

(No Model.)

G. A. HIDDEN.
HORSE CONTROLLING DEVICE.

No. 605,045.

Patented May 31, 1898.

Fig. 1.

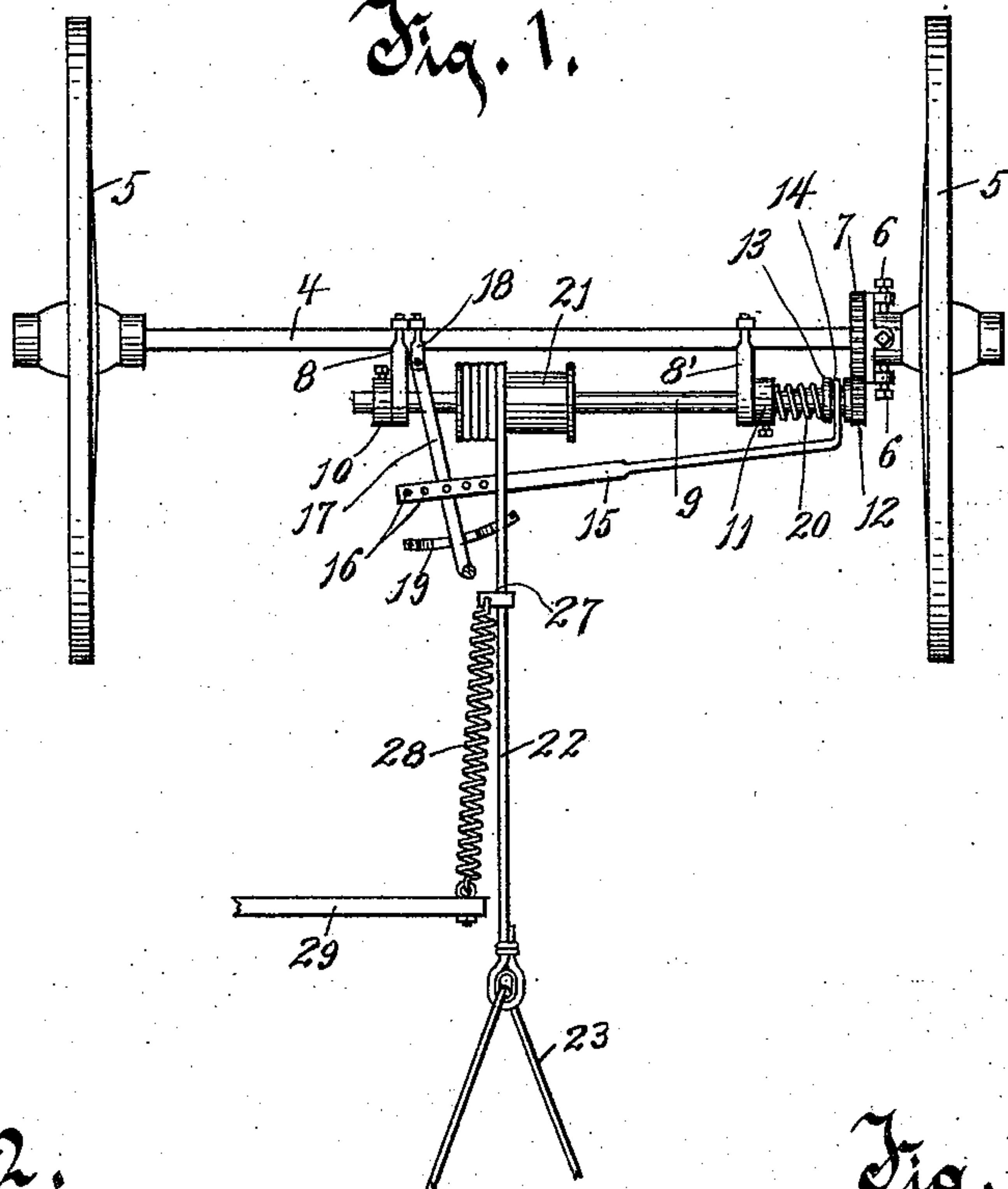


Fig. 2.

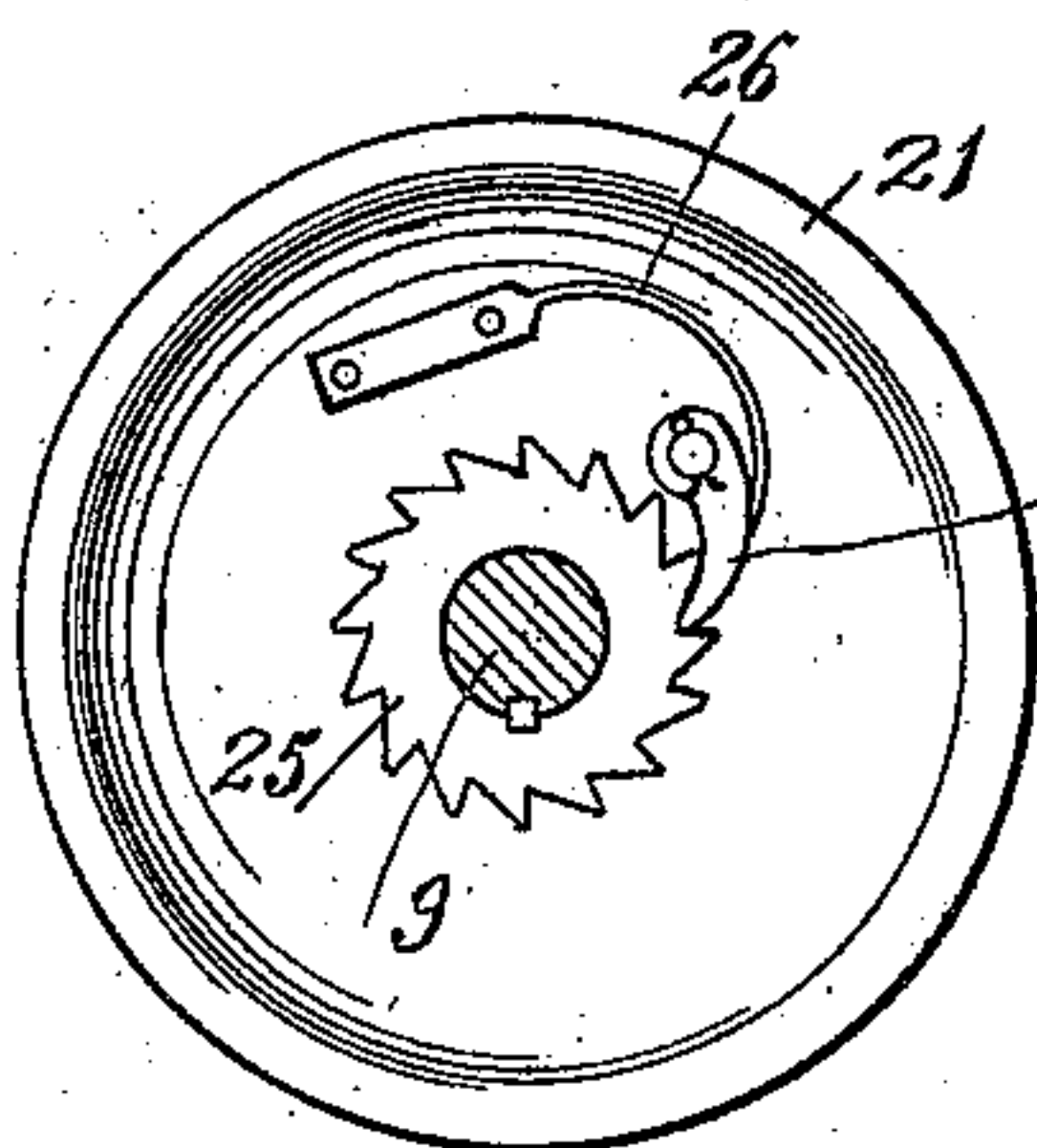
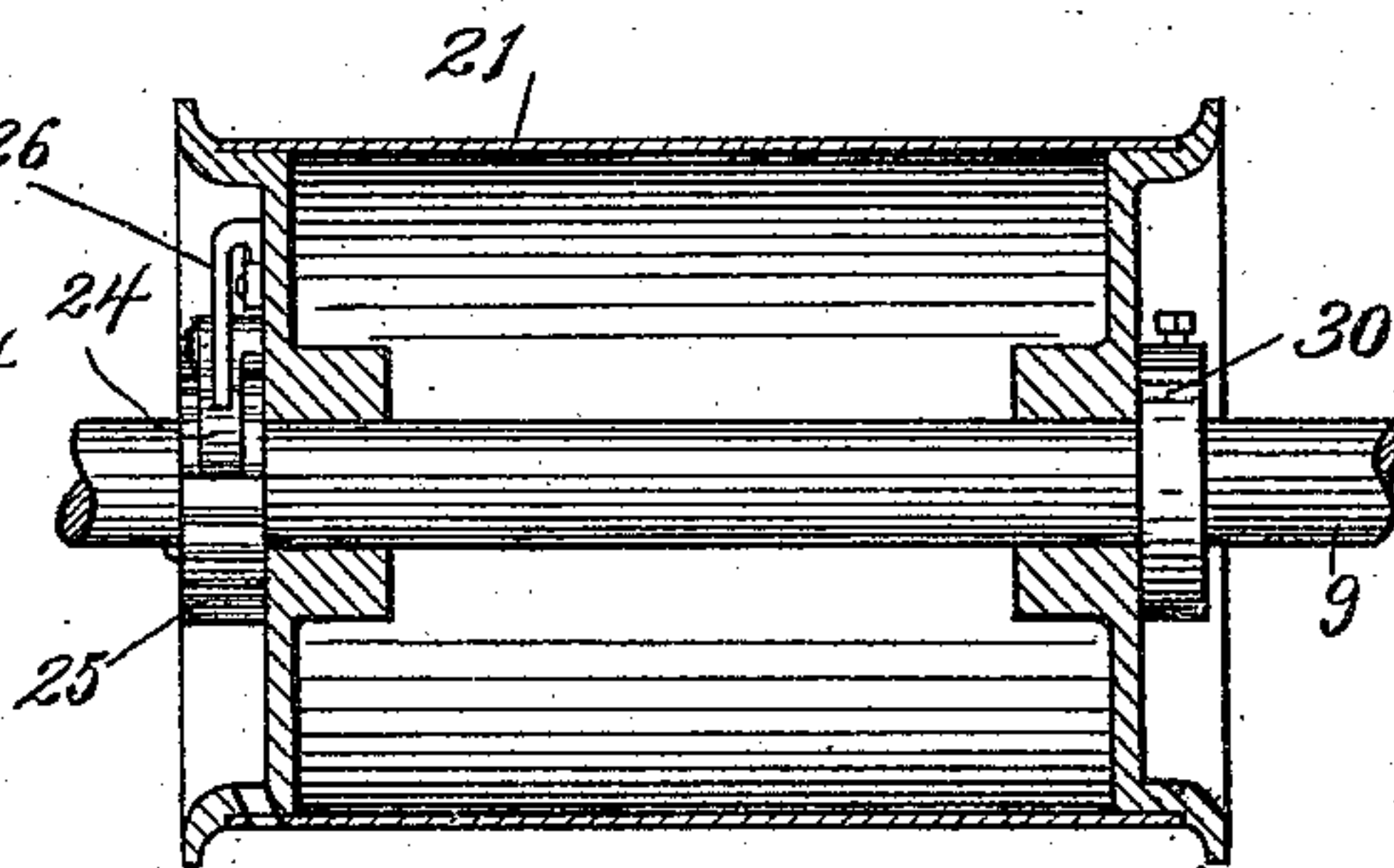


Fig. 3.



Witnesses.

W. H. Keeney
Anna V. Faust

Inventor.

George A. Hidden
By Benedict & Morsell
Attorneys

UNITED STATES PATENT OFFICE.

GEORGE A. HIDDEN, OF PHOENIX, ARIZONA TERRITORY, ASSIGNOR OF TWO-THIRDS TO A. H. LAWRENCE AND ENOCH HIDDEN, OF SAME PLACE.

HORSE-CONTROLLING DEVICE.

SPECIFICATION forming part of Letters Patent No. 605,045, dated May 31, 1898.

Application filed June 9, 1897. Serial No. 639,995. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. HIDDEN, of Phoenix, in the county of Maricopa and Territory of Arizona, have invented a new and useful Improvement in Horse-Controlling Devices, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention has relation to improvements in horse-controlling devices.

The invention relates to that class of devices which are adapted for effectually stopping and controlling the animal in case of a runaway or in case it is desired to bring the vehicle to a standstill or after the vehicle has been brought to a standstill and the horse suddenly starts up.

It is the object of my invention to provide a simple and inexpensive construction embodying the above characteristics and which is readily adjustable to any existing vehicle and adapted to perfectly control the animal.

It furthermore comprehends as an object the provision of a means for automatically slackening or unwinding the hitching strap or rope from the winding-drum the moment the controlling mechanism is released, thereby leaving the animal free to pull the vehicle instantly without the necessity of a preliminary unwinding of the hitching-strap by an initial movement of the horse before any movement is imparted to the vehicle.

With the above primary objects in view the invention consists of the devices and parts or their equivalents, as hereinafter more fully set forth.

In the accompanying drawings, Figure 1 is a plan view of the back portion of the running-gear of a vehicle, showing my improvements applied thereto. Fig. 2 is a view of one end of the winding-drum; and Fig. 3 is a longitudinal sectional view through the winding-drum, showing a fragment of the shaft passing therethrough.

Referring to the drawings, the numeral 4 indicates the hind axle of a vehicle, having the driving-wheels 5 mounted thereon. Secured fast to the hub of one of these wheels by means of screws 6 is a gear-wheel 7. In

advance of the axle and parallel therewith and mounted in bearings 8, extending therefrom, is a shaft 9. A set-collar 10 bears against the outer side of the bearing 8 and prevents longitudinal movement of the shaft in one direction, and a similar set-collar 11 bears against the outer side of the bearing 8' to prevent longitudinal movement of the shaft in the opposite direction.

Adapted to slide on a feather at one extremity of the shaft is a pinion 12. This pinion is provided with a projecting hub 13, having an annular groove 14 therein which is adapted to be engaged by the bent and forked end of a lever 15. The opposite end of this lever is provided with a series of perforations 16, with any of which a perforation or eye in a pivoted operating-arm 17 may be brought into register and held in engagement therewith by means of a pin passed through the registering apertures. The connection between the lever and operating-arm is therefore made adjustable. The arm is pivoted at its inner end to a short pivot-stud 18, secured to and extending forwardly from the axle 4. The arm toward its forward end passes over a segmental rack 19, which is adapted for holding the arm in any position to which it may be swung. The forward extremity of the operating-arm is bent upwardly, so as to be in convenient position for operation by the driver of the vehicle.

Encircling the shaft between the set-collar 11 and the pinion 12 is a coiled spring 20.

Mounted loosely on the shaft 9 is a winding-drum 21, to which a controlling strap or rope 22 is adapted to be attached. This strap is extended forward, and its extremity is provided with a branch strap 23, having its ends leading to and connected with any suitable part of the harness, preferably to the rings of the bit. While the drum is loosely mounted on the shaft, yet it is capable of rotation thereon the forward movement of the vehicle by means of a dog 24, pivoted to one end of the drum, which dog is adapted to be normally held in engagement with the teeth of a ratchet-wheel 25, fast on the shaft 9. The dog is held in engagement with the teeth by means of a spring 26, secured at one end to

the drum and having its free end bearing on the edge of the dog. It is obvious that when the pinion is in mesh with the gear-wheel and the vehicle is pulled forwardly the shaft 9 will be rotated rearwardly and the drum rotated with said shaft by reason of the engagement of the dog 24 with the ratchet-wheel 25. On the back movement of the vehicle, however, rotation of the shaft 9 is not imparted to the drum, inasmuch as the teeth of the ratchet-wheel will slip by the dog without imparting rotation to the drum.

Fixedly secured to a medial point of the controlling-strap 22 is a short arm 27. To the outer end of this arm is secured the inner end of a coiled spring 28. The forward extremity of this spring is secured to a fixed beam 29, forming a part of or secured to the vehicle-gearing or to the body of the vehicle.

The winding-drum is held against longitudinal movement on the shaft in one direction by the ratchet 25, bearing against one end thereof, and in the other direction by a set-collar 30, bearing against the opposite end of the drum.

It will be understood that the pinion 12 is normally held out of engagement with the gear-wheel 7 by the proper adjustment of the operating-arm 17. In the operation of the device, if the driver of the vehicle wishes to stop and secure his horse he releases the operating-arm 17 from the segmental rack and turns said arm in the proper direction to move the lever 15 outwardly, so as to throw the pinion into engagement with the gear-wheel, said pinion being held in engagement therewith by means of the coiled spring 20. The rotation of the driving-wheel will now be imparted to the shaft 9, and said shaft 9 in turn will rotate the winding-drum, so as to wind up on the controlling-strap 22. This occurs just before the horse comes to a standstill and virtually stops the travel of the horse, and will hold the animal securely until the driver is ready to resume travel, when of course he can release the operating-arm and turn the same so as to move the lever inwardly to cause the disengagement of the pinion from the gear-wheel. The moment this disengagement occurs the coiled spring 28 will exert a pull on the controlling-strap and unwind the same, so that the moment the animal is started back pull on the strap 22 ceases, and consequently

the travel of the animal is not checked by the friction of the unwinding strap.

It will be obvious that my device is a great safeguard in the case of a runaway, inasmuch as the lever can be instantaneously pushed outwardly, so as to engage the parts and cause the winding up of the controlling-strap, and thus cause a constant pull on the animal, even though the reins are not in the hands of the driver.

What I claim as my invention is—

1. In a horse-controlling device, the combination, of the driving-wheels of a vehicle, a gear-wheel rotatable with the driving-wheels, a shaft having a pinion slidable thereon and normally out of mesh with the gear-wheel, a lever engaging the pinion and extending parallel with the shaft of the pinion, said lever adapted to throw the pinion into and out of mesh with the gear-wheel, a pivoted operating-arm at an angle to and intersecting the inner end of the lever and pivoted at an intermediate point to said lever, the outer end of the arm having an upturned vertical handle portion, a segment over which the horizontal portion of the operating-arm works and is adapted to engage, so as to be held in adjusted position, a drum mounted on the shaft, and a controlling-strap connected at one end to the drum.

2. In a horse-controlling device, the combination, of vehicle driving-wheels, a winding-drum, a gearing between the driving-wheels and the drum, for imparting rotation to said drum, means for throwing said gearing out of connection to prevent the rotation of the drum by the gearing, a controlling-strap secured at one end to the drum and connected at its opposite end to the harness, and a coiled spring secured at one end to an intermediate point of the controlling-strap and having its opposite end secured to a fixed part, said spring adapted, when the drum is not rotated by the gearing, to cause a pull on the strap and an independent rotation of the drum, and a consequent unwinding or slackening of the controlling-strap.

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

GEORGE A. HIDDEN.

Witnesses:

WM. G. LENTZ,

THOS. E. FLANNIGAN.