(No Model.)

J. T. McINTYRE.

TWO WHEELED VEHICLE.

No. 318,127. Patented May 19, 1885.

FIG. 1.

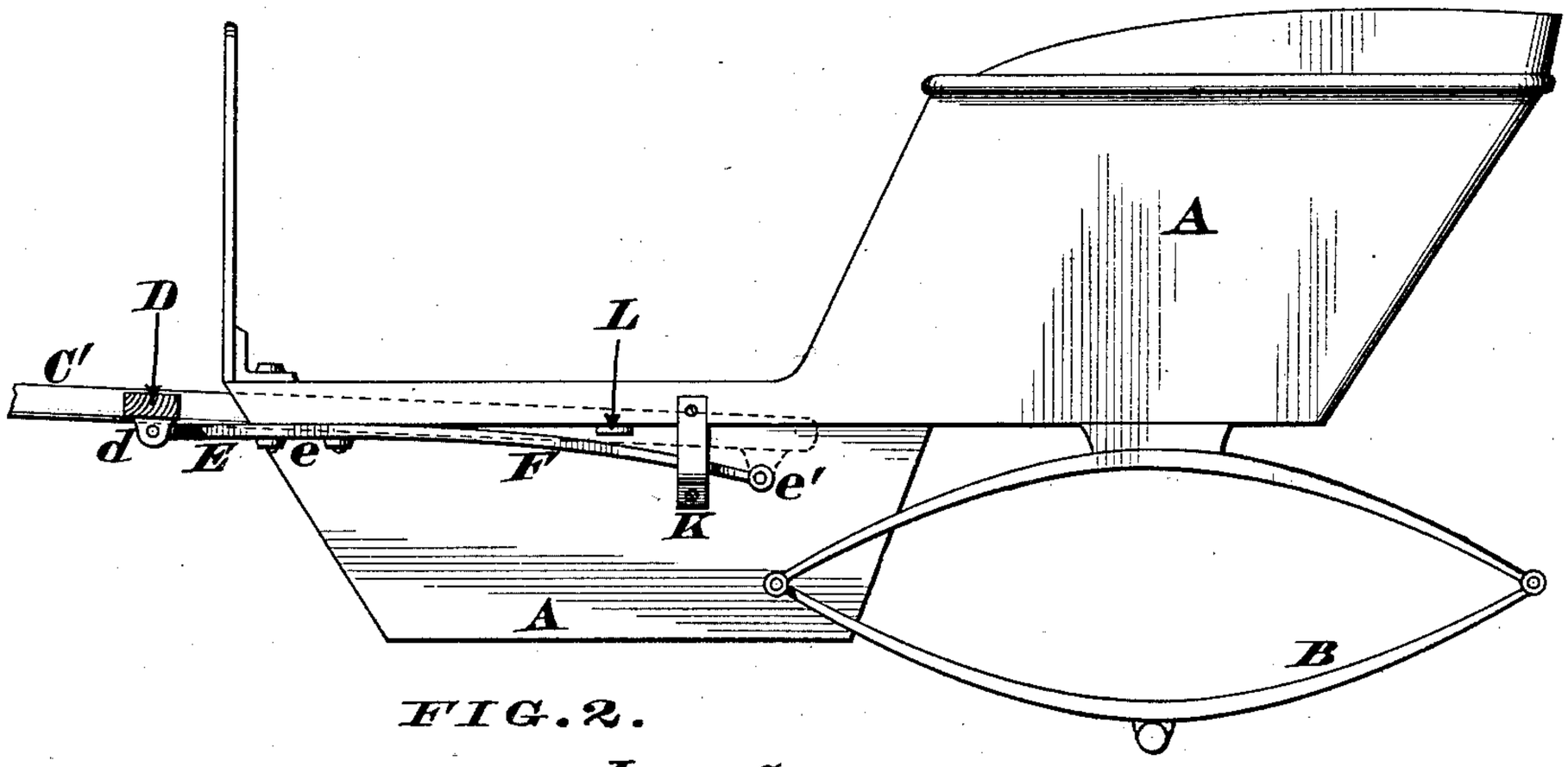


FIG. 2.

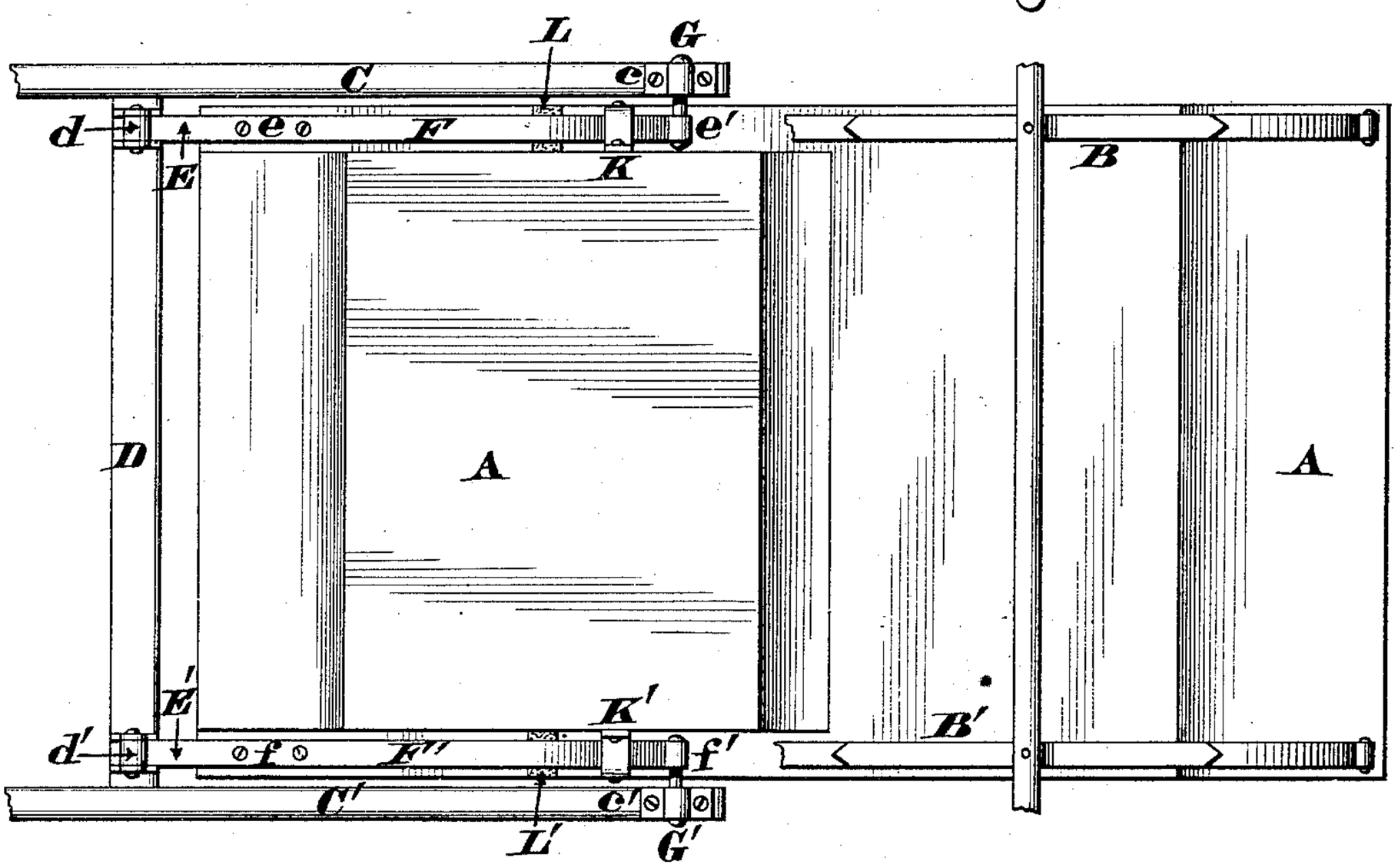
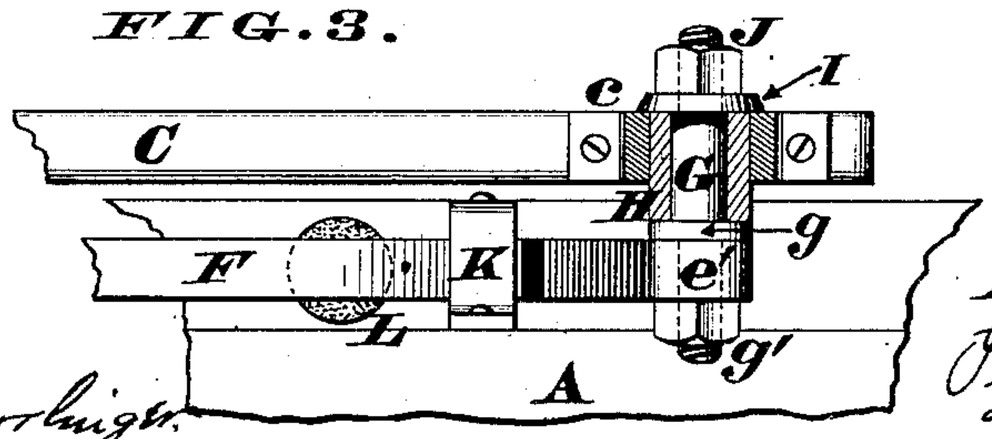


FIG. 3.



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UNITED STATES PATENT OFFICE.

JOHN T. McINTYRE, OF CHICAGO, ILLINOIS.

TWO-WHEELED VEHICLE.

SPECIFICATION forming part of Letters Patent No. 318,127, dated May 19, 1885.

Application filed March 2, 1885. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. McINTYRE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Two-Wheeled Vehicles, of which the following is a specification, reference being had therein to the accompanying drawings.

The object of my invention is to construct a two-wheeled vehicle in such a manner as to render the body as free as possible from what is generally known as the "horse-motion," or, in other words, to prevent vertical vibration of the body every time the horse takes a step. To accomplish this result I mount the rear part of the body on any approved form of riding-springs and support the front portion of said body on two special springs, one on each side of the vehicle. These special springs may be composed of one, two, or more leaves, as occasion may suggest, and their front ends are coupled to the splinter-bar or other transverse member that unites the shafts, while the rear ends of said springs are free to have a limited vertical play. Furthermore, the free ends of these springs are coupled to the rear ends of the shafts, said springs being united to the vehicle-body at a point comparatively near the splinter-bar. By this arrangement the front or relatively-rigid portions of said springs sustain the draft, and the flexible portions thereof have sufficient play to take up the horse-motion, as hereinafter more fully described.

In the annexed drawings, Figure 1 is a side elevation of a two-wheeled vehicle mounted on my improved arrangement of springs, the near shaft of the same being removed and the splinter-bar sectioned. Fig. 2 is a plan of the under side of the vehicle, the front ends of the riding-springs being broken away. Fig. 3 is an enlarged section of the coupling devices that unite the free end of the spring to the shaft.

The vehicle-body A is mounted upon any approved form of riding-springs B B′, and is adapted to be drawn by the shafts or thills C C′, the latter being united in front of said body by a splinter-bar or equivalent transverse member, D. Coupled to this bar, and near its opposite ends, as at *d d′*, are the special springs previously alluded to, each spring being composed of comparatively-rigid portions E F and relatively flexible or yielding portions E′ F′. These rigid portions E F extend from the splinter-bar D back to the bolts *e f* that connect said springs to the body A, while the flexible portions thereof begin about at said bolts and extend to the rear end of said springs, where eyes *e′ f′* are formed. These eyes carry short stud-shafts G G′ that engage in boxes *c c′* at the end of the shafts C C′. The arrangement of each stud-shaft and its accessories is more clearly seen in Fig. 3, where the shaft G is shown provided with a collar, *g*, on the outside of the spring, and a nut, *g′*, on the inner side thereof. Furthermore, said shaft is surrounded with an india-rubber tube or bushing, H, that enters the box *c* of shaft C. A washer, I, fits over the outer end of the bushing H, said washer being retained in place by the nut J.

K K′ are keepers or guards, that prevent lateral play of the free ends of the springs E′ F′.

L L′ are india-rubber or other cushions or bumpers, that prevent sudden concussions when the springs E′ F′ come in contact with the under sides of the body-sills.

From the above description it will be readily understood that the short or rigid portions E F of the springs E′ F′ transmit the draft of the animal directly to the front part of vehicle, while the riding-springs B B′ relieve the body A of the principal concussions incidental to traveling over rough roads and streets. It is also apparent that the flexible portions E′ F′ of the springs allow limited vertical play of the rear ends of the shafts C C′, which play is sufficient to compensate for any movements of the animal. Consequently the horse-motion is taken up and the body A rides perfectly steady and free from the disagreeable movements incidental to the customary manner of mounting two-wheeled vehicles. The elastic or compressible bushings H yield sufficiently to permit the desired vibrations of the rear ends of the thills C C′, and at the same time said bushings prevent any noise or rattling of the stud-shafts G G′ within the boxes *c c′* of said thills.

I claim as my invention—

1. In combination with a two-wheeled vehi-

cle mounted on suitable riding-springs, B B′, the springs E F E′ F′, attached to the body at *e f*, and coupled in front by their short or relatively-rigid portions to the splinter-bar D, the rear or flexible ends of these springs E F E′ F′ being united to the shafts C C′ at or near the rear ends of the latter, for the purpose specified.

2. In combination with a two-wheeled vehicle mounted on suitable riding-springs, B B′, the springs E F E′ F′, attached to the body at *e f*, and coupled in front by their short or relatively-rigid portions to the splinter-bar D, the rear or flexible ends of said springs E F E′ F′ being provided with outwardly-projecting studs G G′, that engage with boxes *c c′*, which latter are fastened to the shafts C C′, and at or near the rear ends of the latter, for the purpose specified.

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

JOHN T. McINTYRE.

Witnesses:
DAVID H. PIGOTT,
WM. KASPAREK.