(No Model.) 2 Sheets—Sheet 1.

W. S. BACON & S. L. HOLSINGER.

VEHICLE.

No. 453,954. Patented June 9, 1891.

Fig. 2.

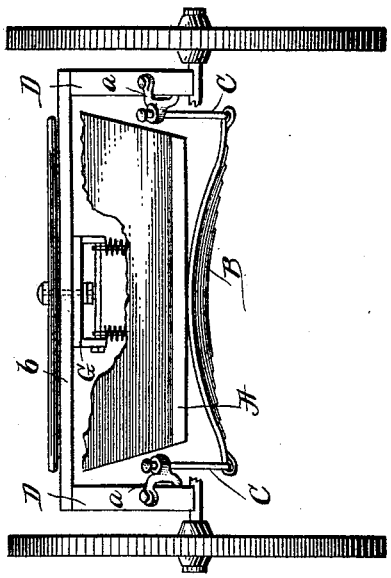
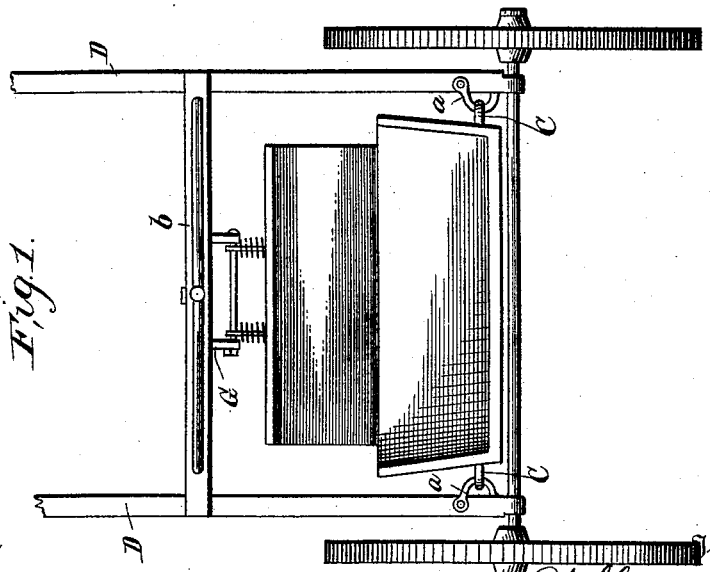


Fig. 1.



Witnesses
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Myers & Co

(No Model.) 2 Sheets—Sheet 2.

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Fig. 4.

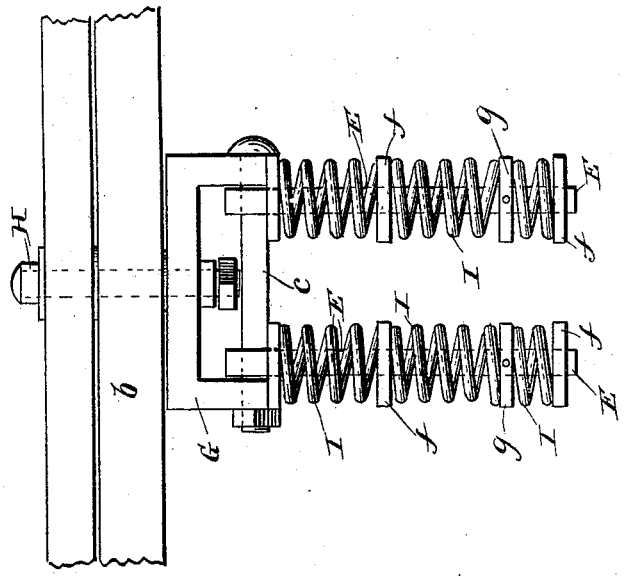
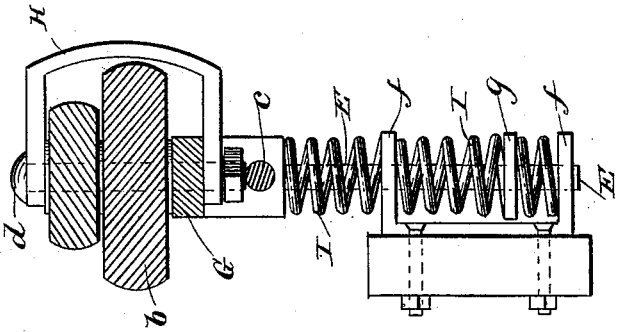


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM S. BACON AND SAMUEL L. HOLSINGER, OF TIFFIN, OHIO.

VEHICLE.

SPECIFICATION forming part of Letters Patent No. 453,954, dated June 9, 1891.

Application filed February 25, 1891. Serial No. 382,762. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM S. BACON and SAMUEL L. HOLSINGER, citizens of the United States of America, residing at Tiffin, in the county of Seneca and State of Ohio, have invented certain new and useful Improvements in Vehicles, of which the following is a specification, reference being had therein to the accompanying drawings.

Our invention relates to certain improvements in vehicles, having for its object to neutralize the side and horse motion; and it consists in pivotally suspending the body centrally at its front end and pivotally supporting the body-supporting spring or springs, substantially as hereinafter set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of our improved vehicle. Fig. 2 is a rear elevation thereof. Fig. 3 is a vertical longitudinal section of the same. Fig. 4 is a detail perspective view of the front end supporting contrivance of hanger of the body.

In the embodiment of our invention we support the rear or back end of the vehicle body or bed A upon the transverse spring or springs B, secured centrally thereto and having its ends pivotally connected to the lower ends of suspending or link rods C, whose upper ends are likewise connected to horizontal pivots *a*, projecting from the shafts or thills D. This arrangement, it will be seen, provides for the easy or gentle swaying of the body or bed, instead of being subjected to the jarring or jumping action of the wheels or shafts, as in traveling over rough roads, thus relieving the occupant of the vehicle of that annoyance.

The body or bed A is pivotally supported or suspended centrally of and at its front end from the cross-bar *b* of the shafts or thills D, to which the whiffletree is attached. This is effected by means of pendent rods or hangers E E, having their upper ends pivotally connected to a clip by a rod-bolt *c* therethrough, and held in place, as usual, by its head and nut, said rods passing through eye lugs or brackets *f*, projecting from the first slat of the vehicle body or bed.

The rods or arms E are encircled or provided with springs I, one series being arranged between the downwardly-projecting or eye portions of the clip G and the upper eye lugs or brackets *f*, a second series being arranged between said lugs or brackets and the nuts *g* on said rods, and a third series being arranged between said nuts and the lower eye lugs or brackets *f*. The object of these springs is to relieve the occupant of the vertical motion especially arising from the trotting action or motion of the horse and transmitted through the shafts or thills, so annoying and wearing to the occupant, while the motion that would disagreeably effect the body is taken up or compensated by the springs I, more particularly the upper ones, serving as cushions upon the lugs or brackets *f*. The lowest series of springs have the effect to prevent the lower eye-lugs *f* from striking the nuts *g*, consequently preventing a clicking noise, as would otherwise be the case. The nuts *g* are fixed or riveted upon the rods E, or they may be adapted to be screwed up and down thereon. The lowest springs, if desirable, may be dispensed with by so lengthening or extending downward the rods E, and accordingly isolating the lower brackets or eye-lugs *f*, that ample play may be afforded the rods against the action of the springs to prevent the contact of said lower eye-lugs with said nuts.

Embracing the whiffletree and cross-bar *b* of the thills or shafts and the cross-bar of the clip G is a yoke H, through which and said whiffletree and cross-bar is passed the rod-bolt *d*, held thereto by a nut, a washer being placed upon said rod-bolt between said cross-bar and whiffletree, and also between the cross-bar *b* and clip G. This provides for the axial movement of the clip G upon the rod-bolt *d*, accommodating the body or bed suspending arms or straps to the lateral swaying or oscillatory motion of the bed or body the pivotal connection effected between the clip and the arms by means of said rod-bolt providing for the hinging or pivoting of the front end of the body or bed as necessary to accommodate the downward yielding movement of the rear end or seat portion of the body under the weight of the occupant.

Having thus fully described our invention, we claim—

1. The combination, with the vehicle-body and the shafts or thills, of the spring-encircled pendants or rods passing through brackets

connected to said vehicle-body, and the clip having an axial pivot-bolt connection with the thill or shaft cross-bar, and a pivot-bolt connection with said spring-encircled pendants or rods arranged at right angles to the aforesaid pivot-bolt connection, substantially as set forth.

2. The vehicle having its body or bed suspended in position at the front end by means of hangers or rods passing through eye-lugs projecting from the body and encircled by springs, arranged one series between the upper ends of said rods and the upper eye-lugs, a second series arranged between said lugs and nuts on said rods, and a third series arranged between the lower eye-lugs and said nuts, substantially as set forth.

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

WILLIAM S. BACON.
SAMUEL L. HOLSINGER.

Witnesses:
WILLIS BACON,
JOHN E. DIEMER.