

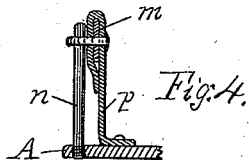
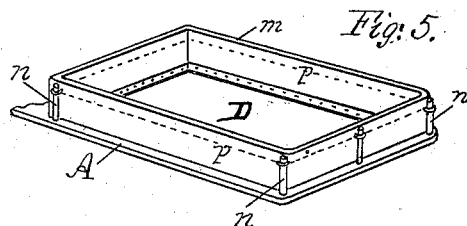
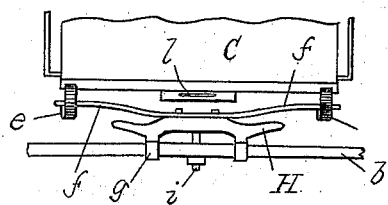
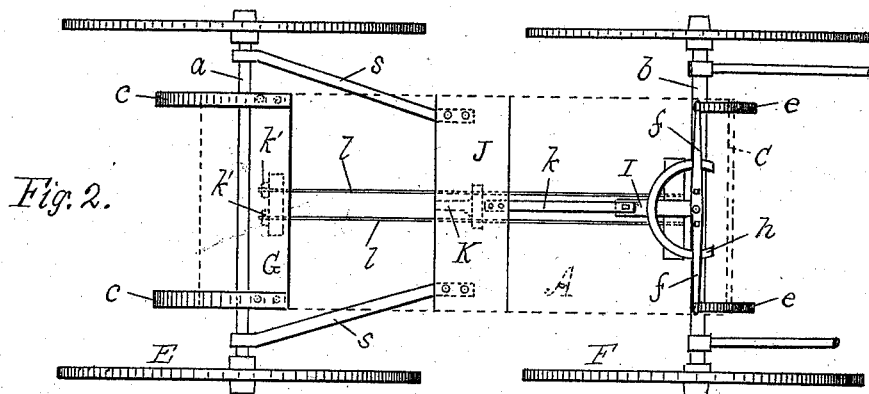
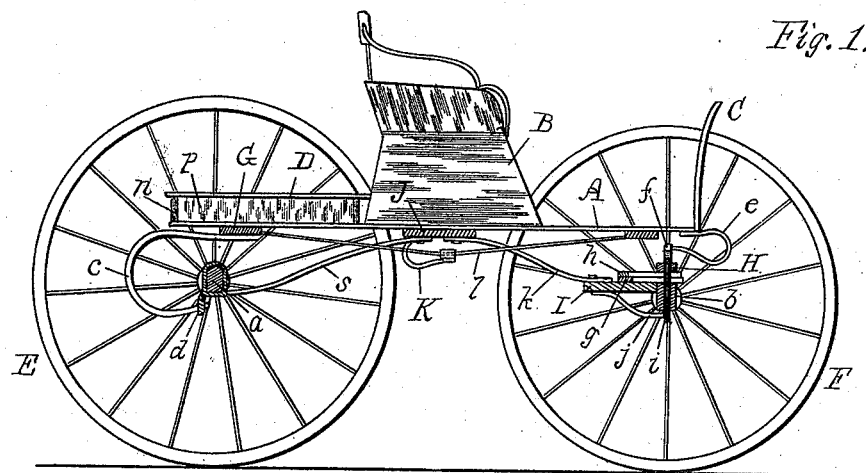
(No Model.)

T. L. STURTEVANT.

SPRING VEHICLE.

No. 385,019.

Patented June 26, 1888.



Witnesses.
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UNITED STATES PATENT OFFICE.

THOMAS L. STURTEVANT, OF FRAMINGHAM, MASSACHUSETTS.

SPRING-VEHICLE.

SPECIFICATION forming part of Letters Patent No. 385,019, dated June 26, 1888.

Application filed September 14, 1887. Serial No. 249,716. (No model.)

To all whom it may concern:

Be it known that I, THOMAS L. STURTEVANT, a citizen of the United States, residing at Framingham, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Vehicles; and I 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in vehicles, especially that class termed "buckboard-wagons;" and it consists in the general arrangement of the parts upon which the elastic body termed the "buckboard" is mounted, and by means of which it is attached to the running-gear.

The object of my invention is to obviate the use of a "reach" or side bars, now generally employed in spring-vehicles of the above-mentioned class; furthermore, my purpose is to make the buckboard or elastic body with springs serve as a reach to connect the two axles and maintain the same elasticity which it would ordinarily possess were it mounted with two side bars or a single reach.

A further improvement will be seen in the longitudinal stay-rods employed in controlling the flexibility of the buckboard, by which it can be made more or less stiff to suit and accommodate varying loads. My improvements also include a flexible-sided box, the top portion of which is rigid, while the lower portion, whereby it is attached to the body of the vehicle, is flexible, in order that the buckboard may bend readily without its elasticity being much impaired, which would otherwise occur were an entire rigid box affixed upon it.

The drawings herewith shown represent in Figure 1 a sectional elevation, the vehicle-body being in elevation and the running-gear in section, the latter being taken vertically midway of the axles. Fig. 2 is a plan, the seat portion being removed. Fig. 3 is an elevation of the front of a vehicle containing my improvements. Fig. 4 is a cross-section of one side; and Fig. 5 is a perspective view of a flexible-sided box, to be described.

In the annexed drawings, A represents an elastic vehicle-body or "spring-buckboard," so termed, provided with a central seat, B, dasher C, and flexible-sided box D, to be hereinafter mentioned. The running-gear upon which said buckboard is to be mounted consists of the hind wheels, E, and front wheels, F, journaled, respectively, upon the axles *a b*.

As before stated, vehicles of this class have generally been provided with two side bars or a single reach, to which the axles are attached, while the buckboard A is mounted upon springs or hung above said side bars. One object in my invention is to avoid the use of some of the connecting parts between the axles, and to employ in lieu thereof the spring body or buckboard and its springs as the reach. The vehicle is made lighter thereby. To accomplish this, and to avoid impairing the elasticity of the spring-body, I have disposed at the corners of the body A four C-springs, arranged parallel in pairs. The rear ones, *c c*, are secured at one end beneath the buckboard A to a transverse block, G, and at the other and lower extremities within iron links *d d* upon the outer part of the hind axle. At the front end two parallel C-springs, *e e*, support the buckboard, the lower ends being attached to the opposite extremities of a transverse spring-rod, *f*. This latter is centrally bolted to the transom-bar H.

To enable the front wheels to swing around as usual, the ordinary interconnecting parts are employed—that is to say, to the front axle is secured the circle or fifth-wheel *g*, upon which rests the upper circle, *h*, secured to the transom-bar. The transom-bolt is shown at *i*, while the brace *j* extends rearwardly from the latter and supports the arm I. By means of the above-described parts the buckboard is spring-mounted and secured to the axles. Moreover, to prevent the latter from twisting off, since they are now simply held by the springs *c c c c*, and to more securely fasten them to the buckboard in the event of sudden strains or pulls, I have provided at the rear two axle-stays, *s s*. These are plate-springs and diagonally located, being secured, respectively, to the outer end portion of the hind axle, *a*, and to the plate J, disposed transversely about midway of the buckboard. At the front end, and bolted to the arm I, is the axle-stay *k*, which

is likewise secured to said plate J. Thus it will be seen that the buckboard serves as a reach to connect the two axles, while it is hung upon and secured to the latter entirely by springs, which render it yielding and elastic in every direction.

To control the buckboard and render it more or less rigid with varying loads, I have arranged two wirestay-rod, *ll*, which are secured adjustably beneath the elastic body A of the vehicle. These stay-rods co operate with a spring-bridge, K, midway of the body A and beneath the latter, thereby forming a truss which is to support the body A more or less, according to the position of the adjusting-bolts *k' k'*.

A further novel feature will be seen in the flexible-sided box D. The latter is made with an upper rim, *m*, of sheet metal, to give it the requisite shape and so maintain it. This rim is secured at proper intervals to posts *n*, fixed in the body A, while the side portions, *p*, are to be made of some flexible material, as leather, which is passed about the rim *m* and finally secured to the upper side of the vehicle-body; hence it is easily understood that the elasticity of the latter is not much affected, and the buckboard or body is free to accommodate itself to sustain the load, which the yielding character of the side portions, *p*, permits it to do readily. This box, if so desired, may extend the entire length of the vehicle body.

What I claim is—

1. In vehicles, an elastic reach consisting of a buckboard and the springs whereby it is mounted on the axles, in combination with adjustable stay-rods which support said body and control its elasticity, substantially as set forth.

2. The combination of a buckboard and the vehicle-axles with springs, whereby said board

is mounted on said axles, the axle stay-springs *j j k*, and the rod *l*, for regulating the elasticity of the buckboard, substantially as set forth.

3. In a vehicle, the combination, with front axle, *b*, the axle stay-spring *k*, the transom-bar H, with its cross-spring *f*, and the parallel side springs, *e e*, secured to the opposite ends thereof, of the elastic body A, secured by its front end to said springs *e e*, the parallel springs *c c*, which are attached to its rear, and the diagonal stay-springs *s s*, substantially as specified.

4. In running-gear for vehicles, the combination, with an elastic reach composed of the floor A, of the vehicle mounted upon parallel springs *c c e e* and secured by the diagonal rear stay-springs, *s s*, and the front stay-spring, *k*, of the adjustable stay-rods *ll*, longitudinally disposed and co-operating with the spring-bridge K, substantially as stated.

5. In combination with an elastic body of a vehicle, a flexible-sided box, D, substantially as set forth, composed of the top frame, *m*, secured to the body by points *n n*, and the flexible material *p*, which composes its sides, secured to said body, whereby the latter is free to bend, as and for purposes specified.

6. In vehicles, the combination, with an elastic body suitably mounted and secured to the axles, of the adjustable stay-rods *ll*, secured at front and rear longitudinally beneath said body, and the spring-bridge K, located midway of said body and co-operating with said stay-rods to control the elasticity of said body, as stated.

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

THOMAS L. STURTEVANT.

Witnesses:

H. E. LODGE,
LEMUEL STANWOOD.