(No Model.)

A. J. FROMM.

WAGON SPRING.

No. 251,037. Patented Dec. 20, 1881.

Fig. 1

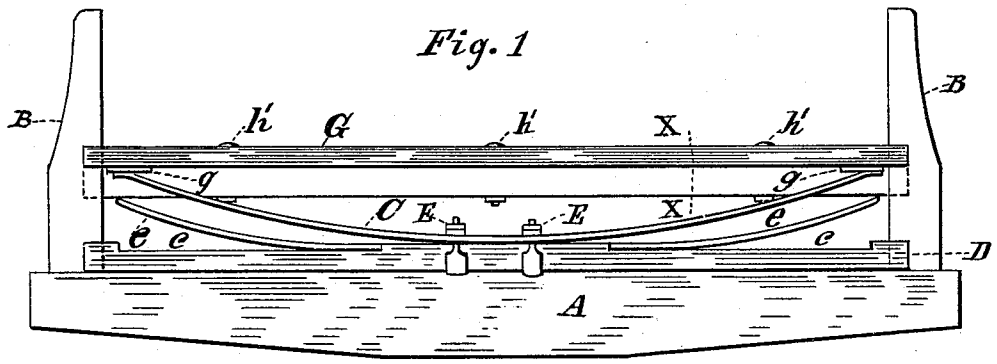


Fig. 2

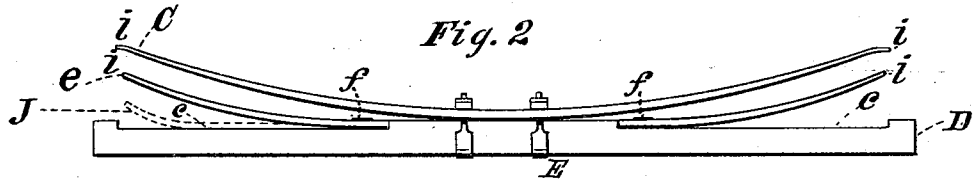


Fig. 3

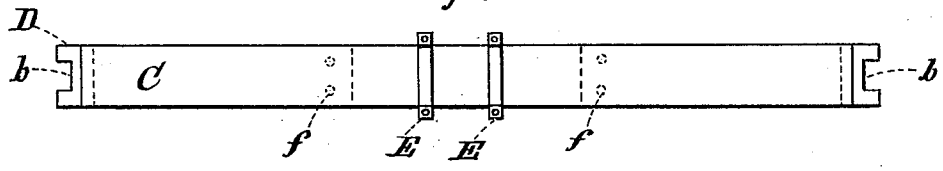


Fig. 4

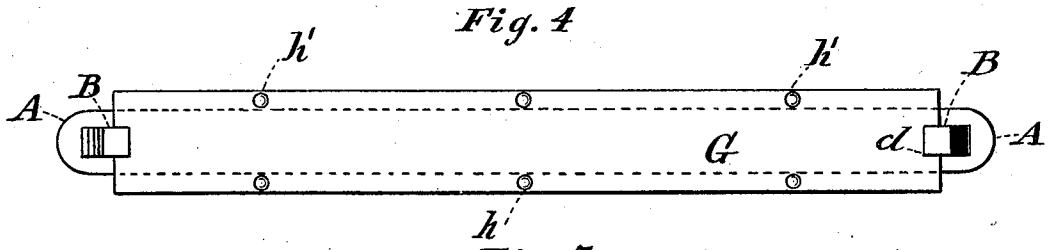
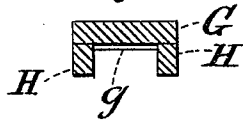


Fig. 5



Witnesses,
Emory Cummings
Hugh Sangster.

Inventor
Alfred J. Fromm.
By James Sangster,
Atty.

UNITED STATES PATENT OFFICE.

ALFRED J. FROMM, OF ELBA, NEW YORK.

WAGON-SPRING.

SPECIFICATION forming part of Letters Patent No. 251,037, dated December 20, 1881.

Application filed November 9, 1881. (No model.)

To all whom it may concern:

Be it known that I, ALFRED J. FROMM, a citizen of the United States, residing in Elba, in the county of Genesee and State of New York, have invented certain new and useful Improvements in Wagon-Springs, of which the following is a specification.

The object of my invention is to provide a simple and durable device adapted for light or heavy loads; and it consists of two or more upwardly-curved springs, one set arranged below the other, and having their bearing or load-sustaining points at or nearly the same distance from the center, in combination with their connecting and supporting parts, whereby a strong and convenient device is produced and the tendency to rock is avoided under either a light or heavy load, as will be more clearly hereinafter shown by reference to the drawings, in which—

Figure 1 is a front elevation of the device attached to a wagon-bolster, one of the sides of the upper supporting-bar being left off, so that both springs are shown. Fig. 2 is a front view of the springs and their lower supporting-bar. Fig. 3 is a top view of the same. Fig. 4 represents a top view of the bolster and the upper supporting-bar which rests on the springs; and Fig. 5 is a cross-section through the upper supporting-bar in line X X, Fig. 1.

A represents an ordinary wagon-bolster; B, the usual upright bars.

C is the upper curved spring, adapted for light loads. It is connected to a removable bar, D, by the usual connections, E; but bolts or rivets may be used. The bar D is made of wood or other suitable material, and is provided with openings *b* at each end to fit over the vertical bars B, so as to hold it in place. It is also provided with depressions *c* to receive the lower curved springs, *e*, which adapt the device for heavy loads. They are fastened to the bar D by rivets *f*; but bolts, screws, or other equivalent devices may be used.

G represents the supporting-bar upon which the body of the wagon rests. It is provided with openings *d* at the ends to fit over the bars B, so as to be kept securely in place and be capable of an easy up-and-down movement. It rests upon the springs C, a metallic plate, *g*, being fastened near each end to rest on said spring and avoid the wearing of the wood. It is also provided with side pieces, H, secured thereto by bolts or screws *h'*, to partly inclose and protect the ends of the upper spring.

Heretofore the supporting-points of the springs for heavy loads have been nearer the center than the supporting-points of the springs for light loads. Consequently the tendency to rock is greater under a heavy than it is under a light load.

The object of my invention is to obviate this objection; and from the foregoing description and accompanying drawings it will be seen that the liability to rock is no greater under a heavy load than it would be under a light load, because the outer supporting-ends, *i*, of the upper and lower springs are the same distance, or nearly so, from the center, so that when the load is sufficient to overcome the springs C its ends will rest upon the ends of the springs *e*; and it will be further seen that the springs *e* will rest more and more on the supporting-bar D as the load increases (see dotted lines J in Fig. 2) and the point of rest increases or moves farther from the center toward the ends of the springs, so that the liability to rock decreases as the load becomes greater.

I claim as my invention—

The bar D, provided with the lower curved springs, *e*, and upper curved springs, C, connected thereto, substantially as specified, in combination with the bolster A, vertical bars B, and upper supporting-bar, G, the whole arranged for joint operation, as and for the purposes described.

ALFRED J. FROMM.

Witnesses:

AUGUST W. FROMM,

HENRY J. PARKER.