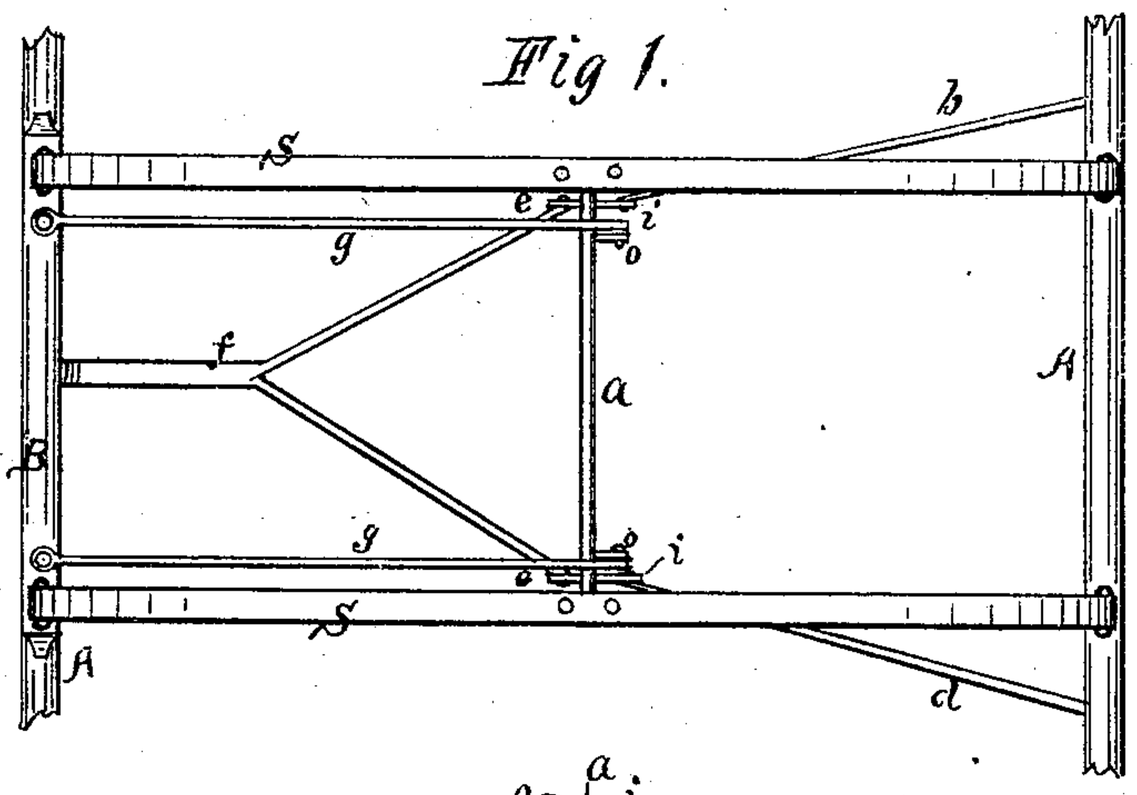
E. P. CARTER.

Running-Gears of Skeleton Wagons.

No. 146,986. Patented Feb. 3, 1874.

Fig 1.



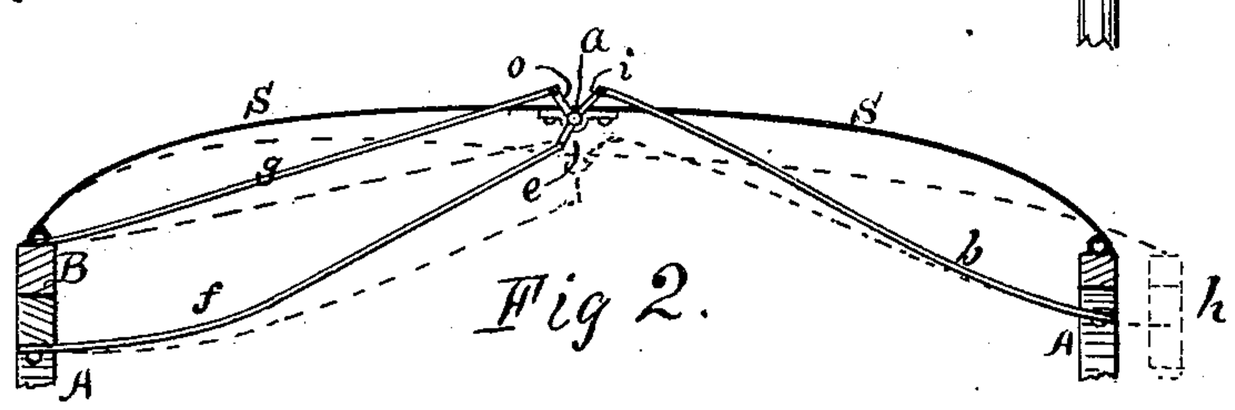


Fig 2.

Witnesses.
G. I. Finigan, Jr.
E. B. Sinbzenich

Inventor:
E. P. Carter
By Wm. S. Coughborough
Atty

UNITED STATES PATENT OFFICE.

EGBERT P. CARTER, OF ARCADE, NEW YORK.

IMPROVEMENT IN RUNNING-GEARS OF SKELETON-WAGONS.

Specification forming part of Letters Patent No. **146,986**, dated February 3, 1874; application filed April 3, 1873.

CASE B.

To all whom it may concern:

Be it known that I, EGBERT P. CARTER, of Arcade, in the county of Wyoming and State of New York, have invented certain Improvements in the Running-Gears of Skeleton-Wagons, of which the following is a specification:

This invention relates to an equalizing device for side-spring buggies, which is applicable to that class of skeleton-wagons in which the springs and braces constitute the reach; and it consists in the employment of a rock-shaft or bar hung upon the springs, and provided with several arms, to which the braces are attached in such a manner as to cause both springs to settle equally at all times, and also to cause the axles to constantly preserve their proper vertical position.

Figure 1 is a top or plan view of my invention. Fig. 2 is a sectional elevation of the same.

It is well known that skeleton-wagons, in which the springs also act as a reach, are very desirable, except that, when the springs settle, by the weight of the load, &c., the axle-trees are "rolled inward" proportionately, and, consequently, the "gather" and "pitch" of the axle-arms are constantly varying, which causes the vehicle to run hard. I entirely obviate this difficulty by connecting the braces of both axles to the springs at a point sufficiently above the plane of the lower side of the axles, where the other ends of the braces are attached, to prevent the load from ever forcing the center of the springs below said plane.

A represents the axles; S, the springs; *a*, the equalizer; *b* and *d*, the rear braces; *f*, the front brace, which is bifurcated; *g*, braces to counteract the rolling tendency of the bolster B, on account of the point of attachment of the springs to it being so far above axial line of the forward wheels. The seat or a body may be bolted to the springs over the equalizing-bar.

It will be seen that, by this arrangement, when either spring is caused to settle, the opposite one is forced to settle also, and equally, and the consequent elongation of the springs causes the front and rear axles to separate or part, as indicated at *h*, the change or movement being parallel, however, owing to the action of the equalizing-bar.

The proper position of the axles vertically is effectually secured at all times without a reach by means of the braces *b*, *d*, and *f*, being connected to the springs at a point somewhat above the plane of the lower side of the axles, where the opposite end of the braces are attached, while the springs are connected to the upper side of the rear axle, and to the top of the bolster. This effect would be the same if the braces were attached to a rigid rod, or a projecting bolt fixed to the springs, instead of to the rock-shaft; but the parts, in that case, would not be retained in a parallel position without a reach.

The front and rear braces are connected to arms *e* and *i*, projecting from opposite sides of the rock-shaft *a*.

The spring-braces *g* are pivoted to separate arms *o*, projecting from the upper side of the rock-shaft.

The springs are hinged to the axle and bolster by a staple or other suitable clip.

What I claim as my invention is—

1. The combination, with the half-springs S, front and rear braces *f*, *b*, and *d*, and the rock-shaft *a*, of the brace-rods *g*, as set forth.

2. The combination of the half-springs S, front and rear braces *f*, *b*, and *d*, and the rock-shaft *a*, connected with the springs above the lower side of the axles, so as to operate substantially in the manner and for the purposes set forth.

3. The curved side springs S, in combination with the front and rear braces *f b d* and the rock-shaft *a*, constructed to operate substantially in the manner and for the purposes shown and described.

E. P. CARTER.

Witnesses:
WM. S. LOUGHBOROUGH,
PATRICK MCINTYRE.