

UNITED STATES PATENT OFFICE.

HERBERT A. KENNARD, OF HAZLEHURST, MISSISSIPPI.

AUTOMATIC WAGON-BRAKE.

No. 848,250.

Specification of Letters Patent.

Patented March 26, 1907.

Application filed November 19, 1906. Serial No. 344,135.

To all whom it may concern:

Be it known that I, HERBERT A. KENNARD, a citizen of the United States, residing at Hazlehurst, in the county of Copiah and State of Mississippi, have invented new and useful Improvements in Wagon-Brakes, of which the following is a specification.

My invention pertains to carriages and wagons, and more particularly to wagon-brakes; and it consists in the peculiar and advantageous means hereinafter described and claimed for utilizing the backward pull exerted by a team of draft-animals, as in going down a hill, to powerfully apply brake-shoes to the rear wheels of a wagon.

In the accompanying drawings, forming part of this specification, Figure 1 is a longitudinal vertical section of a wagon equipped with the mechanism constituting the preferred embodiment of my invention. Fig. 2 is an enlarged transverse section taken in the plane indicated by the line 2 2 of Fig. 1 looking in the direction indicated by the arrow—i. e., toward the rear. Fig. 3 is an enlarged detail vertical section illustrating the means for locking the brake-rod to the pole of the wagon when it is desired to back the wagon without the application of the brake. Fig. 4 is an enlarged perspective view of that portion of the brake-rod that is flattened to receive the pin for locking the rod to the wagon-pole.

Similar letters designate corresponding parts in all of the views of the drawings, referring to which—

A and B indicate the front and rear axles, respectively, of a wagon, the said axles being equipped at their ends with wheels C and D. Connected in the ordinary or any other approved manner with the front axle A is a pole E, and also connected with said front axle and extending rearward with reference thereto is a reach-rod F, preferably of about the proportional length illustrated in Fig. 1. The said reach-rod F is provided at intervals of its length with crosswise apertures *a*, as illustrated by dotted lines in Fig. 1 and full lines in Fig. 2, and its rear portion is disposed between hounds G, fixed on the rear axle B, and is connected to the said hounds through the medium of a removable bolt H, which extends through alined apertures in the hounds and one of the apertures in the reach-rod. By virtue of this construction it will be seen that by removing the bolt H and moving the rear axle B and the hounds G relative

to the reach-rod F the wagon may be readily increased or diminished in length, and when the hounds are in the position desired they may be secured in such position by replacing the bolt H in the alined apertures of the hounds and the aperture *a* registered with such apertures.

Arranged upon and fixedly connected to the hounds G is a crosswise bar I, on the under side of which is journaled in suitable bearings a rock-shaft J. This rock-shaft J has a depending bail K at its middle and upwardly and outwardly reaching arms L at its ends, and on the said arms L are suitably-mounted brake-shoes M, arranged in front of and adapted to be moved into and out of engagement with the upper forward portions of the peripheries of the rear wheels D.

N is a bolt extending through registered apertures in the sides of the bail K, Fig. 2, and removably secured in said bail through the medium of a cotter-pin *b* or other suitable means. P is a rod having an upright flattened portion Q, in which are a plurality of crosswise apertures *c*, through one of which the bolt N extends, and R is a tractile spring interposed between and connected to the rear end of the rod P and the rear axle B of the wagon. By virtue of this construction it will be observed that when the rod P is drawn forward the spring R will be expanded and placed under tension and the brake-shoes M will be applied powerfully to the peripheries of the wheels D to retard turning of the latter, and it will also be noted that when the rod P is relieved of forward pull the spring R will operate to draw the said rod rearward, and in that way will move the brake-shoes M forward and normally hold the same away from the peripheries of the wheels D. It will further be observed in this connection that the provision of the plurality of the apertures *c* in the flattened portion Q of the rod P is advantageous, since it permits of the connection between the rod portion Q and the bail K being shifted backward or forward to suit the adjustment of the reach-rod F in the hounds G when the wagon is lengthened or shortened.

S is a guide connected to and depending from the pole E. T is a similar guide connected to and depending from the forward axle A.

U is a rod extending through and guided in the guides S and T and flexibly connected at *d* to the rod P and having a flattened intermediate portion V, Figs. 1 and 4, in which is

a vertical aperture *e*, and *W* is an upright lever fulcrumed at *f* in the forward portion of the pole *E* and having its lower arm connected with the rod *U* and its upper arm provided with a hook *g'* for the connection of a neck-yoke or the like with which the draft-animals are connected.

The ordinary well-known neck-yoke or any other means compatible with my invention may be employed for connecting the draft-animals with the upper arm of the lever *W*, and hence it will be seen that when the draft-animals pull backward, as when moving down a hill, the lever *W* will be forcibly rocked in the direction indicated by arrow in Fig. 1, with the result that the rods *U* and *P* will be powerfully drawn forward and the brake-shoes *M* will be powerfully set against the peripheries of the rear wheels *D*. It will also be apparent that when the animals and wagon arrive on a level piece of ground or are moving up a hill the upper arm of the lever *W* will be relieved of rearward pull, and consequently the spring *R* will return the parts to and hold the same in the positions illustrated, so as to prevent the brake-shoes *M* from interfering with the free rotation of the rear wheels *D*.

X, Figs. 1 and 3, is a pin designed to be removably arranged in a vertical aperture *g* of the pole *E* and the aperture *e* of the rod *U* when it is desired to lock the said rod *U* to the pole *E* with a view of preventing application of the brake when the wagon is backed by the team. The pin *X* is obviously adapted to be readily removed, and when it is so removed it will be seen that the mechanism is put in readiness to operate in the manner before described in detail when the wagon is moving down a hill.

It will be gathered from the foregoing that notwithstanding the efficiency of my novel brake and its adaptability to adjustments of the wagon with a view of lengthening or shortening the same the brake as a whole is simple and inexpensive in construction and is well adapted to withstand the rough usage to which lumber and similar wagons are ordinarily subjected.

The construction herein shown and described constitutes the preferred embodiment of my invention; but I desire it understood that in practice various changes in the form, construction, and relative arrangement of the parts may be made within the scope of the appended claims without involving departure from the spirit of my invention.

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

1. The combination with a wagon comprising a front axle equipped with wheels, a rear axle also equipped with wheels, a pole connected with the front axle, hounds fixed on the rear axle, and a reach-rod connected with the front axle and arranged between and adjustably connected with the hounds; of a cross-bar fixed on the hounds, a rock-shaft journaled in bearings on said cross-bar and having a depending bail at its middle provided with apertures in its sides and also having upwardly and outwardly reaching arms at its ends, shoes carried by said arms and arranged to engage the peripheries of the rear wheels, a lever fulcrumed on the pole, a rod connected to and extending rearward from one arm of the lever, a rod flexibly connected with the first-mentioned rod and having a flattened portion in which are a plurality of apertures arranged at intervals in the length of the rod, a spring interposed between and connecting the rear end of the second-mentioned rod and the rear axle, and a connecting-bolt removably arranged in the apertures in the sides of the bail and one of the apertures in the second-mentioned rod.

2. The combination with a wagon comprising a front axle equipped with wheels, a rear axle also equipped with wheels, a pole connected with the front axle, hounds fixed on the rear axle, and a reach-rod connected with the front axle and arranged between and adjustably connected with the hounds; of a transverse rock-shaft carried by the hounds and having a depending bail and also having arms on which are brake-shoes arranged to engage the rear wheels, a rod having apertures at intervals of its length, a bolt removably arranged in the bail and one of the apertures of the rod, a spring interposed between and connected to the rear axle and the rod, a lever fulcrumed on the pole, and a rod connected to one arm of said lever and flexibly connected at its rear end to the forward end of the first-mentioned rod.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

HERBERT A. KENNARD.

Witnesses:

R. W. CAMPBELL,
F. R. NOBLE.