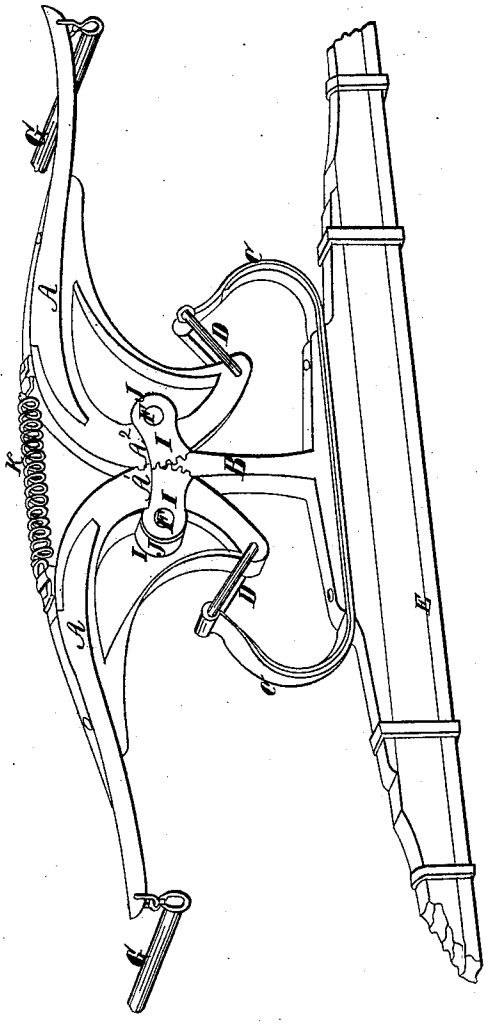
G. H. LAUB.

Carriage-Spring.

No. 29,605 Patented Aug 14, 1860.

Fig. 1



Witnesses:
H. E. Clifton
D. N. B. Coffin Jr.

Inventor:
G. H. Laub

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

G. H. LAUB, OF NEWARK, MISSOURI.

CARRIAGE-SPRING.

Specification of Letters Patent No. 29,605, dated August 14, 1860.

To all whom it may concern:

Be it known that I, G. H. LAUB, of Newark, in the county of Knox and State of Missouri, have invented a new and useful Improvement in Carriage-Springs; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The nature of the invention consists in the arrangement and combination of compound flat and curved springs with curved lever arms controlled by segment gear, and a spiral spring in manner hereinafter described.

With reference to the accompanying drawings, which comprise a perspective representation of my improvement, an axle, &c., illustrating its application, E, is an axle.

C, are a pair of curved leaf springs and B, a stand which is bolted together with springs C, to the axle E. The stand B, is furnished with the ears I, between which are fitted the curved portion of arms A^1. On this curved part of the arms is formed gear teeth meshing into each other, the teeth on the one arm meshing into and controlling the movement of those on the other. These gear teeth are arranged on the curve of a circle whose center is in the center or axis of pins F, these pins pass through the ears I, of stand B, and the protuberances J, formed upon arms A^1 to receive them so jointing said arms A^1, to the stand B. The lower ends of arms A^1, are connected to the springs C, by means of the links D, while from one to the other of these arms above their connection with stand B, is stretched and secured to each the spring K.

G, represents the points of connection to the carriage bed or other intermediate connections.

It is to be remarked that the invention here is not confined to a single spring, nor to a pair of springs operating together in one direction; except when such pair of springs is controlled and regulated by other mechanism. Thus, the two flat curved springs C, C, operate together on the lower part of arms A^1 by means of links, D; but the intermeshing cogs or gear teeth on the contiguous parts of said arms, so regulate and control the action of the arms that a movement of the arm of one side will produce a corresponding movement of the arm on the other side. But, suppose the whole controlling action were to be left on the cogs, it is quite certain that any sudden or violent movement on the one hand, or a heavy laden carriage and rough road on the other, might give rise to breaking of the cog teeth from sudden strain thrown upon the teeth. To obviate these inconveniences I have added a further controlling agency, namely the spiral spring K, arranged horizontally on a line with the top of the arms A. The parts of the devices which are involved in this invention are therefore the flat compound springs C, C, the segment gear teeth in arms A^1, A^1, and the controlling spiral spring K.

The effect of my improvement; as it will be observed by reference to the drawing, is that any pressure applied at either point G, is transmitted equally to all the several springs, or at least to the springs C, the spring K, bearing its due proportion, and whatever deflection occurs at the one point G, must occur equally at the other point G, by reason of its effect being transmitted through the segment gears on arms A^1 from one arm to the other, thus securing in all cases the proper horizontal position of the carriage bed notwithstanding the load or pressure may be all on one side thereof.

A spring may be formed on the lower end of arm A^1, and the link D, attached thereto, in which case a rigid fixture may take the place of spring C, and the link D, be attached thereto instead. The parts may be made of any suitable materials.

Having described the construction and operation of my improvement what I claim as new, and desire to secure by Letters Patent, is as follows:

The arrangement and combination of flat curved springs C, C, and arms A, A^1, when said arms are controlled by the segment gear on the contiguous portion of said arms, and by the action of spiral spring K, as described and represented.

In testimony of which invention I have hereunto set my hand in presence of witnesses.

G. H. LAUB.

Witnesses:

H. E. CLIFTON,

D. N. B. COFFIN, Jr.