

J. W. CRANNELL.

Carriage-Body.

No. 16,353.

Patented Jan 6. 1857.

Fig. 1.

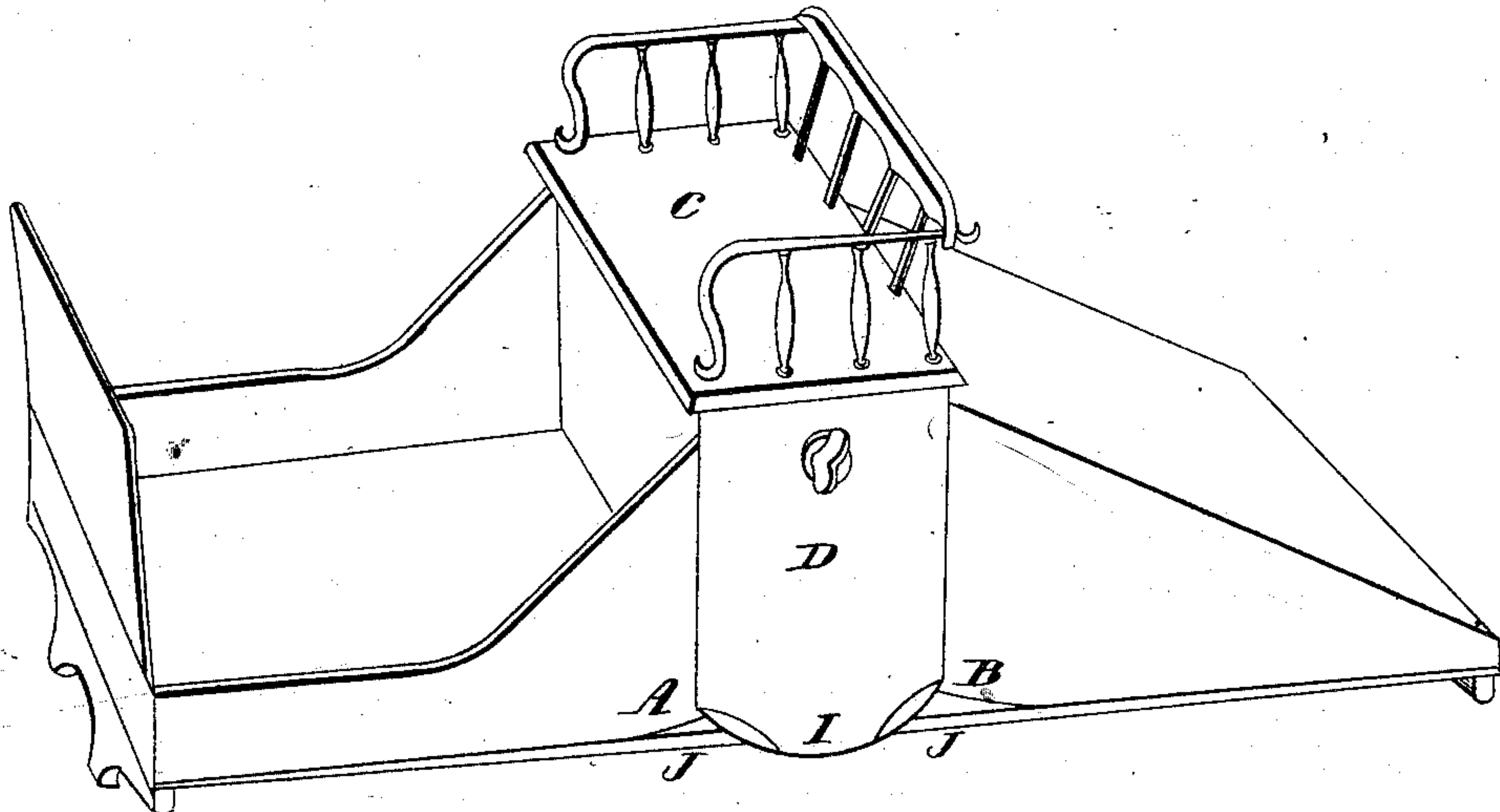
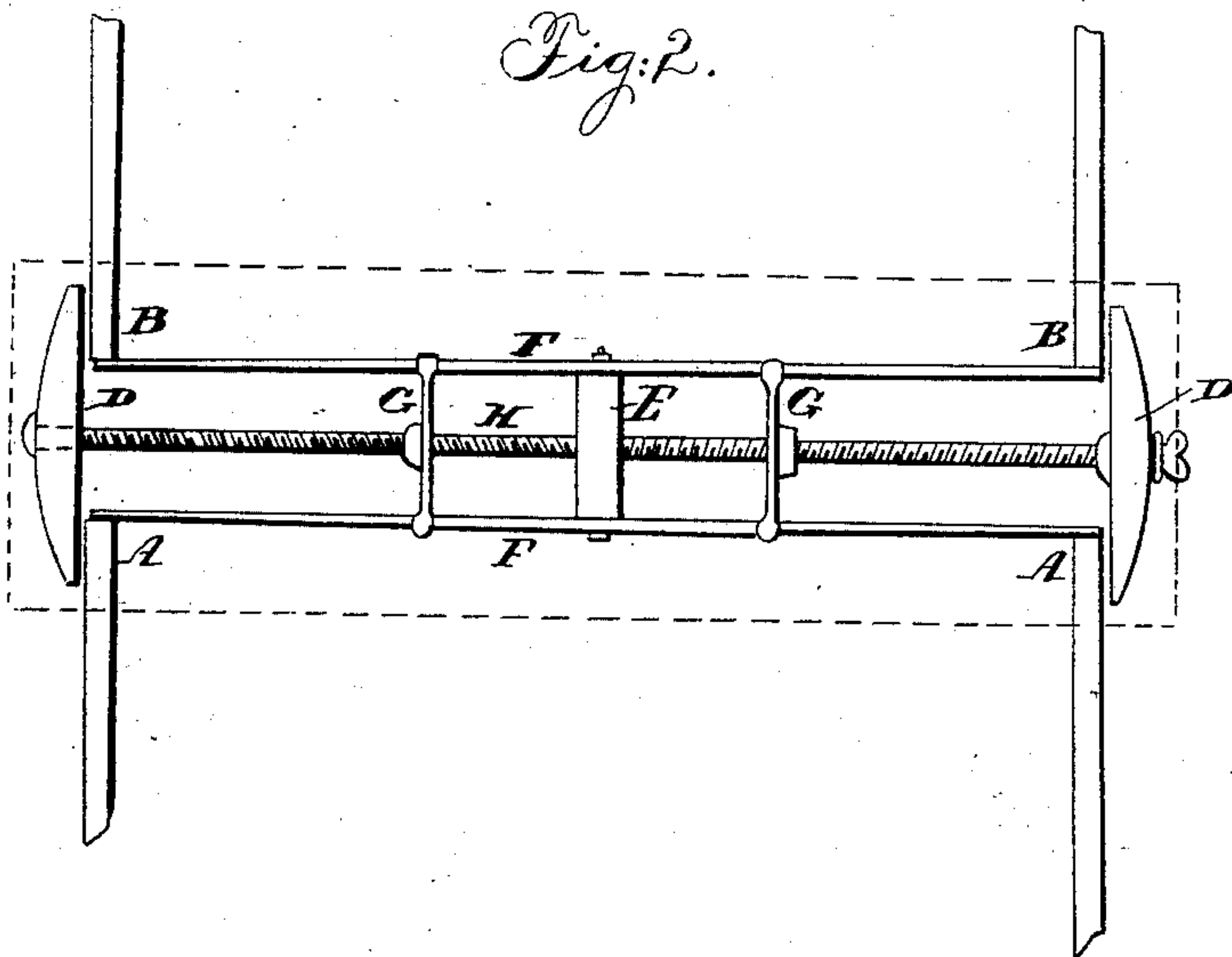


Fig. 2.



Witnesses
H. G. Stevens
G. G. Johnson

Inventor.
J. W. Crannell

UNITED STATES PATENT OFFICE.

JOHN W. CRANNELL, OF OLIVET, MICHIGAN.

CARRIAGE.

Specification of Letters Patent No. 16,353, dated January 6, 1857.

To all whom it may concern:

Be it known that I, JOHN W. CRANNELL, of the town of Olivet, in the county of Eaton and State of Michigan, have invented
5 a new and useful Improvement in the Construction and Arrangement of Carriage-Bodies and Their Springs; and I do hereby declare that the following is a full, clear,
and exact description of the construction
10 and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view of the body of the carriage and Fig. 2 a sectional plan
15 of a variable spring, running parallel with and under, the seat.

This carriage, if one seated, is constructed in three distinct parts; viz, the fore and hind body, and the seat and frame to which
20 it is attached. The bodies, when set up, nearly resemble in their form, those in ordinary use; the forward half having sides, back, footboard and dashboard, and the hinder half being an open or inclosed box,
25 shaped as taste or fancy may dictate, their chief peculiarity being as follows: that the ends which approach each other in the center of the carriage (projecting a little inside of the seat frame) are made nearly
30 as deep as that frame and are chamfered to an elliptical form on the under side, the convexity gradually diminishing to its termination, which is from 12 to 14 inches from the extreme end, as exhibited in the fore
35 and hind bodies, A and B, Fig. 1. The seat C Fig. 1 is framed with end pieces D D Figs. 1 and 2, and is connected below by a girt, (not shown) in the center of which is framed a standard, E Fig. 2 being the upper
40 end.

F F are two bars of spring steel, or other elastic material, extending longitudinally inside of the upper part of the seat frame, which are bolted to the standard E. The
45 upper parts of the ends of the carriage body sides A A, B B Fig. 2 rest against the extreme end of these spring bars, freedom being allowed for free vibration between them and the end pieces D D.

50 The degree of elasticity of the spring is entirely controlled by the movable stop plates G G Fig. 2, which can be operated by a right and left screw bolt H, the rotation of which causes the stop plates, which are
55 fitted between the springs, to approach or recede from the center, and thus in effect

lengthens or shortens the spring bars at pleasure. The end pieces D D of the seat frame are rounded or chamfered as at I Fig. 1, and the two bodies A, B, rest on and
60 are connected together by two elastic bars J J Fig. 1 of spring steel or any other suitable material, one on each side, to which bars they are firmly secured by screw bolts excepting at the chamfered portions. The
65 outer end of the carriage body is then attached to the axles, on bolsters in the usual way, the reach, or connection between the same being entirely dispensed with.

I claim for this arrangement, the merit
70 of extreme simplicity, and economy in construction, great durability, no repairs being hardly ever required as long as the material is sound, besides being, in effect, vastly superior to the elliptical spring in common use,
75 which being vertical communicates to a rigid carriage body an unpleasant upward motion, at the period of its reaction. The action of my carriage springs is entirely different. When the wheels strike any ob-
80 stacle, the shock is mostly received in a horizontal direction, at the ends of the spring bars F F as shown at A B Fig. 2, which springs receive and disperse all shocks communicated by the wheels to the extremities
85 of the elastic hanging bars J J, Fig. 1, which, oscillating at the point I of the seat frame, give a sort of rocking motion to the carriage bodies, at the chamfered or rounded parts A B Fig. 1, which are continually felt
90 and resisted by the springs F F, thus destroying that jerking motion in a rigid carriage body, and substituting a gentle undulation, which by the fastest driving, and on the roughest roads is not disagreeable, even
95 to an invalid.

The movable stop plates G G Fig. 2, by lengthening or shortening the springs F F, are capable of adapting the resistance of the
100 springs to the load in the carriage, and thus producing a uniform result, under all circumstances.

What I claim as my invention and desire to secure by Letters Patent; is,

1. The mode of constructing the carriage
105 body, in two parts, the inner ends chamfered or rounded below as at A B, Fig. 1, said bodies being attached to two elastic bars J J Fig. 1, in combination with the independent seat frame, rounded as at I Fig. 1 and carrying inside two springs F F Fig. 2 or their
110 equivalents, in either a horizontal or ver-

tical position, but whose action is horizontal,
and against the chamfered and detached
ends of the carriage bodies; for the pur-
poses as herein described and set forth, of
5 producing a gentle and undulating, hori-
zontal movement in the seat, or any other
device, whose effect may be substantially the
same.

2. I also claim the use of the stop plates
G G Fig. 2 operated by screws, or otherwise, 10
for the purposes as described, of regulating
the elasticity of the springs F F.

J. W. CRANNELL.

Witnesses:

GEO. JOHNSON,
H. G. STEVENS.