

(No Model.)

3 Sheets—Sheet 1.

T. J. FARRELL & W. CLANCY.

WAGON BRAKE.

No. 573,585.

Patented Dec. 22, 1896.

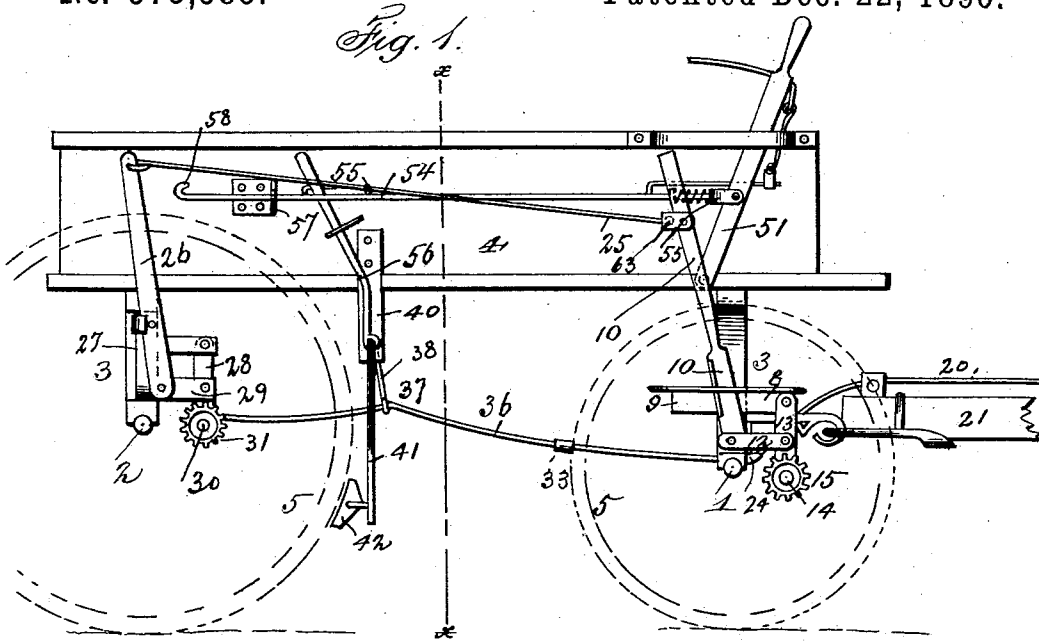
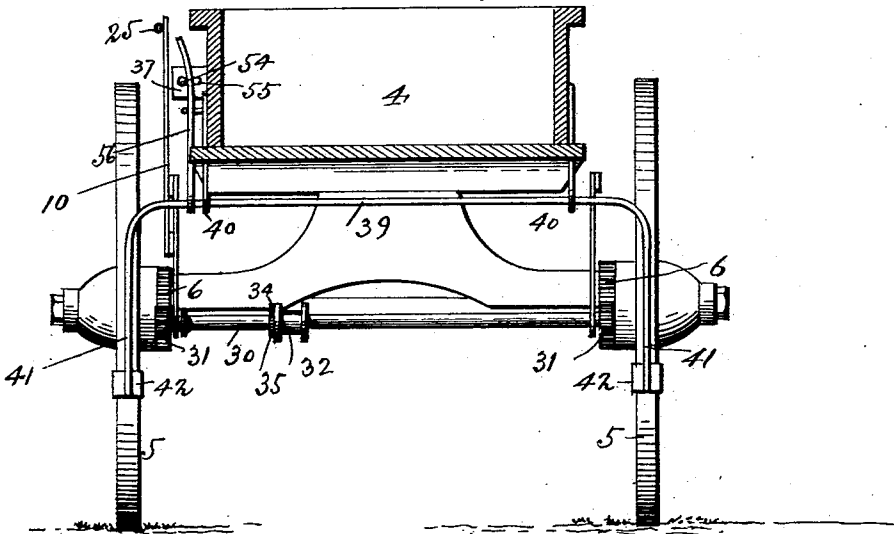


Fig. 3.



Witnesses:

F. L. Curand
James H. Jones

Inventors:

Wm Clancy
Thomas J. Farrell
by James H. Jones
Attorneys

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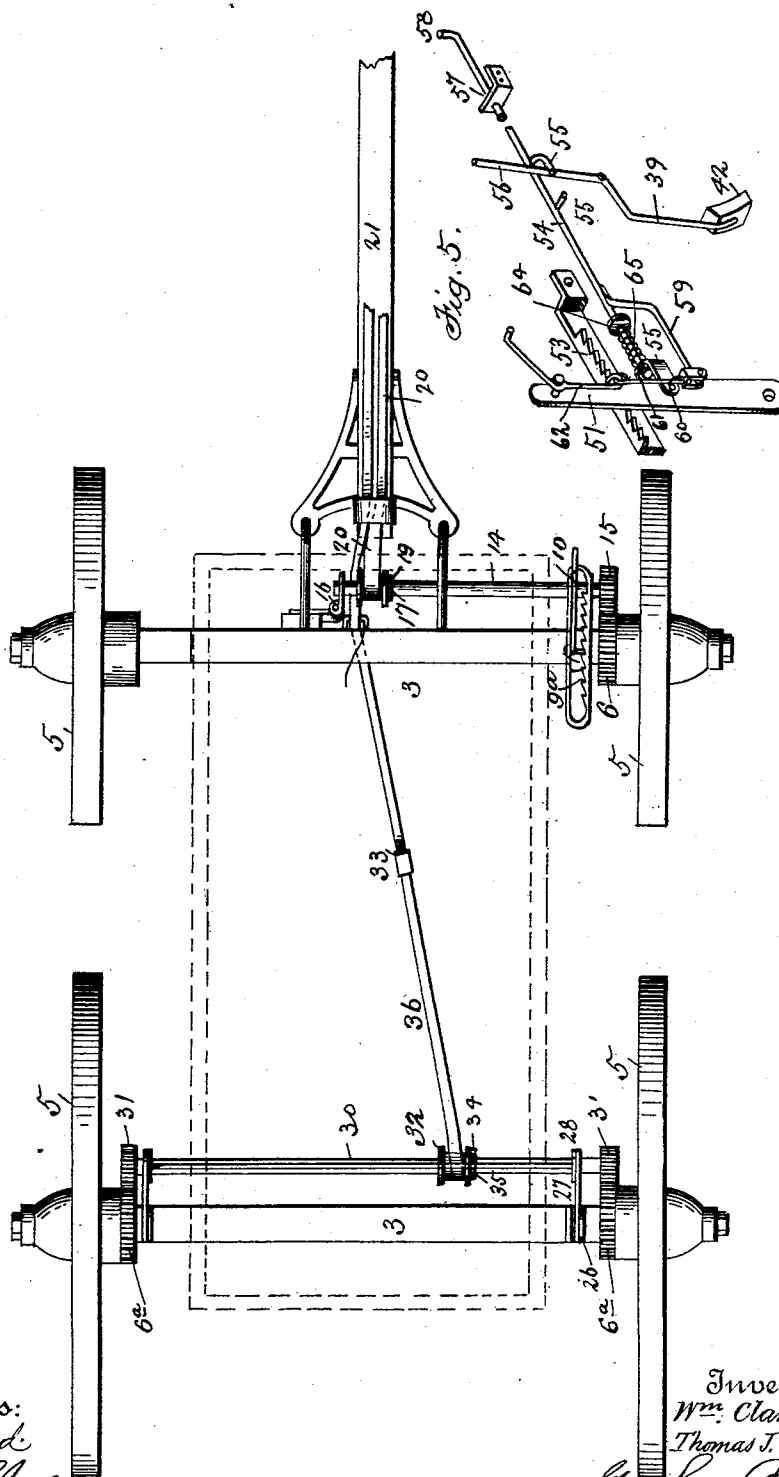
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Fig. 2



Witnesses:
F. L. Curand
James H. Lane

Inventors:
Wm. Clancy
Thomas J. Farrell,
J. Louis Clancy & Co.
Attorneys.

(No Model.)

3 Sheets—Sheet 3.

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Fig. 4

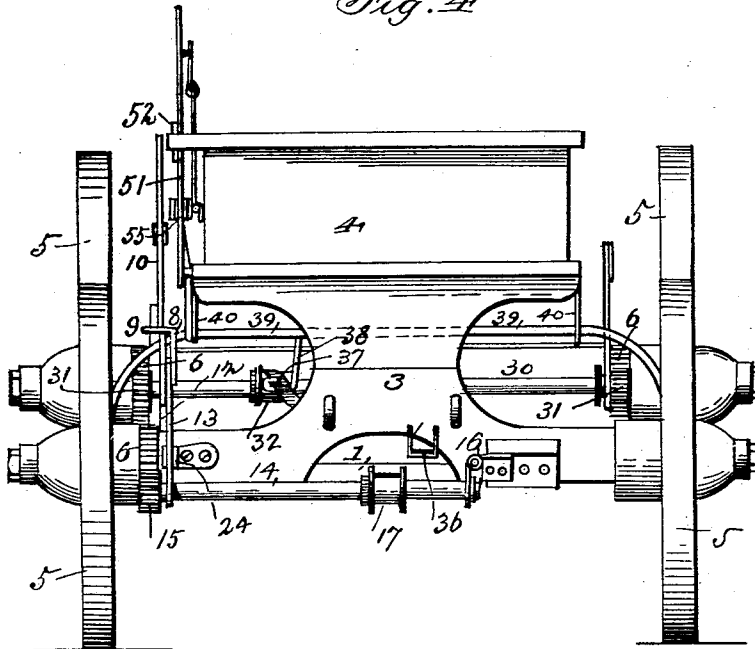


Fig. 8

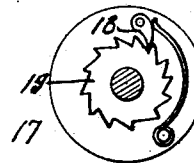


Fig. 6

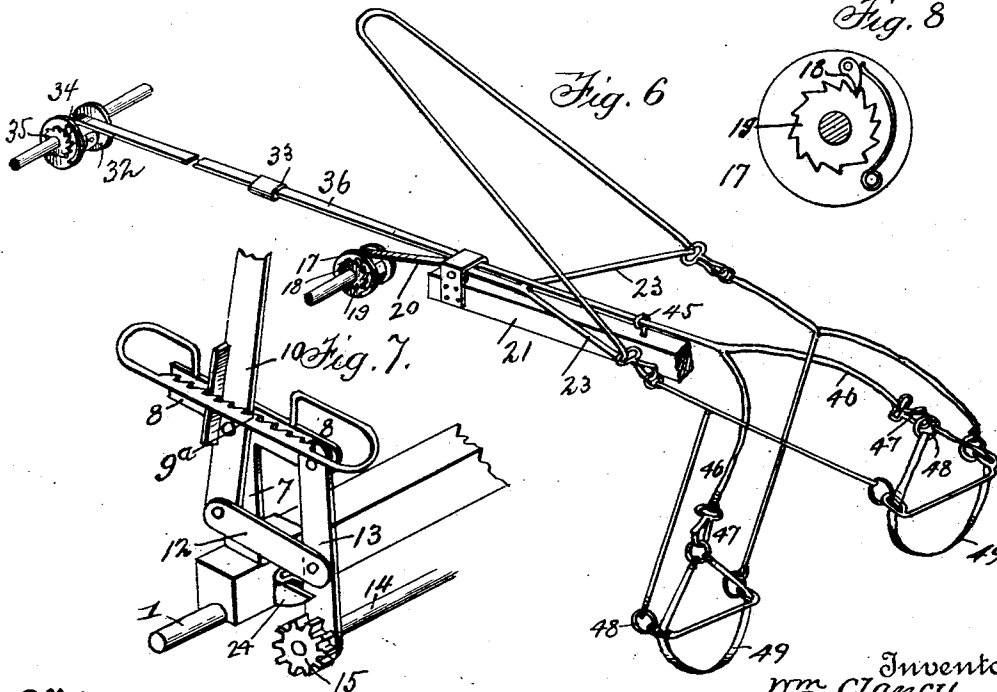
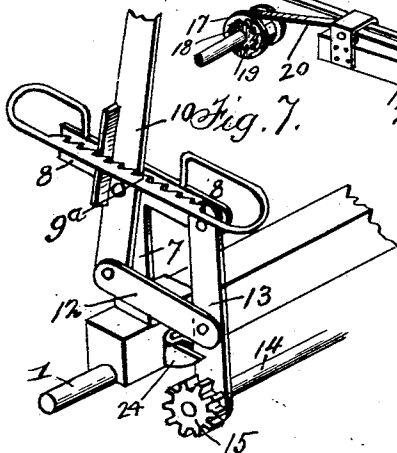


Fig. 7



Witnesses:
F. L. Ourgay
James H. Hall

Inventors:
Wm. Clancy
Thomas J. Farrell
Wm. L. Ourgay & Co.
Attorneys.

UNITED STATES PATENT OFFICE.

THOMAS J. FARRELL AND WILLIAM CLANCY, OF VIRGINIA CITY, MONTANA.

WAGON-BRAKE.

SPECIFICATION forming part of Letters Patent No. 573,585, dated December 22, 1896.

Application filed March 9, 1896. Serial No. 582,434. (No model.)

To all whom it may concern:

Be it known that we, THOMAS J. FARRELL and WILLIAM CLANCY, citizens of the United States, and residents of Virginia City, in the county of Madison and State of Montana, have invented certain new and useful Improvements in Brake Mechanism for Wagons and other Vehicles; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Our invention relates to improvements in attachments for wagons and other vehicles for stopping runaway horses; and its object is to provide such a construction that when a lever pivoted to the ordinary brake-lever is operated and the latter thrown forward cogs on the hubs of the wheels will be caused to mesh with pinions on shafts in front of the front and rear axles, carrying spools upon which are wound straps connected, respectively, with the driving-reins and with nose-bands of the horses, causing the said bands to compress the noses of the horses and to pull upon the bits and to set the brakes, and thus stop the horses almost instantly. The construction is also such that the brakes may be set without operating the devices for stopping the horses.

The invention consists in the novel construction and combination of parts hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a side elevation of a wagon with our improvements applied thereto, the wheels being removed. Fig. 2 is a plan view of the wagon, the body being removed. Fig. 3 is a cross-section on the line *x x*, Fig. 1, the wheels being in place. Fig. 4 is a front view of the wagon. Fig. 5 is a detail perspective view of the brake-operating lever and connections. Fig. 6 is a perspective view of the driving-reins, the bits and nose-band, and the straps connected with the spool at the rear of the wagon. Fig. 7 is a detail perspective view, and Fig. 8 a detail sectional view.

In the said drawings the reference-numerals 1 and 2 designate the front and rear axles, respectively, 3 the bolsters, and 4 the wagon-

body, which may be of any ordinary or suitable construction.

The numeral 5 designates the wheels. The inner side of the hub of one of the front wheels is formed or provided with a number of cogs 6, while the hubs of both of the rear wheels are also formed with similar cogs 6^a.

Secured to the front axle or to any other suitable place is a bracket 7, provided at its upper end with parallel guide-bars 8 and 9, one of which, on its inner side, is formed with rack-teeth 9^a. Pivoted to bar 8 is a vertical lever 10, the lower end of which is connected by means of a link 12 with a hanger 13, the upper end of which is pivoted to plate 8. To the lower end of this hanger is journaled a shaft 14, provided with a pinion 15, which meshes with the teeth on the hub of the front wheel. This shaft extends inwardly to about the center of the wagon, and its inner end is journaled to a hinge 16, secured to the front axle. Near this end the said shaft is provided with a loose spool 17, provided with pawls 18, which engage with a ratchet 19, fixed to the shaft, so that when the wagon is pulled forward, as hereinafter described, said spool will rotate with the shaft, but which will remain stationary when the wagon is backed. Secured to the spool is a strap 20, which passes through a guide on the inner end of the tongue 21 and is forked or divided, forming two straps 23, which are connected with the driving-reins. Near the outer end of the axle is a bifurcated plate 24, which forms a guide for the hanger 13.

The upper end of the lever 10 is connected by a rod 25 with a similar lever 26, pivoted to a bracket 27, secured to the rear axle. This lever is connected with a hanger 28 by means of a link 29, the construction being similar to that above described. A similar bracket, link, and hanger are on the opposite side of the wagon. Journalled to these hangers is a transverse shaft 30, provided with pinions 31, which mesh with the cogs on the hubs of the rear wheels, and loosely mounted on this shaft is a spool 32, having pawls 34, which engage with a ratchet 35, fast on said shaft. Secured to said spool is a strap 36, provided with a button or stop 33, which strap passes through a loop 37 on the end of a depending rod 38, secured to the transverse

brake-bar 39, journaled in hangers 40, secured to the wagon-body. The ends of this bar are bent downward, forming arms 41, the lower ends of which are provided with brake-shoes 42. After passing through this loop the strap 36 passes through an eye 45 on the tongue to a strap 46, provided with snap-hooks 47, which in turn are connected with rings 48, secured to the nose-bands 49. Each of these nose-

bands consists of an endless strap which passes through a loop in each end of the band and extends loosely around the nose of the horse, so as not to interfere with its breathing when not tightened, as hereinafter described. The strap 36 is provided with a button 33, which, when the strap is wound on the spool, will come in contact with the rod 38 and push back the same and set the brakes.

Passing through a guide at the upper front end of the wagon-body is a brake-lever 51, having a flange 52, which engages with teeth 53 on the inner side of said guide. This lever at its lower end is pivoted to the wagon-bed. Connected with a yoke 55, secured to said lever 51, is a horizontally movable and oscillating rod 54, having two lugs 55^a intermediate its ends adapted to engage with a brake-lever 56, pivoted to one of the hangers 40 and secured to the transverse brake-bar 39. The rear end of this rod passes through a bracket 57, secured to the wagon-body, and has its extremity bent into a hook 58 at a right angle to the lugs 55, adapted to engage with the lever 26. Near its front end rod 54 is provided with a crank 59, the front or free end of which is connected by a link 60 and a rod 61 with a lever 62, pivoted to the brake-lever 51. The rod 54 is provided with a head 63, which engages with the yoke 55, so that it will move with the brake-lever when the latter is pushed forward, and in rear of this head is a collar 64, to which is secured one end of a coiled torsion-spring 65, the other end of which is secured to said yoke.

The operation of the invention is as follows: When in normal position, the pinions on the transverse shafts are away from and out of mesh with the cogs on the wheel-hubs, and the rod 54 is turned so that brake-lever 56 will lie in the path of the lugs 55^a, and the hook 58 turned out of the way of lever 26. The brake-lever 51 can now be moved forward to set the brakes, the rear lugs 55^a engaging with lever 56 and actuating it, whereby the brake-shoes are brought into contact with the wheels. A reverse movement of lever 51 will release the brakes. In case of a runaway, the lever 62 is operated to oscillate the rod 54, which will turn the hook, and the lever 51 is thrust forward. The said hook will engage with the lever 26, which, through its connections, will throw the pinions on the transverse shafts into mesh with the cogs on the hubs of the wheels and rotate the shafts and spools thereon. The straps will now be wound on said spools, the strap on the

front spool drawing upon the driving-reins, which in turn will draw upon the bits. At the same time the strap on the rear spool will draw upon the strap connected with the nose-bands, and tightening the same will prevent the horses from breathing and cause them to be almost instantly checked. The button or stop 33 on said strap will also engage with the depending rod of the brake-bar, and will actuate the same to set the brakes. When the levers 10 and 26 are thrown forward, a flange 67 on lever 10 will engage with the teeth on the guide-bar and hold the pinions in mesh with the cogs of the hubs. This flange can be released from engagement with said teeth by slightly turning the lever, and the latter is then turned back to restore the parts to normal, the torsion-spring 65 turning back the rod 54 so that the lugs will again engage with the lever 56 and the hook be thrown out of the way of lever 26.

Instead of providing the transverse shafts with pinion-wheels, said wheels may be friction-wheels engaging with corresponding surfaces on the hubs.

Having thus fully described our invention, what we claim is—

1. In a brake mechanism for wagons and other vehicles, the combination with the rear wheels, the hubs having cogs thereon, the transverse shaft having a pinion adapted to mesh with said cogs, the pivoted hangers in which said shaft is journaled, the lever pivoted to one of said hangers, the oscillating hooked rod, and the levers for operating and oscillating said rod, of the spool secured to said transverse shaft, and the strap connected therewith and adapted to be connected with the driving-reins of a harness, substantially as described.

2. In a brake mechanism for wagons and other vehicles, the combination with the rear wheels, the hubs provided with cogs, the hangers and the lever and connections, of the transverse shaft, the pinions thereon, the spool and the strap secured thereto and adapted to be connected with the nose-bands of a harness; substantially as described.

3. In a brake mechanism for wagons and other vehicles, the combination with the rear wheels, the hubs provided with cogs, the hangers, the lever and connections, of the transverse shaft, the pinions, the spool, the strap, having a button or stop, the nose-bands connected therewith, the depending rod having a hook through which said strap passes, the brake-beam to which said rod is secured, the downwardly-depending arms, and the brake-shoes; substantially as described.

4. In a brake mechanism for wagons and other vehicles, the combination with the front wheels, the hubs provided with cogs, the hanger, the lever and connections, the transverse shaft having a pinion at one end, the spool and the strap secured thereto adapted to be connected with the driving-reins of a harness, of the rear wheels, the hubs provided

with cogs, the hangers, the lever and connections, the rod connecting said lever with the front lever, the transverse shaft provided with pinions, the spool and the strap secured thereto adapted to be connected with the nose-bands of a harness; substantially as described.

5. In a brake mechanism for wagons and other vehicles, the combination with the front wheels, the hub provided with cogs, the hangers and connections, the lever the transverse shaft provided with a pinion, the spool and the strap secured thereto and adapted to be connected with the driving-reins of a harness, of the rear wheels, the hubs provided with cogs, the lever, the bar connecting the same with the front lever, the links and hangers, the transverse shaft provided with pinions, the spool, the strap secured thereto and adapted to be connected with the nose-bands of a harness, the stop or button thereon, the depending rod having a loop through which said strap passes, the brake-rod to which said rod is secured, the downwardly-depending arms and the brake-shoes; substantially as described.

6. In a brake mechanism for wagons and other vehicles, the combination with the front wheels the hubs provided with cogs, the hanger, the lever and connections, the transverse shaft, the spool and the strap secured thereto adapted to be connected with the driving-reins of a harness, of the rear wheels, the hubs provided with cogs, the lever, the rod connecting it with the front lever, the hangers and connections, the transverse shaft provided with pinions, the spool, the strap secured thereto and adapted to be connected with the nose-bands of a harness, the stop or button on said strap, the depending rod having a loop through which said strap passes, the brake-rod, the downwardly-extending arms provided with brake-shoes, the lever secured to said brake-bar, the brake-lever piv-

oted to the front of the wagon-body, the yoke, the headed movable and oscillating rod, having its rear end bent into a hook, the lugs, the crank, collar and torsion-spring, the link and rod and the lever pivoted to said brake-lever; substantially as described.

7. In a brake mechanism for wagons and other vehicles, the combination with the front axle, the wheels, the hubs provided with cogs, the bracket, the guide-bars, one of which is provided with teeth, the hanger pivoted to said bracket, the link, the lever pivoted to said bracket, and having a flange, the transverse hinged shaft, the pinion, the spool and the strap secured thereto and adapted to be connected with the driving-reins of a harness, of the rear axle, the wheels, the hubs provided with cogs, the brackets, the hangers pivoted thereto, the links, the lever, the rod connecting the same with the front lever, the transverse shaft provided with pinions, the spool, the strap secured thereto and adapted to be connected with the nose-bands of a harness, the stop or button secured to said strap, the depending rod having a loop through which said strap passes, the brake-bar, the lever secured thereto, the depending arms provided with brake-shoes, the horizontally-movable and oscillatory rod, the hook at the rear end thereof, the lugs, the collar and head, the yoke, the torsion-spring, the brake-lever with which said yoke is connected, the crank, the link and rod and the lever pivoted to said brake-lever; substantially as described.

In testimony that we claim the foregoing as our own we have hereunto affixed our signatures in presence of two witnesses.

THOMAS J. FARRELL.
WILLIAM CLANCY.

Witnesses:

ALDEN J. BENNETT,
J. M. KNIGHT.