

(No Model.)

G. F. KOHNLE & F. F. KEELER.
BOLSTER SPRING.

No. 550,980.

Patented Dec. 10, 1895.

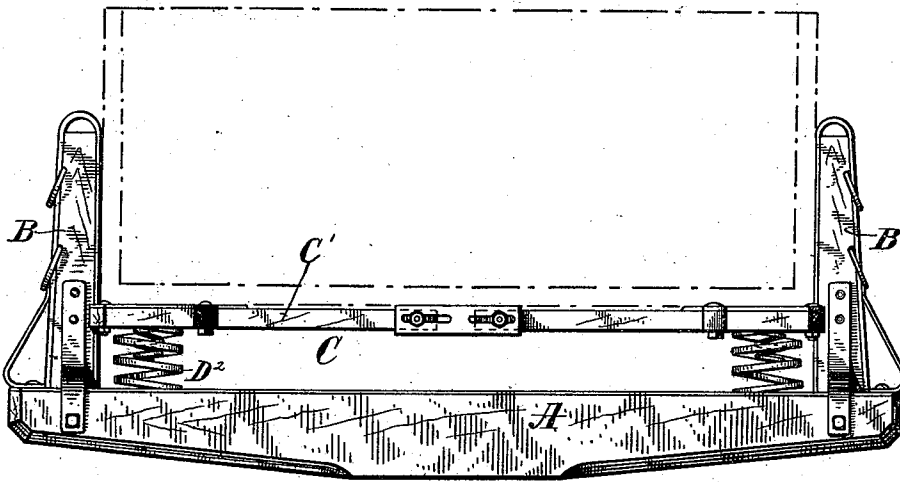


Fig. 1.

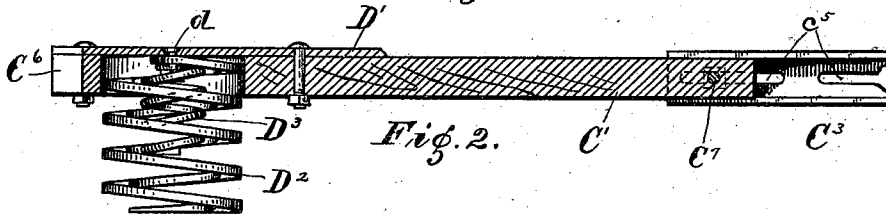


Fig. 2.

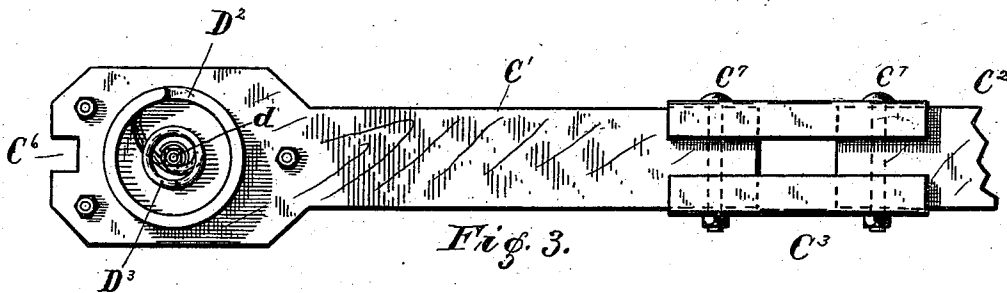


Fig. 3.

Witnesses:

F. W. Koerner.
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Inventors.

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UNITED STATES PATENT OFFICE.

GEORGE F. KOHNLE AND FRANK F. KEELER, OF INDIANAPOLIS, INDIANA.

BOLSTER-SPRING.

SPECIFICATION forming part of Letters Patent No. 550,980, dated December 10, 1895.

Application filed April 1, 1895. Serial No. 544,002. (No model.)

To all whom it may concern:

Be it known that we, GEORGE F. KOHNLE and FRANK F. KEELER, citizens of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Bolster-Springs; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The objects of this invention are, first, to provide a system of springs to be used on farm and other wagons and to be applied by placing the springs upon the bolster between the bolster and the bed of the wagon; second, to provide a plurality of springs so adjusted that a light or a heavy load will ride with equal buoyancy, and, third, to provide an adjustable construction whereby the device can be fitted to any width of wagon and can be extended in case the bolster-stakes should spread.

We accomplish the objects of the invention by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a view in front elevation of a wagon-bolster with our improved spring attachment applied. The dotted lines indicate the position of the wagon-bed. Fig. 2 is a detail in vertical longitudinal section of one-half of the cross-bar, showing the springs in one end and a portion of one of the coupling-plates by which the two sections are joined. Fig. 3 is an under-side view of the detail shown in Fig. 2.

Similar letters refer to like parts throughout the several views of the drawings.

A represents the bolster, and B the standards, both of any usual or desired construction.

C is a cross-bar made in two sections C' and C², the line of division being approximately midway between the ends of the bar.

C³ is a two-part coupling-plate each of the sections of which is U-shaped in cross-section. The ends of the cross-bar are impinged between the two sections, as shown in Fig. 3, and are securely held by means of the bolts C⁷. Longitudinal slots c⁵ are provided in each end of the two sections of the coupling-plate, through which the bolts will be pro-

jected and whereby the two sections of the cross-bar will be made to approach or will be separated from each other, thereby lengthening or shortening the cross-bar to suit the distance between the standards.

C⁶ are notches in each of the outer ends of the cross-bar to engage the standards which form guides to permit vertical movement of the cross-bar. The ends of the cross-bar next to the standards are expanded to form the seat for the spiral springs D² and are provided with under-side openings to receive the springs.

D' is a plate which is bolted to the cross-bar and forms a covering to the opening in the bar.

D² are spiral springs, one of which will be applied between the bolster and the cross-bar at each end of the cross-bar, as shown in Fig. 2. The upper end of the spring will be projected into the seat or opening in the end of the bar and will be bolted to the plate by means of the bolt d. The lower end of the spring will rest on the top of the bolster. These springs will be strong enough to give buoyancy to an average load, but will be inefficient when the wagon is heavily loaded. We therefore provide the additional auxiliary springs D³, which come into play only when the load exceeds the average weight. The coil-springs D³ are smaller in diameter than the springs D² and for greater convenience will be placed within the springs D², as shown in the drawings, and will be secured to the plate D' by the same bolt d that secures the larger springs. The springs D³ are shorter than the springs D². Consequently they do not act in sustaining the load until the large outside springs have been compressed sufficiently to allow the inner springs to touch the bolster.

The construction as above described will be duplicated for both front and rear bolsters.

Having thus fully described our invention, what we claim as new, and wish to secure by Letters Patent of the United States, is—

In a bolster spring, a bar reaching from one of the bolster standards to the other and having notched ends to engage the bolster, and having expanded ends with openings there-through and a metal plate covering the openings in said ends and having spiral springs

arranged in pairs within each of said openings in the ends of the bar and bolted to the plate covering the bar, said pair of springs consisting of a strong outside spring and a
5 lighter and shorter spring located within the inclosure formed by the outside spring whereby the support from both long and short springs is maintained near the outer edge of the load, and said bar being divided trans-
10 versely midway of its length and joined together with a pair of coupling plates bolted on opposite sides of the bar so as to join the two ends together, said plates having integral flanges to engage the upper and lower sides
15 of the bar, and having longitudinal slots near

both ends of each of said plates, and having bolts passing through the slots in the plates and through the ends of the bar, substantially as described, whereby the bar may be adapted to the distance between the standards, and
20 the springs kept always under the outer edge of the load.

In testimony whereof we affix our signatures in presence of two witnesses.

GEO. F. KOHNLE.
FRANK F. KEELER.

Witnesses:

G. L. SULLIVAN,
JOSEPH A. MINTURN.