B. H. ROBERTS.

Carriage Spring.

No. 84,378. Patented Nov. 24, 1868.

Fig. 1.

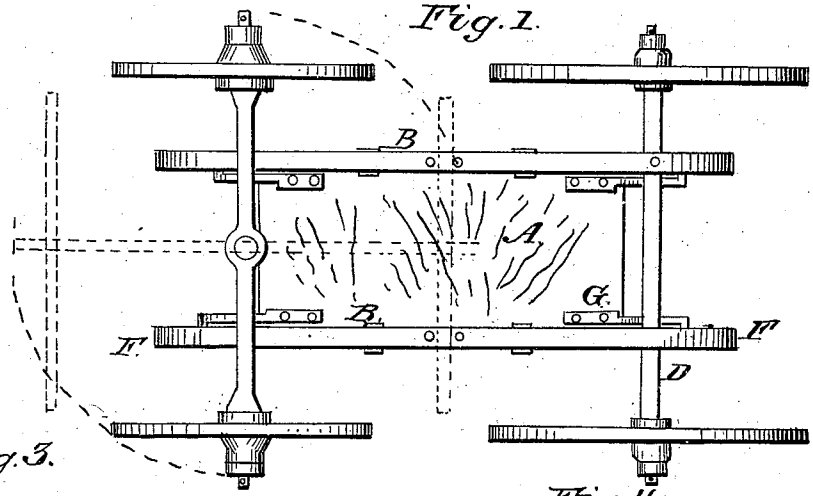


Fig. 3.

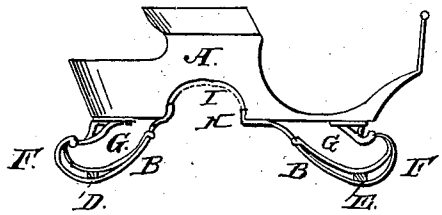


Fig. 4.

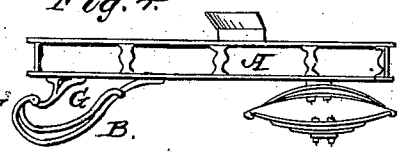
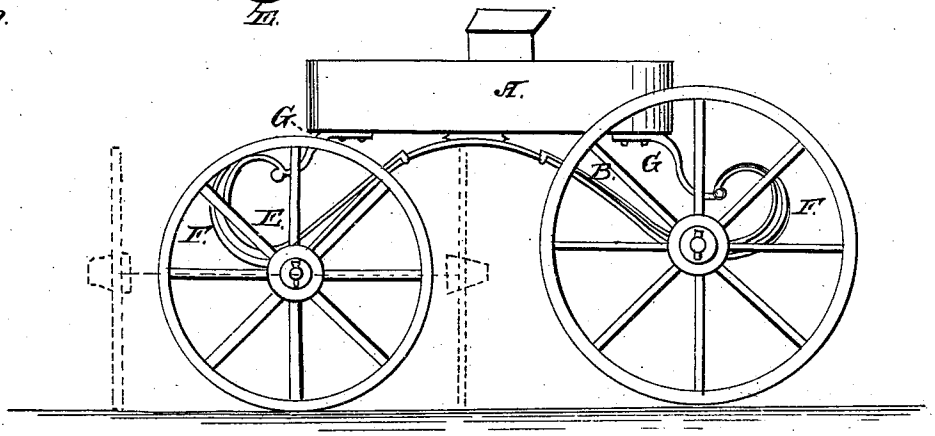


Fig. 2.



Witnesses.

Wm. Dennis

Daniel Breed

Inventor.

Benjamin H. Roberts

By his Atty J. Dennis Jr

United States Patent Office.

BENJAMIN H. ROBERTS, OF FALL RIVER, MASSACHUSETTS.

Letters Patent No. 84,378, *dated November* 24, 1868.

IMPROVEMENT IN CARRIAGE-SPRINGS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, BENJAMIN H. ROBERTS, of Fall River, Bristol county, in the State of Massachusetts, have invented certain new and useful Improvements in Carriage-Springs; and I hereby declare the following to be a full and exact description thereof, reference being had to the accompanying drawings, forming part of this specification.

Figure 1 is a bottom view of a carriage, with my improved springs.

Figure 2, a side elevation.

Figures 3 and 4 represent certain modifications, to be presently described.

The essence of my invention consists in applying to the body of the carriage, about midway between the two ends, elliptical springs, extending lengthwise under the sides to the axle or rocker, or both, and having their outer ends, beyond the axle or rocker, turned or bent up and over to form C-springs, to be also connected to the body at the front and rear ends; also, in placing a part of each spring upon and a part beneath the axle or rocker, and securing the whole together at the intersection.

In the following more exact description of my invention, I shall refer to the drawings hereinbefore mentioned.

The body, A, is supported in the middle by the elliptic springs B B, each extending from the hind axle D to the rocker E over the fore axle, and having their outer ends bent up and over to form the C-springs F F, which are connected to the ends of the body by the braces or brackets G G, as shown in the drawing.

One part of each spring passes over and another part beneath the axle D, as shown in fig. 3, the axle being secured between them by a bolt or bolts passing through the whole, or by suitable clips, as may be preferred, and the rocker E is secured between two parts of the spring, in like manner.

With the above-described construction and arrangement no reach-pole is required. The forward wheels are allowed to pass freely under the body in turning, and a simple, elastic, and exceedingly well-distributed support furnished to the body of the carriage and its load.

I contemplate, in some cases, dividing the elliptic springs, and attaching the forward and rear parts to the body, separately, as shown in fig. 3, to leave room for an open space, H, through the body, for a larger wheel to pass under, or to permit the body to be hung lower; or the forward and rear parts of the spring may still be connected by a strap, I, passing around or over the open space H, as shown in dotted lines.

If preferred, one end of the body may be supported by my springs, and the other by a different kind, as shown in fig. 4.

Having fully described my invention,

What I claim, and desire to secure by Letters Patent, is—

1. In combination with the elliptic springs B B, the C-springs F F, formed by an extension of the ends of the elliptic springs, substantially as described.

2. In combination with the C-springs F F formed by an extension of the elliptic springs, the braces or brackets G G for connecting the C-springs to the body of the carriage, substantially as described.

3. The arrangement of the axle and rocker between two parts of the elliptic springs, substantially as described, and for the purposes set forth.

BENJAMIN H. ROBERTS.

Witnesses:

STEPHEN B. GIFFORD,

ROBERT L. CHACE.