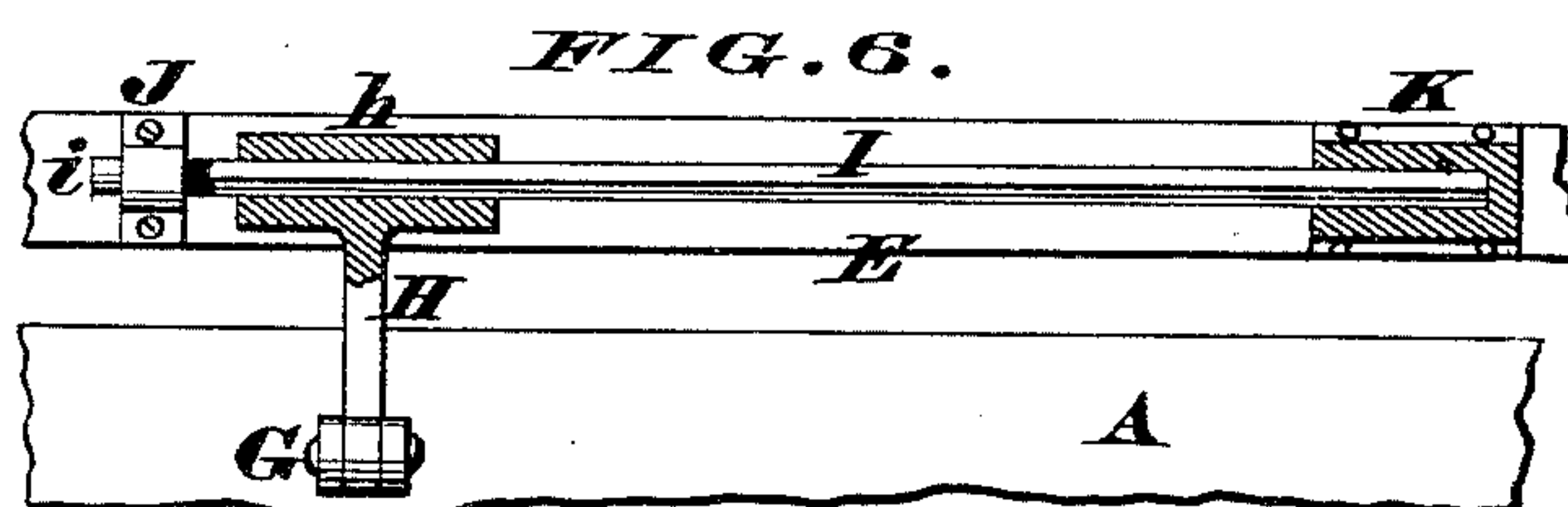
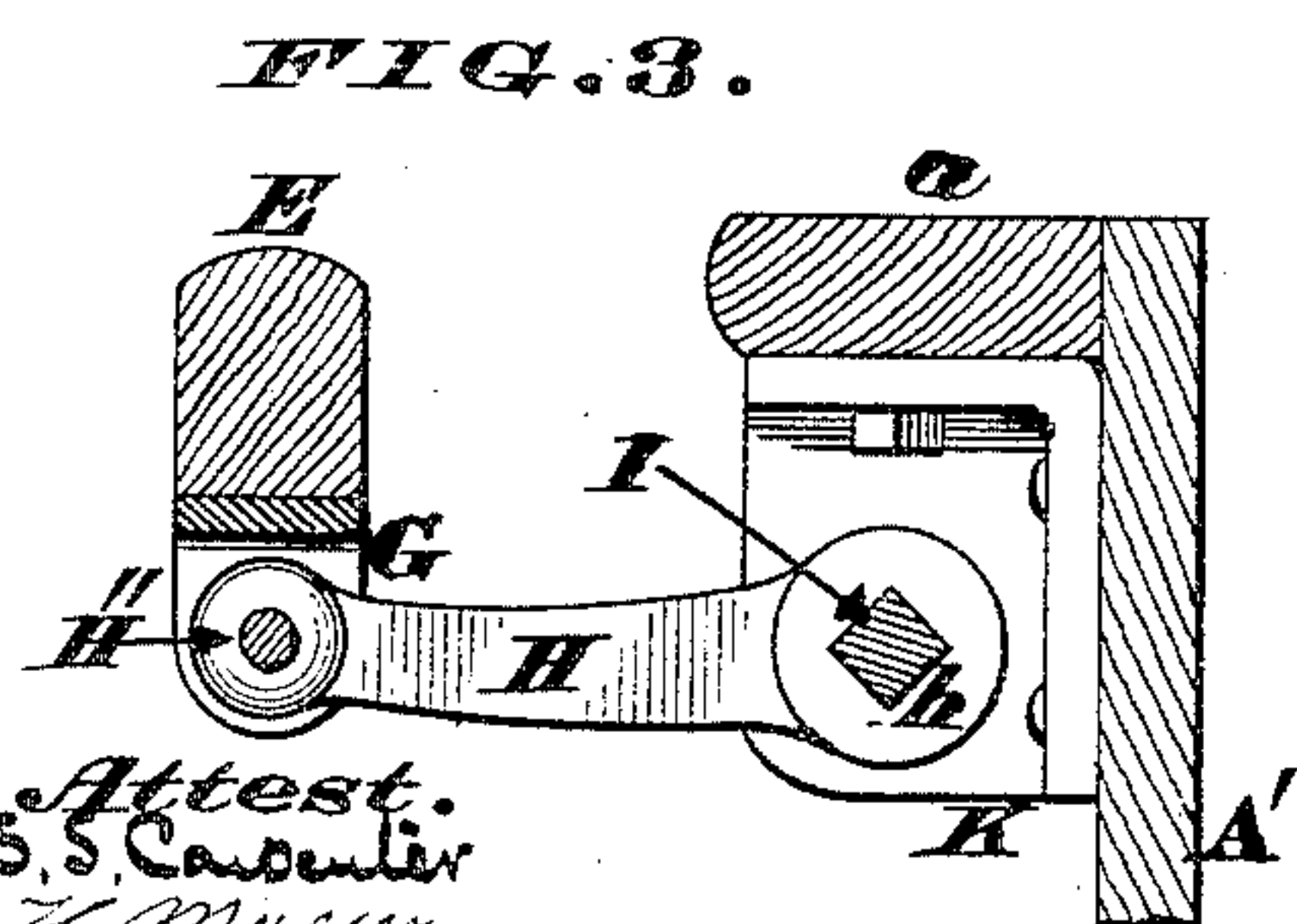
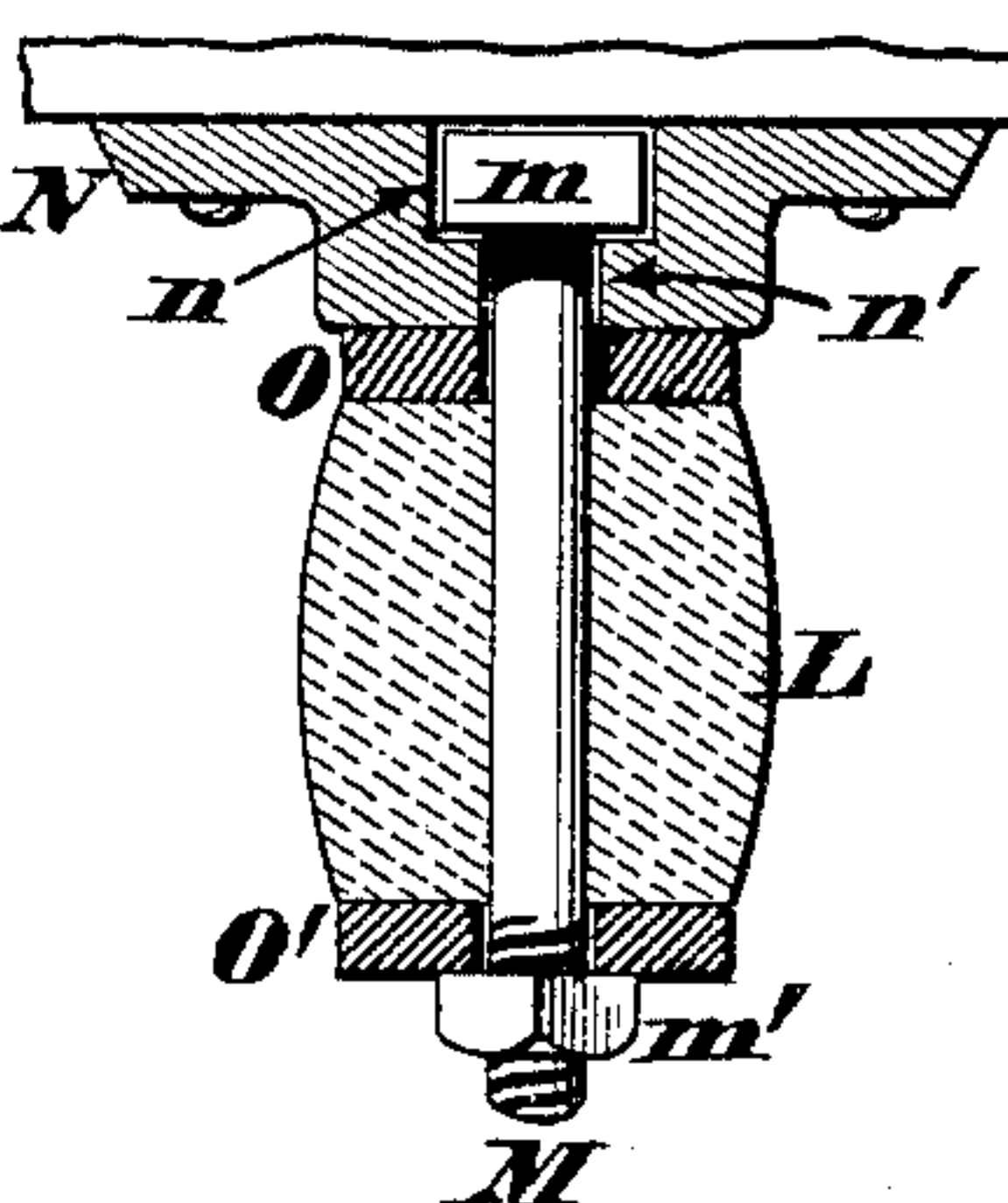
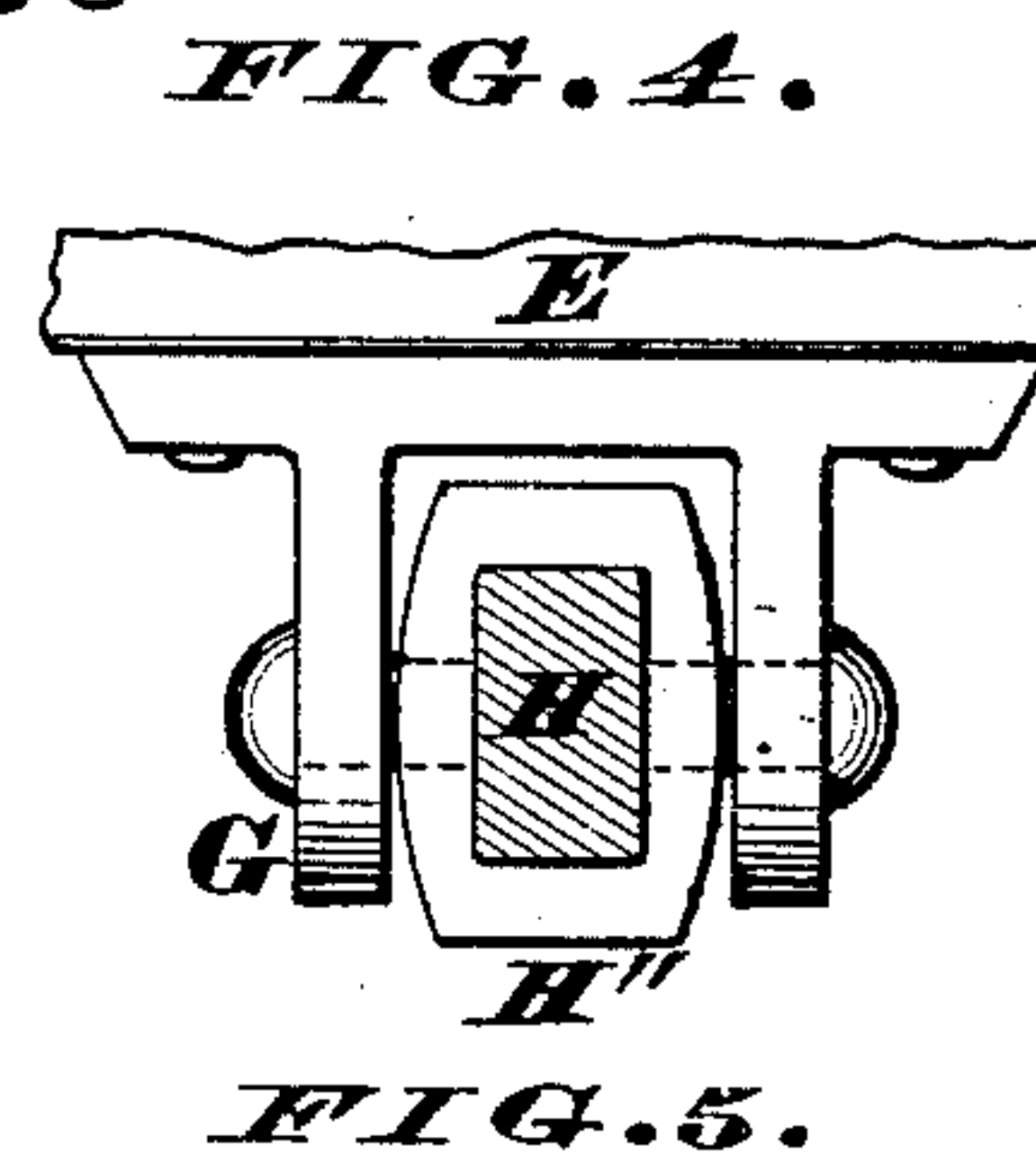
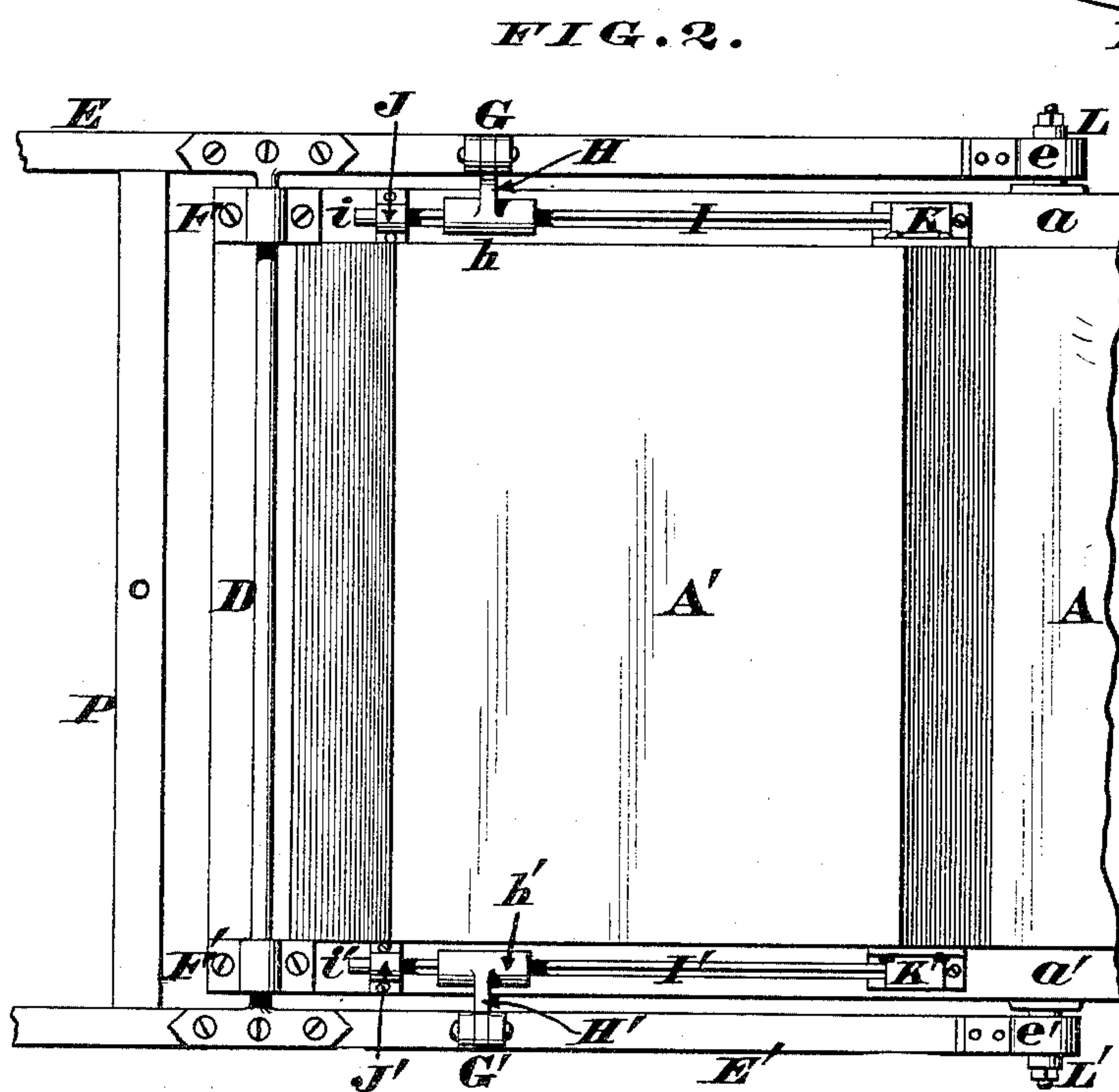
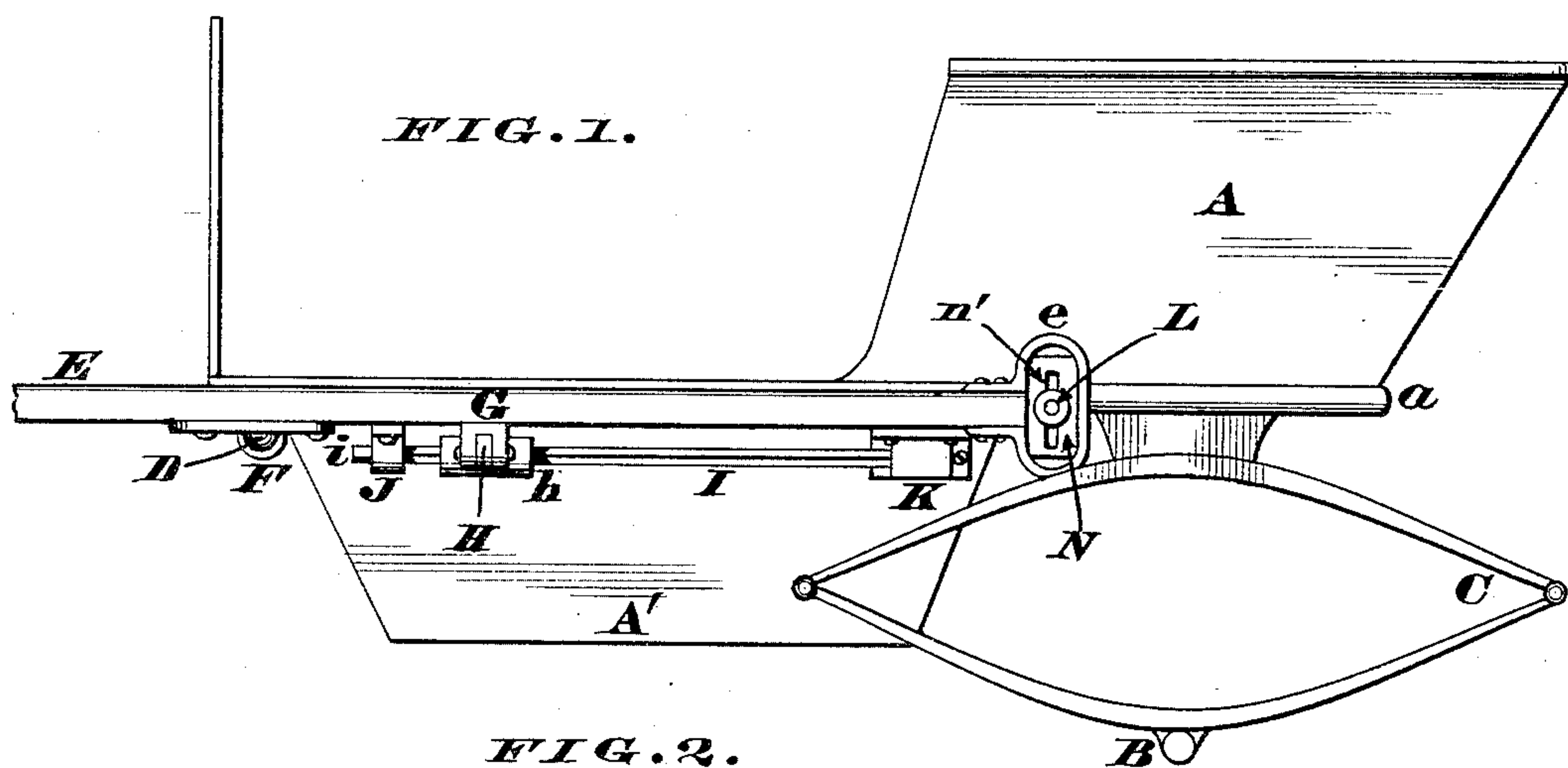


(No Model.)

D. M. SECHLER.
TWO WHEELED VEHICLE.

No. 324,962.

Patented Aug. 25, 1885.



Inventor.
Daniel M. Sechler
by James H. Layman.
Atty.

UNITED STATES PATENT OFFICE.

DANIEL M. SECHLER, OF CINCINNATI, OHIO.

TWO-WHEELED VEHICLE.

SPECIFICATION forming part of Letters Patent No. 324,962, dated August 25, 1885.

Application filed July 20, 1885. (No model.)

To all whom it may concern:

Be it known that I, DANIEL M. SECHLER, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, 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.

10 The first part of my invention comprises a peculiar construction and arrangement of torsion-spring that prevents what is generally known as the "horse motion" being transmitted from the shafts or thills to the body of
15 a vehicle, the details of said spring being hereinafter more fully described.

The second part of my invention consists in the provision of a vertically-adjustable bumper or cushion which is capable of being either
20 raised or lowered and secured at any desired position, so as to adapt the shafts to horses of different heights, as hereinafter more fully described.

In the annexed drawings, Figure 1 is a side
25 elevation of a two-wheeled vehicle embodying my improvements. Fig. 2 is a plan of the under side of the same, the riding-springs and axle being omitted. Fig. 3 is an enlarged transverse section through one of the thills
30 and the arm that couples it to the torsion-spring. Fig. 4 is a transverse section through said arm. Fig. 5 is a horizontal section of the vertically-adjustable bumper or cushion. Fig. 6 is a modification of the invention.

35 The vehicle-body A is supported in rear by the axle B and a pair of ordinary riding-springs, of which one is seen at C, the front portion of said body being carried upon a transverse bar or other suitable bearing, D,
40 whose opposite ends are rigidly attached to the thills or shafts E E'. As this bar D serves as a fulcrum or bearing for said thills, some provision must be made to allow said bar to turn in either direction. Boxes F F' are ac-
45 cordingly attached to the under side of the body, and preferably to the sills a a' of the same, which boxes serve as journal-bearings for this pivot-bar.

50 Depending from the shafts E E' at a point somewhat in the rear of bar D are hangers G G', to which are coupled the outer ends of

arms H H', the inner ends of the latter taking the shape of hubs h h', said hubs being pierced or bored longitudinally to receive the torsion-springs I I'. These springs may be of any
55 suitable size and length; but in the drawings they are represented as square in transverse section, and the holes in the hubs h h' are of a corresponding shape, in order that these members h h' and I I' may move in unison. The
60 front end of each spring is turned down, so as to afford spindles i i', that play within suitable boxes, J J', projecting rigidly from the under side of the body-rail, while the rear ends of said springs are rigidly secured in
65 keepers K K', attached either to the sills a a' or to the pit A' of the body.

Secured to the rear ends of shafts E E' are yokes e e', adapted to play vertically as said shafts vibrate, such play being limited in
70 either direction by elastic cushions or bumpers L L', projecting from the opposite sides of the vehicle. The peculiar arrangement of these bumpers is more clearly seen in Fig. 5,
75 reference to which illustration shows that the cushion L is carried by a stud-shaft, M, whose inner end has a square head, m, adapted to fit snugly within the socket n of a plate, N, said plate being secured to the body of the ve-
80 hicle at any proper place. Furthermore, this plate is slotted vertically at n', to allow the stud-shaft M to be shifted up or down, a nut, m', on the outer end of said shaft serving to hold the latter to any specific adjustment.

O and O' are washers or heads at the oppo-
85 site ends of the cushion L.

P is the customary splinter-bar connecting the shafts E E'.

From the above description it is apparent that the draft of the horse is transferred to the
90 body by means of the bar D, which bar serves also as a pivot or fulcrum for the shafts E E', and when said shafts vibrate every motion of the same is transmitted to the springs I I' through the medium of the arms H H'. Con-
95 sequently said springs have a tendency to turn; but, as their rear ends are confined rigidly within the keepers K K', such turning must be limited to their front portions; or, in other words, the springs have a twisting or
100 torsional action that takes up the horse motion, and thereby causes the vehicle to ride

free from any disagreeable vibrations. As the shafts turn on the pivot-bar D, the hangers G G' would have a tendency to twist the outer ends of the arms H H' unless some provision were made to overcome such a difficulty; but by making said arms with heads H'', capable of being pivoted in the hangers, as seen in Fig. 4, and providing said heads with crowning or convex sides, the outer ends of said arms cannot be twisted by any possible play of the shafts.

If it should be found that the springs I I' are not sufficiently stiff, the hangers G G' can be shifted rearwardly until the desired tension is obtained, while a too great rigidity can be overcome by advancing said hangers toward the front ends of said springs; or the same results can be effected by advancing or retracting the keepers K K'.

The provision of the vertically-slotted plate N n n' and stud-shaft M m m' permits the cushion or bumper L to be shifted either up or down and retained in any position that will adapt the shafts E E' to the size of the horse hitched to the vehicle, it being desirable that the yokes e e' of said shafts should have practically the same play both above and below said cushions.

In the modification seen in Fig. 6 the torsion-spring I is applied to the under side of

shaft E, and the arm H has its inner end coupled to the body A. This illustration also shows that the keeper K is closed at one end to prevent the spring slipping out.

I claim as my invention—

1. The combination, in a vehicle, of a pair of shafts fulcrumed to the body, a pair of longitudinally-disposed bars, and devices that connect said shafts to said bars, for the purpose of effecting a torsional or twisting motion of the latter, substantially as herein described.

2. The combination, in a vehicle, of fulcrum D, shafts E E', boxes F F', hangers G G', arms H h H' h', torsion-springs I i I' i', boxes J J', and keepers K K', for the purpose described.

3. In combination with the vehicle-shaft E and yoke e, the vertically-adjustable stud-shaft M, carrying the cushion or bumper L, for the purpose specified.

4. The combination, in a vehicle, of vertically-slotted socket-plate N n n', stud-shaft M m m', and cushion or bumper L, for the purpose specified.

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

DANIEL M. SECHLER.

Witnesses:

JAMES H. LAYMAN,
S. S. CARPENTER.