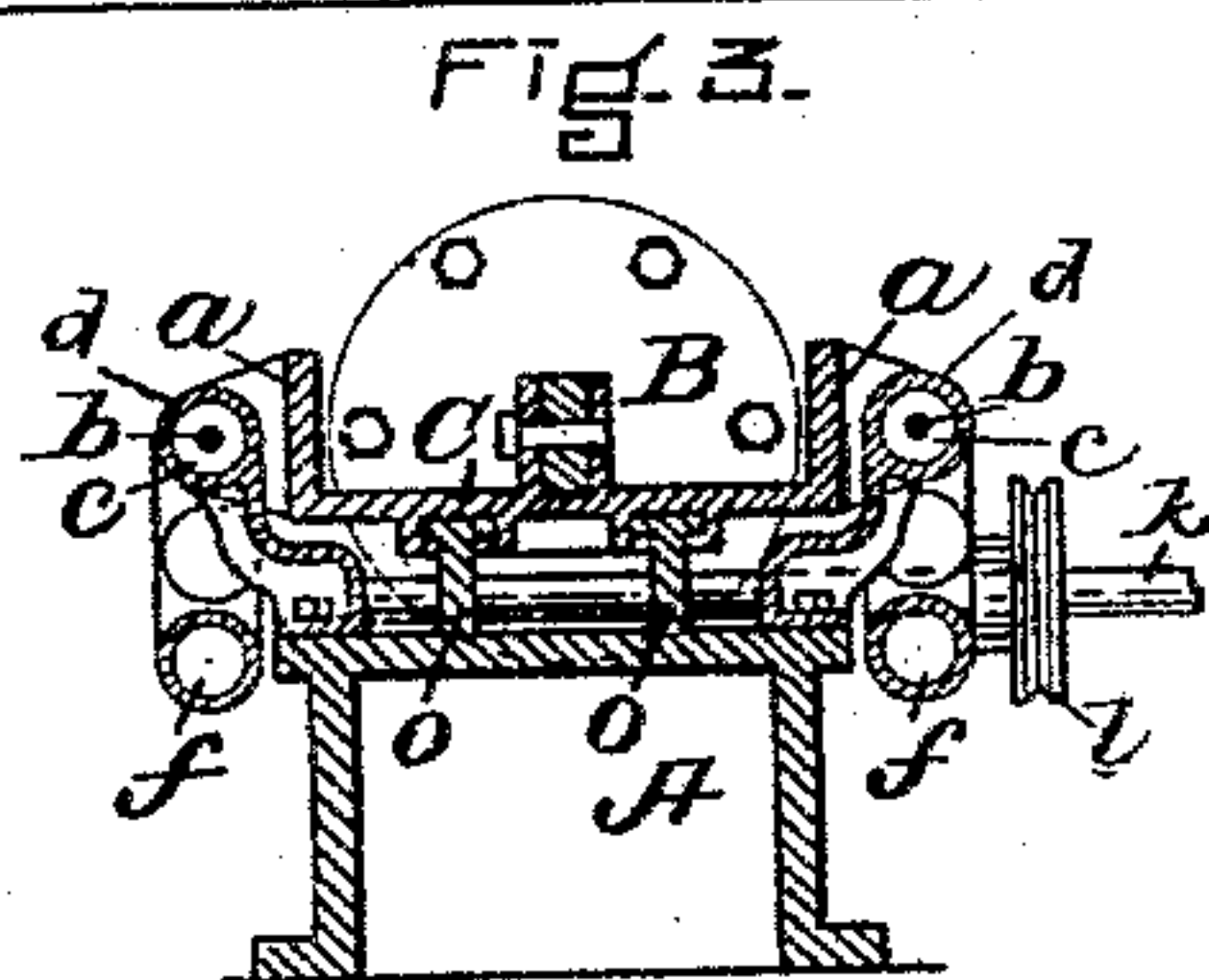
No. 597,406.

Patented Jan. 18, 1898.



WITNESSES

A. D. G. M. M.
Fred E. Dorr.



INVENTOR.

Patrick Gately,
per Edw. Summer,
Atty.

UNITED STATES PATENT OFFICE.

PATRICK GATELY, OF NEW YORK, N. Y.

ELEVATOR-REGULATOR.

SPECIFICATION forming part of Letters Patent No. 597,406, dated January 18, 1898.

Application filed April 17, 1897. Serial No. 632,661. (No model.)

To all whom it may concern:

Be it known that I, PATRICK GATELY, of the city of New York, State of New York, have invented a new and useful Improvement in Elevator-Regulators, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to means for regulating the movement of an elevator which is operated by an engine embodying a reciprocating piston, the invention consisting in the devices, in combination with the elevator mechanism embodying said prime mover, hereinafter set forth, and specifically pointed out in the claims.

In the drawings, Figure 1 is a plan, partly in section, and Fig. 2 an elevation, partly in section, of so much of the mechanism of an elevator embodying my invention as is sufficient for illustration of the improvement. Fig. 3 is a vertical transverse section taken on the line 1 1 in Fig. 1.

On suitable bed-pieces A A are secured two cylinders B B and guides *o* for the two cross-heads C C. In the cylinders reciprocate pistons D D, being operated by steam or water, as is customary in steam or water engines of this class, there being such valves and devices for opening and closing the same as are commonly used in such engines and hoisting mechanism operated thereby. The piston-rods E E are connected to the pistons and cross-heads and the connecting-rods F F to the cross-heads and the cranks G G on a shaft H in the usual manner. On the shaft H is a pinion I, which engages with a gear J on a shaft K, these shafts being parallel and supported in suitable bearings, as shown. On the shaft K are secured the drums L L, on which wind the hoisting-ropes.

To each cross-head and at each end thereof I fasten arms *a*, located and formed to have secured thereto a rod *b*, which serves as a piston-rod having fastened thereon a piston *c*. Each piston *c* moves in a cylinder *d*, which is secured to the bed-piece and has a stuffing-box *e* at each end for the piston-rod *b*. Opening into each end of each cylinder *d* is a pipe *f*, in which is a valve *g*. Each of these valves is operated by means of a stem *h*, a rack *i*, and pinion *j*. These pinions are all secured on a shaft *k*, having suitable bearings, as

shown, and rotated by means of a pulley *l*, fastened on the shaft, and a rope *m*, which extends around the pulley *l* and a pulley *n*. The pulley *n* may be so located that the rope may pass through the elevator-car to be operated by a person in the car.

The cylinders *d* and the pipes *f* being filled with oil or other liquid and each piston *c* being reciprocated in the corresponding cylinder *d* by means of and in accordance with the movement of the piston of the steam or water engine, the liquid will be forced back and forth in each cylinder *d*. The speed of motion of this liquid and therefore the speed of the passage at each valve *g*. Therefore by moving this valve by means of the rope *m*, as above described, so as to make the passage thereat such as may be required, the movement of the elevator may be regulated from the car as desired, it being of course understood that the valves *g* are to be operated with such reference to the ordinary valves of the engine as not to cause an undue strain on the working parts.

I claim as my invention—

1. In hoisting mechanism embodying a steam or water engine, and in combination with the cylinder, piston and cross-head of said engine, a stationary cylinder at each side of said cross-head, and a piston therefor secured to said cross-head, substantially as specified.

2. In combination with the cross-head of an engine of a hoisting mechanism, arms secured to said cross-head, a piston-rod secured to said arms, a piston on said rod, a cylinder in which said piston moves, a pipe connecting the ends of said cylinder to form a continuous passage therewith, a valve in said pipe, a stem provided with a rack and connected to said valve, a pinion to engage with said rack, a shaft for said pinion provided with a pulley, and a rope extended about said pulley and guided so as to be manipulated at a suitable position as in the elevator-car, substantially as set forth.

3. In combination with a hoisting-engine, arms secured to the cross-head of the engine at each end thereof, a fixed cylinder at each side of the engine, a piston in each of said cylinders provided with a piston-rod which is

fastened to said arms to move with the cross-head, a pipe connecting the ends of each cylinder to form a continuous passage therewith, a valve in each of said pipes provided with a stem and rack, a pinion to engage with each of said racks, the several pinions being on one shaft which has thereon a pulley, and a

rope extending around said pulley and guided to a suitable position for manipulation as in the elevator-car, substantially as set forth.

PATRICK GATELY.

Witnesses:

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MINNIE MILLER.