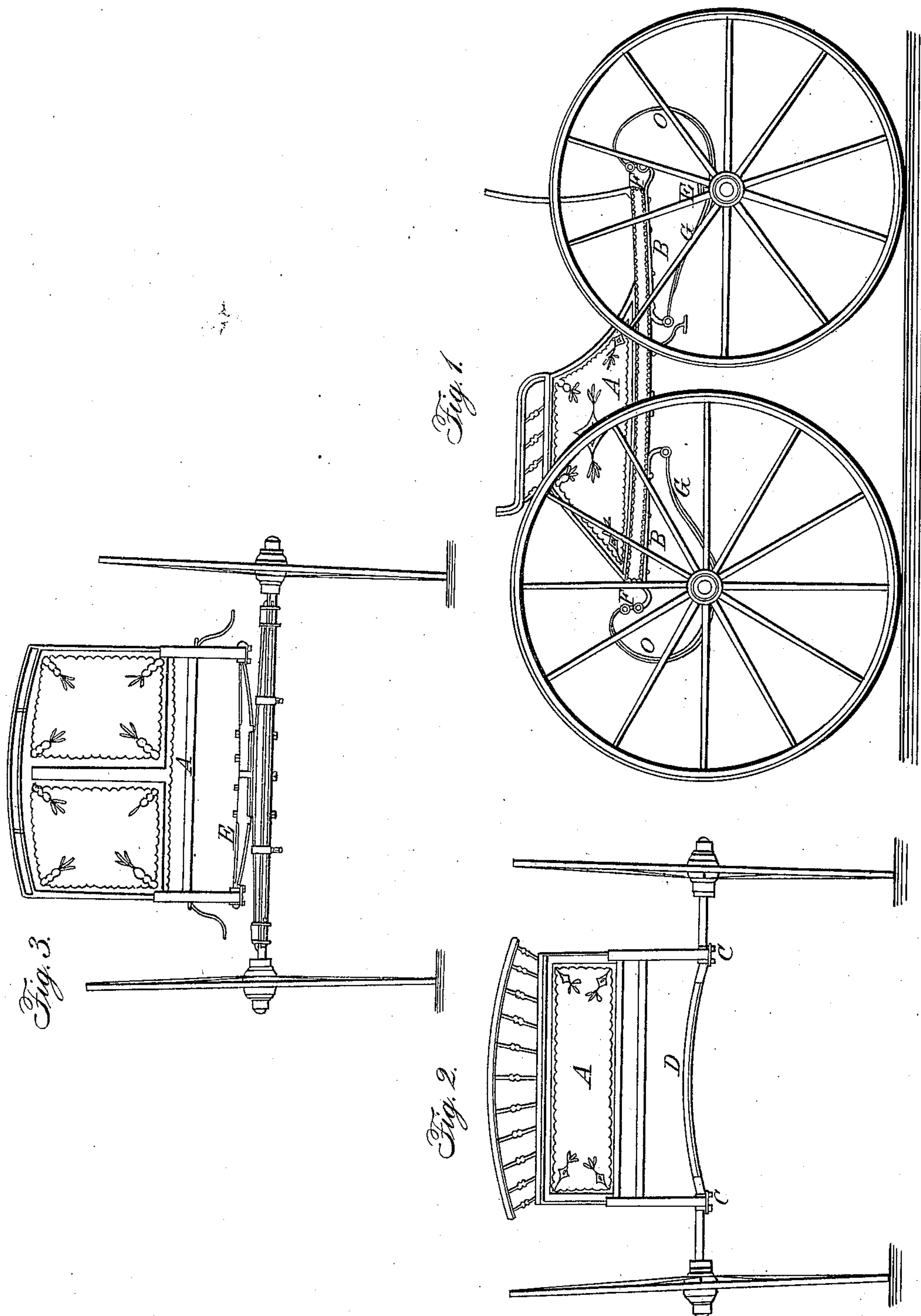


KIDDER & AEBY.

Carriage-Spring.

No. 19,567.

Patented Mar. 9, 1858



UNITED STATES PATENT OFFICE.

F. L. KIDDER AND A. E. AEBY, OF BROOKLYN, NEW YORK.

ATTACHING THE SPRINGS OF VEHICLES.

Specification of Letters Patent No. 19,567, dated March 9, 1858.

To all whom it may concern:

Be it known that we, FRANCIS L. KIDDER and ALEXANDER E. AEBY, both of Brooklyn, E. D., Williamsburg, in Kings county and State of New York, have invented a new and useful Improvement in Springs for Carriages and other Vehicles Without Perches; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing through letters of reference marked thereon, forming part of this specification, in which—

Figure 1 represents a side elevation of a buggy, with our improved springs; Fig. 2, a rear elevation, and Fig. 3 a front elevation of the same.

The same letters of reference, occurring in the several figures, indicate corresponding parts.

It has long been a desideratum among carriage builders, to so construct and arrange the springs of four wheeled vehicles, as to dispense with the necessity of a perch or coupling pole, and at the same time to use a spring of sufficient elasticity to render the carriage easy, and so that it would not be injured by undue strain, in passing over rough roads, either on the spring itself, or its attachment to the body and axle of the vehicle.

To accomplish this is the object of our invention, which consists in forming a spring of the ogee shape, or a combination of the C spring, with a semi-platform spring, thus forming one of great length and consequent elasticity, in such form that it may be rigidly attached to the axles, at or about the center or midlength of the spring, and both ends connected with the body of the vehicle, so that any tendency to rotary motion in the axletree is entirely prevented, and the strain on the spring and wear and tear of its attachments obviated, while its form, and the points at which it is connected with the body, are such as to distribute the bearings equally over its frame work, which may consequently be made much lighter, and still be equally strong and durable.

To enable others to make and use our invention, we will now describe it in detail, by referring to the drawing, in which—

(A) represents an ordinary buggy body,

to which are bolted four irons (B), one at each corner, forming stays, to each of which the two ends of a spring are attached; the front end of the hind springs, and the rear end of the front one, are connected directly with the iron stays, and their opposite ends, by means of intervening links (F), to compensate for their elongation when loaded; they are also rigidly attached by means of clips (C) at or about their midlength, the hind ones, to the axletree (D), and the front ones, to the bolster (E), so that when the draft is applied, it is transmitted by the springs through their rigid connection at each side of the body to the hind axletree, thus dispensing with the necessity of a perch for preserving the proper position of the springs and axle with regard to the body, which is absolutely necessary where elliptical springs are used crosswise of the body, and desirable even, when side elliptical ones are used, as there is a constant tendency to strain the axletree rearward, and thus set the spring out of its proper position.

In the construction of this spring, the main leaf of that half marked "O," is extended to form the short leaf of the half marked "G;" and the main leaf of the half marked "G," forms the short leaf of that marked "O;" the intermediate leaves are arranged in like manner, thus it will be seen, that the part marked "O" may be called a C spring, and that marked "G" a semiplatform one, forming a combination of those two, or what may be called an ogee spring, thus obtaining great length of spring and consequent elasticity; at the same time, such rigidity of connection as to render it impossible to strain the axles out of their proper relative position to the body, and its line of travel, and obviates all tendency to rotary motion in the axletrees.

Having thus described our invention what we claim as new and desire to secure by Letters Patent, is;

So arranging and connecting the springs of four wheeled vehicles with the body and axles, as that the draft is transmitted from the bolster longitudinally through the springs to their points of connection with the body of the vehicle at each side, and thence in like manner through the hind springs to the hind axle, forming a direct line of draft on each side of the body from

the front to the rear axle, thus dispensing
with the necessity of the ordinary perch and
braces to support the axles, using for this
purpose the ogee or such other form of
5 spring as will accomplish the object in the
manner substantially as herein described.

In testimony whereof we have hereunto

subscribed our names this 23d day of Jan-
uary, 1858, before two subscribing witnesses.

FRANCIS L. KIDDER.
ALEX. E. AEBY.

Witnesses:

DANIEL H. FEEKS,
ORIN CROSS.