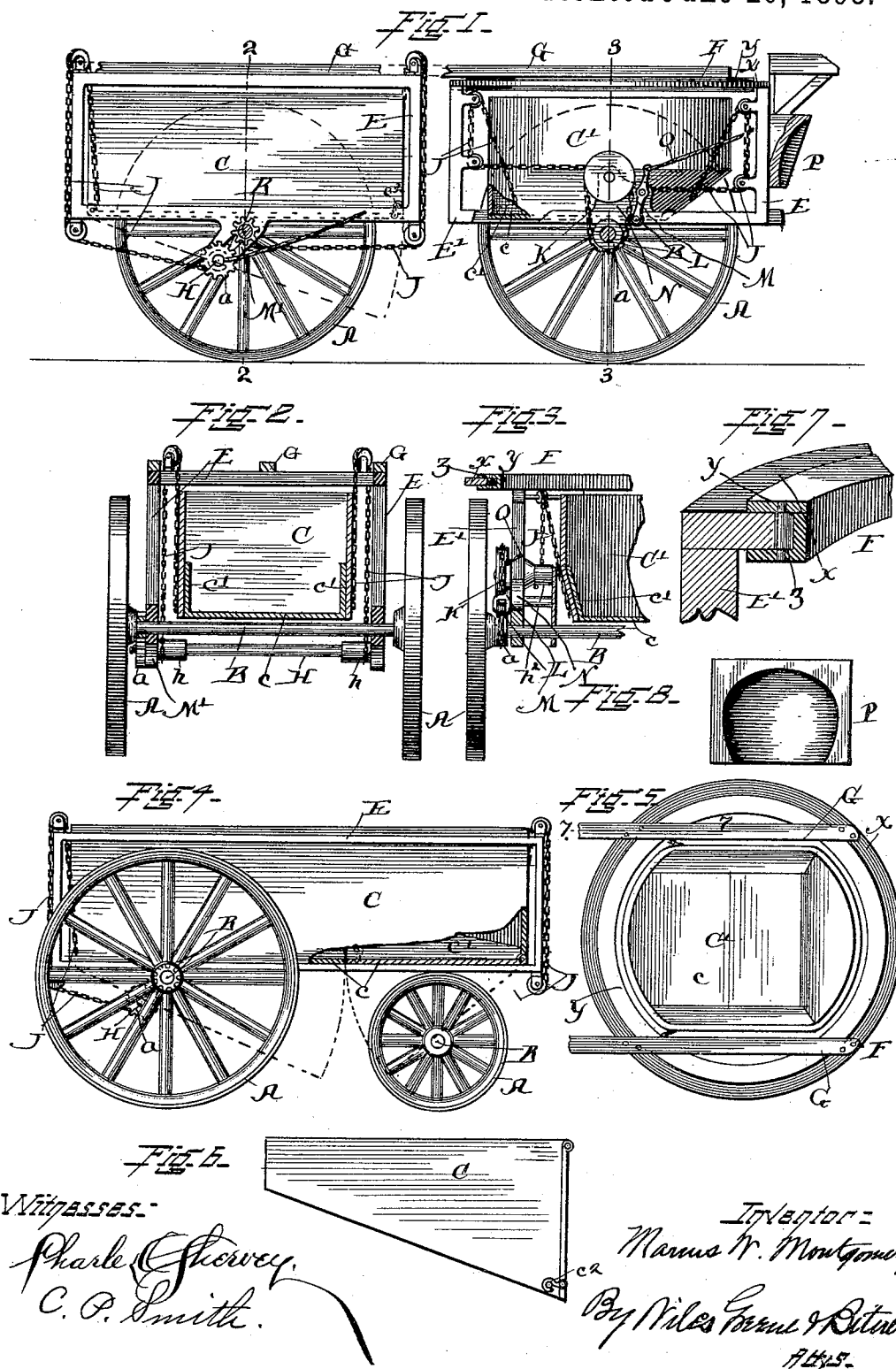


(No Model.)

M. W. MONTGOMERY
WAGON.

No. 499,793.

Patented June 20, 1893.



Witnesses:

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UNITED STATES PATENT OFFICE.

MARCUS W. MONTGOMERY, OF CHICAGO, ILLINOIS.

WAGON.

SPECIFICATION forming part of Letters Patent No. 499,793, dated June 20, 1893.

Application filed November 23, 1891. Serial No. 412,770. (No model.)

To all whom it may concern:

Be it known that I, MARCUS W. MONTGOMERY, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Wagons, of which the following is a specification.

My invention relates to certain improvements in a wagon designed with special reference to use in handling coal, earth, garbage, and other articles where ease and rapidity in unloading are specially desirable; and consists in certain novel features and combinations thereof, clearly described below and definitely pointed out in the appended claims.

While these improvements have been designed, as before said, with reference to wagons for carrying freight, they may also be found of use in carriages and similar light vehicles.

My preferred construction is shown in the drawings by means of eight figures, of which—

Figure 1 is a side elevation partly in section, of a complete wagon. Fig. 2 is a vertical section in line 2—2 of Fig. 1. Fig. 3 is a broken vertical section in line 3—3 of Fig. 1. Fig. 4 is a side elevation, partly in section, of a modification. Fig. 5 is a partial plan of Fig. 1. Fig. 6 is a detail side elevation of a modified form of box. Fig. 7 is a broken section in line 7—7 of Fig. 5, and Fig. 8 is a detail view.

Referring to the different parts by means of reference letters, A, A, are the wheels, and B, B, the axles. Upon each of the axles are supported, in a suitable manner, two rectangular frames, E and E', properly braced and extending upward to a height above the wheels. Within the frames are placed, respectively, the independent sections of the wagon box, C and C'. The front bed is a vertical cylinder, and the rear bed a rectangular box. The bottom of each bed is made in horizontal or slanting shape, as may be required, and the horizontal bottom is hinged, when required, to the front frame, E', and above the front wheels is mounted a fifth wheel, F, made of two rings, x and y . Vertical friction rollers, z , are interposed between these two rings, being journaled in one and rolling upon the surface of the other. Flanges project from the upper and lower sides of one of the rings, and the other ring works between

these flanges, thus preventing the tipping of the frames.

A reach or reaches, G, preferably more than one, are preferably secured to one of the rings of the fifth wheel, and also to the rear frame. By this means the front wheel may be as high as the hind wheel, and yet may turn in between the two sections of the bed and the fifth wheel may not obstruct, but support the front box as it is elevated. In the sides of the frames, at some convenient points, shafts, H, H', are journaled, bearing drums, h , upon which are wound chains, J, which lift the wagon boxes outside the frame. The shafts bear pulleys, h' , geared by means of chains, K, to pinions, R, on the hubs of the wheels. The shafts may be located above the axles, as seen in Fig. 3, or below, as seen in Fig. 4. These chains may be arranged so loosely that they will ordinarily slip upon the hub, and tighteners, L, may be mounted upon crank arms, M, pivoted to standards, N, and having cords, O, attached to their free ends, leading to some point convenient to the driver's seat, so that by pulling slightly upon said cords, the tighteners will be brought into contact with the chains and cause them to bind upon the hubs and pulleys, thus elevating the boxes into or above the upper portions of the frames, by the turning of the wheels as the wagon moves forward.

A modified construction is shown at the left hand in Fig. 1, in which the operating shaft is journaled in a slot in a depending arm, M', and the connection is made with the hub by means of toothed gears which are brought into engagement by pulling upon a string attached to a collar upon the shaft. The object of this elevating of the wagon boxes is to enable the coal or other material in the boxes, to be dumped more readily, and also to be deposited at a greater distance and at a higher point, as, for instance, into a box or scuttle, or, by means of a long chute, into cellars. By this elevation of the boxes I am also enabled to unload by means of bottoms, c , hinged at one end to their respective boxes and having side flanges or wings, c' , extending up into the boxes, so that as the loose end is dropped, the coal cannot be discharged at the side. When desirable, I make this slanting bottom fast at both ends, as seen in Fig. 6, and catches, c , c^2 ,

are arranged upon the boxes to hold the bottoms in place. These bottoms can be used under most circumstances, but in cases where still greater ease in dumping is required, I prefer to make the pulleys upon the shafts, H, double, as seen at h^2 , and make one portion of each, cone-shaped, so that as the chains are wound up, the rear ends of the boxes will be raised faster than the forward ends, and the box will take a slanting position, when the load can be more easily dumped by loosening either the bottom gate or the end gate, as may be preferred.

The lower ends of the slanting bottoms and the loose ends of the hinged bottoms, when the latter are used, face each other between the front and hind wheels. When the wagon is coming near to the place to unload, the gearing between the hubs and the boxes is brought into engagement, and the boxes elevated; then a side chute is placed between the wheels and the ends of the boxes, the end gates opened and the coal run into the chute, thus saving the time and labor of shoveling out the coal, and it is also deposited at a greater height by means of the elevated box. Furthermore, while unloading by this device, the wagon stands parallel with the curb stone, thus avoiding the inconveniences of backing it up and obstructing the street.

When it is desirable to use a single bed, as shown in Fig. 4, I attach a frame and elevating apparatus, as hitherto shown, and divide the bed bottom transversely between the wheels, hinging the two sections, respectively, at the front and rear ends of the bed. The coal is then unloaded in the same manner and with all the advantages above described.

In the use of heavy wagons or trucks much hard backing is necessary, and it is hard on the horses to do the same by means of the

ordinary breeching or breast bands. To relieve them I have arranged upon the forward frame, E', a block, P, hollowed out to fit the rump of a horse and located so that as the horse backs he can shove against this block and thus force the wagon backward; and thus the expense of harness breeching may be avoided, and the horse relieved of strain upon his neck. This device also enables the horse to throw his head down in backing heavy loads, which is the natural position. It may be made of any suitable material, and may be adjustable to the heights of different horses.

I claim as new and desire to secure by Letters Patent—

1. The combination with the wheels and the front and rear axles of a double wagon, of frames mounted respectively on said axles and a reach secured to the rear frame and pivoted to the forward frame by means of a fifth wheel of sufficient size to encircle the forward box; substantially as described.

2. The combination with the axle and wheels of a wagon, of a frame mounted upon said axle, a shaft journaled in the frame and bearing cone-shaped pulleys, a box supported from said pulleys by means of chains or their equivalents, and connecting devices between the shaft and one of the wheels, whereby said shaft may be rotated by the motion of the wheel; substantially as described.

3. The combination with the frame of a wagon, of a suitable block or abutment upon the forward portion thereof, adapted to be pressed against by the horse or horses to back the wagon; substantially as described.

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Witnesses:

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