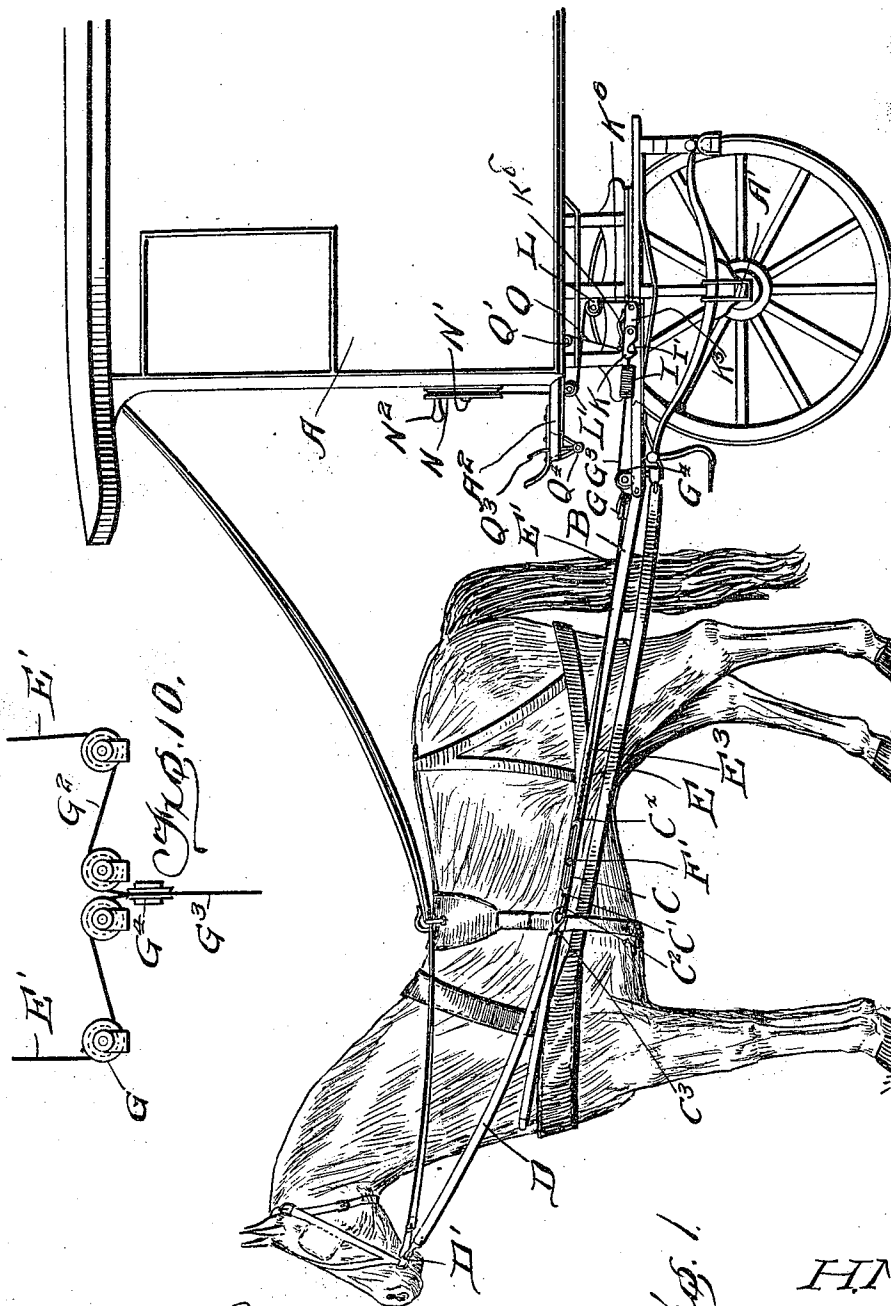


962,243.

H. M. REITER.
HITCHING DEVICE.
APPLICATION FILED APR. 11, 1910.

Patented June 21, 1910.

2 SHEETS—SHEET 1.



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334

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2 SHEETS—SHEET 2.

Fig. 3.

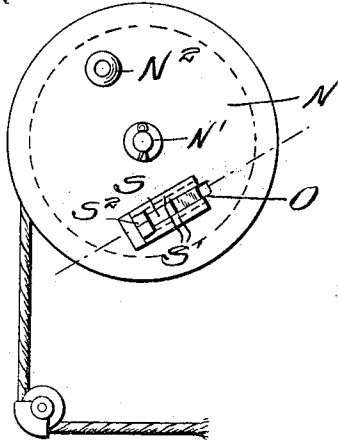


Fig. 4.

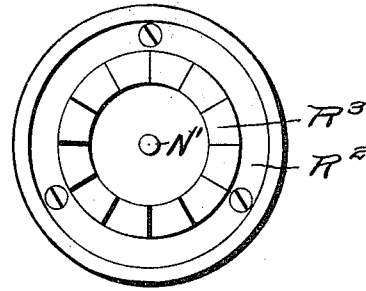


Fig. 5.

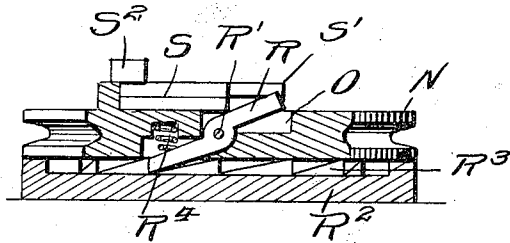


Fig. 6.

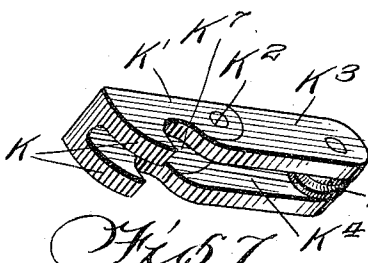
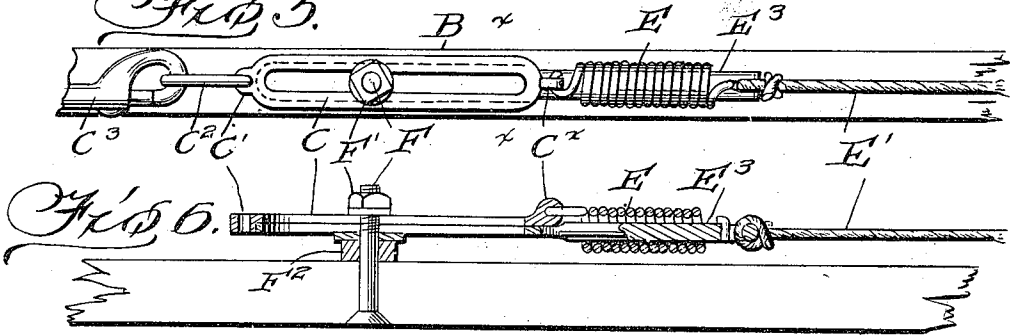


Fig. 8.

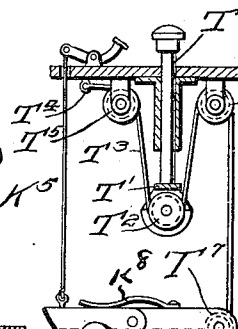
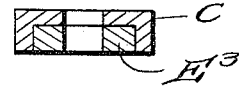


Fig. 9.



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UNITED STATES PATENT OFFICE.

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HITCHING DEVICE.

962,243.

Specification of Letters Patent. Patented June 21, 1910.

Application filed April 11, 1910. Serial No. 554,694.

To all whom it may concern:

Be it known that I, HEINRICH M. REITER, a citizen of the United States, residing at Asheville, in the county of Buncombe and State of North Carolina, have invented certain new and useful Improvements in Hitching Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in hitching devices for horses hitched to vehicles and the object in view is to produce a simple and efficient device of this nature so arranged that a tension may be applied to a hitching strap without the use of a drop weight and so arranged that it may be applied from the vehicle.

The invention comprises various details of construction and combinations and arrangements of parts which will be hereinafter fully described and then specifically defined in the appended claims.

My invention is illustrated in the accompanying drawings, in which:—

Figure 1 is a side elevation showing the application of my invention to a vehicle and horse hitched thereto. Fig. 2 is a face view of a ratchet wheel. Fig. 3 is a side elevation of a pulley wheel carrying a ratchet member. Fig. 4 is an edge view of the ratchet and pulley wheel held in operative relation. Fig. 5 is a top plan view showing a spring and connections adapted to be mounted upon the shaft of the vehicle. Fig. 6 is a side elevation of the form shown in Fig. 5. Fig. 7 is a detail perspective view of a pivotal hook member. Fig. 8 is a slight modification of the invention. Fig. 9 is a sectional view on line $x-x$ of Fig. 5, and Fig. 10 is a detail view of a part of the invention.

Reference now being had to the details of the drawings by letter, A designates the body of a vehicle mounted upon suitable running gears having an axle A' and shafts B. Mounted upon one of the shafts is a slotted link C, enlarged detail views of which are shown clearly in Figs. 5 and 6 of the drawings, and each link has eyes C' and C^x at its ends, to the former of which a link

C² is connected which in turn is fastened to the snap hook C³. Said snap hook is connected to a hitching strap D, shown clearly in Fig. 1 of the drawings, which is in turn connected to the bit D' of the headstall of the harness. A coiled spring E is fastened to the eye C^x and its other end connected to a sliding member E³ about which the coiled spring E is mounted and which member slides in the grooves formed in the inner face of the plate C, as shown clearly in Fig. 9 of the drawings. A bolt F passes through an aperture in one of said shafts and also passes through the slot of the plate C, a nut F' being mounted upon the threaded end of the bolt to hold the plate C upon the washer F² which rests against the face of the shaft.

A cord or chain E' is fastened at one end to the member E³ and extends rearward and about a pulley G near the pivotal point of the thill and connects with a similar cord G² adapted to connect with a hitching strap upon the other shaft of the thill. The two cords E' and G², as shown in Fig. 10 of the drawings, are connected to a cord G³ which passes over a pulley G⁴ upon the running gear and thence passes to and is connected with one end of the coiled spring I having a ball I' at one end adapted to engage the hooks K, K projecting from the shank K', which latter is pivotally mounted upon the pin K² carried by the grooved block K³. Said block K³ has a slot K⁴ at one end in which a pulley K⁵ is journaled and about which a cord or chain K⁶, which is fastened to said ball, is adapted to pass, the cord K⁶ passing through the groove K⁷ formed in the shank portion K'. The cord K⁶ passes about a pulley L upon the running gear, thence about a pulley L' positioned at any suitable location, preferably underneath the platform A² of the vehicle and thence passes to and winds about the pulley N which is journaled upon a pivotal pin N'. The pulley N has a handle N² and, upon reference to Figs. 3 and 4 of the drawings, it will be noted that an opening O is formed in the face of the pulley and in which one end of a pawl R is mounted, which pawl is pivotally mounted upon a pin R' fastened in the walls of the opening in the pulley. A circular-outlined plate R² is fastened vertically to the end of the top of the vehicle and has circular series of ratchet teeth R³ upon its face which is adjacent to the pulley

N, said teeth being adapted to be engaged by the pawl R, a suitable spring R⁴ being provided to normally hold one end of the ratchet R in engagement with said teeth.

- 5 Mounted upon the face of the grooved pulley N is a reciprocating slide S movable between the flanged guide pieces S' and a lug S² projects from the slide S, affording a handle whereby the slide may be moved
10 back and forth. When the slide is moved to its farthest limit in one direction toward the outer free end of the pawl R, it will contact with the latter and depress the pawl under tension of the spring R⁴ and hold the
15 rear end of the pawl out of engagement with the teeth R³, thus allowing the grooved pulley N to rotate freely.

- Fastened to the shank portion K, shown in Fig. 7 of the drawings, is a cord Q which
20 passes over a pulley Q' fastened underneath the bottom of the running gear and thence extends forward and is fastened to the foot-operating lever Q³, the lower end of which is pivoted upon a pin Q⁴ and forming a
25 means whereby, as the foot lever is pushed forward, the cord Q may be pulled so as to release the hooks from said ball which is fastened to the spring I.

- In Fig. 8 of the drawings, I have shown a slight modification of my invention in which a depressible plunger T passes through the platform A² of the body portion of the wagon and said plunger contacts with a
30 movable block T' carrying a pulley T² and a rope or chain T³ is fastened to an eye T⁴ upon the under side of the platform, thence passes over the pulley T⁵ and underneath the pulley T², thence up and over a pulley T⁶, thence downward and about a pulley T⁷
40 and connects to a ball J engaged by the hooks J', said ball J being connected to the coiled spring J² which spring is adapted to be connected to a cord upon the shafts and for connection with the hitching strap.

- 45 The operation of my apparatus will be readily understood and is as follows:—When the parts are in their normal positions and the hitching device is in disconnected relation and it is desired to adjust the hitching
50 strap, in the event of the animal starting to move, the operator by turning the pulley N by gripping the handle N² may cause the cord K⁶ to be drawn taut, being wound about the pulley, and the ball I' at the end of
55 the spring I will be drawn rearward and, catching over the hooks K, the latter will form an anchorage for said ball to securely hold the spring I and also the springs E under tension. It will be understood that,
60 when said springs are under tension after the ball is drawn over the hooks K, the tugs or traces upon the harness are slack. As the grooved pulley turns in one direction, the pawl carried thereby will move idly
65 over the ratchet teeth and, when it is de-

sired to allow the pulley wheel to turn in opposite direction, the pawl carried by said pulley may be released from the ratchet teeth by the longitudinal movement of the slide S which will tilt the pawl R and throw its inner end out of engagement with said ratchet teeth. To disconnect the ball I' from the hooks K, the operator, by depressing the foot lever, may cause the cord Q to raise the pivotal shank K' freeing said hooks from engagement with the ball, the spring K⁸ upon said shank serving to return the shank to its normal position after the ball has been released from the hooks K.

In Fig. 8 of the drawings, a slight modification of the invention is shown in which the cord or chain T³, which is connected to the ball J, may cause the latter to be drawn rearward to engage the hooks by depressing the plunger T to throw the parts into operative position.

What I claim to be new is:—

1. An automatic hitching device for horses connected to vehicles comprising, in combination with a vehicle and shafts, sliding members mounted upon the shaft, a hitching strap fastened to said sliding member and designed to be connected to the bit ring of a bridle, a rope connected to said sliding member, a spring connected to said rope, a pivotal hook member mounted upon the running gear of the vehicle, means connected to said spring and adapted to engage said pivotal hook member, a cord connected to said means, pulleys about which said cord passes, a pulley about which said cord is adapted to wind, and mechanism for releasing said means from the pivotal hook member.

2. An automatic hitching device for horses connected to vehicles comprising, in combination with a vehicle and shafts, sliding members mounted upon the shaft, a hitching strap fastened to said sliding member and designed to be connected to the bit ring of a bridle, a rope connected to said sliding member, a spring connected to said rope, a ball fastened to said spring, a grooved block fastened to the running gear of the vehicle, a pivotal hook member mounted upon said grooved block, a cord fastened to said ball and forming means for drawing the ball in engagement with said hooks, a rotatable pulley mounted upon the vehicle and about which pulley said cord is adapted to wind, and means for disconnecting the hook from said ball.

3. An automatic hitching device for horses connected to vehicles comprising, in combination with a vehicle and shafts, sliding members mounted upon the shafts, a hitching strap fastened to said sliding member and designed to be connected to the bit ring of a bridle, a rope connected to said sliding member, a spring connected to said rope, a ball fastened to said spring, a grooved block

fastened to the running gear of the vehicle, a pivotal hook member mounted upon said grooved block, a cord fastened to said ball and forming means for drawing the ball in engagement with said hooks, a rotatable pulley mounted upon the vehicle and about which pulley said cord is adapted to wind, a pivotal foot lever mounted upon the platform of the vehicle, and a cord connecting said foot lever and hook member.

4. An automatic hitching device for horses connected to vehicles comprising, in combination with a vehicle and shafts, sliding members mounted upon the shafts, a hitching strap fastened to said sliding member and designed to be connected to the bit ring of a bridle, a rope connected to said sliding member, a spring connected to said rope, a ball fastened to said spring, a grooved block fastened to the running gear of the vehicle, a pivotal hook member mounted upon said grooved block, a cord fastened to said ball and forming means for drawing the ball in engagement with said hooks, a rotatable pulley mounted upon the vehicle and about which pulley said cord is adapted to wind, a pawl carried by said pulley, ratchet teeth engaged by said pawl, means for holding the ratchet out of engagement with said teeth, and means for releasing the hook from said ball.

5. An automatic hitching device for horses connected to vehicles comprising, in combination with a vehicle and shafts, sliding members mounted upon the shafts, a hitching strap fastened to said sliding member and designed to be connected to the bit ring of a bridle, a rope connected to said sliding member, a spring connected to said rope, a ball fastened to said spring, a grooved block fastened to the running gear of the vehicle, a pivotal hook member mounted upon said grooved block, a cord fastened to said ball and forming means for drawing the ball in engagement with said hooks, a rotatable pulley mounted upon the vehicle and about which pulley said cord is adapted to wind, a pawl carried by said pulley, ratchet teeth engaged by said pawl, a slide mounted upon the pulley block and adapted to engage and tilt the pawl and hold the latter out of engagement with the

ratchet, and means for detaching the hook member from said ball.

6. An automatic hitching device for horses connected to vehicles comprising, in combination with a vehicle and shafts, sliding members mounted upon the shafts, a hitching strap fastened to said sliding member and designed to be connected to the bit ring of a bridle, a rope connected to said sliding member, a spring connected to said rope, a ball fastened to said spring, a grooved block fastened to the running gear of the vehicle, a pulley carried in the groove of said block, a pivotal hook member mounted upon said block, a ball fastened to said spring and adapted to engage said hook, a cord fastened to the ball and passing through the groove of said block and about said pulley, a grooved pulley mounted upon the vehicle and about which said cord is adapted to wind, a pawl carried by the pulley block, ratchet teeth engaged by the pawl, and means for disconnecting the hook from said ball.

7. An automatic hitching device for horses connected to vehicles comprising, in combination with a vehicle and shafts, a slotted plate, a strap connected to one end of said plate, a bolt passing through the shank and slot of said plate, a sliding member movable against said plate, a spring about said member and fastened to said slotted plate, a rope fastened to said sliding member, a pulley mounted upon the shaft and about which said rope passes, a grooved block fastened to the running gear of a vehicle, a pulley upon said block, a spring fastened to said rope, a ball fastened to the spring, a cord fastened to said ball and forming means for moving the ball in engagement with said hook, said cord passing about the pulley in said block, a grooved pulley upon the vehicle about which said cord is adapted to wind, and means for holding the grooved pulley upon the vehicle from rotation in one direction.

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

HEINRICH MAX REITER.

Witnesses:

JOSEPH HAYBERG,
JESSE R. LAW.