

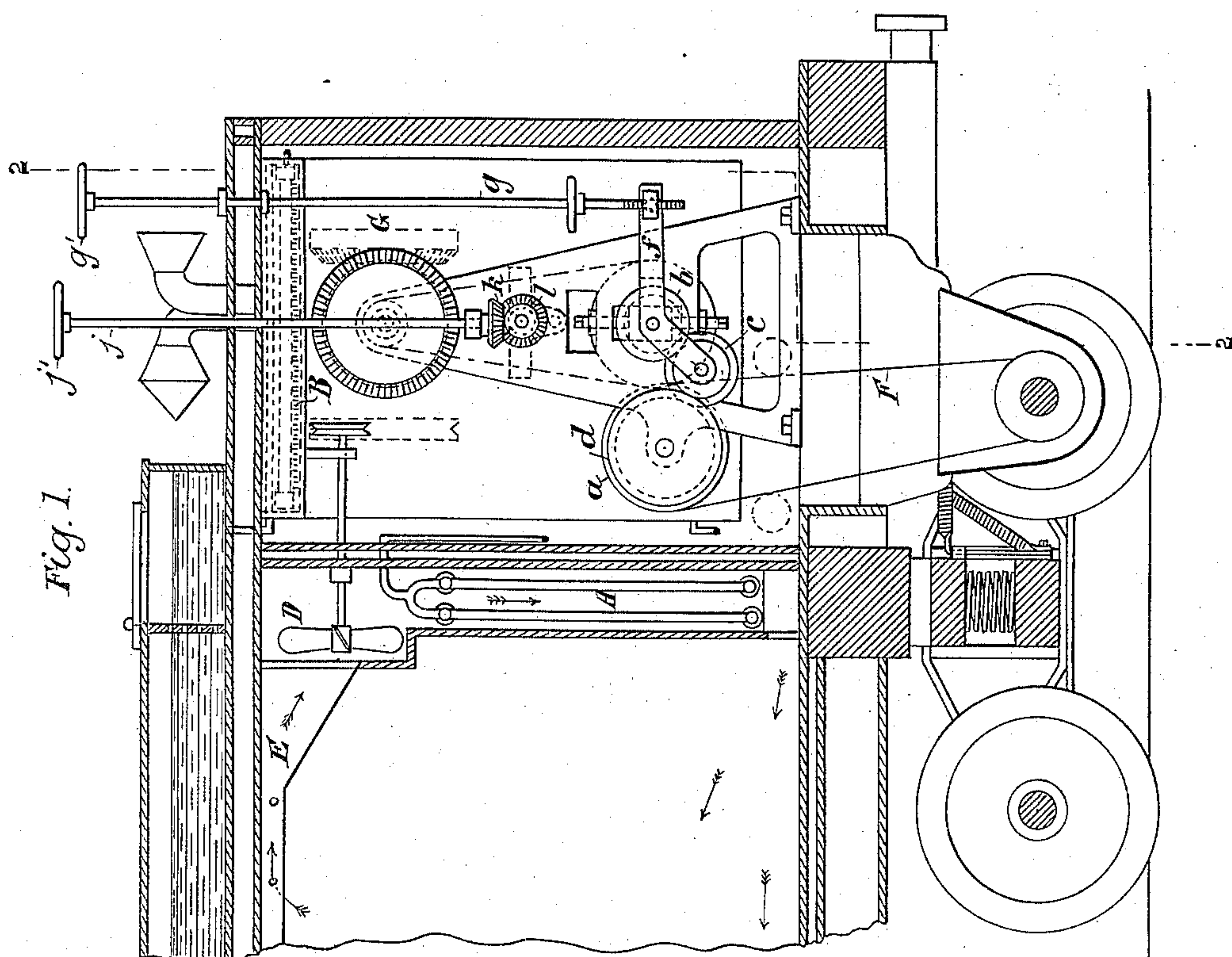
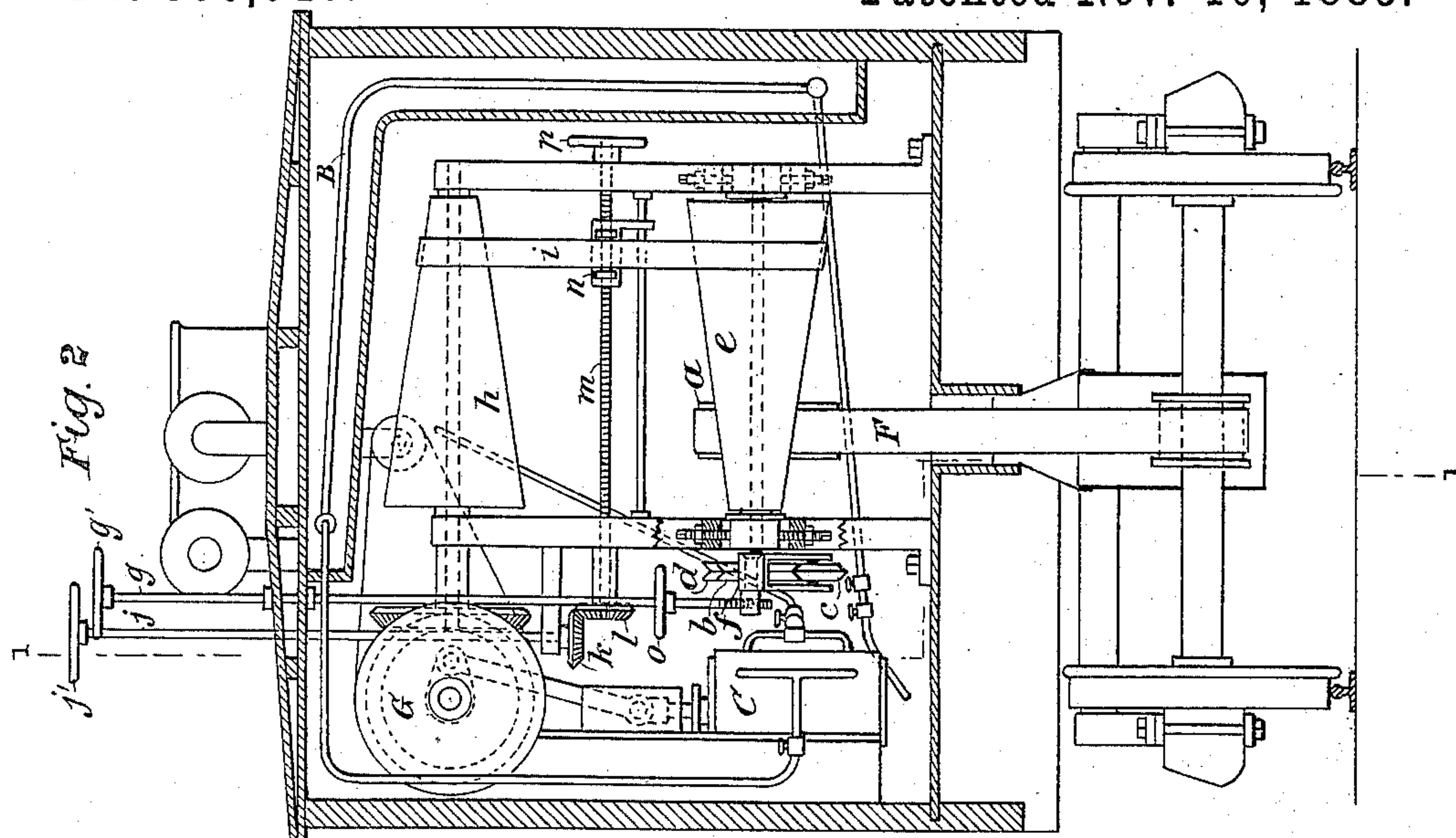
(No Model.)

C. C. PALMER.

CONTROLLING THE SPEED OF MECHANICAL REFRIGERATING APPARATUS ON RAILWAY CARS FROM THE OUTSIDE.

No. 330,046.

Patented Nov. 10, 1885.



Witnesses
Daniel H. H. H. H. H.
Edward J. Roche

Inventor
Cassius C. Palmer
by Gifford & Brown
Attys.

UNITED STATES PATENT OFFICE.

CASSIUS CLAY PALMER, OF NEW YORK, N. Y.

CONTROLLING THE SPEED OF MECHANICAL REFRIGERATING APPARATUS ON RAILWAY-CARS FROM THE OUTSIDE.

SPECIFICATION forming part of Letters Patent No. 330,046, dated November 10, 1885.

Application filed July 16, 1885. Serial No. 171,816. (No model.)

To all whom it may concern:

Be it known that I, CASSIUS CLAY PALMER, of New York, in the county of New York and State of New York, have invented a certain new and useful Improvement particularly applicable to Controlling the Speed of Mechanical Refrigerating Apparatus on a Railroad-Car from the Outside of the Car, of which the following is a specification.

In an application filed by me July 6, 1885, Serial No. 170,835, and in Patent No. 290,600, I have described apparatuses to be used on a refrigerating-car for refrigerating purposes.

My present invention relates to a substitute for a portion of the apparatus therein described.

In the drawings, Figure 1 is a longitudinal section through the line 1 1, Fig. 2, showing one end of the car. Fig. 2 is a cross-section of the same through the line 2 2, Fig. 1.

The refrigerator A, condenser B, condensing-pump C, former D, conduit E, belt F, and their connections and relative arrangement and operation were described in my Patent No. 290,600; therefore no description of these parts is here necessary.

My present improvement relates to mechanism by which power is communicated from the belt F to the fly-wheel G of the condensing-engine. This mechanism I will now proceed to describe.

a is a fixed pulley driven by the belt F. *b*, *c*, and *d* are friction-gears, which are provided on their peripheries with V or other suitably shaped friction-surfaces. *d* is on the same shaft with *a*, and they turn together. *b* is on the same shaft with the conical pulley *e*, and they turn together. *c* is on a shaft in one arm of the lever *f*, which is pivoted on the shaft of *b*, so that by the movement of the lever *f*, *c* is always in contact with *b*, but may be thrown out of contact with *d*. This operation of the lever *f* is accomplished by a rod, *g*, provided with a hand-wheel, *g'*, above the top of the car, and passing down through one arm of the lever *f*, with which it makes a screw-connection, as shown, so that by turning *g* the lever is operated.

e and *h* are conical pulleys for varying the

speed transmitted by the belt *i* from one to the other.

The bearings of the shaft on which *e* turns are made vertically adjustable to maintain the tension on the belt *i*. The shaft turned by the pulley *h* is connected by bevel-gears with the fly-wheel G of the condensing-pump, so as to drive the latter. The shifting of the belt *i* on the pulleys *e* and *h* to vary the speed is accomplished from the top of the car by turning the hand-wheel *j'*, which connects, by the rod *j*, the bevel-gears *k* and *l* and the screw-threaded rod *m* with the belt-shifter *n*, which forms a screw-threaded connection with rod *m*, and is thus moved by the rotation of the latter, so as to shift the belt.

o and *p* are hand-wheels by which the rods *g* and *n* may be respectively turned from the inside of the car.

The operation is as follows: When the friction-wheels *b*, *c*, and *d* are in gear, the axle of the car through the connecting parts drives the condensing-pump. When it is desired to stop the pump while the car is still running, the attendant on the roof of the car turns the hand-wheel *g'*, and thus disconnects the wheels *c* and *d*. When it is desired to vary the relative speed of the pump and the car-axle, the attendant on top of the car turns the hand-wheel *j'*, which shifts the belt toward one end or the other of the cone-pulleys, as may be required.

In lieu of the belt *i*, and as the equivalent thereof, a friction-wheel might be interposed between *h* and *i*, such wheel being movable by the rod *n* longitudinally on a shaft parallel with the surfaces of the cone-pulleys, and forming a friction-connection with the cone-pulleys.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In combination, a wheel, *d*, driven from the car-axle, a wheel, *b*, from which mechanism located on the car is driven, a wheel, *c*, interposed between the two, a lever, *f*, on which the wheel *c* is mounted, a rod, *g*, connected with *f* and extending outside the car, all substantially as described, whereby an attendant outside the car may make or break

the operative connection between the car-axle and apparatus on the car driven thereby.

2. In combination, the conical pulley *e*, driven from the axle of the car, the conical
5 pulley *h*, whereby apparatus located on the car is driven, the shifting-belt *i*, or equivalent, the shifter *n*, operated by the rod *j*, extending outside the car, all substantially as

described, whereby an attendant outside the car may vary the speed at which mechanism 10 on the car is run relatively to the speed of the car-axle.

CASSIUS CLAY PALMER.

Witnesses:

DANIEL H. DRISCOLL,
EDWARD F. ROCHE.