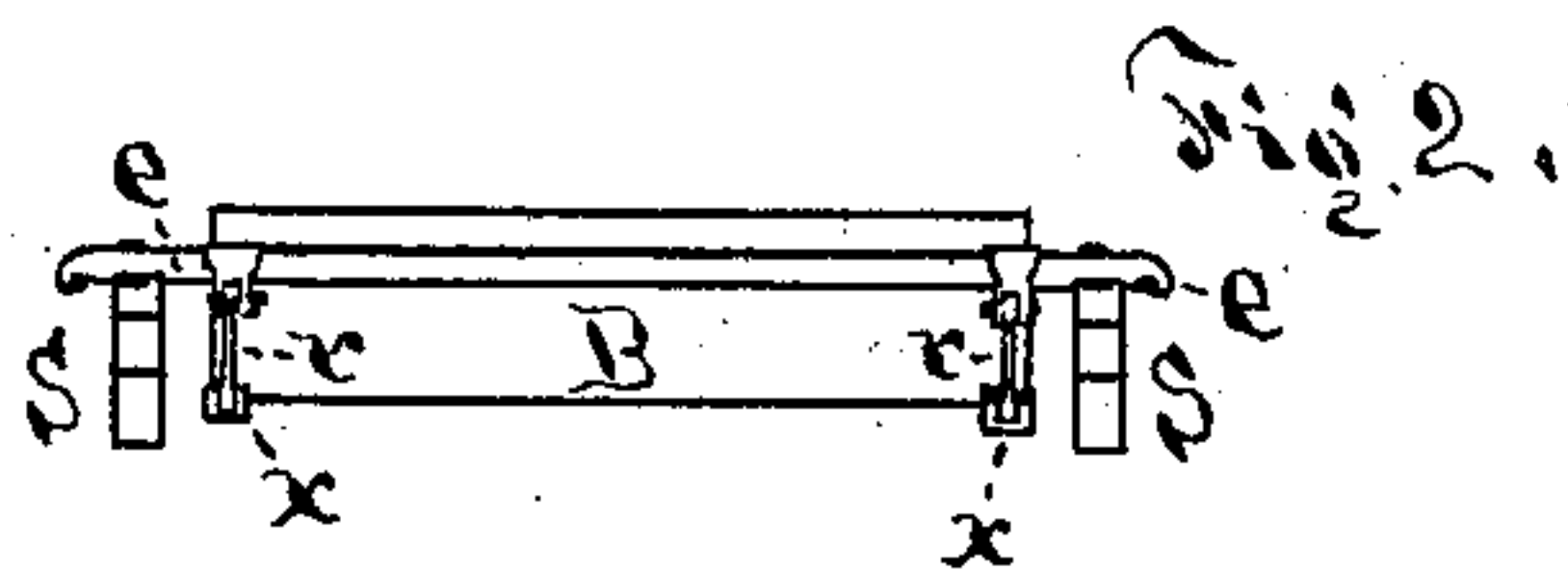
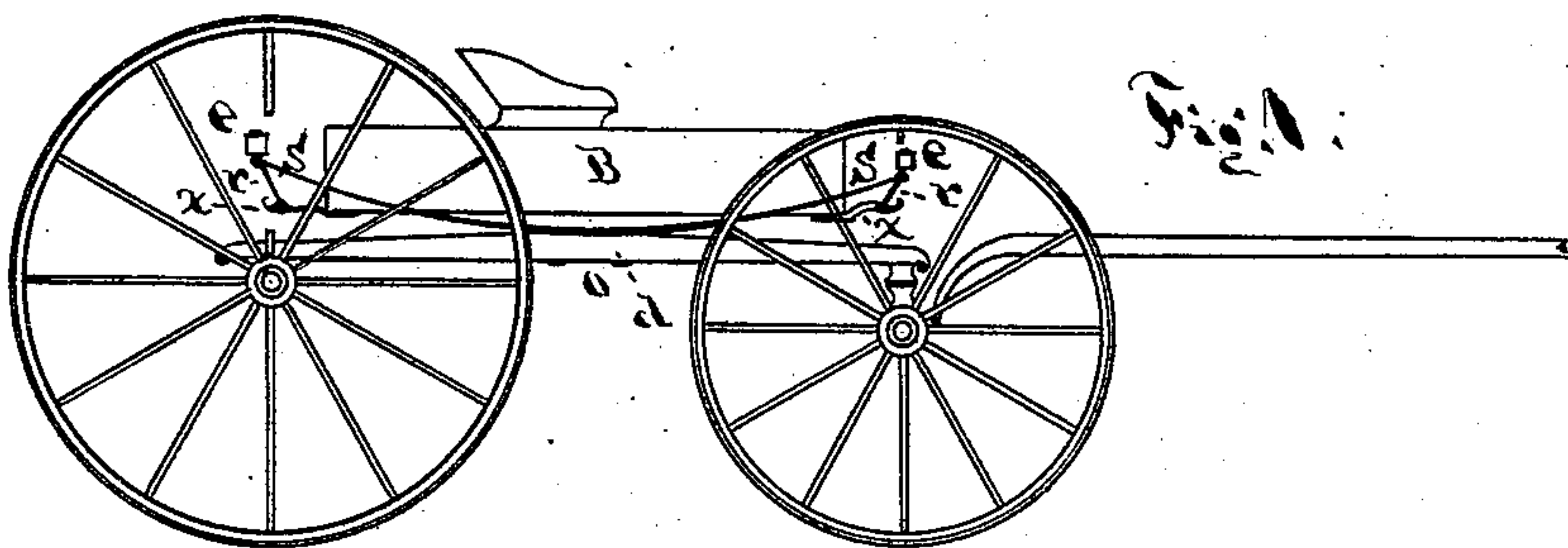


G. ASCHENAUER.
Vehicle-Spring.

No. 227,090.

Patented May 4, 1880.



Witnesses-
G. V. Smith
O. C. Fisk

Inventor-
George Aschenauer
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UNITED STATES PATENT OFFICE.

GEORGE ASCHENAUER, OF SACRAMENTO, CALIFORNIA.

VEHICLE-SPRING.

SPECIFICATION forming part of Letters Patent No. 227,090, dated May 4, 1880.

Application filed December 24, 1878.

To all whom it may concern:

Be it known that I, GEORGE ASCHENAUER, of the city of Sacramento, State of California, have invented a new and useful Improvement in Carriage or other Vehicle Springs, of which the following is a specification.

The invention relates to the manner of connecting and securing the springs.

The object of the invention is to provide a carriage with side springs, so that greater length of springs can be used, and to secure ease of motion and simplicity of construction.

In the accompanying drawings, Figure 1 shows a side elevation of a carriage embodying my invention. Fig. 2 is a detail.

Fig. 1 shows a side elevation of a carriage, in which S is one of the side springs attached to the side bar, *d*. One of the bars *d* runs on either side of the carriage, and they hold the axles together. The springs S are connected to these bars at *o*, said springs running parallel to the carriage-body B. The body B is provided with four projecting irons, *x*, which extend out from each corner of the body, and connected to each of these irons *x* are swinging-links *r*. The upper ends of these links are attached to a cross-bar, *e*. There are two of these cross-bars *e*, one located at each end of the body B, and are rigidly connected to the respective ends of the springs S. The bars *e* are straight and extend directly from the spring on one side to that on the other, to both of which, as stated, they are rigidly attached, and form a stiff and unyielding stay between the springs, rendering it impossible to move the bar or allow any lateral displace-

ment of the springs without their being detached from the bars. Being straight and stiff, the bars are less liable to be bent and change form and permit the springs to be drawn in toward the body than bars which are bent and have curves and angles liable to be drawn out by the weight of the load.

The bars *d* support the springs S, and the springs support the bars *e*, and to these bars are hung the links *r*, which support the body B through the medium of the irons *x*.

Fig. 2 shows the springs S, one of the bars *e*, and the body B, also the links *r*, by which the body is swung to the bars, and also the method of hanging the links to the bar by means of clips bent over said bar. The links are made swinging, so that they will adjust themselves to the springs as they change length while yielding or recovering.

I am aware that springs like mine have been made with an equalizing-bar turned down at sharp curves and forming the links, or answering the same purpose, and I lay no claim to such; but

What I do claim is—

The body B, provided with the projecting irons *x*, in combination with the springs S and straight bar *e*, extending from spring to spring and rigidly attached thereto, and the links *r*, connecting the body and the bar, all arranged as described, and for the purpose set forth.

GEORGE ASCHENAUER.

Witnesses:

G. V. SMITH,
O. C. FISK.