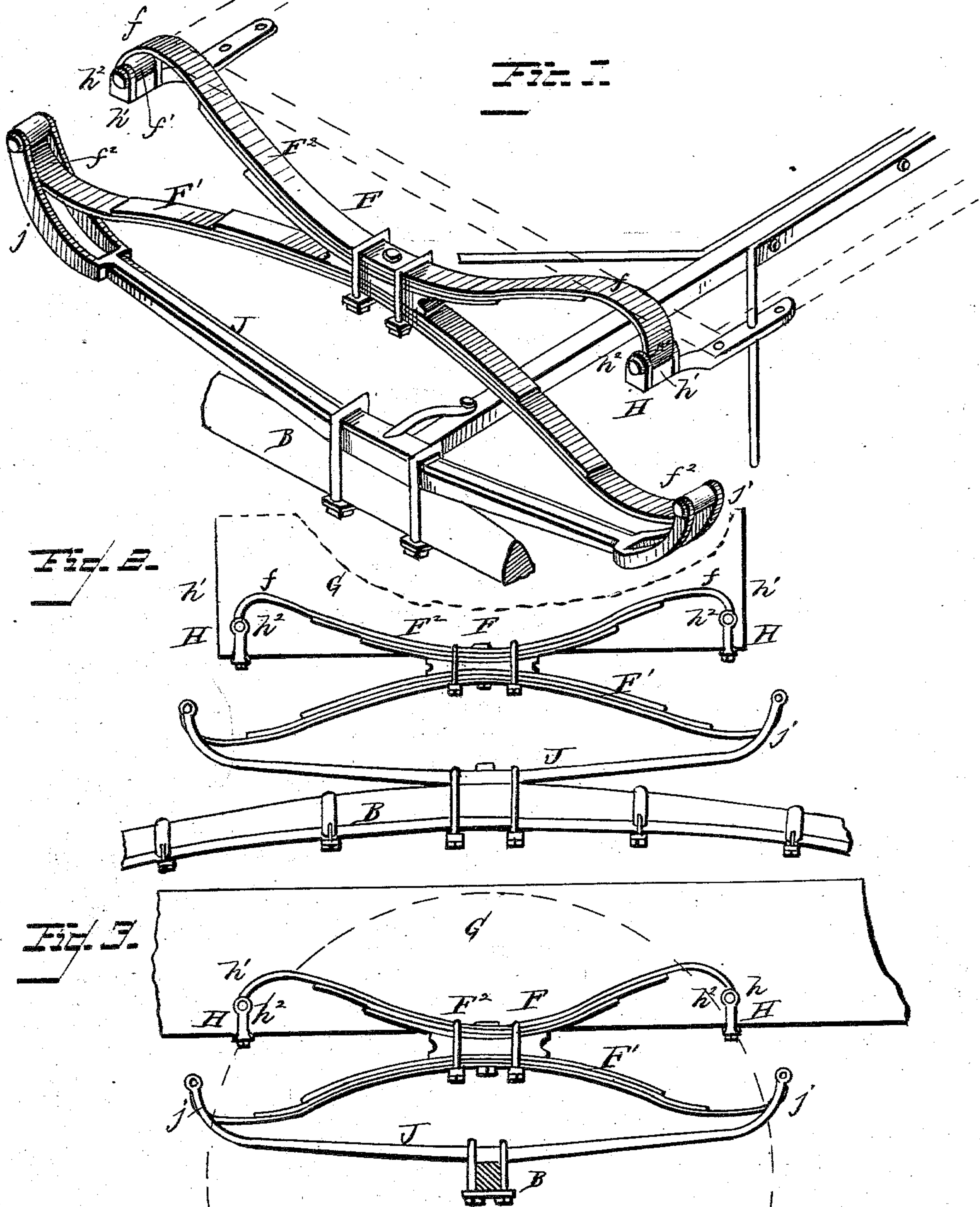


(No Model.)

F. J. SPRINGER.
VEHICLE SPRING.

No. 280,874.

Patented July 10, 1883.



WITNESSES
H. L. Ourand
C. H. Ourand

INVENTOR
Frederick J. Springer
by C. L. Moody
Attorney

UNITED STATES PATENT OFFICE.

FREDERICK J. SPRINGER, OF EDWARDSVILLE, ILLINOIS.

VEHICLE-SPRING.

SPECIFICATION forming part of Letters Patent No. 280,874, dated July 10, 1883.

Application filed February 11, 1883. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK J. SPRINGER, of Edwardsville, Illinois, have made a new and useful Improvement in Vehicle-Springs, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a view in perspective of the improvement; Fig. 2, an end elevation, showing the spring supported on a bar, which in turn is attached to the gear; and Fig. 3, a view of the parts shown in Fig. 2, but showing the spring at the side of the wagon-bed and resting crosswise on the axle.

The same letters denote the same parts.

The present improvement has relation to the mode of connecting with the body and with the gear of the vehicle the springs heretofore constructed by me and shown in Letters Patent granted me July 16, 1878, and May 18, 1880.

A represents a vehicle-gear having the improvement in question.

B represents an axle; E, the perch; and F F, the springs, the latter being each composed of a lower part, F', and an upper part, F², and the two parts being shaped and connected together substantially as shown in the construction referred to. In the present construction, however, the springs, in place of being supported by side bars, are arranged above the axles, being connected, respectively, with the axle and the bolster, the construction, more particularly described, being as follows: G represents the vehicle-body. (Indicated in dotted lines in Fig. 1 and shown in full lines in Figs. 2 and 3.) H H represent body-loops used in connecting the body G and springs F. The shape of the loop is shown more distinctly in Fig. 1, the loop consisting of the shank h

and the eye h', the latter projecting upward at right angles from the former. The shank is suitably fastened to the vehicle-body. The upper part, F², of the spring is connected loosely with the loops, the ends f f of the part extending over and curving downward to the loops, and the eyes f' f' turning upon the bars h² h² of the loops. The lower part, F', of the spring may be held in place over the axle by the bar J. The bar J at its center is attached to the axle or bolster, and at its ends is provided with or shaped to form eyes j j, which curve upward and receive and hold the ends f² f² of said part F'.

The improvement described enables the vehicle-body G to be held at a lower level than when side bars are used, the relative position of the body and the springs being indicated in Figs. 2 and 3. At the same time the elasticity as well as the durability of the springs is fully retained. The springs can be arranged in line with or crosswise upon the carriage-axle, the last-described arrangement (shown in Fig. 3) necessitating the use of the bar J. The circle in broken line in Fig. 3 indicates the position of the vehicle-wheels.

I claim—

1. The combination of the spring F, consisting of the parts F' F², the upturned loops H H, the body G, the bar J, and the axle B, substantially in the manner and for the purposes set forth.

2. The combination of the spring F, consisting of the parts F' F², the upturned loops H H, and the body G, said spring being supported substantially in the manner and for the purposes set forth.

F. J. SPRINGER.

Witnesses:

EDWARD C. SPRINGER,
GEORGE LEVERETT.