S. P. STILLMAN.

FIFTH-WHEEL.

No. 192,949. Patented July 10, 1877.

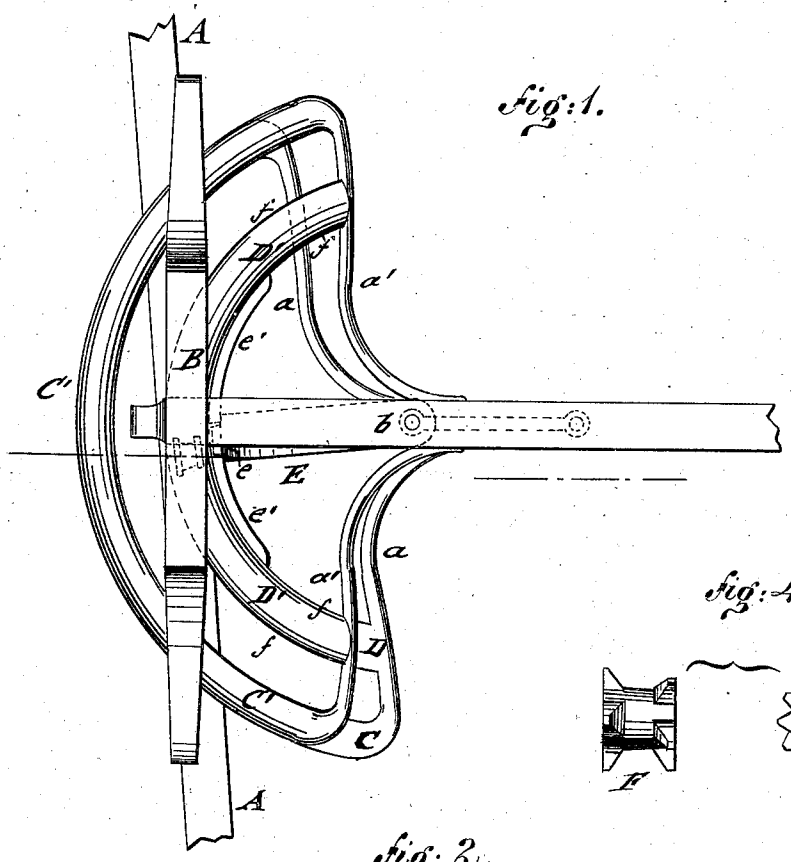


Fig: 1.

Fig: 4.

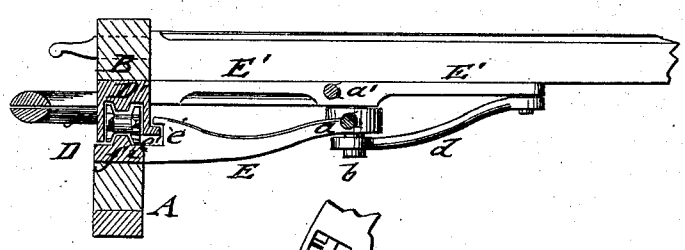


Fig: 2.

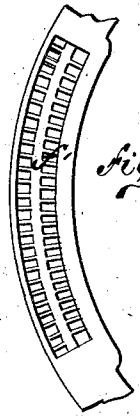


Fig: 3.

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SANFORD P. STILLMAN, OF WESTERLY, RHODE ISLAND.

IMPROVEMENT IN FIFTH-WHEELS.

Specification forming part of Letters Patent No. **192,949**, dated July 10, 1877; application filed March 12, 1877.

To all whom it may concern:

Be it known that I, SANFORD P. STILLMAN, of Westerly, in the county of Washington and State of Rhode Island, have invented a new and Improved Fifth-Wheel, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a top view; Fig. 2, a vertical longitudinal section on line *x x*, Fig. 1, of my improved fifth-wheel; Fig. 3, a bottom view of the grooved and toothed guide-plate, and Fig. 4 a detail side and end view of the toothed friction-roller.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved fifth-wheel for vehicles of all kinds, by which the vehicle may be turned in less space and more convenient manner, without the use of a king-bolt, forming a more durable, stronger, and neater method of connecting axle and rocker than those heretofore in use.

The invention consists of the axle and rocker having outer segmental guide-rails and inner concentric rails or plates, the latter having toothed grooves and an intermediate spurred or toothed friction-roller. The guide-rails swing on a center-bolt of the reach, while the rocker is steadily retained on the bed-rails by a central connecting-arm, bearing, by a notched part, on the flange of the inner rail or plate of the rocker.

In the drawing, A represents the axle, and B the rocker, to which my improved fifth-wheel construction is applied. On the axle are supported concentric bed rails or plates C and D, which are connected at the ends by curved brace-rods *a*, which are welded or otherwise attached to a center-bar, E, that extends back of the bolster, and is made to swing, by its perforated rear end or sleeve, on a center-bolt, *b*, of the reach.

To the supporting bed-rails C and D of the axle are fitted the corresponding rails C′ and D′ of the rocker, which are braced by curved end rods *a′* in similar manner as the supporting-rails, and attached, by a rigid center-bar, E′, to the under side of the reach.

The outer end of the rigid center-bar E′ is connected, by an additional supporting-rod, *d*, to the lower end of the center-bolt, to retain the lower bar E securely in position thereon.

The lower bar E bears, by a recess and projection, *e*, on the inner flange *e′* of the rail D′, so as to produce the rigid connection of the rocker-rails of the fifth-wheel with the supporting-rails.

The axle and rocker-rails are, by the fastening-rod *d* and projection and flange *e e′*, firmly held together, without being liable to separate or part, so as to secure the reliable working of the fifth-wheel without rolling of axle or breaking of king-bolt.

The upper and interior rail D′ is guided by side flanges *f* steadily along the lower supporting-rail D, the upper rail being provided with a toothed groove, f^1, as shown in Fig. 3, and the lower rail D with a central raised part and teeth f^2, at both sides of the same.

A spurred or toothed friction-roller, F, is placed between the toothed parts of the upper and lower rails, and serves to take up the friction exerted thereon by the weight of the vehicle, and to facilitate the turning of the vehicle.

The friction-roller is clearly shown in Fig. 4, and made to match the cogs of the inner plates or rails.

When the friction-roller arrives at either end of the grooves the motion of the fifth-wheel will be stopped; but the toothed guide-groove may be made of sufficient length to admit the convenient turning of the vehicle.

The fifth-wheel construction is strong, durable, easily working, and not liable to get out of order.

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

1. The combination of concentric bed-rails C D, top rails C′ D′, and center-bars E E′, with a center-pivot of the reach in rear of axle, said center-bars and center-pivot being stiffened by a supporting-rod, that connects the pivot-bolt, and an extension of the upper bar E′, as shown and described.

2. The bed-rail D of the axle having rigid center-bar E with projection *e*, in combination with the inner rail D′, having interior flange *e′*, for the purpose herein specified.

3. The combination of the inner bed-rail D, having central raised part and side cogs, with the corresponding top rail D′, having toothed grooves, and with a toothed friction-roller fitted thereto, substantially as and for the purpose specified.

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