No. 707,481. Patented Aug. 19, 1902.

W. WIEDINMYER.

BRAKE FOR PIVOTAL RUNNING GEAR OF VEHICLES.

(Application filed June 6, 1902.)

(No Model.)

Fig. 1.

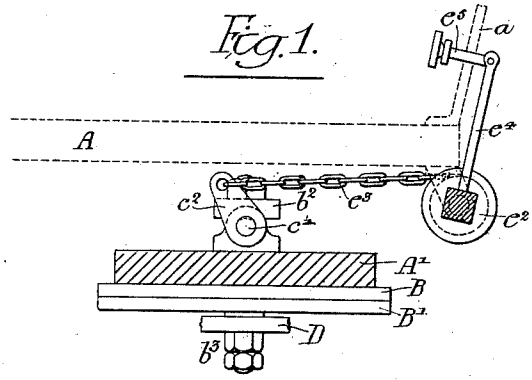


Fig. 2.

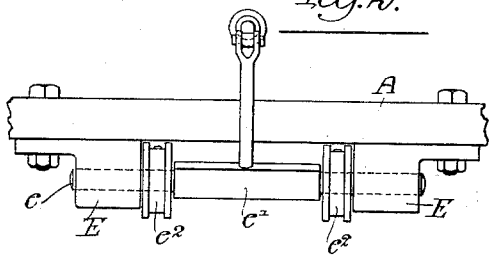


Fig. 3.

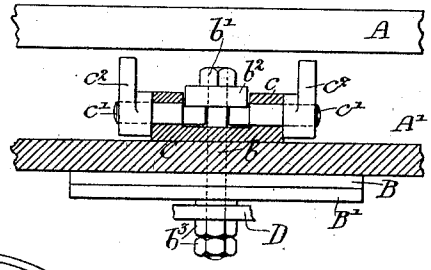


Fig. 4.

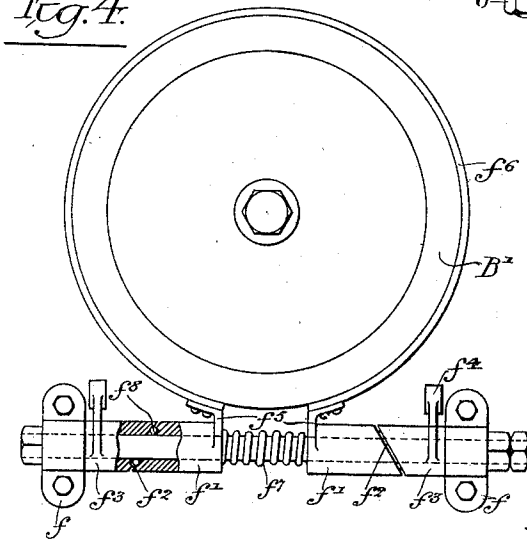


Fig. 6.

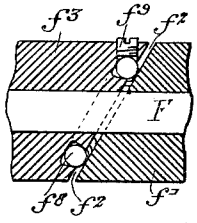
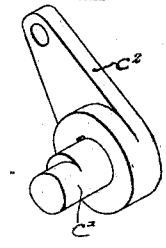


Fig. 5.



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UNITED STATES PATENT OFFICE.

WILLIAM WIEDINMYER, OF NORRISTOWN, PENNSYLVANIA.

BRAKE FOR PIVOTAL RUNNING-GEAR OF VEHICLES.

SPECIFICATION forming part of Letters Patent No. 707,481, dated August 19, 1902.

Application filed June 6, 1902. Serial No. 110,505. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM WIEDINMYER, a citizen of the United States, and a resident of Norristown, Pennsylvania, have invented certain Improvements in Brakes for Pivotal Running-Gear of Vehicles, of which the following is a specification.

My invention relates to certain improvements in gear for fifth-wheels, having for its object the provision of a device which shall act upon the fifth-wheel of a wagon or carriage to prevent the hind end from swinging when the said wagon is moved at a high rate of speed or suddenly changes its direction of motion. This object I attain as hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation, partly in section, of my improved device, showing it in a position to be operated by foot-power from the front of the wagon. Fig. 2 is an end elevation of a portion of the device shown in Fig. 1. Fig. 3 is a similar elevation of the remainder of the device illustrated in the first figure. Fig. 4 is a plan view of another form of brake for application to the fifth-wheel of a wagon. Fig. 5 is a perspective view showing one of the cranks and the eccentric or cam portion of the shaft c'; and Fig. 6 is a sectional elevation of portions of two of the collars on the shaft F, showing the means for retaining the ball-bearing in position.

In the above drawings, A represents the floor or bottom of the carriage or wagon, and a indicates a portion of the upwardly-projecting dashboard belonging to the same.

A′ is a transversely-extending wooden piece or frame fastened at its ends and supporting the front portion of the body of the wagon and having attached to its under side the upper half B of the fifth-wheel, this latter resting and being directly upon the lower portion B′ of said fifth-wheel, the whole being held together by means of a king-bolt b. It is to be noted, however, that there is a plate C carried upon the upper surface of the piece A′, upon which are formed two bearings c, through each of which extends a short shaft or bar c', having keyed to its outer end a crank c^2. The inner ends of these shafts extend under a thick washer-like piece b^2 upon the king-bolt and have a portion of their cylindrical surfaces cut away, as indicated in Fig. 5, making said end portions of elliptical or cam shape section. The king-bolt b has a head b' and nuts b^3 for retaining it in place and holding the various parts of the fifth-wheel, &c., to the part D, connected to the running-gear.

Suitably bolted to the front and under side of the floor or bottom of the wagon are two brackets E, provided with bearings in which is carried a shaft e, the central portion of said shaft being in the present instance made square, as indicated at e', while two grooved wheels e^2 are keyed to said shaft between the squared portion and the bearings e. A chain or other link e^3 connects each of the cranks c^2 with one of the grooved wheels e^2, it being noted from Figs. 2 and 3 that each of these latter is in the same longitudinal line as one of said cranks. The chains are fastened in any desired manner in the grooves of their respective pulleys. A bar or arm e^4 extends at right angles to the shaft e, being fixed in a suitable opening in the squared part e' thereof and having pivotally or otherwise in engagement with its end a headed footpiece e^5, passing through and supported by the dashboard a. In operation when the said footpiece is pushed outwardly by proper motion of the foot of the person in the wagon the shaft e will be turned in its bearings, thereby turning the curved wheels e^2 and through the chains e^3 and the cranks c^2 also turning the shafts c'. Under normal conditions the cam-like ends of these shafts project under the piece b^2 on the king-bolt, so that their smaller diameters are in substantially vertical position. When further revolution of the shafts c' takes place, as above indicated, such motion brings the longer axis of the cam-shaped ends toward a vertical position, and thereby tends to increase the distance between the plate C and the piece b^2 upon the king-bolt. This tendency lifts the king-bolt and if the parts are correctly adjusted binds or clamps the two portions of the fifth-wheel together, so that relative motion between the same is retarded to any desired extent. The application of such a device will be understood when it is noted that the swinging of the rear end of a wagon caused by the centrifugal force incident upon rapid movement in a crooked

line or upon a sudden change in the direction of its motion is dependent upon the freedom of the body to be moved pivotally upon the fifth-wheel and its king-bolt. If now a brake is applied to retard or prevent such freedom of movement between the two parts of the fifth-wheel in the manner indicated above, the front running-gear, including the shafts or tongue, is practically locked to the body and rear wheels of the wagon, thereby completely preventing the objectionable swinging action.

I may, if desired, provide forms of brake upon the pivotal gear of a wagon other than that illustrated in the first three figures—as, for example, the device shown in Fig. 4. In this form of my invention I provide a shaft or bolt F, suitably carried in bearings f, fixed to the body of the wagon, and having upon it two freely-movable bushings or collars f', each made with one face, as f^2, formed at an angle other than ninety degrees to the said shaft. There are other collars f^3 on the shaft, each with an angular face corresponding to the face f^2 of the collars f', and with projecting crank-arms f^4, designed for the attachment of chains or links e^3, as indicated in Fig. 1, each of the collars f' having projecting arms f^5, to which is fixed a flexible ring f^6, extending around and in engagement with the periphery of the lower portion B′ of the fifth-wheel, in addition to which there is a spring f^7 upon the shaft F, continually tending to move apart or separate the two collars f'. If desired, ball-bearings f^8 may be placed between the angular faces of the two sets of collars f' and f^3, the balls being preferably carried in an undercut slot in the face of the collar f^3 and prevented from coming out of the opening through which they were placed in the slot by a plug or screw. It will be seen when the footpiece e^5 is operated so as to pull on the crank-arms f^4, as previously set forth, that the revolution of the collars f^3 will push the collars f' toward each other against the action of the spring f^7 and cause the ring f^6 to bind upon the periphery of the lower half of the fifth-wheel, thereby preventing or retarding further motion thereof in the same manner as before.

It will be understood that while I have shown two sets of chains with their crank-arms, &c., I may, if I desire, use but a single set to connect the footpiece and its parts with the mechanism for directly exerting a braking action upon the pivotal running-gear.

I claim as my invention—

1. The combination of a vehicle having a body portion and running-gear, two bearing-surfaces carried by said members respectively, a pivot connecting the same, a device having means for simultaneously acting upon the pivot and one of the bearing-surfaces whereby the pressure of the bearing-surfaces upon each other may be varied, and mechanism for throwing said device into and out of action, substantially as described.

2. The combination of a vehicle having a body portion and running-gear, two bearing-surfaces carried by said members respectively, a pivot connecting the same and in positive engagement with one of said surfaces, a device for moving said pivot longitudinally and simultaneously pressing the second of the bearing-surfaces against the surface engaged by the pivot, and mechanism for operating said device to any desired extent and thereby varying the amount of friction between the two surfaces, substantially as described.

3. The combination in a vehicle having a body portion and running-gear pivotally connected together, a bearing-surface lying in a horizontal plane connected to each of said members, operating means carried by the body, and a device whereby the said pivotal connection may be moved and thereby made to vary the amount of friction between said surfaces, substantially as described.

4. The combination in a vehicle having a body portion and running-gear, a bearing-surface attached to one of said members, a pivotal piece connecting the members, a piece coacting with said bearing-surface and operated by the pivotal piece to press against the bearing-surface, with a device operative upon said pivotal piece for moving the same longitudinally and thereby controlling the movement of the body upon the running-gear, substantially as described.

5. The combination of a vehicle having a body portion and running-gear, a bearing-surface on each of said members, a bar having a projecting portion and attached to one of said members, a shaft having an eccentric portion operative upon said projecting part of the bar, a lever on the body and means for connecting the lever to said shaft whereby said eccentric portion thereof is made to operate upon the bar and vary the amount of friction between the two bearing-surfaces when the lever is manipulated, substantially as described.

6. The combination of a body, running-gear therefor, a lever pivotally carried by the body, a shaft having an eccentric portion and a projecting arm, means for connecting the arm to the lever, pieces having bearing-surfaces carried by the body and the running-gear respectively, and a member or members operated by the eccentric portion of the shaft and operative upon one of the said pieces whereby the motion of the pieces relatively to each other may be controlled, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WM. WIEDINMYER.

Witnesses:
WILLIAM E. BRADLEY,
JOS. H. KLEIN.