(No Model.)

2 Sheets—Sheet 1.

G. DILLIG.

WAGON SPRING.

No. 272,219. Patented Feb. 13, 1883.

Fig. 1.

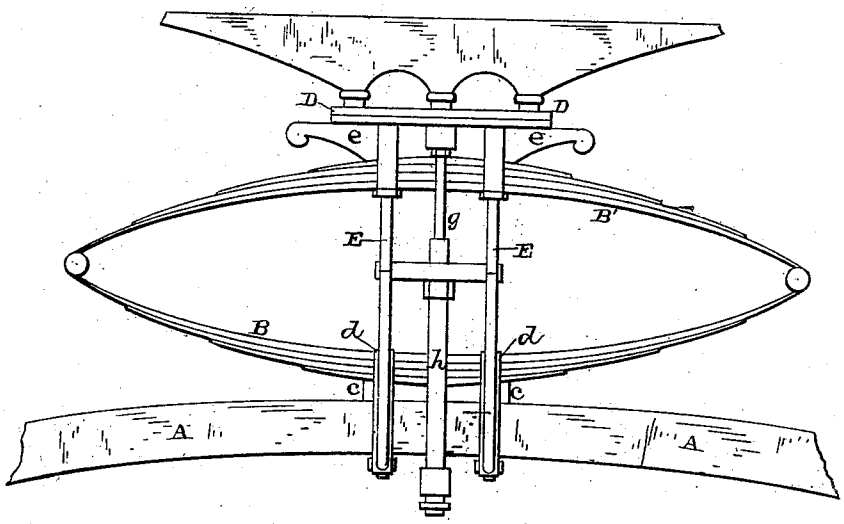
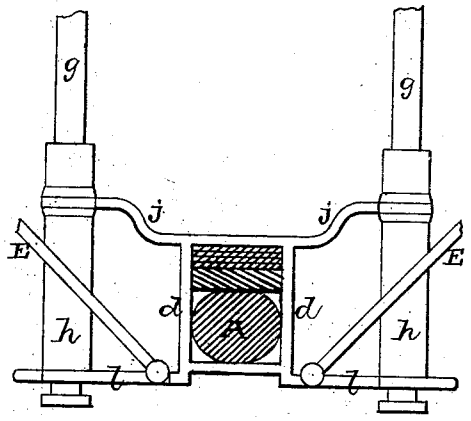


Fig. 2.



Witnesses.
Louis F. Gardner
W. H. Kern

Inventor:
Geo. Dillig,
per
F. A. Lehmann,
Atty

N. PETERS. Photo-Lithographer, Washington, D. C.

(No Model.)

2 Sheets—Sheet 2.

G. DILLIG.

WAGON SPRING.

No. 272,219. Patented Feb. 13, 1883

Fig. 3.

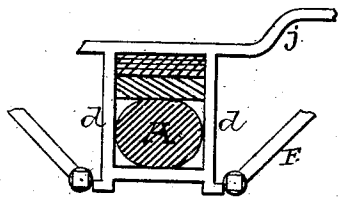


Fig. 4.

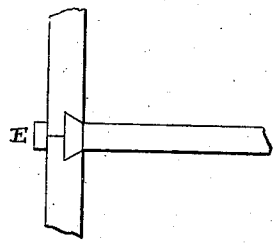


Fig. 5.

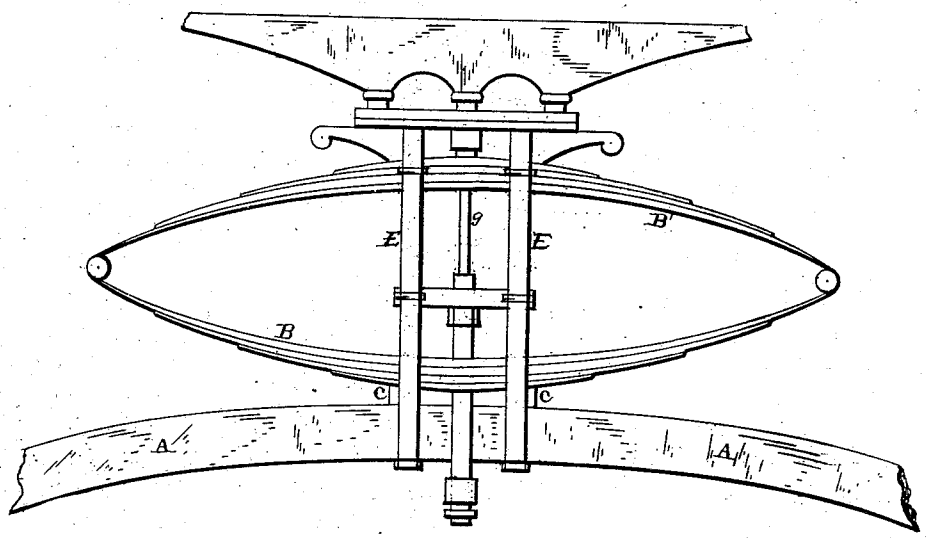
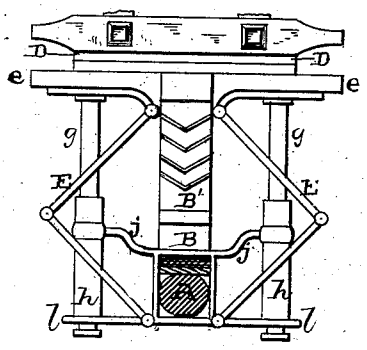


Fig. 6.



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UNITED STATES PATENT OFFICE.

GEORGE DILLIG, OF MILLVALE, PENNSYLVANIA.

WAGON-SPRING.

SPECIFICATION forming part of Letters Patent No. 272,219, dated February 13, 1883.

Application filed September 18, 1882. (No model.)

To all whom it may concern:

Be it known that I, GEORGE DILLIG, a citizen of the United States, residing at Millvale borough, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Spring-Wagons and other Vehicles, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to an improvement in spring-wagon gear; and it consists in providing braces for elliptic springs to prevent their swaying back and forward, and in affixing the springs to the front axles to turn to either side with the axle; and it consists, also, in placing the fifth-wheel on top of the springs instead of on the axle, as will be fully described hereinafter.

In the usual manner of constructing spring-wagons the elliptic springs are only secured by clips and bolts, without a brace to support them against sudden shocks when the wheels meet abrupt obstacles. The strain on the hold of the springs is then so great that, unsupported as they are by anything but the clips, they soon become loose, lean forward, and finally break down. To prevent this a chain is frequently fastened to the rear of the front springs and to the coupling; but this does not entirely effect the aim.

To secure the springs in their proper position, I attach jointed arms in front and rear of the clips by which the springs are held on the front axle, and to those by which the bolster on top of the same springs is secured. These arms bend up or down with the springs when compressed or expanded, prevent their yielding back or forward, and, being jointed in the middle as well as at top and bottom, follow the vertical motion of the springs, be it ever so slight, without obstructing it; and to resist a lateral pressure against the springs I fasten a rod under the bolster carrying the fifth-wheel on top of the springs, in front and rear of the springs, which rod or rods slide vertically up or down in a socket attached to the middle of the axle.

The accompanying drawings represent my invention. Figures 1 and 5 are side elevations of my invention. Figs. 2, 3, 4, and 6 are detail views.

A represents the axle of a wagon, to which the springs B and an intervening small bolster, *c*, are attached by means of two clips, *d*. On top of the springs B′ is a larger bolster, *e*, in the form of a cross, also attached by two clips to the springs, which bolster carries the fifth-wheel D. The front and rear of the four clips clasping the springs B and B′ form points of attachments for the joints at the ends of four projecting arms, E, that have elbow-joints at their middle, and are joined in pairs at the front and rear of the springs by cross-bars at their middle. The bent arms form a more or less acute angle, according to the pressure on the springs, and serve to prevent their leaning or bending forward when the wheels of the wagon violently encounter obstacles.

Under the front and rear of the cross-piece in the bolster *e* are bolted rods *g*, that extend vertically downward in front and rear of the springs B′. The lower ends of these rods enter sockets *h*, that are braced by arms *j* extending from the top of a clip on the center of the springs B, and are supported at their bottoms by other arms, *l*, projecting horizontally from under the center of the axle A. The rods *g* fit closely in the sockets *h*, and form with them stays or braces that resist lateral motion of the springs, but slide up or down in accordance with their expansion or compression.

By my improvement all forward as well as lateral motion of the springs is effectually prevented, and no concussion, however violent, can dislodge them.

Having thus described my invention, I claim—

1. The combination of the axle A, clips *d*, sockets *h*, cross-bars *j l*, and rods *g*, arranged to act in connection with a spring, substantially as shown.

2. The combination of the axle A, the spring B, the clip provided with the brace-rods for the sockets, the rods *g*, and the jointed arms E, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE DILLIG.

Witnesses:

LOUIS MOESER,

LOUIS L. GARDNER.