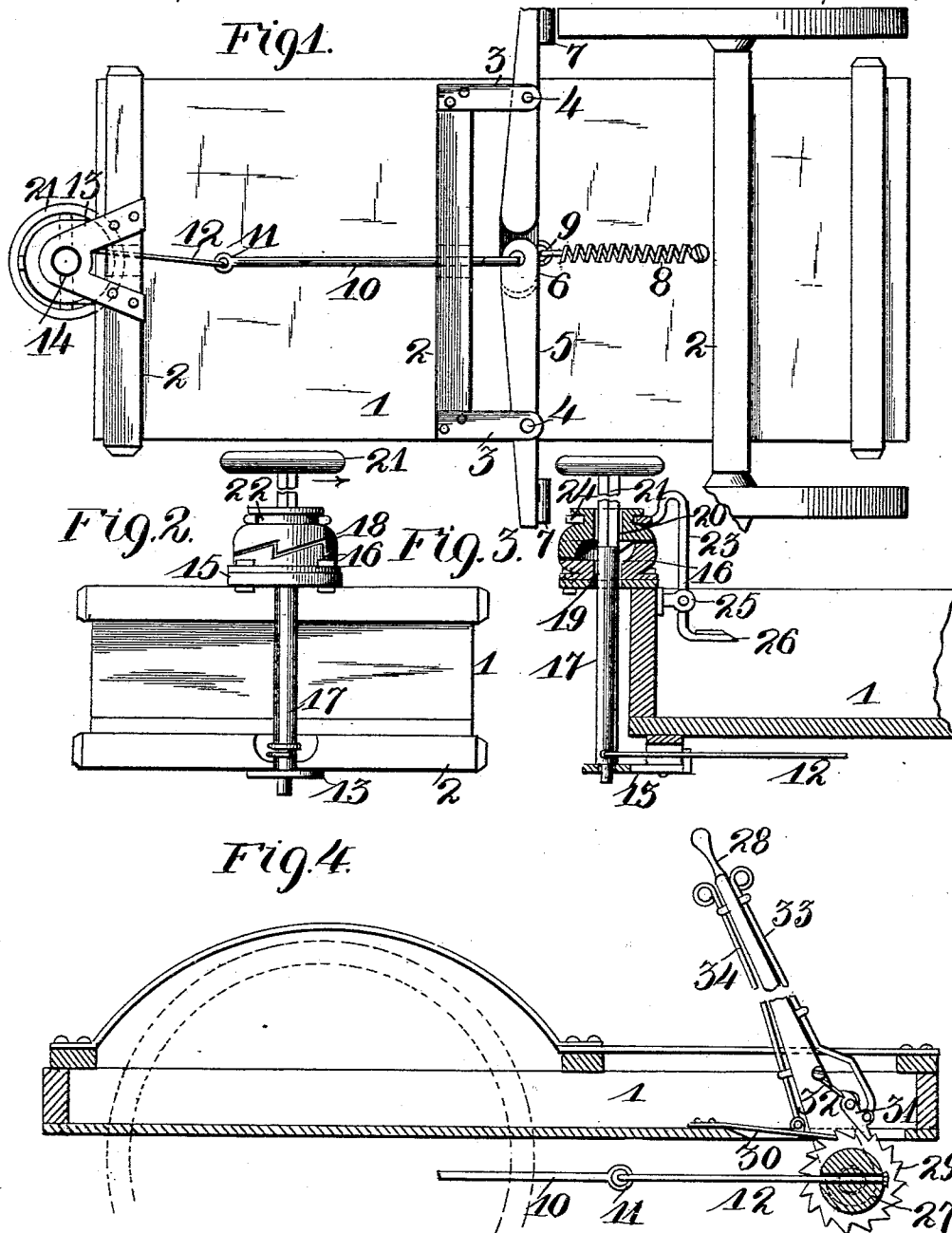


(No Model.)

A. KLEINSORGE.
BRAKE FOR WAGONS.

No. 476,658.

Patented June 7, 1892.



Witnesses
J. S. Saylor.
E. E. Langdon.

Inventor
August Kleinsorge.

By his Attorneys Hyder & Hyder

UNITED STATES PATENT OFFICE.

AUGUST KLEINSORGE, OF BALLWIN, MISSOURI.

BRAKE FOR WAGONS.

SPECIFICATION forming part of Letters Patent No. 476,658, dated June 7, 1892.

Application filed January 11, 1892. Serial No. 417,711. (No model.)

To all whom it may concern:

Be it known that I, AUGUST KLEINSORGE, of the city of Ballwin, county of St. Louis, and State of Missouri, have invented certain new and useful Improvements in Brakes for Hay-Wagons, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in wagon-brakes; and it consists in the novel arrangement and combination of parts, as will be more fully hereinafter described, and designated in the claim.

In the drawings, Figure 1 is a bottom plan view of a wagon having my invention applied thereto. Fig. 2 is a front end view of the same. Fig. 3 is a vertical longitudinal section of one end of a wagon having a portion of my invention applied thereto. Fig. 4 is a vertical longitudinal section of a hay-wagon, showing a modification of my invention applied thereto; and Fig. 5 is a horizontal cross-section, taken on the line *xx* of Fig. 3, showing the construction of the shaft which I employ in carrying out my invention.

The object of my invention is to effectually throw on the brakes of the wagon when it is deemed desirable, and, further, to release the same with but very little inconvenience on the part of the operator.

Referring to the drawings, 1 represents the body of an ordinary wagon, and 2 the transverse pieces secured to the bottom of the said wagon, which are common in wagons of this particular character. To the center transverse piece 2 and at both ends of the same are secured two metallic plates 3, which are provided with suitable perforations at that end opposite to where the same are attached to said transverse piece, through which perforations suitable bolts 4 are adapted to be passed for attaching the brake-beam 5 to the said plates. The said brake-beam 5 is composed of two sections, each of which are pivotally secured to the plates 3 by means of the bolts, as before described, and the said sections of the said brake-beam united by a hinged joint 6, which, when power is applied at said hinged portion of the beam, the outer ends of said sections, or those ends carrying

the brake-shoes 7, will be brought against the edge of the wheels.

8 represents a coil-spring, one end of which is secured to the bottom of the wagon-body 1 and the opposite end of said spring secured to a staple 9, which staple is secured to the brake-beam 5 at the hinged portion of the same, whereby that portion of the said brake-beam is retracted after the same has been drawn in the opposite direction by the mechanism as hereinafter described.

10 represents the metallic rod, one end of which is secured to the brake-beam 5 at the hinged portion of the same, and the opposite end of said rod provided with an eye 11, to which one end of the cord or rope 12 is attached.

To the front transverse piece 2 of the wagon-body is secured a V-shaped plate 13, which is provided with a circular perforation 14, and the arms of said plate secured to said transverse piece in any mechanical manner.

To the upper edge of the wagon-body 1 is secured a second metallic plate 15, which projects a suitable distance beyond the front end of said wagon, upon which is secured a ratchet-tooth casting 16.

17 represents a vertical shaft, the lower end of which is journaled in the plate 13 and the upper end of said shaft journaled in the plate 15, which holds said shaft in a vertical position and allows the same to be turned in either direction.

To the shaft 17 and adjacent to the plate 13 is secured the opposite end of the rope 12, and upon which shaft the said rope is adapted to be wound when the brake-shoes are applied to the wheels.

18 represents a second ratchet-tooth casting, the teeth of which are adapted to mesh with the teeth formed on the casting 16, which, when the two castings are united, as shown in Fig. 2 of the drawings, the said casting may be moved independently of one another in one direction, but locked against movement in the opposite direction. The casting 16 is provided with a vertical opening 19, which is circular in form and is adapted to allow the shaft 14 to freely revolve independent of said casting. The casting 18 is provided with a square opening 20, which opening corresponds

to the square upper end or portion of the shaft 17, allowing the said casting to be elevated from engagement with the teeth formed on the casting 16, and yet prevent the said casting 18 from revolving independent of the said shaft. Thus it will be seen that when the said shaft is turned in the direction as shown by the arrow in Fig. 2 the casting 18 will be elevated, allowing the teeth formed on both castings to ride or move over one another; but when the said shaft is brought to rest the said casting 18 will drop and the teeth on both castings engaged with one another, preventing said shaft from being rotated until the said casting 18 is elevated, as hereinafter more fully described. Thus the mechanism which I have previously described, having reference to the castings, may be commonly termed a "clutch," and take the place of the ordinary pawl and ratchet commonly employed for this purpose.

To the upper end of the shaft 17 is secured a wheel 21, by means of which the said shaft is turned; but a crank or other device may be employed, which will accomplish the same purpose.

22 represents an annular groove, which is formed around the casting 18, and 23 an operating-arm provided with the forked end 24, which fork is adapted to be received by the said groove and yet allow the said casting to be turned independent of said fork.

25 represents a bearing, which is secured to the front end of the body of the wagon, to which is movably secured the arm 23, and 26 represents a foot-plate which is formed with or secured to the lower end of the arm 23, upon which the foot of the operator is adapted to be placed when it is desired to disengage the castings from their locked position for releasing the brake-shoes upon the wagon-beams.

In Fig. 4 I have shown a modification of my invention, which construction is especially adapted for an ordinary hay-wagon, the brake-beam and its connections being similar in construction to that previously described, but the means for operating the said brake-beam slightly modified. 27 represents a shaft, which is mounted transversely in the front and below the wagon-body in suitable bearings either in front of the said body or in the position, as best shown in Fig. 4, upon which shaft the rope 12 is adapted to be wound in applying the brake-shoes to the wheel of the wagon. 28 represents a long operating-lever, which is loosely mounted in any desirable manner to the shaft 27 and is adapted to work independently in either direction back and forth when the same is operated. Secured rigidly to said shaft 27 is a ratchet-wheel 29, and to the bottom of the wagon is secured a spring 30, the free end of which is adapted to engage with the said

ratchet-wheel, allowing the same to revolve in one direction and lock the same in the opposite direction. 31 represents a pawl which is movably secured to one side of the lever 28, the end of which is adapted to also engage with the ratchet-wheel 29, by means of which the said ratchet-wheel, and consequently the shaft 27, can be operated in one direction. In order to hold said pawl 31 in its proper engagement with the ratchet-teeth 29, I employ a flat spring—such as 32—one end of which is secured to the lever 28 and the opposite or free end of said spring adapted to press against the pawl 31 above the pivotal point of the same. When it is desired to release the ratchet-wheels 29, and consequently release the brake-shoes from contact with the wheel, I employ the mechanism as I shall now proceed to describe. 33 represents a rod, which is carried by the lever 28, and the lower end of said rod pivoted to the pawl 31 below the pivotal point of the same for disengaging said pawl from contact with said ratchet-wheel. To the opposite side of said lever 28 is secured a second rod 34, which is also carried with the said lever and having its lower end movably attached to the spring 30 for retracting said spring and disengaging the same from contact with the ratchet-wheel 29. In this construction when it is desired to apply the brake-shoes to the wheels the operating-lever 28 is moved back and forth until the desired tension is reached; but when it is desired to release said brake-shoes from contact with the wheels of the wagon the two rods 30 and 34 are pulled upward and the shaft 27 is allowed to rotate in a backward direction, allowing the cord 12 to unwind and the spring 8 to retract the median portion of the brake-beam 5, and in consequence release said shoes from contact with the said wheel.

Having fully described my invention, what I claim is—

As an improvement in wagon-brakes, the combination, with the vehicle-body having upon its under side a transverse bar 2, provided with a central aperture and rearwardly-projecting plates 3, secured to the ends of said bar, of the brake-beam formed of two bars 5 5, pivoted between the plates 3 and the vehicle-body and carrying brake-shoes at their outer ends, a rigid bar 10, coupling the opposing ends of the bars 5 and passing through the aperture in the bar 2, for the purpose described, and means for operating the brake through the medium of the bar 10, substantially as and for the purpose set forth.

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

AUGUST KLEINSORGE.

Witnesses:

C. F. KELLER,
ALFRED A. EICKS.