

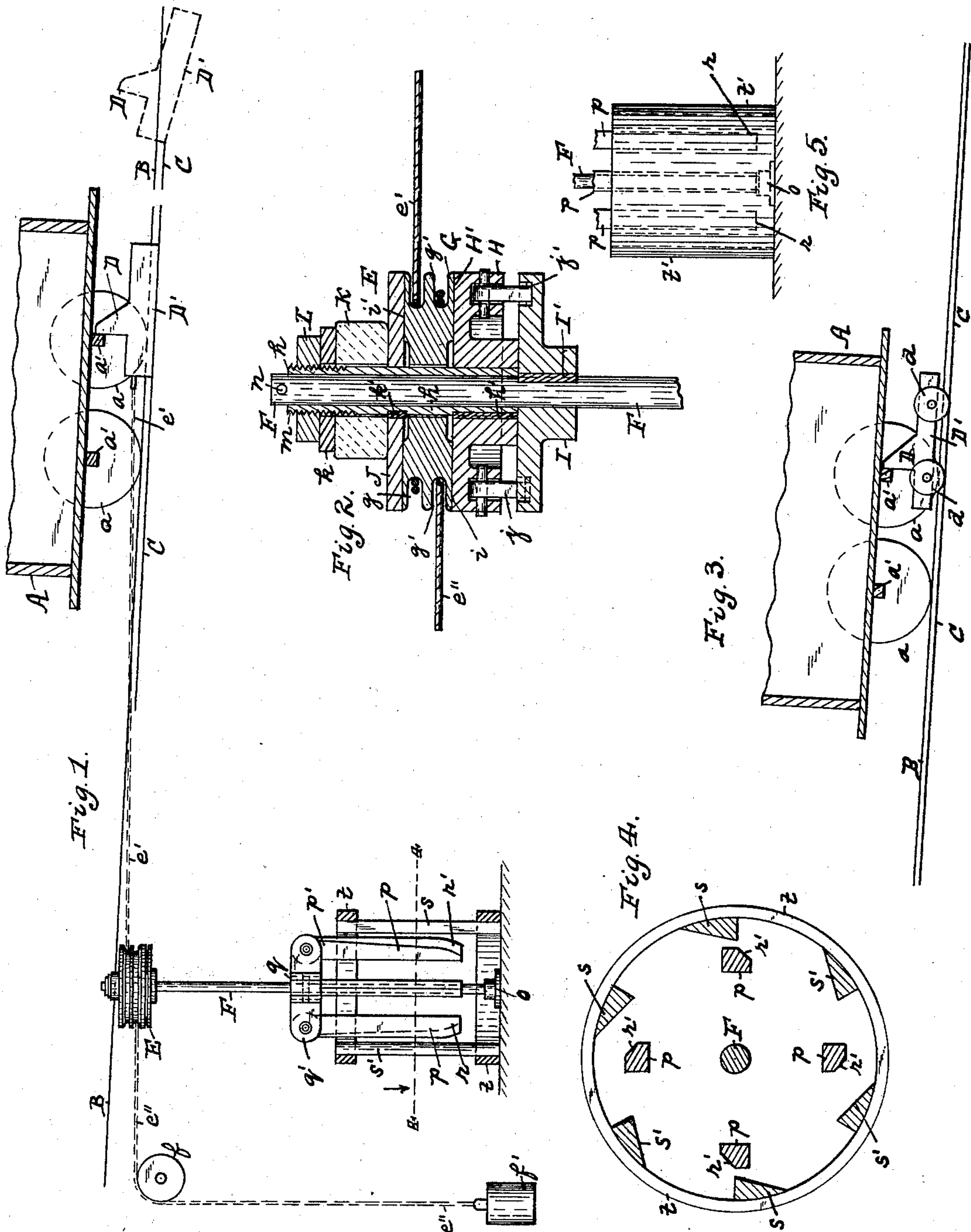
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Patented Sept. 24, 1901.

A. M. ACKLIN.
CAR CHECKING DEVICE.

(Application filed Jan. 26, 1901.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

ALFRED M. ACKLIN, OF PITTSBURG, PENNSYLVANIA.

CAR-CHECKING DEVICE.

SPECIFICATION forming part of Letters Patent No. 683,371, dated September 24, 1901.

Application filed January 26, 1901. Serial No. 44,839. (No model.)

To all whom it may concern:

Be it known that I, ALFRED M. ACKLIN, a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Car-Checking Devices; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to car-checking devices, and has special reference to an apparatus for checking cars in descending an inclined track, such as is shown and described in an application filed by me on June 15, 1900, Serial No. 20,422, in which the object of the invention was to provide a cheap and simple device for engaging with the car in descending inclined tracks which would check the movements of such car to some extent and at the same time move or permit the car to travel down said tracks until the engaging device is freed from said car, after which the car could move by force of gravity along said tracks. A further object of the invention was to provide a simple and effective means for returning the engaging device to place for another operation.

The object of the present invention is to provide a simple and effective device for retarding the movement of the car and engaging device; and such invention consists, generally stated, in the novel arrangement, construction, and combination of parts, as hereinafter more specifically set forth and described, and particularly pointed out in the claims.

To enable others skilled in the art to which my invention appertains to construct and use my improved car-checking device, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a side view of an inclined track, showing a car thereon engaging with the checking device and some of the parts being shown in section. Fig. 2 is a central section through the checking device. Fig. 3 is a detail view showing another manner of mounting the car-engaging device. Fig. 4 is a cross-section on the line 4-4, Fig. 1, looking in the direction of the arrow; and Fig. 5 is a detail section of another form of the retarding device.

Like letters of reference herein indicate like parts in each of the figures of the drawings.

A represents the car, which is adapted to

travel by means of its wheels *a* upon the inclined tracks *B*, and located between such tracks *B* or at one side thereof is the hook-track *C*, upon which track rests the base *D'* of the hook *D*, which engages with the axle *a'* of the wheels *a*. Connected to the base *D'* of the hook *D* is the chain or rope *e'*, which passes around the friction and ratchet mechanism *E*, and from this mechanism a rope *e''* passes over a sheave *f*, having its free end provided with a weight *f'*. The friction and ratchet mechanism *E* is so constructed as to be free to move in one direction, while it is frictionally connected in the other direction and is mounted on shaft *F* and consists of a rope-drum or, as preferred and shown, the double sheave *G*, having the groove *g* for the rope *e'* and the groove *g'* for the rope *e''*, this sheave fitting loosely around a sleeve *h*, encircling the shaft *F*, and being provided with the friction-surfaces *i i'* on each side thereof. A disk *H* is secured to said sleeve *h* by a key *h'* and is provided with a friction-surface *H'* on one side, which is adapted to bear against the surface *i* on the sheave *G*. Another disk *I* is secured to and around the shaft *F* by a key *I'*, and an annular ratchet-face *j'* is formed in the disk *I*, with which pawls *j*, pivoted on the disks *H*, are adapted to engage, while a friction-disk *J* is secured to the sleeve *h* by a key *k'* and is adapted to bear against the surface *i'* of said sleeve *G*. Fitting loosely around the sleeve *h*, against the disk *J*, is a rubber spring *K* for increasing or decreasing the frictional contact of the disks *H* and *J* against the sheave *G*, and this spring is held in place by a washer *k*, engaging therewith, and by a nut *L*, which engages with the sleeve by screw-threads *m* and bears against the washer *k*. A pin *n* is secured in one end of the shaft *F* for holding the sleeve *h* in place, and the opposite end of the shaft *F* fits within and is supported by a bearing *o*. Fitting around the shaft *F* are the swinging arms *p*, which are pivoted at one end *p'* to the arms *q'* of a collar *q*, secured to and mounted around said shaft *F*, and the opposite or free ends *r* of said arms *p* are provided with inclined faces *r'* thereon, which are adapted to come in contact with inclined faces *s'*, formed on plates *s*, which are secured within hoops or bands *t* or within a cylinder *t'*, as shown in Fig. 5.

The use and operation of my improved car-

checking device is as follows: The parts being assembled in position and the car A having started down the inclined tracks B, the axle a' of said car A will strike against the hook D on the hook-track C and so retard the movement of said car A, when said car will proceed slowly down the track B and carry with it the hook D, which will slide along the track C by its base D' . During the movement of such car A and hook D, engaging therewith, down the tracks B C the friction and ratchet mechanism E is in operation, and the rope e' , connected to said hook D and passing around the sheave G, is acting to revolve said sheave G to the right, and the bearing or friction surfaces $i i'$ on said sheave G being in contact with the bearing or friction surface H' on said disk H and with said disk J will cause the turning of said sleeve h and with it the disk H. As the sleeve h and disk H are thus revolved the pawls j on said disk H engaging with the ratchet-face j' on the disk I will act to revolve said disk I and with it the shaft F, and the revolving of said shaft F will cause the free ends r of said arms p thereon to swing out as such arms are revolved, so that the inclined faces r' thereon will come in contact with and travel up the inclined faces s' on the plates s , and so retard the movement of said shaft F and the friction and ratchet mechanism E, connected to said shaft, when the hook D is in engagement with said car A. When the car A has traveled down the tracks B and has reached a certain position, the hook D will drop down, as indicated by dotted lines, and the car A will be free to move by gravity down the track B to any desired place, while the hook D will be drawn back along the track C to its original position through the medium of the rope e'' passing around the sheave f and the weight f'' , thereon, which will cause the sheave G, disks H and J, as well as sleeve h , to turn in the opposite direction from the arrow and allow the pawls j on the disks H to travel freely over the ratchet-face j' on the disk I, so allowing said disk I and shaft F, with its blades Q, to remain at rest.

In Fig. 3 is shown another manner of operating the hook D, which consists in providing wheels d , mounted on axles in the base D' , and are adapted to travel on the hook-track C.

It will be evident that when the shaft F is used in a vertical position the parts K, k , and L may be dispensed with and a weight used and connected with the sleeve, in which case the pin n can be done away with, and various other modifications in the construction, design, and arrangement of the different parts may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

It will thus be seen that my improved car-checking device is cheap and simple in its construction and operation, and by its use the cars will be checked in moving down in-

clined tracks and at the same time will be permitted to travel down such tracks. The device will prevent injury to the cars and controlling mechanism and will not get out of order, as the parts are simple and durable and will operate easily and quickly.

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

1. In a car-checking device, the combination with a car, of a hook engaging with said car, a shaft, mechanism connected to said shaft for permitting the hook to travel with the car, release itself and be returned to place, and arms connected to said shaft adapted to swing out and engage with stationary plates to retard the movement of said car and hook.

2. In a car-checking device, the combination with a car, of a hook engaging with said car, a shaft, mechanism connected to said shaft for permitting the hook to travel with the car, release itself and be returned to place, and arms pivotally connected at one end to said shaft and their opposite ends adapted to swing out by centrifugal force and engage with stationary plates to retard the movement of the said car and hook.

3. In a car-checking device, the combination with a car, of a hook engaging with said car, a shaft, mechanism connected to said shaft for permitting the hook to travel with the car, release itself and be returned to place, and arms pivotally connected at one end to said shaft and their opposite ends adapted to swing out by centrifugal force and engage with inclined faces on stationary plates to retard the movement of said car and hook.

4. In a car-checking device, the combination with a car, of a hook engaging with said car, a shaft, mechanism connected to said shaft for permitting the hook to travel with the car, release itself and be returned to place, and arms pivotally connected at one end to said shaft and their opposite ends adapted to swing out by centrifugal force, said opposite ends having inclined faces thereon and adapted to engage with inclined faces on stationary plates to retard the movement of said car and hook.

5. In a car-checking device, the combination with a car, of a hook engaging with said car, a shaft, mechanism connected to said shaft for permitting the hook to travel with the car, release itself and be returned to place, a collar secured to said shaft, and arms pivotally connected at one end to said collar and their opposite ends adapted to swing out by centrifugal force, said opposite ends having inclined faces thereon adapted to engage with inclined faces on stationary plates to retard the movement of said car and hook.

In testimony whereof I, the said ALFRED M. ACKLIN, have hereunto set my hand.

ALFRED M. ACKLIN.

Witnesses:

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