

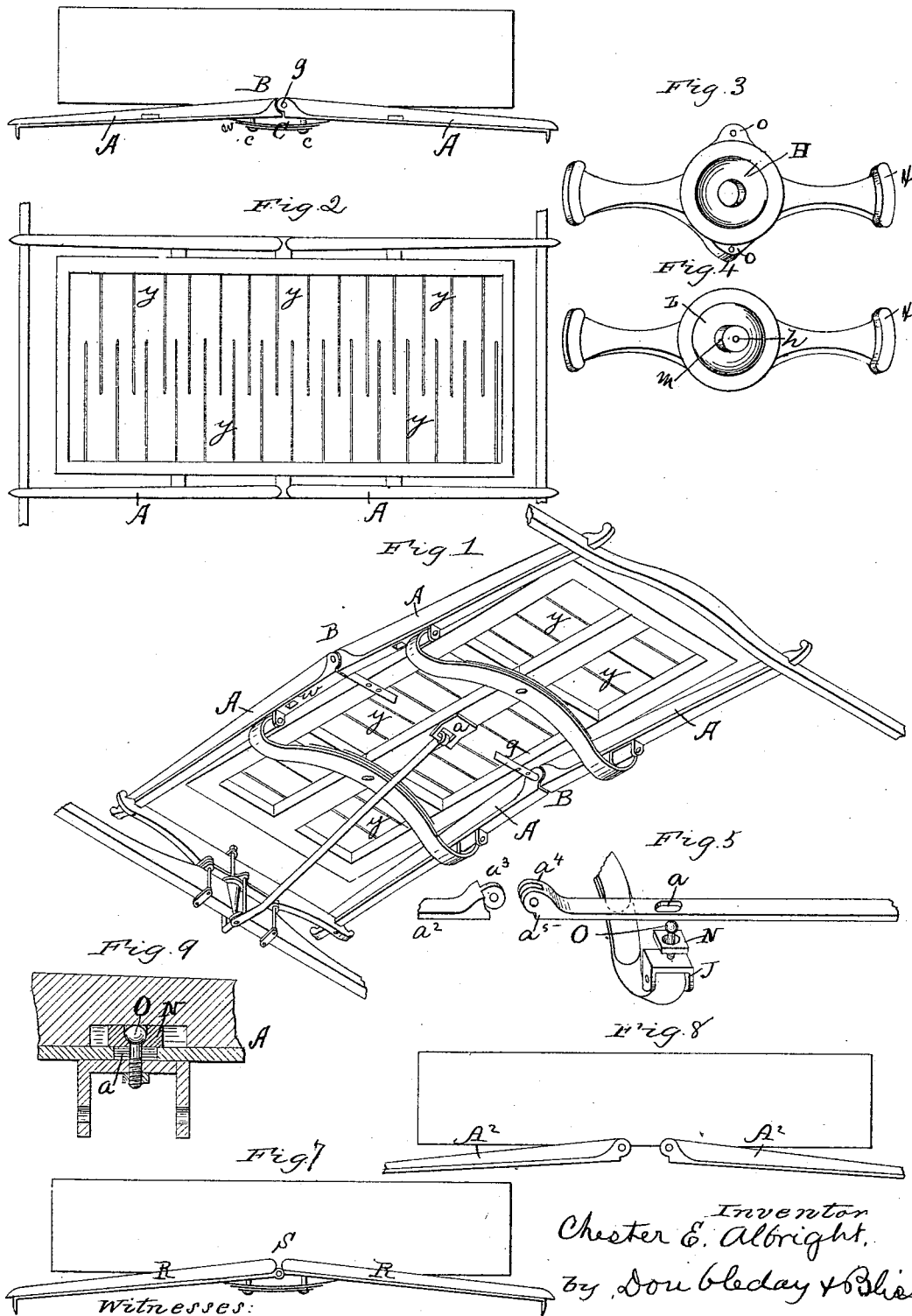
(No Model.)

C. E. ALBRIGHT.

ROAD WAGON.

No. 346,341.

Patented July 27, 1886.



Witnesses:
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UNITED STATES PATENT OFFICE.

CHESTER E. ALBRIGHT, OF MUNCY, PENNSYLVANIA.

ROAD-WAGON.

SPECIFICATION forming part of Letters Patent No. 346,341, dated July 27, 1886.

Application filed December 2, 1881. Serial No. 46,980. (No model.)

To all whom it may concern:

Be it known that I, CHESTER E. ALBRIGHT, a citizen of the United States, residing at Muncy, in the county of Lycoming and State of Pennsylvania, have invented a new and useful Improvement in Carriages, Buggies, or Road-Wagons, of which the following is a specification.

The object of my invention is to so construct wagons and carriages as to enable them to resist the shock imparted by obstacles in the road to the greatest possible extent without unnecessary motion, thereby rendering the wagon more durable and less liable to breakage.

A further object is to avoid the use of the ordinary stiff coupling, substituting therefor side-jointed levers and a flanged concave circle or cross-head.

Wagons as usually constructed with steel springs have no fastenings but the springs in connecting the running-gears with the bed, thus allowing all strain resulting from the tendency of the wagon to pitch back, forward, to the side, and upward to come directly upon the springs. This unnecessary motion is fatiguing to the rider and injurious to the wagon. In my arrangement, however, the wagon is so constructed that unnecessary motion is impossible. The side levers are fastened at one end to the running-gear and the other end to the bed with pivoted knuckle-joints and a counteracting-spring, thus preventing the unnecessary motions referred to, and leaving for the spring carrying the load nothing to do but to ease the jar or jolt in passing over objects. By coupling a wagon with a pivoted joint much of the jar is taken off the springs by the joints giving when either end of the wagon strikes an object or passes over a water-course or bank in the road. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 shows in perspective enough of the vehicle to illustrate my invention. Fig. 2 is a top plan view. Fig. 3 shows the bottom cross-head or part of the fifth-wheel somewhat in perspective. Fig. 4 is a corresponding view of the upper cross-head or part of the fifth-wheel carried by the body. Fig. 5 shows in perspective a part of one of the cross-springs and parts of the side bars of one pair. Fig.

6 is a side view of the body, the side bars, and a supplemental spring below the bars, the cross-springs being omitted. Figs. 7 and 8 are side views of slightly modified forms. Fig. 9 is a section on an enlarged scale showing the method of attaching a cross-spring to a side bar.

Similar letters refer to similar parts throughout the several views.

In the cross-head the convex surface L, supplied with the pivoted flange m, moves in the corresponding concave, H. The bolt h, passing through the flange m, binds the parts of the cross-head together. The flange m, being inserted through the concave H, and the corresponding surface being held together by the bolt h, with the sides o o of the concave H extending beyond and fitting over the convex L, prevents side motion and avoids all strain upon the bolt h.

The ball-and-socket joint O, working in the movable plate N, is so constructed that the three necessary motions are provided for—first, the expanding and contracting of the levers resulting from their up-and-down motion; second, a rotary motion resulting from the same cause; third, side motion arising from the up-and-down motion of the springs.

The levers A A are strengthened by metal plates and are provided with slots at the point a a to facilitate the action of the ball-and-socket joint, above set forth. It is obvious that any change in the position of the said joint will effect the motion of the body when the vehicle is moved over an obstacle. If less motion of the spring and body is desired, this joint, forming the fulcrum, may be moved farther from the center of the lever, and if more motion of the spring and body be desired the said fulcrum may be moved nearer the center of the said levers. The most accurate adjustment may be effected by a proper manipulation of this ball-and-socket joint.

The knuckle-joint B in the levers A A operates to prevent the vibratory motion usual in vehicles suspended by springs. The antagonizing spring C operates to avoid the shock resulting from any sudden check of the upward motion. The joint B prevents any independent back or forward motion of the body, it also prevents all independent side

motion of the same, thus differing from vehicles having the body attached to the gearing by springs.

In Figs. 6 and 7 the supplemental spring C is shown as being held in place by headed studs or screws *c*.

In the construction shown, the knuckle-joint is formed by providing one of the pivoted side bars with an ear, *a*³, and the other with two ears, *a*⁴. Through these passes the pivot or hinge *g*.

The knuckle or stop is shown at *a*⁵, there being one upon each side bar.

At J is shown the shackle which is used to unite the cross-springs to the side bar.

It will be seen that in the construction shown in Fig. 1 the bars on each side of the body are united thereto by a single pivot, this latter also being the connection which unites the bars themselves together. The disconnected levers A¹ A² operate upon a similar pivoted joint for the same purpose and with the same effect. The said levers may be separated a greater or less distance to adapt them to long or short coupled wagons. The antagonizing spring C, being applied to the simple pivoted joint S in levers R R (shown in Fig. 7) by inserting each end of spring C in slots *w w*, operates in a manner similar to the pivoted knuckle-joint above set forth.

It is evident that spring C may be advantageously applied to pivot-joint S in lever R without using the slots *w w*.

In bottom of wagon body, slits *y y y y y y y* are inserted for the purpose of avoiding or breaking the humming sound common in tight-bottom wagons.

In the construction of this wagon the springs should be adjusted under some tension to prevent any tendency to rattle that might otherwise occur.

What I claim as of my invention, and desire to secure by Letters Patent, is—

1. The combination of the body and the side levers hinged together at the inner ends by means of a single pivot, substantially as set forth.

2. The combination of the body, the side levers arranged in pairs, the inner ends of each pair being pivoted directly together, and the springs supported upon said side levers.

3. The combination of the wagon-body, the springs secured thereto, the side levers ar-

ranged in pairs, and the pivot, which is secured to the body and joins the inner ends of the levers of each pair directly together, substantially as set forth.

4. The combination of the body, the side levers pivoted to the body, and the springs beneath the body arranged, substantially as set forth, to prevent the body from exerting any lateral or torsional strain upon said springs.

5. The combination of the body, the side bars situated in pairs, the inner ends of each pair being joined by a pivot, and semi-elliptical springs secured to the bottom of the body, one upon one side of the pivotal line of the side levers, and the other upon the other side of said line, substantially as set forth.

6. The combination of the body, the side levers hinged together, and the springs, upon which the body rests, having their ends arranged to slide relatively to the side bars, substantially as set forth.

7. The combination of the body, the side levers hinged to the body, the springs secured to the bottom of the body, and having their ends supported, substantially as set forth, whereby they may slide relatively to the levers.

8. The combination of the body, the side levers secured in pairs, those of each pair being adapted to oscillate relatively to each other, the springs upon which the body rests, the shackles at the ends of the springs, and the movable supports for the shackles, substantially as set forth.

9. The combination of the body, the side levers, each having its inner end supported upon a pivot or hinge, and each provided with a knuckle adapted to strike against the knuckle of the other to limit the motion of the side levers, substantially as set forth.

10. The combination of the body, the side bars arranged in pairs, the pivot, which unites the bars of each pair together, and unites them to the body, and the spring connected with the pair of side bars, and adapted to tend to resist their downward movement, substantially as set forth.

11. Constructing the bottom of a wagon-body with slits, as and for the purpose specified.

CHESTER E. ALBRIGHT.

Witnesses:

D. B. DYKINS,
H. C. LE VAN.