No. 781,610. PATENTED JAN. 31, 1905.

W. S. LIVENGOOD.

WAGON BRAKE.

APPLICATION FILED JAN. 11, 1904.

3 SHEETS—SHEET 1.

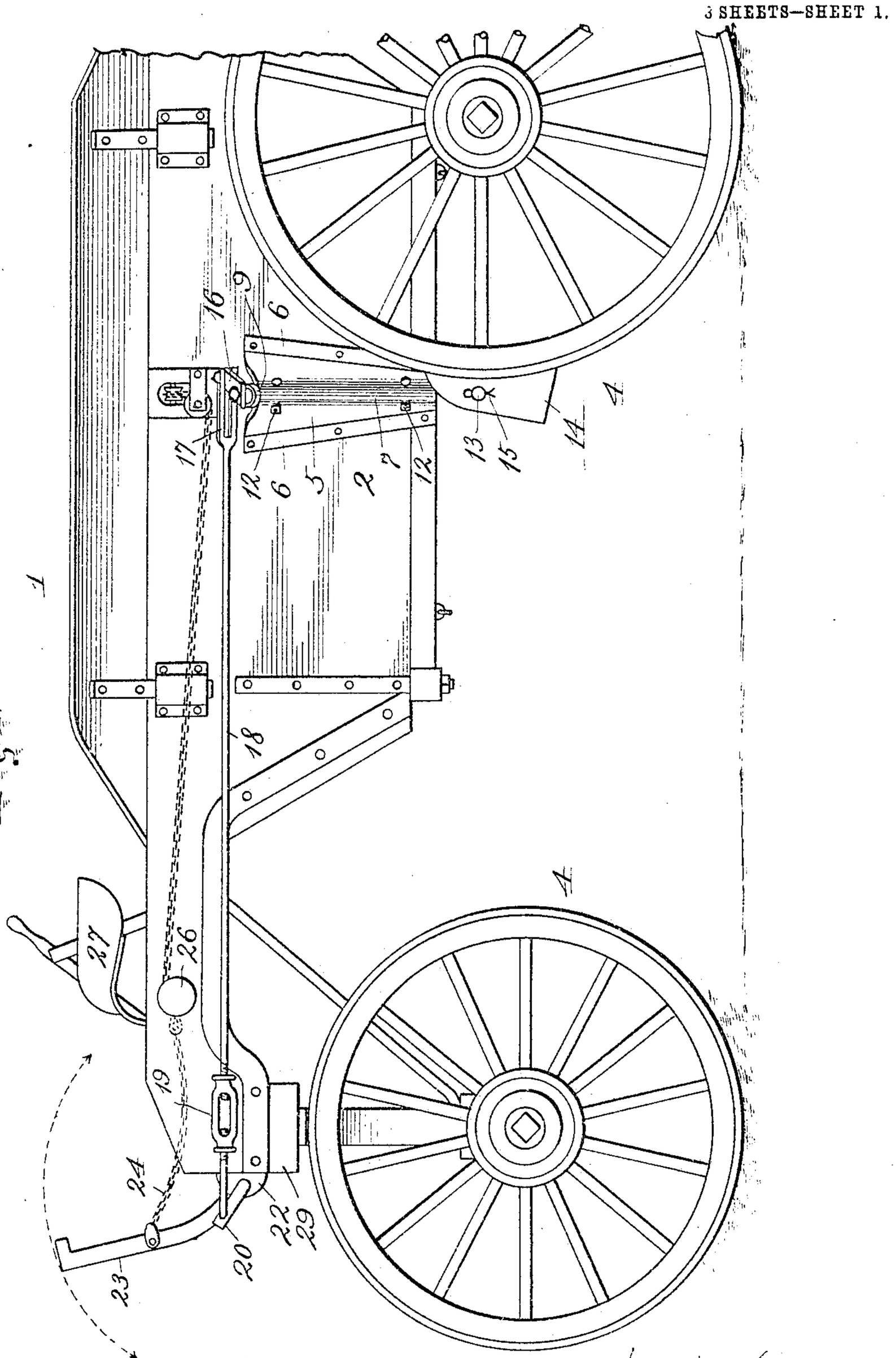

Fig. 1.

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3 SHEETS—SHEET 2.

Fig. 3.

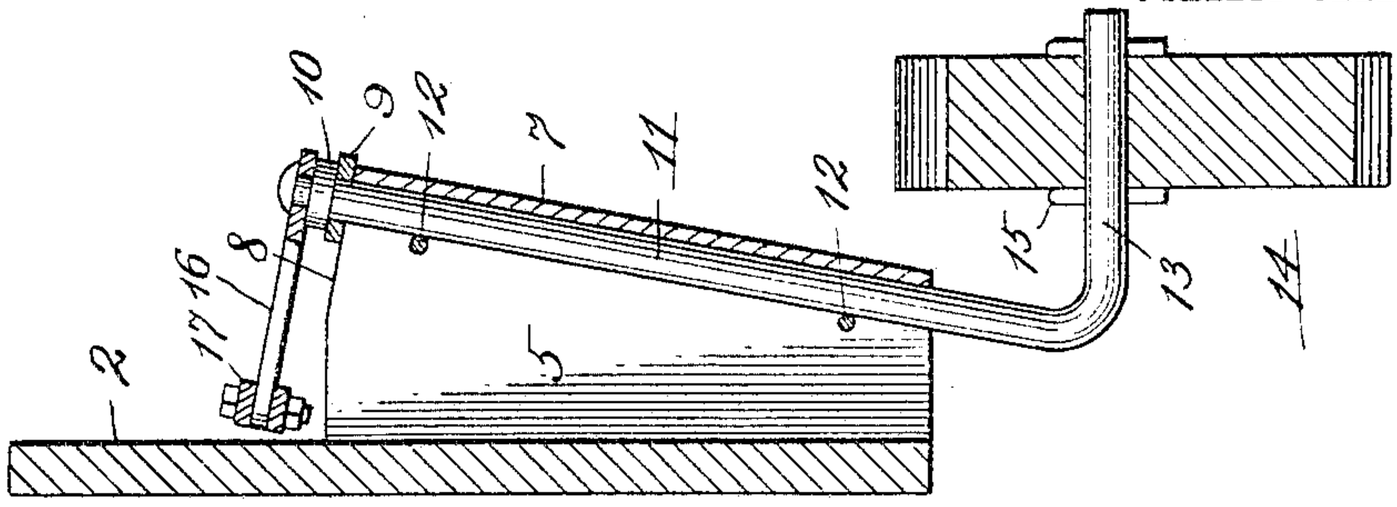
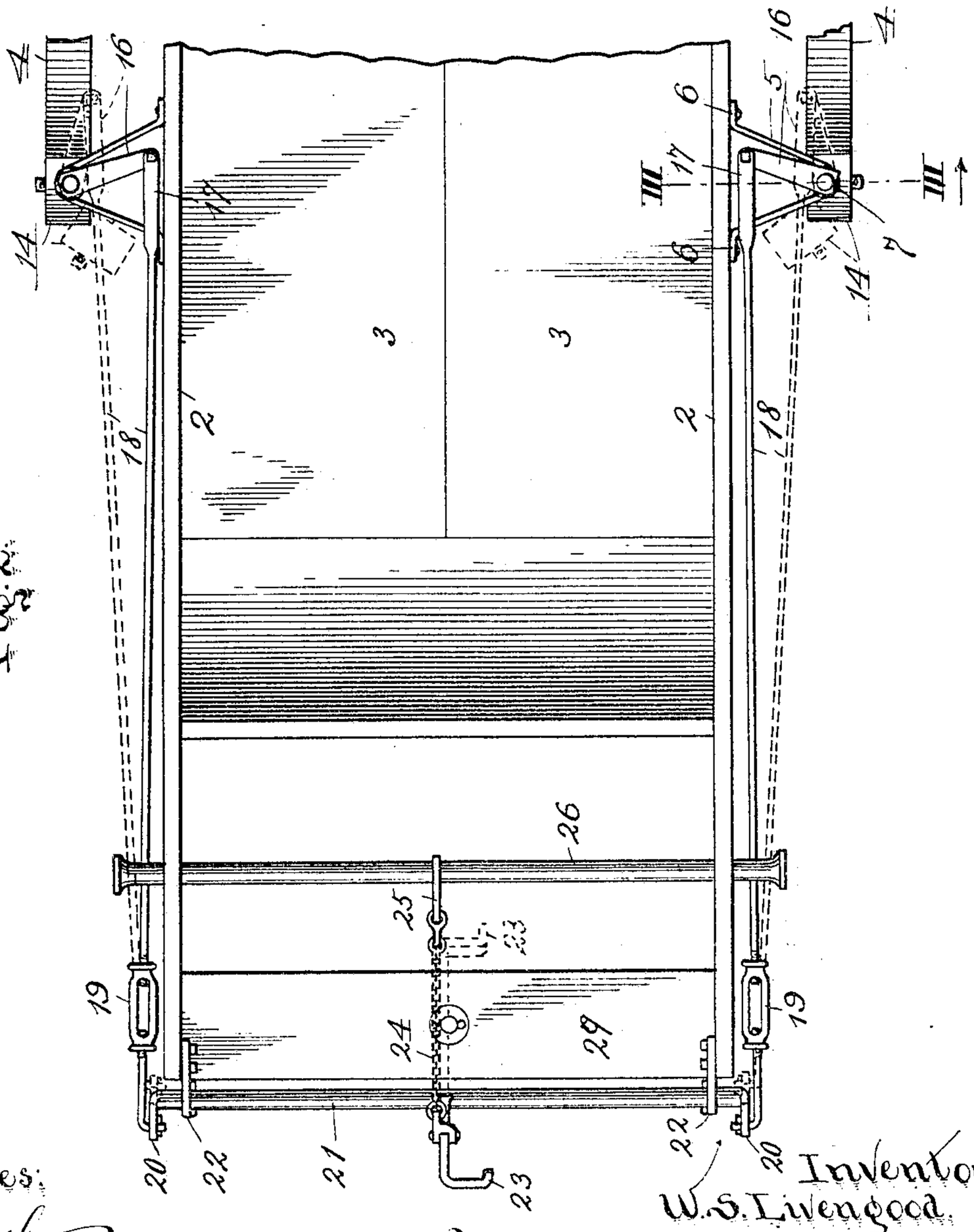


Fig. 2.



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3 SHEETS—SHEET 3.

Fig. 3.

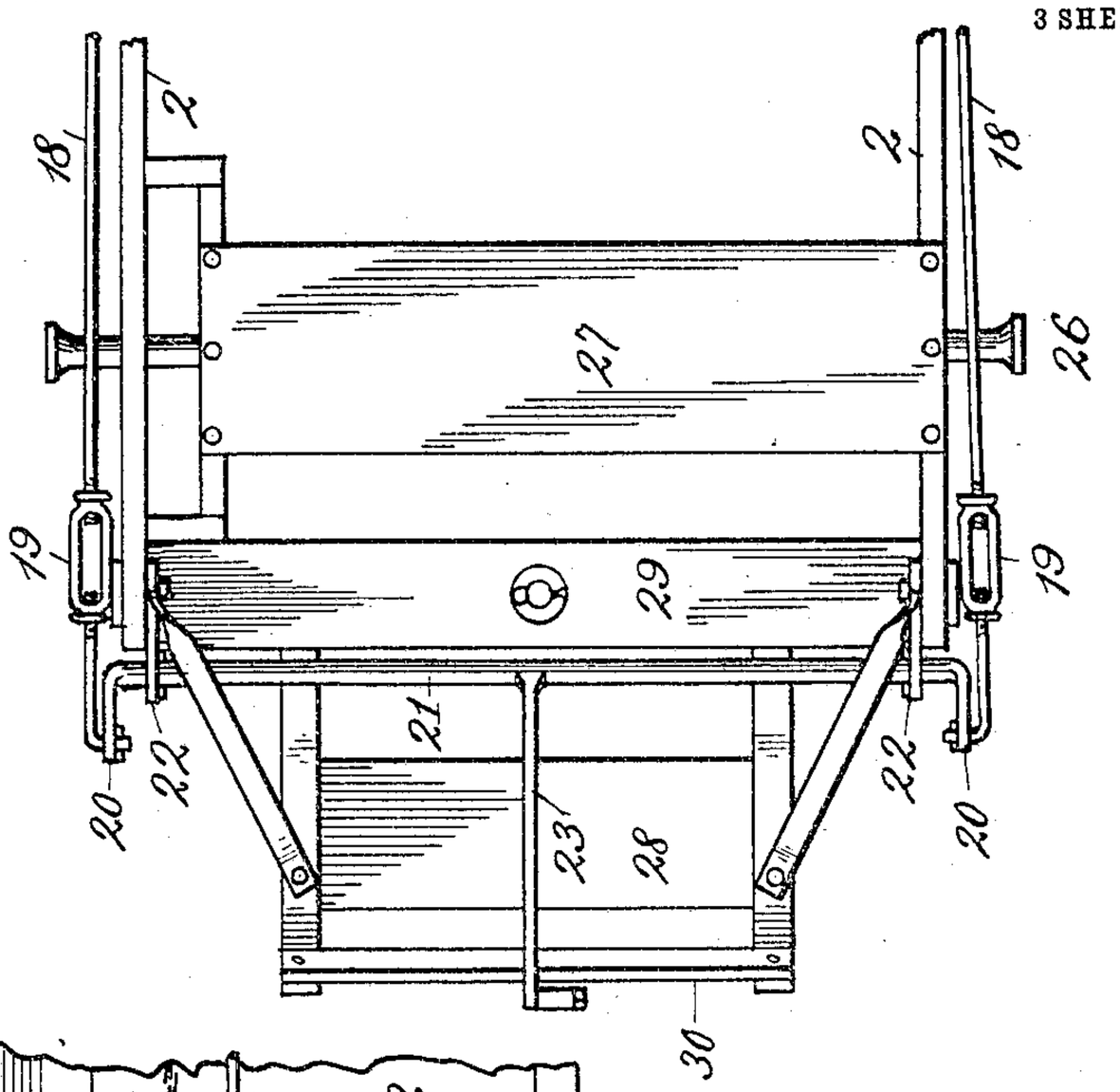
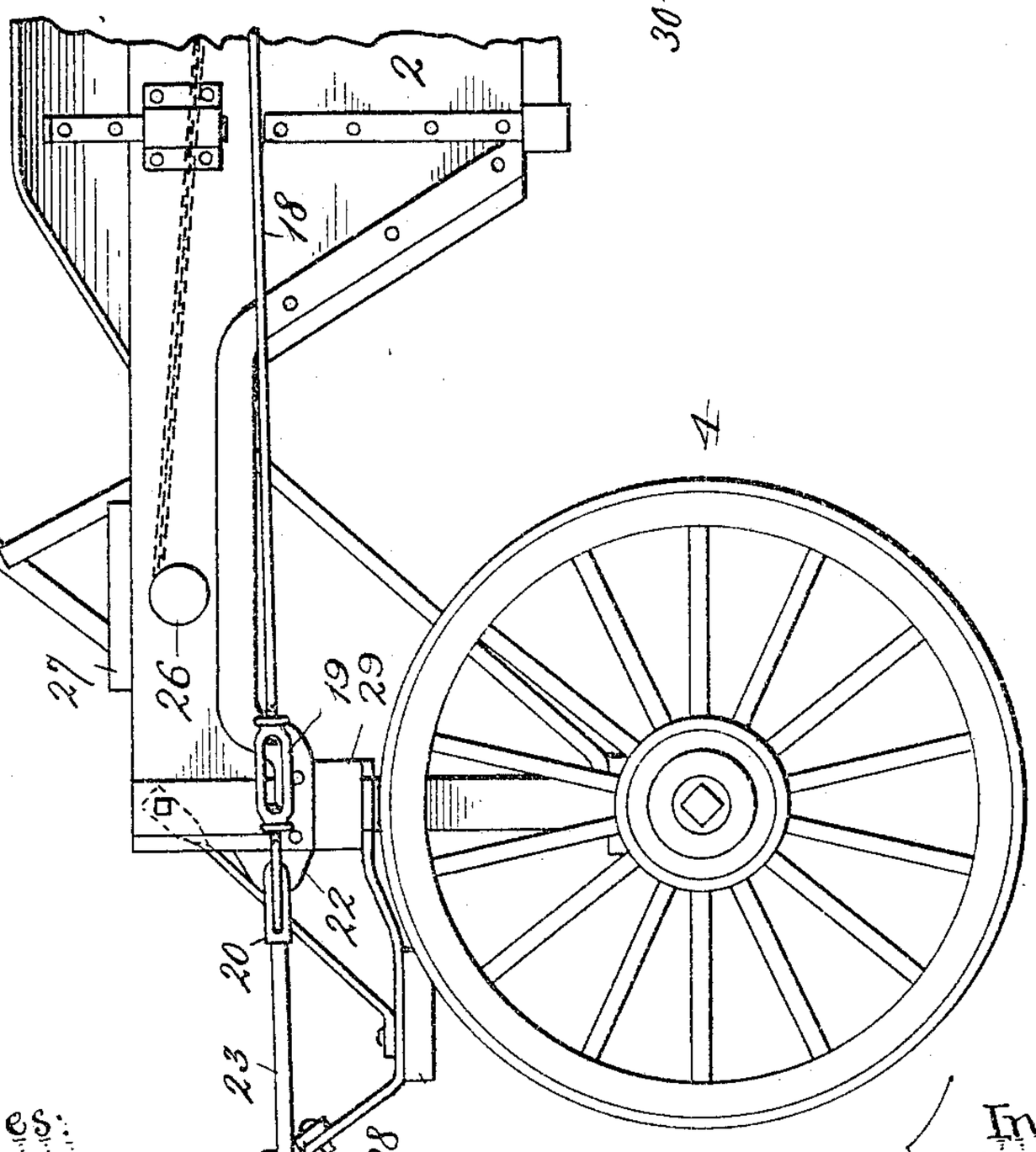


Fig. 4.



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No. 781,610. Patented January 31, 1905.

UNITED STATES PATENT OFFICE.

WINFIELD S. LIVENGOOD, OF KANSAS CITY, MISSOURI.

WAGON-BRAKE.

SPECIFICATION forming part of Letters Patent No. 781,610, dated January 31, 1905.

Application filed January 11, 1904. Serial No. 188,517.

To all whom it may concern:

Be it known that I, WINFIELD S. LIVENGOOD, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Wagon-Brakes, of which the following is a specification.

My invention relates to improvements in wagon-brakes; and one of my objects is to mount the brake-shoes in such a manner that when swung to an inoperative position they will be carried free of the rear wheels and the mud which usually accumulates thereon, and thus avoid needless wear by contact therewith. I attain this result by mounting the brake-shoes in such a way that they will swing at an angle from the face of the wheels instead of in a direct line therefrom when thrown to an inoperative position.

A further object is to render the brake especially adaptable for bottom-dumping wagons. This object is accomplished by dispensing with the transverse shaft usually employed to carry the brake-shoes and mounting the latter upon arms extending in an almost perpendicular position and pivotally mounted in brackets secured to the side-boards of the wagon-body.

In order that the invention may be readily understood, reference will now be made to the accompanying drawings, in which—

Figure 1 represents a wagon provided with my improved brake. Fig. 2 is a broken plan view of the same. Fig. 3 is an enlarged transverse section taken on line III III of Fig. 2. Fig. 4 is a modified form showing how the foot-lever is locked in an operative position. Fig. 5 is a plan view of the same.

In the drawings, 1 designates a wagon of the bottom-dumping pattern, consisting of side-boards 2, hinged doors 3, and carrying-wheels 4.

5 designates a pair of V-shaped brackets provided with integral flanges 6, whereby they are rigidly secured to the side-boards adjacent to the rear wheels. The central curved portion 7 of the brackets incline outwardly from their lower to their upper ends, and their upper edges 8 extend at right angles thereto a short distance to provide a bearing-surface for washers 9, interposed between edges 8 and a shoulder 10 on the upper ends of a pair of arms 11, pivotally secured in the curved portions of the brackets by segmental bolts 12, which pass transversely through the brackets just in rear of said curved portions and with the latter complete the bearings for the arms 11. These bearings are inclined outward for two purposes, viz: Their upper outer ends stand sufficiently remote from the wagon-body to permit the operating-crank (described below) to have a movement above the bracket itself, whereby the crank is prevented from injury and cannot be struck by an adjacent object which would bend or break it. Also the inclined position of the bearing causes the brake-shoe (described below) to have a forward and upward movement away from the wheel when the brake is thrown off, as well as a movement inward toward the wagon-body, all combining to draw the shoe out of a position where it might be struck and injured by an adjacent object. The lower ends 13 of arms 11 are turned outwardly in a horizontal plane for the reception of brake-shoes 14, pivotally mounted thereon and secured from lateral movement by cotter-pins 15, extending through the outturned ends.

16 designates a pair of cranks rigidly secured at their outer ends upon the upper terminals of arms 11 and pivotally secured at their inner ends to the bifurcated ends 17 of connecting-rods 18, which latter are made in two parts adjustably secured by turnbuckles 19, so the brake-shoes may be properly adjusted with relation to the rear wheels. The forward ends of the connecting-rods are turned inwardly and pivotally secured to the free ends of a pair of cranks 20, formed integral upon the opposite ends of a rock-shaft 21, mounted in bearings 22, secured to the forward ends of the side-boards. Rock-shaft 21 is provided about midway between its crank ends with a rigidly-secured foot-lever 23, the downward movement of which latter is limited by a chain 24, secured at its opposite ends to the foot-lever, and a link 25, loosely embracing the winding-shaft 26 of the door-operating mechanism, in order that the rotation of said shaft will not affect the foot-

lever. By providing chain 24 the foot-lever is prevented from being depressed sufficiently to carry the upper forward ends of cranks 20 down below a horizontal plane, and thus render the brake inoperative, it of course being understood, however, that the several parts are so adjusted that the brake-shoes will be held in contact with the rear wheels with sufficient pressure to lock the same before cranks 20 are depressed to a horizontal position.

In operation the brake-shoes are thrown out of contact with the wheels by drawing the foot-lever to its rearmost position, which movement rotates arms 11 almost a quarter of a revolution, swinging the brake-shoes forward and to one side of the rear wheels, as shown by dotted lines, Fig. 2, so that when the latter are covered with mud it will not contact with or be deposited upon the brake-shoes, and thus interfere with their proper operation. The brake-shoes are reliably held in an inoperative position without the use of springs or notched segments by arms 11, which are drawn into sufficient frictional contact with the brackets by segmental bolts 12 to hold them in any position placed.

In the modified form (shown in Figs. 4 and 5) seat 27 is lowered and moved forward, so the driver may place his feet upon a foot-rest 28 instead of the front bolster 29. The forward upper end of the foot-rest is provided with a transverse bar 30, arranged slightly below the horizontal plane of shaft 21, so that when the foot-lever is depressed into contact with said transverse bar it will be held in contact with the latter by the downward and backward pull of the connecting-rods 18 until reëlevated by the driver. Consequently the brake-shoes may be held against the rear wheels without the driver constantly holding his feet upon the foot-lever.

From the above description it is apparent that I have produced a brake simple, strong, durable, and constructed and arranged in such a manner that it will not interfere with the movement of doors 3.

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

1. In a wheeled vehicle provided with a wagon-body, upwardly and outwardly inclined brackets secured to the sides of the wagon-body adjacent to the rear pair of wheels, arms swiveled in the brackets and having lower outturned ends, brake-shoes mounted upon said outturned ends, and suitable means for operating the arms so the brake-shoes may be thrown in or out of engagement with the wheels.

2. In a wheeled vehicle provided with a wagon-body, upwardly and outwardly inclined brackets secured to the sides of the wagon-body adjacent to the rear pair of wheels, upwardly-extending arms swiveled in the brackets and having lower outturned horizontal ends, brake-shoes mounted upon said outturned ends, cranks rigidly secured to the upper ends of the arms and at right angles thereto, and suitable means for operating the cranks so the brake-shoes may be thrown in or out of engagement with the wheels.

3. In a wheeled vehicle provided with a wagon-body brackets secured to the sides of the wagon-body, adjacent to the rear pair of wheels and having upwardly and outwardly inclined bearings, upwardly-extending arms swiveled in the bearings and having lower outturned ends, segmental bolts holding the arms in place, brake-shoes suitably mounted on said outturned ends, cranks rigidly secured to the upper ends of the arms, collars interposed between the cranks and the upper portion of the bearings, and suitable means for operating the crank-arms.

4. In a wheeled vehicle provided with a wagon-body, brackets secured to the sides of the wagon-body adjacent to the rear pair of wheels and inclined upward and outward, upwardly-extending arms swiveled in the brackets and having lower outturned ends, brake-shoes on the latter, cranks rigidly secured to the upper ends of the arms and projecting toward the wagon-body, adjustable connecting-rods pivotally secured at their rear ends to the inner ends of the cranks, a rock-shaft journaled at the forward portion of the wagon-body, cranks formed integral with the opposite ends of said rock-shaft to which the forward ends of the connecting-rods are swiveled, and a lever for operating said rock-shaft.

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

WINFIELD S. LIVENGOOD.

Witnesses:

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