

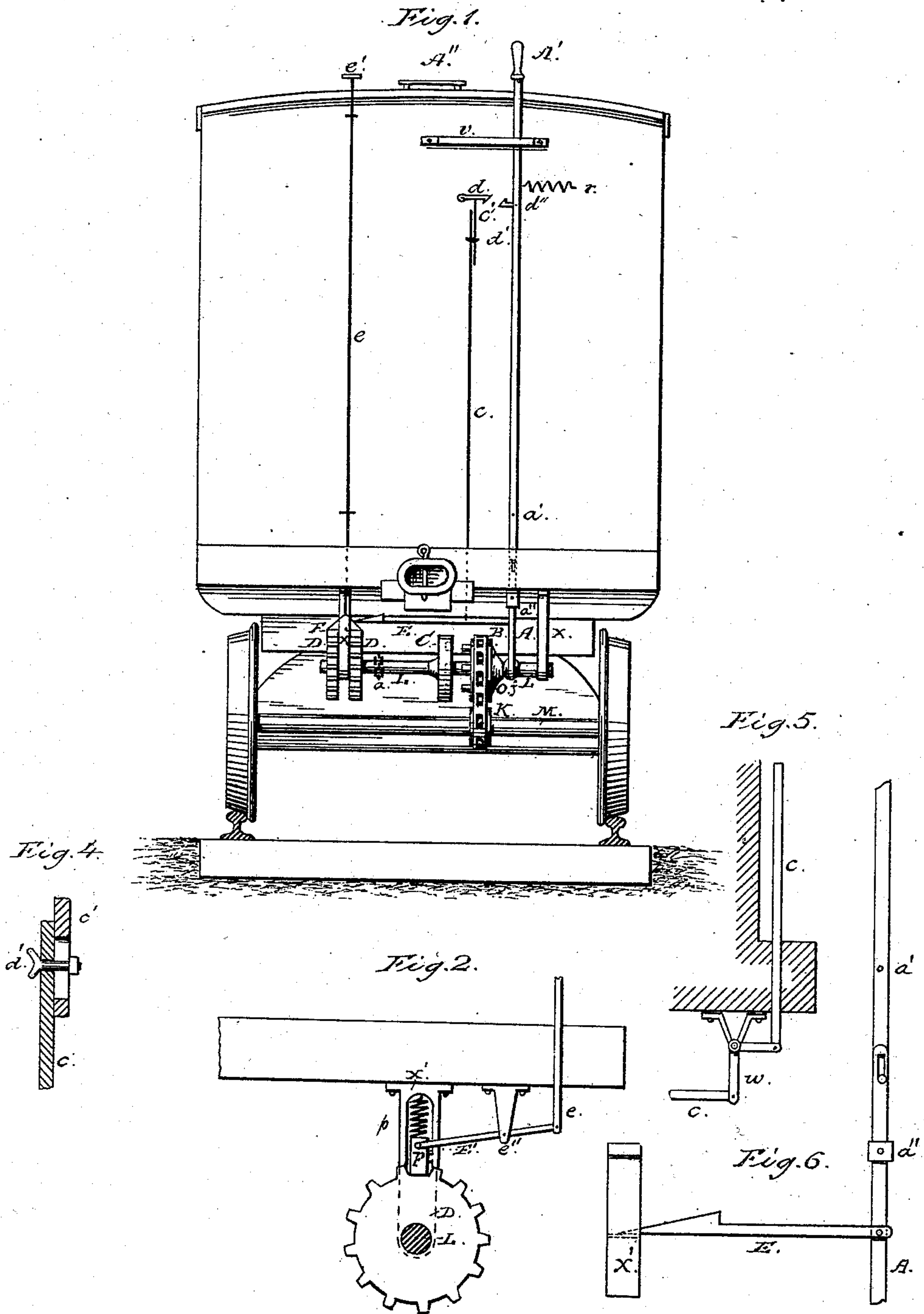
(No Model.)

E. H. BROWN.
CAR BRAKE.

2 Sheets—Sheet 1.

No. 268,998.

Patented Dec. 12, 1882.



WITNESSES

F. W. Howard
J. C. Reynolds Jr.

INVENTOR

Edwin H. Brown
by *C. B. Swett*
Attorney

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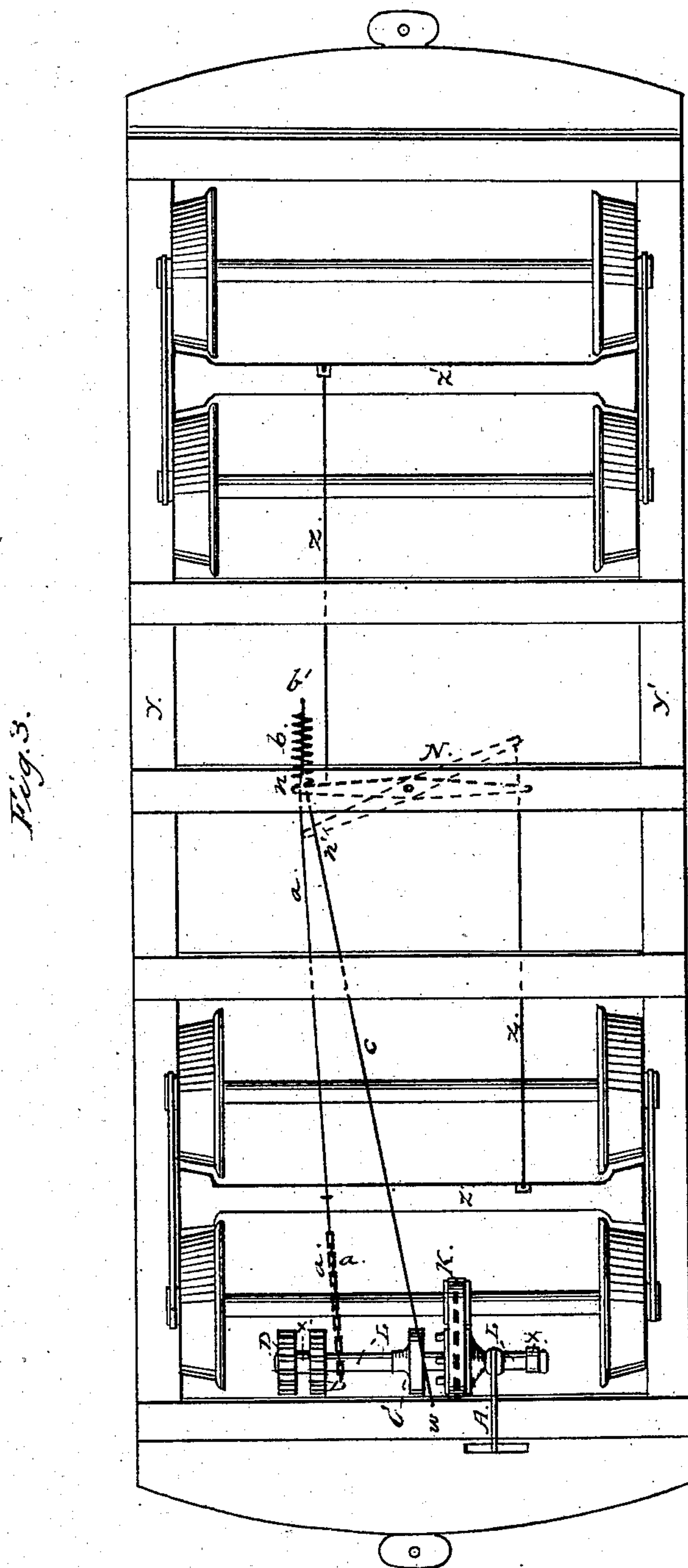
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UNITED STATES PATENT OFFICE.

EDWIN H. BROWN, OF WASHINGTON, DISTRICT OF COLUMBIA.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 268,998, dated December 12, 1882.

Application filed April 25, 1882. (No model.)

To all whom it may concern:

Be it known that I, EDWIN H. BROWN, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Car-Brakes; and I do hereby 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.

My invention consists of a combination of devices constituting a car-brake, which on being thrown into gearing with the revolving car-axle is operated by the force and motion of said axle, and which is limited and regulated in its action automatically.

The object of my invention is to expedite the operation of applying and releasing the brakes of cars, and to utilize the power of the revolving car-axle in working the brakes. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 represents a vertical end view of a car and truck, and a portion of the invention in position and its connections with the hand-lever and car-axle. Fig. 2 is a vertical enlarged end view of the shaft, cog-wheel, pawl, spring, hanger, and lever. Fig. 3 is a horizontal view of a part of the invention as it appears after removing the body of the car. Fig. 4 is an enlarged view of the upper end of the rod *c*, the clamp-screw *d'*, and the extension *c'*. Fig. 5 represents in detail the bell-crank *w*. Fig. 6 is an enlarged and detailed view of the wedge *E* and its connections.

Similar letters refer to similar parts throughout the several views.

In Fig. 1, *A* is a lever having a lateral vibrating motion when moved by the hand-lever *A'* on account of the pivots *a' a''*. *L* is a shaft whose journals rest in the hangers *x* and *x'*. Upon this shaft the movable clutch-wheel *B* freely revolves, and with this shaft the counter clutch-wheel and cog-wheels *D D* revolve. The clutch *B*, extended to receive the pronged end of the lever *A* in a groove, *f*, is provided on its circumference with pins, by means of which, with the endless chain *O* and the rag-wheel *K* upon the car-axle *M*, a rotary motion is obtained

from the car-axle. *a* is the chain connecting the shaft *L* with the lever *N*, Fig. 3.

In Fig. 2, *x'* is the hanger supporting the shaft *L*. *p* is a spring, and *F* is a pawl moving in a slot in hanger *x'*, and acting on the cog-wheel *D*. *e* is a lever connecting with the pedal *e'*, Fig. 1.

In Fig. 3, *yy'* is the frame of the car-truck. *a* is the chain and rod passing from the shaft *L* through an eye in the lever *N* and through the spring *b*, and attached to said spring at *b'*. The spring *b* is fastened to the lever *N* at *n*. *z z* are rods connecting the lever *N* with the car-brakes *z' z'*. *c* is a rod having a bell-crank at *w* and reaching with its extension *c'* to the latch *d*. Its upper end is flattened to admit a longitudinal slot. *c'* is an extension of *c* adjusted to *c* by a clamp-screw, *d'*, and the slot in *c*. *E* is a wedge, Fig. 1, connected by a rod to the lever *A*, its point resting in the hanger *x'* just beneath the lever *e* at *E'*, Fig. 2.

This car-brake is operated as follows: To set the brakes, the car being in motion, the lever *A'*, Fig. 1, is drawn by the brakeman toward *A''* and held by the latch *d*. The lever *A*, moving laterally, causes the revolving clutch-wheel *B* to engage its counterpart *C*, and forces the wedge *E* into the hanger *x'*, thus lifting the pawl *F* from the cog-wheels *D D*. Thus the shaft *L* is made to revolve, the chain *a* is wound upon it, the lever *N*, Fig. 3, is drawn toward *n'*, and the rods *z z* draw the brake-bars, forcing the brake-shoes against the car-wheels. The rod *c*, urged by the lever *N*, to which it is attached at *n*, lifts the latch *d*, and the spring *r* draws back the hand-lever to *A'*. The clutch-wheel *B* is thus disconnected from *C*, and the wedge *E* is withdrawn, allowing the pawl *F* to be forced by the spring *p*, so that it engages the cog-wheels *D D* and holds the brakes set. To release the brakes, press upon the pedal *e'*. The lever *e*, pivoted at *e''*, Fig. 2, lifts the pawl *F* from the cog-wheels *D D*, and the shaft *L* is free to readjust itself, and the chain *a* to unwind from it, releasing the brakes.

The spring *b*, Fig. 3, is to retard a too sudden action of the machinery, and so to prevent breakage.

By lengthening or shortening the rod *c* at

c' the increasing action of the brakes is stopped sooner or later to accommodate the strength of the machinery.

I claim as my invention and desire to secure
5 by Letters Patent—

1. In a car-brake, the combination of the levers *A' A* with the movable clutch *B*, having peripheral pins, a belt, *O*, a rag-wheel, *K*, on the car-axle, the counter clutch-wheel *C*, shaft
10 *L*, cog-wheels *D D*, spring-pawl *F*, and wedge *E*, adapted to elevate the spring-pawl simultaneously with the engagement of the clutch *B* with the wheel *C*.

2. An automatic device for limiting and regulat-
15 ing the application of the brakes, consisting of the rod *c*, having a bell-crank and an

adjustable extension, *c'*, latch *d d''*, levers *A' A*, wedge *E*, spring-pawl *F*, cog-wheels *D D*, and shaft *L*, connected to the brake-applying lever *N*, substantially as and for the purpose
20 set forth.

3. The combination of the lever *e*, pedal *e'*, the spring-pawl *F*, and cog-wheels *D D*, all constructed, arranged, and operating substantially as set forth.

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

EDWIN H. BROWN.

Witnesses:

H. A. HALL,
A. R. ALLEN.