

(No Model.)

J. A. MULLEN.

VEHICLE ATTACHMENT FOR CHECKING HORSES.

No. 550,050.

Patented Nov. 19, 1895.

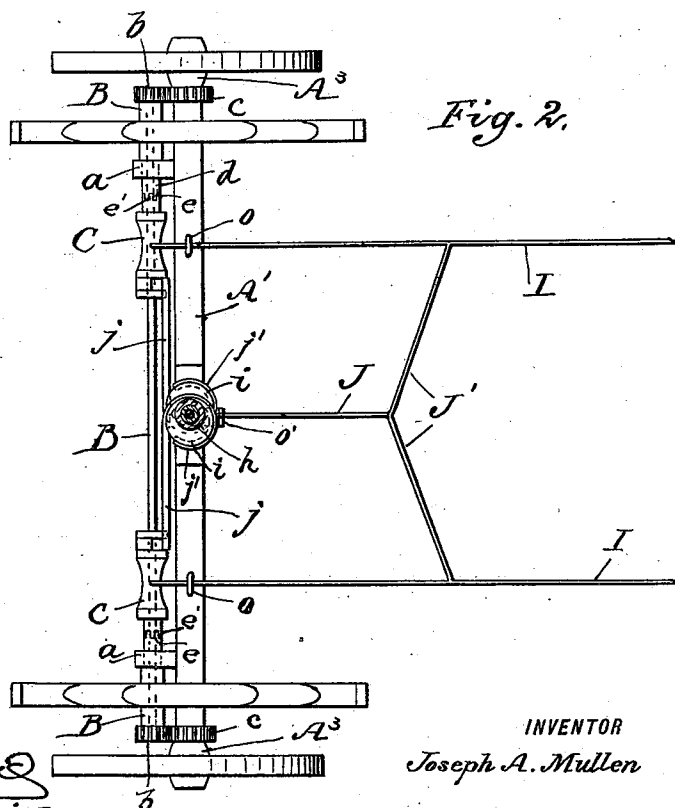
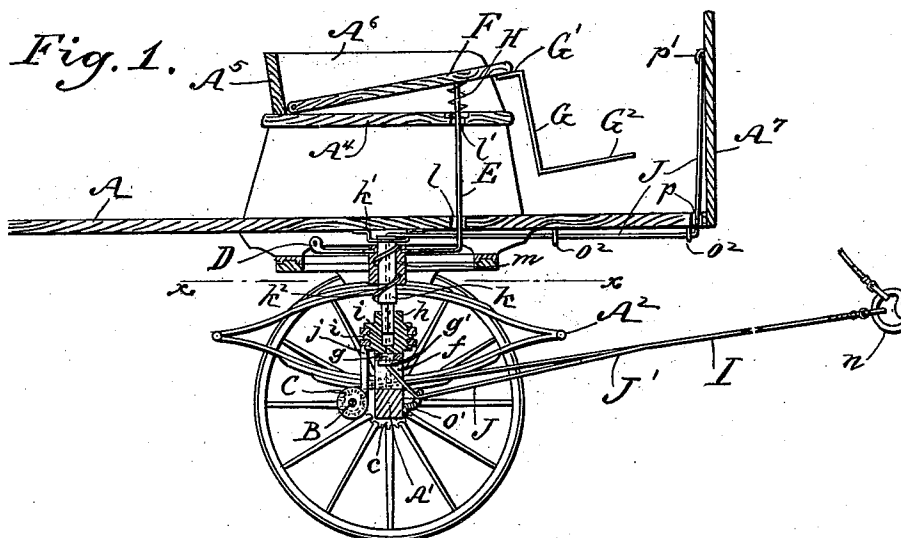


Fig. 3.

WITNESSES

John H. Deemer
Ray J. Griffith

INVENTOR

Joseph A. Mullen

BY
Edgar Tate & Co.
ATTORNEYS

UNITED STATES PATENT OFFICE.

JOSEPH A. MULLEN, OF NEW YORK, N. Y.

VEHICLE ATTACHMENT FOR CHECKING HORSES.

SPECIFICATION forming part of Letters Patent No. 550,050, dated November 19, 1895.

Application filed January 16, 1895. Serial No. 535,066. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH A. MULLEN, a citizen of the United States, and a resident of New York, county of New York, and State of New York, have invented certain new and useful Improvements in Vehicle Attachments for Checking Horses, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar letters of reference indicate corresponding parts in all the figures.

This invention relates to devices for checking horses and preventing runaways, and has for its object to provide a simple, cheap, and perfectly-operating device which may be attached to a wagon or other vehicle, to normally cause the revolution of the wheels to wind up or tighten the reins and thereby draw the horse rearwardly, and which will be automatically thrown out of gear when the vehicle is occupied.

The invention consists in the novel construction and arrangement of parts herein-after more fully described, whereby the above-mentioned and other desirable results are attained.

Referring to the drawings, Figure 1 is a longitudinal vertical section taken through the exact center of a device embodying my invention. Fig. 2 is a sectional plan thereof upon the line $x-x$. Fig. 3 is a detail view of the operating-cams.

In the practice of my invention I journal in bearings a , secured to the axle A' of the vehicle A , within and beneath the springs A^2 , a shaft B , having pinions b secured upon each end thereof and meshing with gear-wheels c , secured to the hubs A^3 , whereby the revolution of said hubs continuously rotates the shaft B .

The shaft B is reduced in diameter from slightly within one of the bearings a to similar distance from the other, whereby the inner faces of the enlarged ends form annular shoulders d , provided with teeth e , and slidably and revolubly mounted upon said shaft are peripherally-concaved spools C , having teeth e' upon their outer edges, which engage the teeth e of the shaft.

Upon the center of the axle A' is secured an upraised angle-bar f , in which is inserted

a vertical stud g , projecting downwardly from a tubular arbor h , on which are secured disk-cams i , one above the other, surrounded by the eccentric or similarly-shaped arms j' of two levers j , which extend diagonally downwardly and outwardly to the inner ends of the spools C , which they loosely clasp to reciprocate the same when the partial revolution of the arbor h , carrying the cams i , projects or retracts said levers j . The stud g is revolubly secured in the angle-bar f by means of a head or flange g' upon the lower end thereof.

The actuation of the cams i is effected by means of a vertical spindle k , journaled in an angle-bar k' , secured to the under surface of the vehicle-body A , and having a flattened or squared lower end which is inserted in the tubular arbor h to rotate the same therewith. Upon the upper portion of said spindle is formed an exterior screw-thread k^2 of steep pitch.

Pivoted beneath the vehicle-body at one end rearward of the spindle k is a forwardly-ranging lever D , having secured to the free end or front thereof a vertical extension or rod E , projecting upwardly through apertures l l' in the vehicle-body A and the seat A^4 thereof, respectively, and secured to the under surface of an auxiliary seat F , which I pivot at the rear edge to the back A^5 or in the sides A^6 of the main seat.

From the front of the auxiliary seat F depends a plate G , having a flange G' upon the top thereof, whereby it is secured to said seat, and provided at the bottom with a forwardly-ranging extension or foot-rest G^2 . The auxiliary seat F is, with the rod E , maintained normally raised by an expansible spiral spring H , surrounding said rod between the main seat A^4 and the bottom of said seat F , the lever D being thereby maintained in the horizontal position. The central portion of said lever loosely clasps a tubular sleeve m , surrounding the spindle k , and interiorly grooved or threaded to receive the thread k^2 therein, whereby the depression of said sleeve rotates said spindle.

To the eyes or loops n of the usual reins of the horse, or to any other desired portion of said reins, I secure at each side auxiliary reins I , extending through eyes o upon the top of

the axle and secured to the spools C. An additional rein J, connecting by branches or straps J' to the reins I, extends through an eye o' upon the axle through the angle-bar f, the tubular arbor h through the spindle k, which is also tubular for the purpose where this rein J is employed, through the angle-bar k', thence forwardly through eyes o² upon the under surface of the vehicle-body A, and finally through an aperture p in said body A to dashboard A⁷, to which it is secured through an eye p'.

The operation of the device will be readily understood from the foregoing description taken in connection with the accompanying drawings. The device being in the normal position shown in the drawings, with the cams i and levers j extended to force the teeth e' of the spools C into engagement with the teeth e of the shaft B, should the horse start to run or carry off the vehicle, as where frightened by accident or malice, the rotation of the hubs A³ of the wheels will, by reason of the gearing thereof with the shaft B, revolve said shaft, and the spools C, being in engagement with the said shaft, will be revolved therewith and will wind up the auxiliary reins I thereon, thereby tightening the reins and exerting great rearward pressure upon the horse and thus effectually checking his progress automatically. When the occupant of the vehicle rests upon the auxiliary seat F, the same is thereby depressed to bear upon the main seat A⁴, carrying with it the rod E, which similarly depresses the free end of the lever D and the sleeve m, and the latter engaging the thread k² of the spindle. Said spindle, while vertically stationary, is turned and the end thereof within the arbor h partially rotates the same to draw the outer faces of the cams inwardly or toward each other, thereby withdrawing the spools C from engagement with the ends of the shaft B, whereby said shaft revolves with the hubs A³, but does not actuate said spools. When the reins I are wound up by the attempted runaway, they will be unwound by the restart of the horse after the seat of the vehicle is again occupied and the checking mechanism released. By the use of the foot-rest G² the spools are similarly disengaged when the occupant of the vehicle stands in the same, said foot-rest when depressed resting upon the vehicle-body.

Should the vehicle be occupied at the time of danger, the auxiliary reins may be tightened by the occupant and the horse checked by grasping the rein J and drawing or pulling upon the same, this being of particular advantage in the event of the usual reins slipping beyond reach or breaking.

The advantages resultant from the use of my invention will be manifest to all who are conversant with the general class of devices to which the same appertains, since I provide novel and perfectly-operating means for stopping the horse and holding the vehicle without the aid of hitching-lines or the like.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A vehicle attachment for checking horses, comprising a shaft gearing with the wheel-hubs to revolve therewith, spools upon said shaft, reins adapted to be attached to the harness of the horse, and secured to said spools, an auxiliary seat above the vehicle seat, connection therefrom to the spools to maintain the same in revoluble relation with the hubs when the seat is raised and release the same from actuation by said hubs when the same is depressed, and means whereby said seat is normally raised.

2. A vehicle attachment for checking horses, comprising an auxiliary seat pivoted above the vehicle-seat, and a foot rest depending therefrom, at the front, a rod extending downwardly from said seat through the main seat and vehicle body, a spring beneath the said seat to maintain the same normally raised, means or devices for checking the progress of the horse, means whereby the revolution of the wheel-hubs actuates said checking devices and means whereby the said seat-rod releases said checking devices when depressed.

3. A vehicle attachment for checking horses, comprising a shaft gearing with the wheel-hubs to constantly revolve therewith, spools loosely mounted upon said shaft, auxiliary reins secured to said spools and adapted to be attached to the harness of the horse, means whereby said spools are caused to engage the shaft when outwardly reciprocated, cams journaled upon the axle levers connecting the same to the spools, means for turning said cams simultaneously, an auxiliary seat pivoted above the main seat, means whereby the same is normally raised, a rod extending from said seat through the main seat and vehicle body, means whereby the depression of said rod actuates the turning means to draw the cams and levers inwardly and release the spools, and whereby the raising of said rod reversely actuates said turning means.

4. A vehicle attachment for checking horses, comprising a shaft gearing with the wheel-hubs to constantly revolve therewith, annular shoulders upon said shaft at each end, having teeth upon their inner faces, spools loosely mounted upon said shaft, auxiliary reins adapted to be secured to the harness of the horse, extending through eyes upon the axle, and secured to said spools, teeth upon the outer faces of said spools to engage the shoulders of the shaft when extended outwardly a tubular arbor journaled upon the axle, cams secured thereto, levers secured to said cams and loosely clasp the spools, a tubular spindle journaled in the vehicle body and engaging the arbor to rotate the same therewith, a screw thread upon said spindle, a sleeve surrounding the same and adapted when depressed to engage said thread and turn the spindle, a lever pivoted rearward of

the spindle and loosely engaging said sleeve,
an auxiliary seat pivoted at the rear to the
main seat, an angular foot-rest secured to
and depending from said seat at front, a rod
5 extending from the under surface of the said
auxiliary seat through the main seat and ve-
hicle body and secured to the free end of the
lever beneath, a spring surrounding said rod
beneath the seat to maintain the same nor-
10 mally raised, and an additional rein secured
by branches or straps to the auxiliary reins,

and extending through the arbor, spindle, and
the vehicle body to the dashboard, whereby
said auxiliary reins are tightened manually.

In testimony that I claim the foregoing as 15
my invention I have signed my name, in pres-
ence of two witnesses, this 15th day of Janu-
ary, 1895.

JOSEPH A. MULLEN.

Witnesses:

JOHN M. DEEMER,

C. GERST.