

No. 736,691.

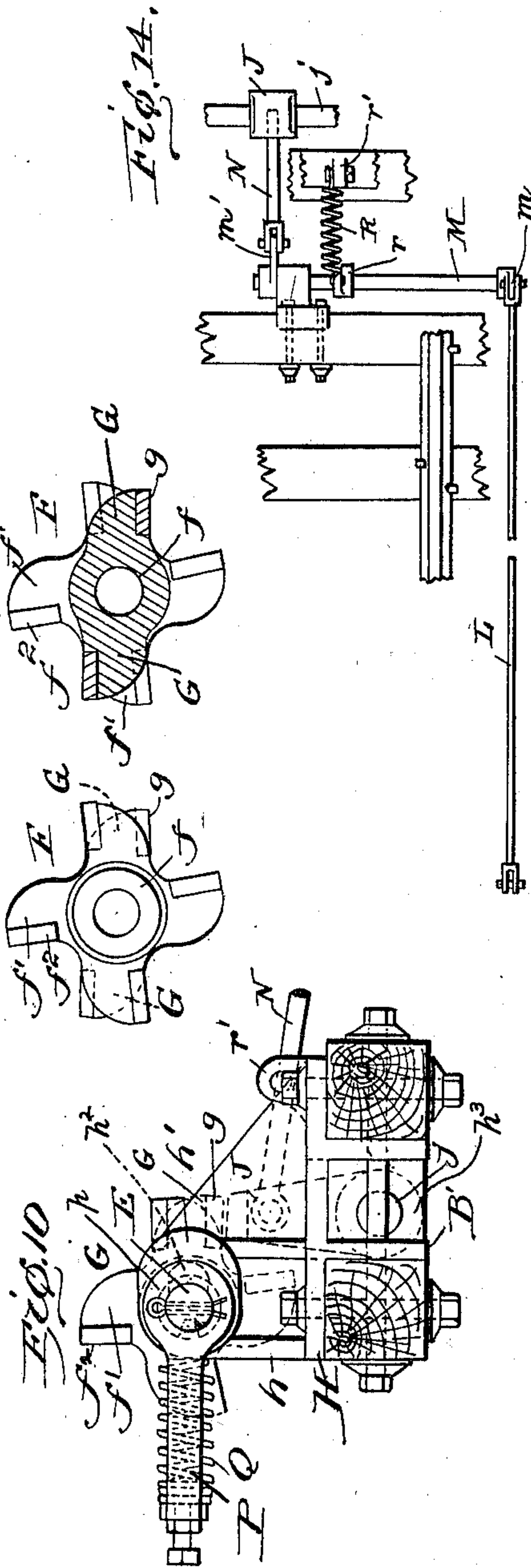
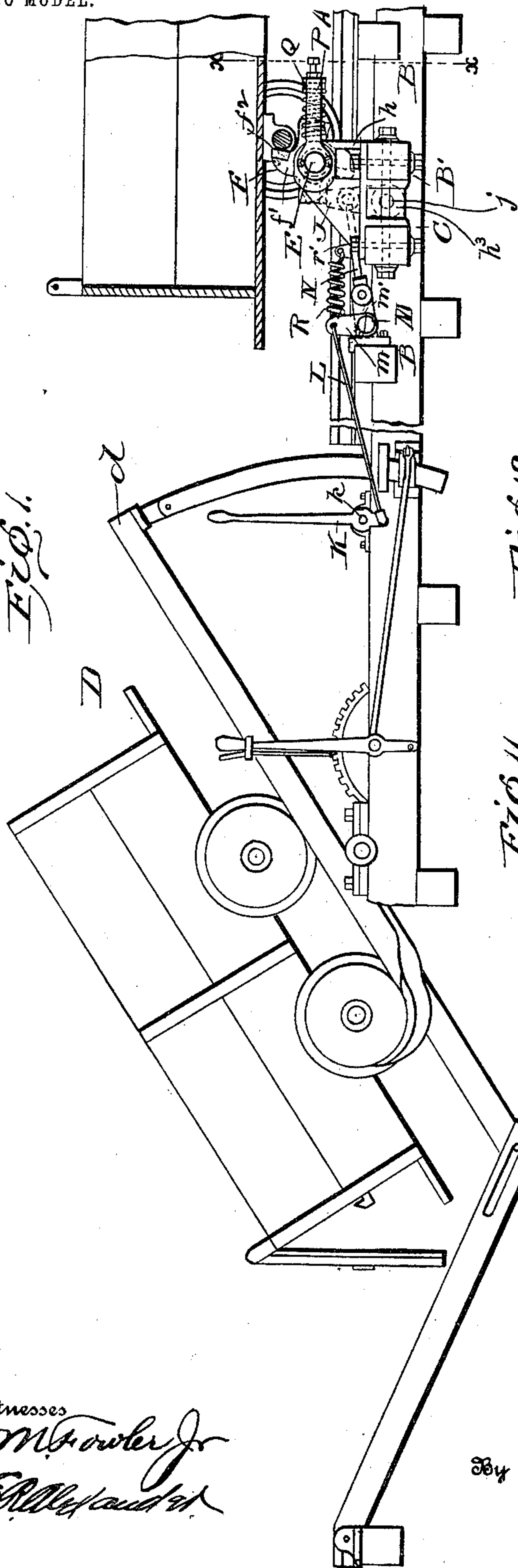
PATENTED AUG. 18, 1903.

C. R. CLAGHORN.
CAR STOP.

APPLICATION FILED MAR. 5, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses
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By

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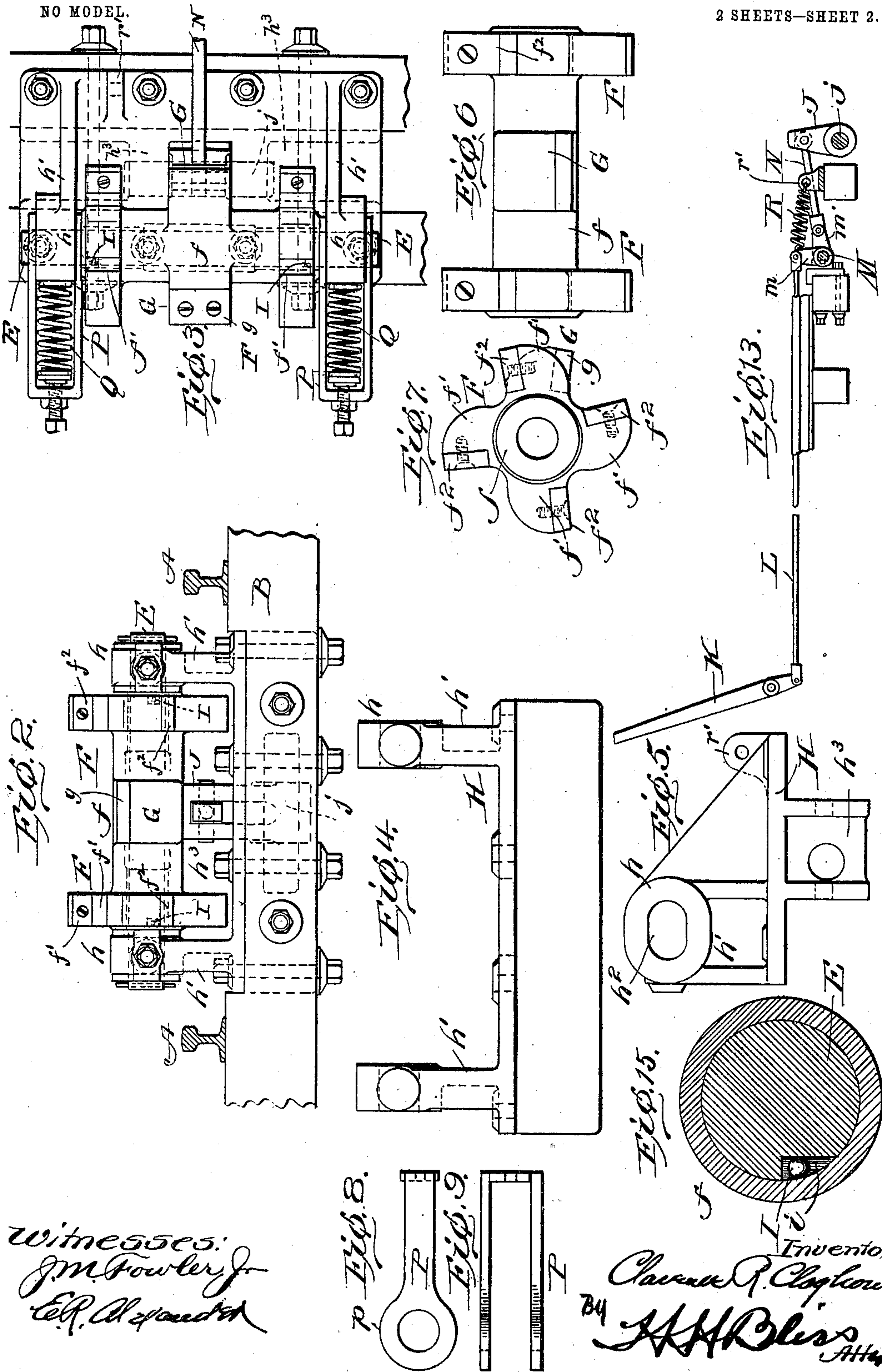
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NO MODEL.



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J. M. Fowler Jr.
Ed. A. Alexander

Fig. 8.
Fig. 9.

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UNITED STATES PATENT OFFICE.

CLARENCE R. CLAGHORN, OF WEHRUM, PENNSYLVANIA.

CAR-STOP.

SPECIFICATION forming part of Letters Patent No. 736,691, dated August 18, 1903.

Application filed March 5, 1903. Serial No. 146,375. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE R. CLAGHORN, a citizen of the United States, residing at Wehrum, in the county of Indiana and State of Pennsylvania, have invented certain new and useful Improvements in Car-Stops, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to improvements in the devices for stopping and subsequently releasing the cars of a train or series which it is desired to permit to advance after they have been stopped sometimes one at a time, sometimes in pairs, &c., one place where cars are so handled being a coal-tipple used in connection with coal-mines.

Figure 1 is a side view of a part of a track structure sufficient to illustrate the manner of employing my improvement, the track structure here being part of a coal-tipping mechanism of well-known form. Fig. 2 shows the track in cross-section at the line xx , Fig. 1, and also shows the rotary part of the car-stopping mechanism. Fig. 3 is a plan view of the devices shown in Fig. 2. Fig. 4 is a rear elevation of the frame or standard parts shown in Figs. 2 and 3. Fig. 5 is an end elevation of this frame or standard. Fig. 6 is a front view of the rotary part of the car-stop detached. Fig. 7 shows the same in end view. Figs. 8 and 9 are a side view and plan of the yoke or stirrup which engages with the spring. Fig. 10 is a side view of the parts shown in Figs. 2 and 3. Fig. 11 is an view of a modified form of the rotary element of the car-stop. Fig. 12 is a central vertical section of the same. Fig. 13 shows the lever and connecting device for operating the stationary part of the stop device in side elevation. Fig. 14 is a plan view of the same. Fig. 15 is a detail view of the ratchet for the rotary part of the car-stop.

45 In the drawings there is shown a track having rails A A, these being supported upon suitable ties B. The latter can be placed upon the ground or upon a framework, such as shown at C.

50 A car-tipple mechanism is represented in the drawings for the sake of illustration, it being indicated as a whole by D and having movable track-rails d , which can be turned

or rotated in order to throw the car into such position that its contents can be emptied therefrom. It will be understood, however, that the parts particularly embodying the features of the present invention can be used in connection with other track systems and other tipping mechanisms. When use is made of a laterally-rotating tipping mechanism, it is desirable to permit two or more cars to advance at a time; but when the end-wise-acting tipplers are used generally but a single car is handled at a time. The apparatus for stopping the cars and controlling their passage in such numbers as may be desired consists of the following:

E indicates a shaft or journal-bar mounted in bearings h in a bracket or platform H, having standards h' . The apertures in the standards which receive the ends of the shaft are elongated, as shown at h^2 , so that the shaft can have motion bodily therein, the ends of the shaft being squared or provided with dowel-pins which prevent it from rotating in these bearings.

The bracket or platform H is preferably of substantially the shape shown or one equivalent thereto, so that it can be securely fastened to the ties or track structure, as shown at B'.

On the shaft or journal-bar E is mounted the rotary element of the stop device, (indicated as a whole by F.) It comprises the sleeve or tubular portion f and the lugs f' , the latter being preferably cast integral with the sleeve and at the ends thereof. The central part of the sleeve is formed with one or more lugs or enlargements G. As the edges of these lugs f' and G have to receive more or less severe blows and be subjected to considerable wear, I attach to them plates f^2 and g , which can be removed in case of breakage or wear and have others substituted. The sleeve or tubular part f and the shaft E are preferably provided with a suitable ratchet mechanism which will permit motion in one direction, but prevent it in the opposite, a simple form of ratchet being illustrated in Fig. 15 and consisting of a ball I, seated in a cavity i in the shaft and adapted to engage with the outer sleeve.

The rotary part of the stop devices (to wit, the sleeve f and the lugs carried thereby) is

held intermittently against rotation by means of the stop J. This is a swinging arm secured to a rock-shaft j , which is mounted in hangers h^3 , that extend down from the bracket or platform H. The upper end of this arm J is convex, its curvature being described from the axis around which the arm swings. This arm when in its active position stands upright or nearly upright in the path of the lug or lugs G at the central part of the sleeve f . The reinforcing or wearing plates g engage with this arm when the parts of the stop are in operative position.

The stop-arm can be moved out of the path of the lug or lugs G by the lever K, which is pivoted at k and is connected to the stop by means of the pitman L, the rock-shaft M, and the pitman N, the rock-shaft M having crank-arms m and m' , the former pivotally connected to the pitman L and the latter connected to the pitman N.

R is a spring having one end connected to a crank r , secured to the rock-shaft M, and the other end being connected to a stationary fastening, as to the ear r' , secured to the framework. This spring acts normally to move the stop-arm J to its operative position and causes such movement of it as soon as the lever K is released from the hand of the operator.

In order to prevent breakage or injury to the apparatus by the shocks or blows imparted by the moving cars when they come against the stop mechanism, I employ buffers and arrange the rotary parts so that they can yield under the pressure or blow from a car when the stationary stop J is in its active position.

P is a stirrup or yoke having eyes p , which engage with the ends of the shaft or journal-bar E.

Q represents springs, each arranged to bear at one end against one of the standards h' and at the other end to bear against the outer part of a yoke P. Normally the springs bear against the yokes and hold the shaft or bar E and the rotary part of the stop at their extreme position in the direction from which the cars approach. When a blow or pressure is exerted by a car, the rotary devices can yield more or less in the opposite direction, the shaft or bar E moving forward in the elongated or slotted apertures h^2 under the tension of the springs Q.

The mode of operation of a mechanism such as above described will be readily understood. If it be desired to permit cars to pass the stop mechanism one at a time, a rotary stop element of the character shown in Fig. 11 will be used, it having two of the lugs G diametrically opposite to each other. The cars of the train are uncoupled, and the forward car is by those behind it pressed against the lugs f' of the rotary part F, the parts being so constructed and related that the front axle of the car is in contact with the lugs. When it is desired that a car should pass, the

operator gives movement to the lever K, which quickly pulls the stop-bar E out from under the lug G, that is bearing upon it, the curved upper end of the arm E insuring its being easily moved. As soon as it is disengaged the pressure of the train of cars starts the rotary part F into motion, the front axle of the forward car by bearing against an upwardly-projecting lug f' causing one-fourth of a revolution. Then the rear axle of the forward car strikes the next lug and imparts another quarter of a revolution. This brings the opposite lug G around to where it contacts with the stop-arm E, the spring R having returned this stop from its open or inactive to its active position immediately after it had been moved by hand. Consequently the third axle—that is, the forward axle on the next car—will be positively stopped and the forward motion of the remainder of the train will be arrested. If it is desired that the cars shall advance in such way that two of them at a time can pass the stop, a rotary part like that in Fig. 7 is used, with but one cam or lug G. In such case when the stop-arm J is released it will be inactive while four axles pass; but into contact with it will come the cam or lug G again when the fifth axle approaches—that is, the first axle on the third car—and it will be seen that sets of cars of any number can be allowed to pass and the remainder of the train automatically arrested by properly varying the number of lugs f and G.

By employing two sets of stop-lugs f' , situated at relatively long distances apart, I can effect a stopping of the cars without torsion or any of the disadvantages incident to the use of a single stop, such as I have employed heretofore. Both ends of the axle can be firmly arrested by this device.

What I claim is—

1. In mechanism for arresting and releasing cars, the combination of a stationary stop element and a rotary stop element having two contact devices for engaging with a car, one near one side of the car, and one near the other, substantially as set forth.

2. In a mechanism for stopping and releasing cars, the combination with a stationary stop element of two step-by-step moving devices adapted to be arrested by the stop, and in turn to engage with the car, one at one side of the latter, and the other at the other, and both acting simultaneously, substantially as set forth.

3. In an apparatus for arresting and releasing cars, the combination of the relatively stationary stop and the two sets of rotating car-contacting devices adapted to be arrested by the said stop and to engage simultaneously with a car, one upon one side and the other upon the other side thereof, substantially as set forth.

4. In an apparatus for arresting and releasing cars, the combination of the rotary stopping devices adapted to yield bodily for-

ward when stopping the car, substantially as set forth.

5 5. In an apparatus for arresting and releasing cars, the combination of the stationary stop and the rotary stop having the lug or engaging device at its center for contacting with the stationary stop, and two sets of car-contacting devices at its ends, substantially as set forth.

10 6. In a car-arresting and releasing mechanism, the combination with the relatively fixed stop, the rotary stop adapted to move bodily forward, and the spring for resisting such bodily movement forward, substantially as set forth.

15 7. In a mechanism for arresting and releasing cars, the combination with the rotary stop devices adapted to move forward with

the car when released, and means for preventing them from rotating in the opposite direction, substantially as set forth. 20

8. In a mechanism for arresting and releasing cars, the combination with the rotary stop element and the shaft around which the stop element is adapted to freely rotate in one direction, of the ratchet mechanism for locking the stop mechanism against rotation in the opposite direction, substantially as set forth. 25

In testimony whereof I affix my signature 30 in presence of two witnesses.

CLARENCE R. CLAGHORN.

Witnesses:

A. D. HOKE,

ROBT. H. ORRISON.