

C. D. Le GRAND.
Buck-Board Wagon.

No. 214,160.

Patented April 8, 1879.

FIG. 1.

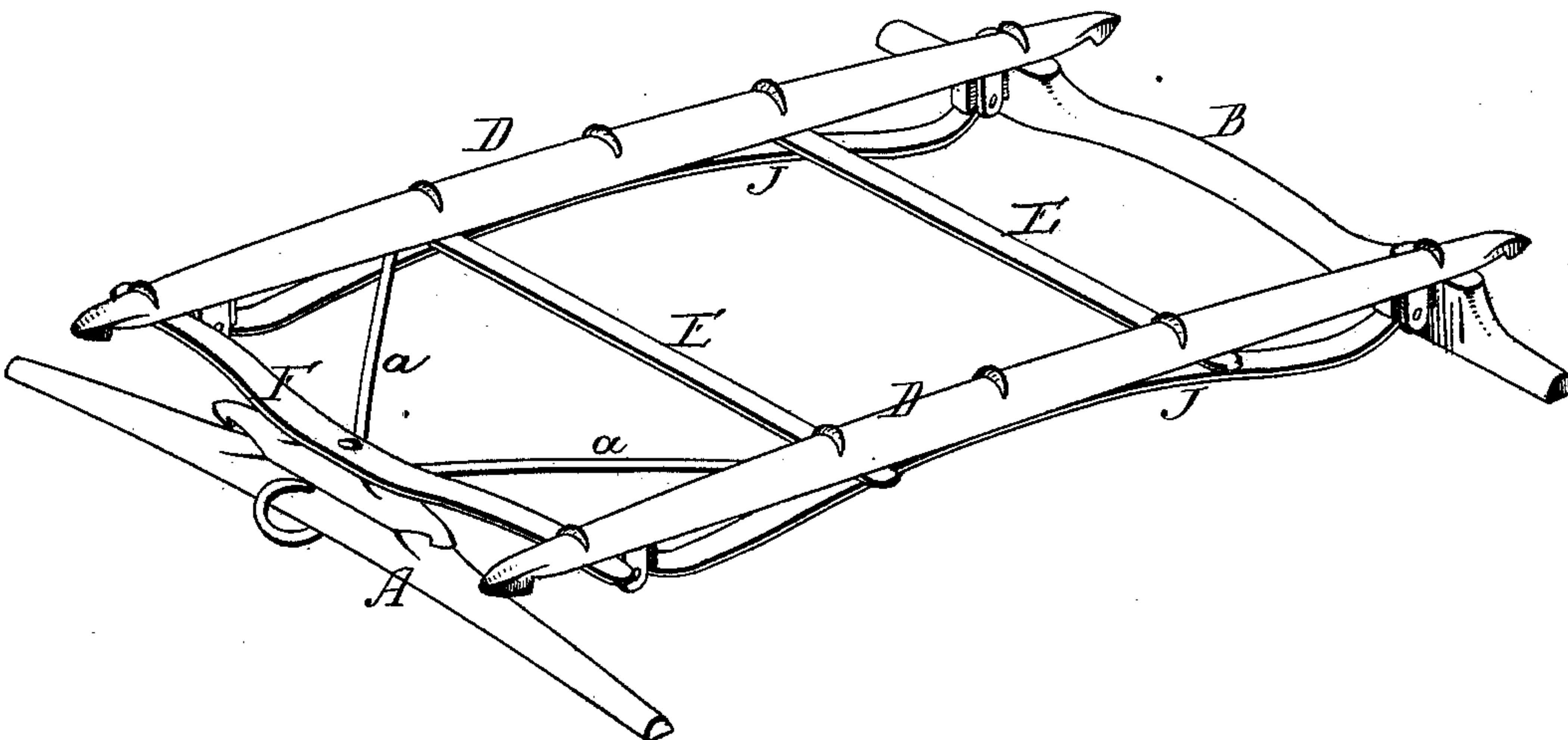


FIG. 2.

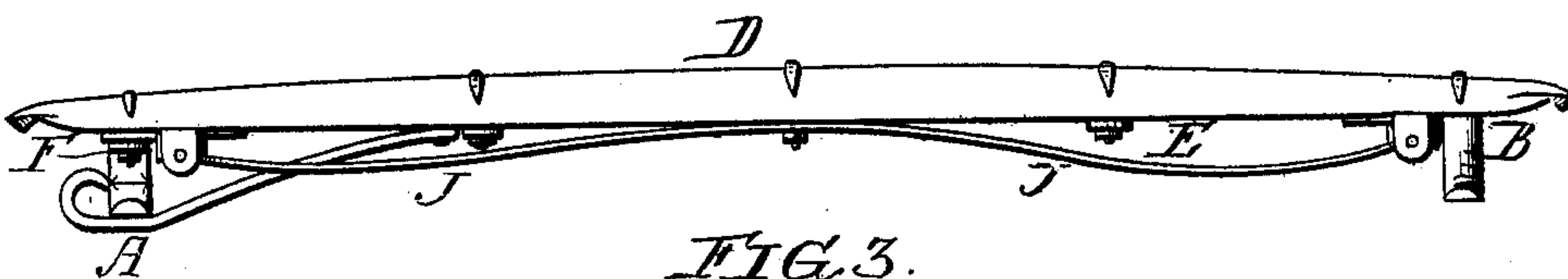
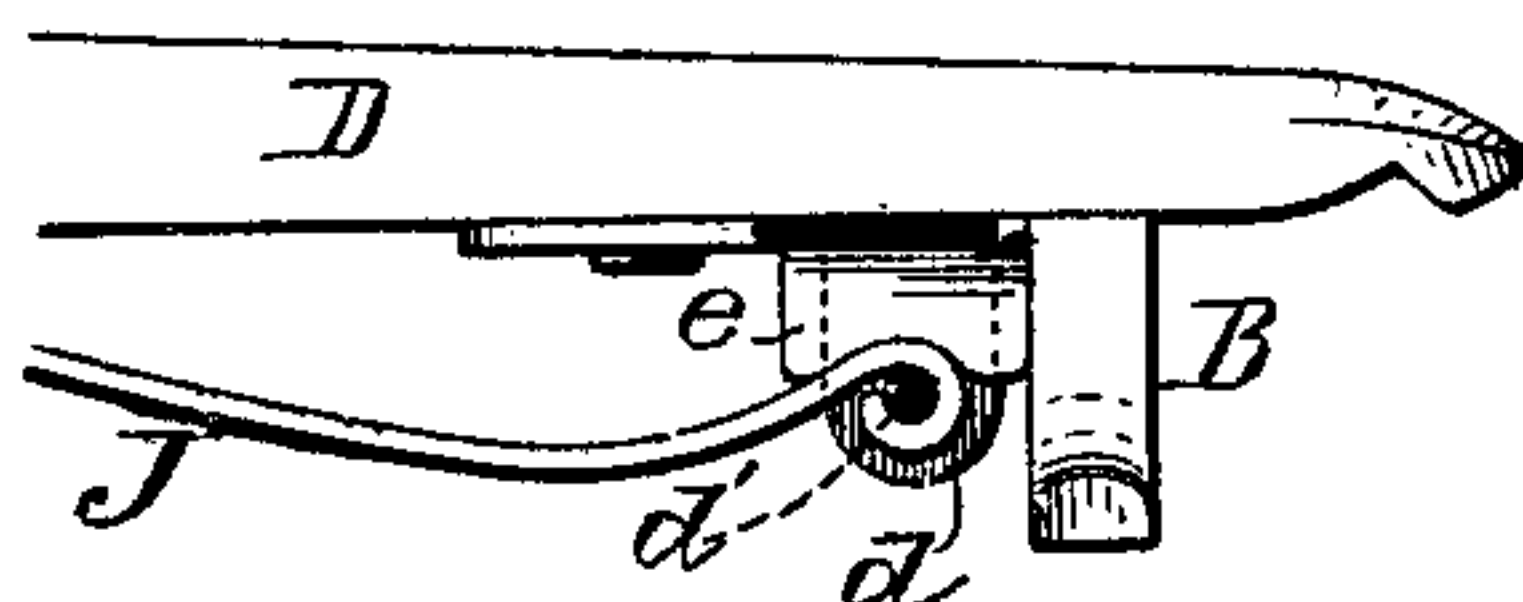


FIG. 3.



Witnesses,

Harry A. Crawford
Harry Smith

Inventor,
Charles D. LeGrand
by his Attorneys
Howson and Son

UNITED STATES PATENT OFFICE.

CHARLES D. LE GRAND, OF WILKESBARRE, PENNSYLVANIA.

IMPROVEMENT IN BUCKBOARD-WAGONS.

Specification forming part of Letters Patent No. **214,160**, dated April 8, 1879; application filed September 6, 1878.

To all whom it may concern:

Be it known that I, CHARLES D. LE GRAND, of Wilkesbarre, Luzerne county, Pennsylvania, have invented a new and useful Improvement in Buckboard-Wagons, of which the following is a specification.

The object of my invention is to so construct a buckboard-wagon as to impart to the longitudinal bars of the frame the necessary strength and stiffness without materially detracting from the elasticity of the frame as a whole—an object which I attain in the following manner, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of my improved frame for buckboard-wagons; Fig. 2, a side view of the same; and Fig. 3, an enlarged view, partly in section, of a portion of the frame.

A is the front axle, and B the rear axle, of the vehicle; and D D, the usual longitudinal bars, connected by transverse strips E E, upon which rests the body of the wagon. (Not shown in the drawings.)

The bars D D rest at the rear directly upon the axle B; but between the front ends of the bars and the axle A is interposed a spring, F, a forked brace, *a*, extending from the axle A to the opposite bars D, in order to prevent the pull upon said axle from being imparted to the side bars through the medium of the spring.

Beneath each of the bars D is arranged a spring, J, which is secured to the under side of the bar, at or near the center of the same, and extends longitudinally throughout almost the entire length thereof.

The opposite ends of each spring are secured to the bar D through the medium of ears *d*, to the cross-pins *d'* of which the ends of the spring J are hung, rubber springs *e* being interposed between the ends of said spring J and the upper part of the ear-pieces to prevent rattling. These springs J serve to stiffen and strengthen the bars D longitudinally and prevent them from being bent out of shape; but at the same time the springs do not interfere materially with the free vertical movement of the bars, this movement being controlled to a great extent by the front spring, F, so that the proper elasticity of the frame as a whole is preserved.

I do not desire to claim, broadly, the combination of the side bar of a wagon with a longitudinal spring; but

I claim as my invention—

The combination of the longitudinal side bars, D, of a buckboard-wagon, said bars extending continuously from axle to axle, with the longitudinal bracing-springs J, rigidly secured to said side bars, D, at the center and at each end, all substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES LE GRAND.

Witnesses:

H. MCWILLIAMS,
HENRY W. SMITH.