E. & C. EVERETT.

Running-Gear.

No. 7,835

Patented Dec. 17, 1850.

Fig. 1.

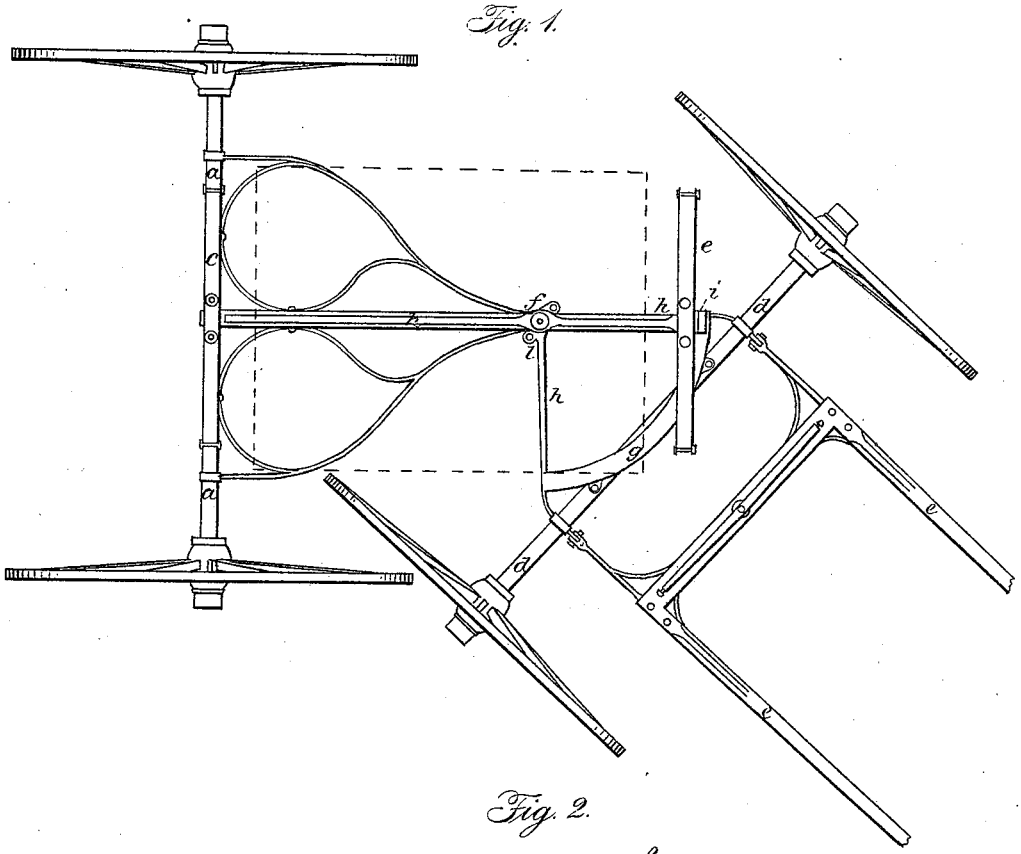
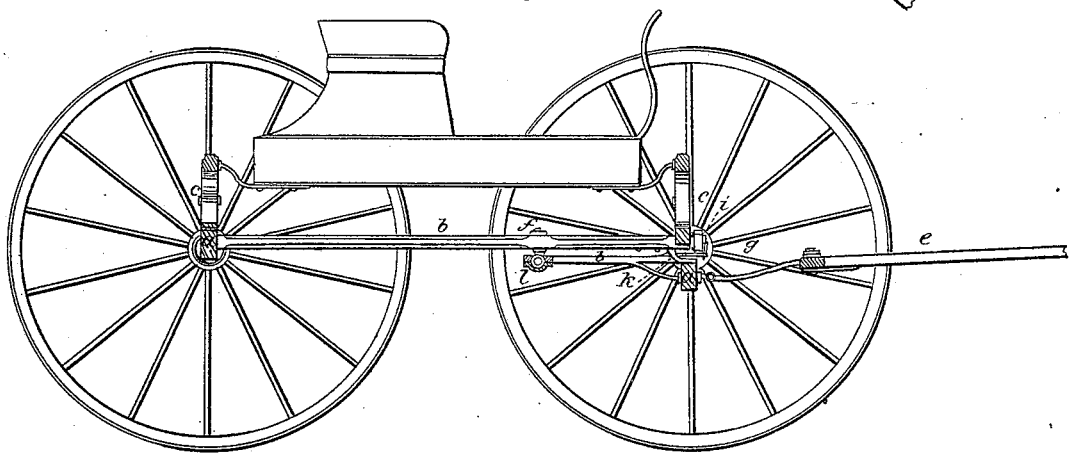


Fig. 2.



UNITED STATES PATENT OFFICE.

EDWARD EVERETT AND CHARLES EVERETT, JR., OF WASHINGTON, DISTRICT OF COLUMBIA.

CARRIAGE.

Specification of Letters Patent No. 7,835, dated December 17, 1850.

To all whom it may concern:

Be it known that we, EDWARD EVERETT and CHARLES EVERETT, Jr., of Washington City, District of Columbia, have invented certain Improvements in the Running-Gear of Carriages, and that the following is a full, clear, and exact description of the principle or character which distinguishes them from all other things before known and of the usual manner of making, modifying, and using the same, reference being had to the accompanying drawings of which—

Figure 1 is a top plan, and Fig. 2 a vertical section.

The advantages derived from the use of large fore wheels in carriages, in saving friction, and in surmounting obstacles are well known, but they have not been generally used, owing to the difficulty of turning with vehicles having the fore, and hind wheels of nearly equal size. Our improvements are designed to obviate this difficulty by so constructing the running gear that the carriage can be turned in as small a space as one having wheels which will run under the carriage body.

We use a ball and socket joint at the center on which the fore axle turns, in place of the ordinary perch bolt which is so liable to be bent or fractured when one wheel is passing over an obstruction. With the ball and socket joint the axles can assume any position in relation to each other within reasonable limits, without causing any twisting or straining of either the perch or perch bolt.

The drawings show the running gear of the carriage which is constructed as follows: (*a*) is the hind axle and (*b*) is the perch from which the carriage body is supported by the springs (*c*). (*d*) is the fore axle, having wheels of equal size with those on the hind axle. (*e*) are the shafts. At the point (*f*) in the perch (*b*), is the center on which the fore axle turns, which is there connected with the perch by a ball and socket joint (*l*), the socket being at the center of a segment (*g*) to which it is connected by two radiating arms (*h*). The segment is firmly attached to the fore axle, and serves to bear up the end of the perch, which is furnished with a small friction roller (*i*) on its extremity, which runs on the upper surface of the segment. By thus placing the center of motion a short distance in the rear of the fore axle, the fore carriage is made to describe a larger arc in turning, and can consequently be turned to a greater angle (without rendering it necessary for the wheels to run under) than can be done when the center of motion is through the fore axle itself.

We are aware that carriages have been constructed with the center of motion at or near midway between the fore and hind axles, but in such, unless the wheels are of small size or the axles very far asunder, the wheels will interfere with each other and prevent the carriage from turning short. But by placing the center of motion intermediate between the middle of the perch and its fore end as described above the fore wheels in the act of turning run inside of the hind wheels without touching them. On the under side of the perch at the fore end is a piece (*k*) which projects downward and forward so as to run under the inner edge of the segment. This piece (*k*) serves a double purpose: First by preventing the perch from being jolted upwards from the fore axle, by its point catching under the edge of the segment (*g*), and secondly, by striking the radiating arms (*h*), when the fore carriage is turned to its full extent, it limits the motion and prevents the wheels from touching the carriage body.

Having thus fully described our improvements in the running gear of carriages, what we claim as new therein, and desire to secure by Letters Patent is—

The joint on which the fore carriage turns, when placed in rear of the fore axle, in combination with the segment on which the end of the perch rests, substantially as described, for the purpose of allowing the carriage to be turned in a small space, without having the fore wheels to run under the body or interfering with the hind wheels.

EDWARD EVERETT.
CHAS. EVERETT, JR.

Witnesses:
WM. GREENOUGH,
T. C. DOWN.