F. SCHERB & F. F. DOLAND.

Carriage.

No. 162,313. Patented April 20, 1875.

Fig. 1.

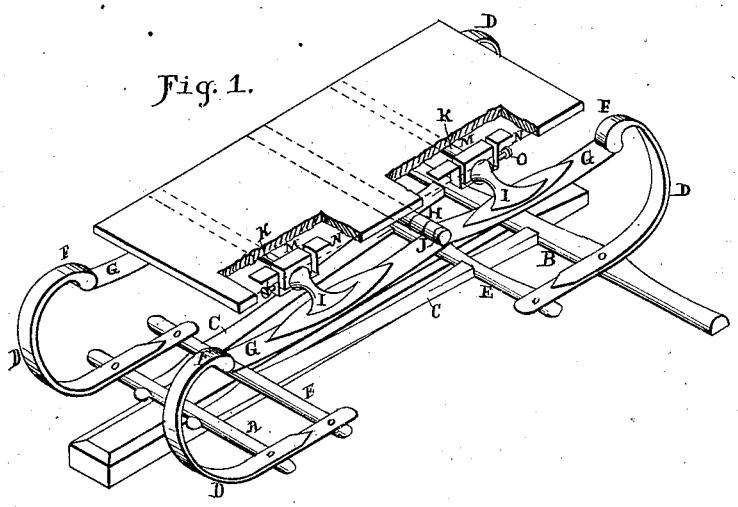



Fig. 2.

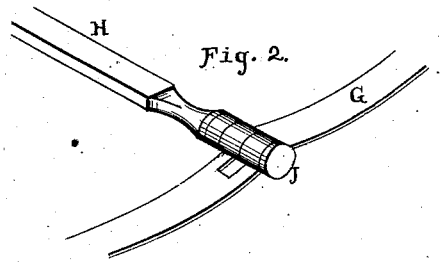



Fig. 3.

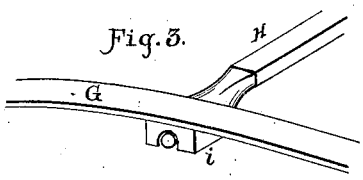
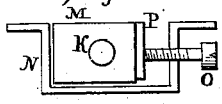



Fig. 4.




WITNESSES.

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# UNITED STATES PATENT OFFICE.

FRANCIS SCHERB AND FRANK F. DOLAND, OF SACRAMENTO, CALIFORNIA.

## IMPROVEMENT IN CARRIAGES.

Specification forming part of Letters Patent No. **162,313**, dated April 20, 1875; application filed December 21, 1874.

*To all whom it may concern:*

Be it known that we, FRANCIS SCHERB and FRANK F. DOLAND, of Sacramento city and county, State of California, have invented Improvements in Carriages; and we do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use our said invention or improvement, without further invention or experiment.

Our invention relates to an improvement in the construction of carriages; and it consists, mainly, in a novel combination of two forms of spring, and, also, in the means by which we mount the wagon-bed upon these springs, so as to obtain steadiness and ease of motion.

Referring to the accompanying drawing for a more complete explanation of our invention—

Figure 1 is a perspective view of our carriage. Figs. 2, 3, and 4 are enlarged sections of parts our device.

A is the head-block, and B is the rear axle-bed. C C are the reaches which unite the two, and E E are cross-bars, which are secured to the reaches at a short distance from the head-block and axle-bed, respectively, to support the ends of the springs or jacks D, and also to allow the front wheels to be cramped short in turning without touching the springs.

This part of the carriage is constructed after the patent issued to Francis Scherb, September 28, 1869, and we do not claim any novelty in it.

The C-springs D are, in the present case, made of steel, with as many leaves as may be necesssary to produce the requisite elasticity.

To the heads F of these C-springs are united the side springs G, which may be made continuous, as shown in Fig. 3; or they may be made in two parts, as in Fig. 2.

A shaft or bar, H, extends across beneath the middle of the wagon-bed, and when the spring G is made continuous, as in the first instance, the ends of this bar will pass beneath the center of the spring. A rubber or other elastic plate, *i*, is secured between the spring and the bar, to prevent wear.

If the spring is jointed, it may have its meeting ends bent around the end of the bar in the manner of a hinge, as at *j*.

Two other bars, *k k*, cross beneath the wagon-bed near each end, and the ends of these bars are flattened so as to form the upper leaf of the side spring, as at I, and bolted or clipped to the top of the springs G, at a point midway between the shafts H and the heads F. These shafts pass through the elastic cushions M, which are secured in boxes N beneath the wagon-bed, and as the ends of the shafts are firmly bolted to the springs, it will be manifest that any depression or change of angle in the springs will cause the shafts to rotate slightly within the cushion, and thus relieve the strain.

These cushions, also, by their elasticity, assist in relieving the jolt and strain of any end motion caused by the roughness of the road.

Adjusting-screws *o* press against the movable plates P in the boxes N, and thus serve to regulate the tension of the cushion, and take up any loss from the deadening of their cushions, the device thus forming an easy and comfortable carriage.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. The C-springs D, in combination with the side springs G G, substantially as and for the purpose set forth.

2. The supporting shafts or bars *k k*, secured to the springs G, and passing through the adjustable cushions M upon the wagon-bed, in combination with the springs G and C, substantially as and for the purpose herein described.

In witness whereof we hereunto set our hands and seals.

FRANCIS SCHERB. [L. S.]
FRANK F. DOLAND. [L. S.]

Witnesses:
W. A. ANDERSON,
C. M. BROWN.