C. G. WILCOX.

Side-Spring Vehicle.

No. 220,009. Patented Sept. 23, 1879.

Fig. 1.

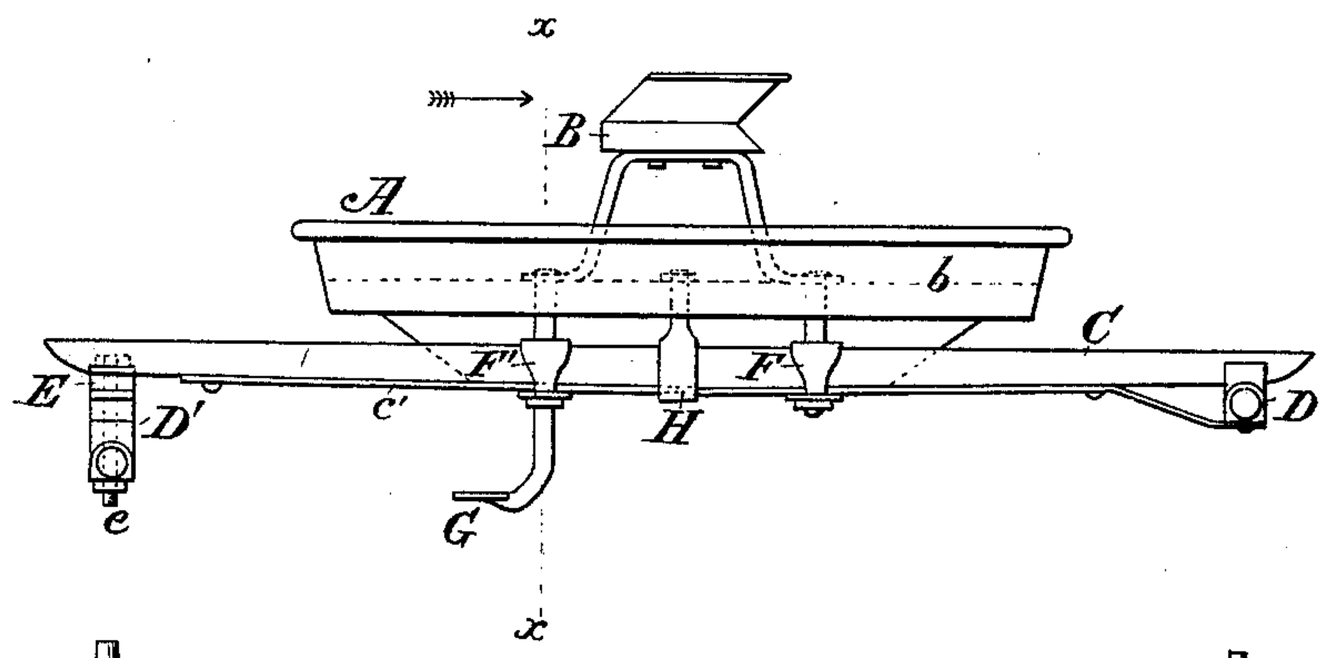


Fig. 3.

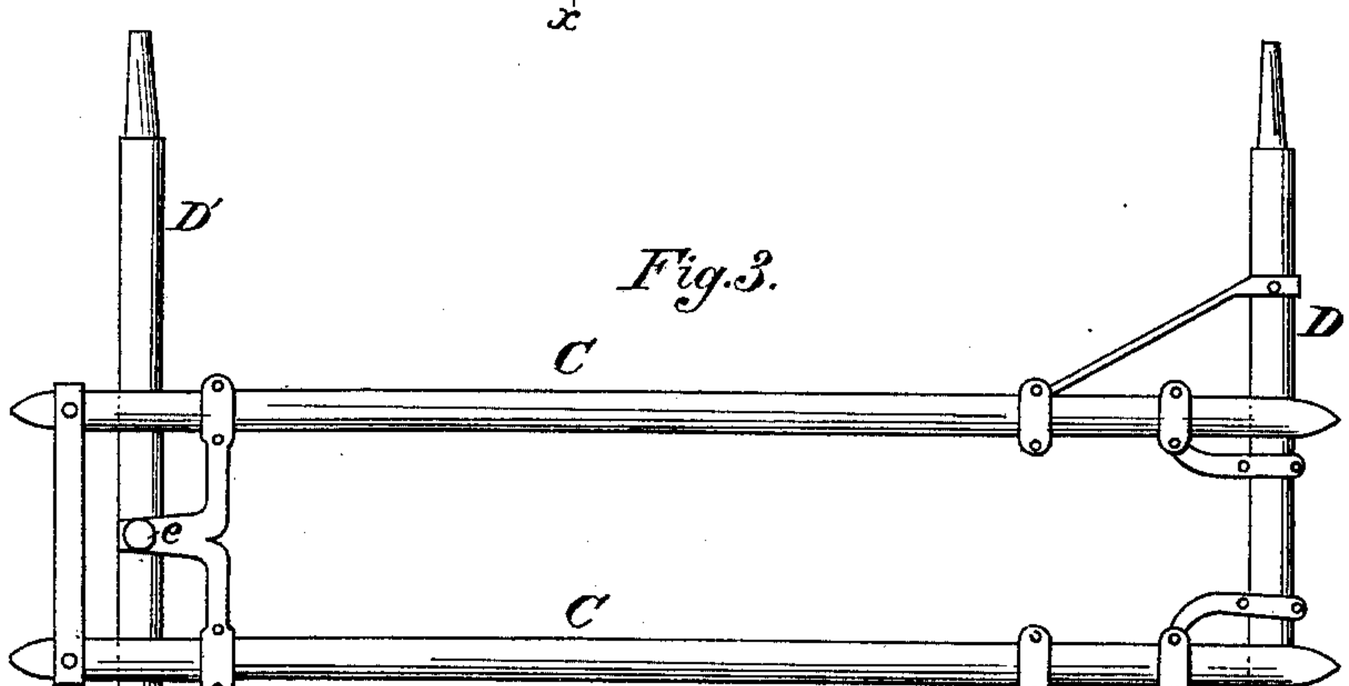


Fig. 2.

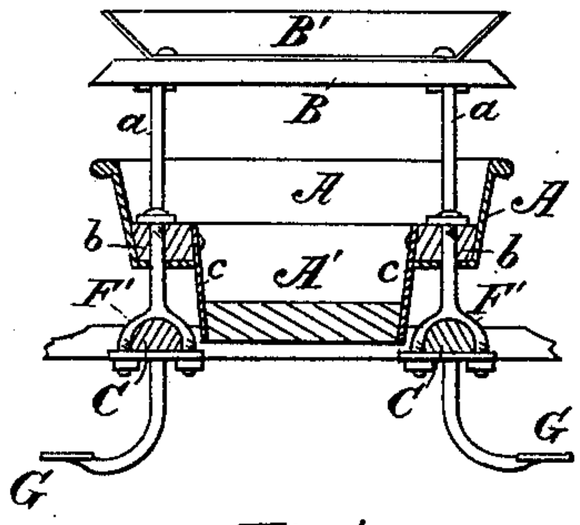
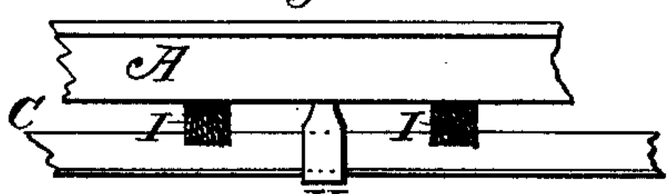


Fig. 4.



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UNITED STATES PATENT OFFICE.

CHESTER G. WILCOX, OF WILKESBARRE, PENNSYLVANIA.

IMPROVEMENT IN SIDE-SPRING VEHICLES.

Specification forming part of Letters Patent No. **220,009,** dated September 23, 1879; application filed August 22, 1879.

To all whom it may concern:

Be it known that I, CHESTER G. WILCOX, of Wilkesbarre, in the county of Luzerne and State of Pennsylvania, have invented certain new and useful Improvements in Carriages; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to that class of carriages usually denominated "side-spring buggies," in which the body is carried upon springs extending from the rear axle to a bolster or head-block pivoted to the front axle, one object gained by this method of construction being that the necessity of employing a reach to connect the axles is avoided, as the springs may be so constructed as to perform the duties of that portion of the running-gear of the carriage. A further object is to improve the construction of the springs and body by so combining the wood and metal of which they are formed as to give great strength and durability with the minimum of weight; and the invention consists in the construction, combination, and arrangement of the different parts of the vehicle, as will be hereinafter fully set forth, and then specifically pointed out in the claims.

Figure 1 is a side view of the body, seat, and springs. Fig. 2 is a transverse vertical section through the body and springs in front of the seat, looking toward the rear of the carriage, on the line *x x* of Fig. 1. Figs. 3 and 4 show modifications of the running-gear, in which the springs are supplied with side braces and rubber blocks.

The body of the carriage I prefer to form with sheet-metal sides A, of the usual rectangular shape, the sides and ends flaring slightly as they rise from the sills *b*. The sills are of wood and form a frame, to which the sides and bottom A′ are secured, the sides bending under and being fastened to the bottom of the sills, while the bottom of the body, which I make of wood, is curved upward at both ends, so that they may be attached to the end pieces of the sills, while its sides are secured to the metal strips *c*, which are themselves fastened to the inner sides of the longitudinal sills. This forms a strong and light body, the recesses on each side beneath the sills giving space for the springs C, which are thus brought close together, so as to avoid contact with the front wheels, except in very short turns, and at the same time give a fair width to the body above them. The seat B, which is constructed of wood, with a metal rim or back, B′, attached to its rear side and ends, is supported upon metal standards *a*, the lower ends of which are secured to the sills by the spring-clips F and F′. The upper ends or shanks of these clips pass upward from the springs through the metal side pieces of the body, where they are turned under the sills, also through the latter and the feet of the standards *a*, where they are secured by nuts or by riveting down upon the feet, thus causing the clips to perform the double office of securing the seat to the body and the latter to the springs. These springs C are formed of bars of wood, secured at one end to the rear axle and at the other to the spring-bolster E, which rests upon and is pivoted to a head-block upon the forward axle, D′, by the king-bolt *e*. This bolster I form from one or more plates of spring-steel, so that it may assist by its elasticity to render the carriage easier to its occupants. Beneath the wooden portion of the springs C, and secured to them by the clips, are the steel plates *c′*, which pass beneath the rear axle, and are secured to it by the bolts which hold the wooden part of the springs in place. The front ends of these plates pass beneath the ends of the spring-bolster, and are secured to it and the front ends of wooden springs by bolts, in the same manner as their rear ends are secured to the hind axle. Midway between the clips F and F′ are placed the straining-clips H, which encircle the springs upon each side, while their shanks pass upward through the sills of the body, where they are provided with a nut, by means of which the springs are stiffened, so as to prevent their sagging, and the body adjusted, so that when the seat is occupied by two persons of different weights it shall ride level, thus obviating one great objection to the use of side springs for carriages.

A straight rod provided with a suitable thumb-screw may be passed through the sills and springs in place of the clip H; but I prefer the latter, as it does not cut the spring or in any way impair its strength.

The steps G are formed at their upper ends with a T-piece, which makes the cross-bar for the clips F′ beneath the springs, thus saving material and the weight of extra cross-bars, as well as giving a firm support to the steps.

It will be seen that this carriage, in common with others of its class, dispenses with a reach, its function being fully performed by the springs.

Wing-braces may be applied to the springs, connecting with the rear axle and bolster-spring, as shown in Fig. 3 of the drawings; but I do not consider them essential except in cases where great strength is required.

In Fig. 4, blocks I, of rubber or wood, are shown placed over the springs C, and filling the space between the springs and the bottom of the sills *b*, to which they are secured, for the purpose of assisting in the support of the box and stiffening the springs whenever such additional support may be necessary.

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

1. The carriage-body having the recessed sides A, wooden sills *b*, and bottom A′, provided with upwardly-curved ends and secured to the sills by the metal strips *c*, all substantially as shown and described.

2. The springs composed of the wooden bar C and steel plate *c′*, in combination with the clips F and F′, carriage-body, and stiffening-clips H, substantially as specified.

3. The seat B, provided with the metallic back B′ and standards *a*, in combination with the spring-clips F and F′, as and for the purpose set forth.

In testimony that I claim the foregoing as my own I hereunto affix my signature in presence of two witnesses.

CHESTER G. WILCOX.

Witnesses:
THOMAS H. KLINE,
E. H. HAWK.