

(No Model.)

J. F. GROSS.
VEHICLE SPRING.

No. 352,918.

Patented Nov. 23, 1886.

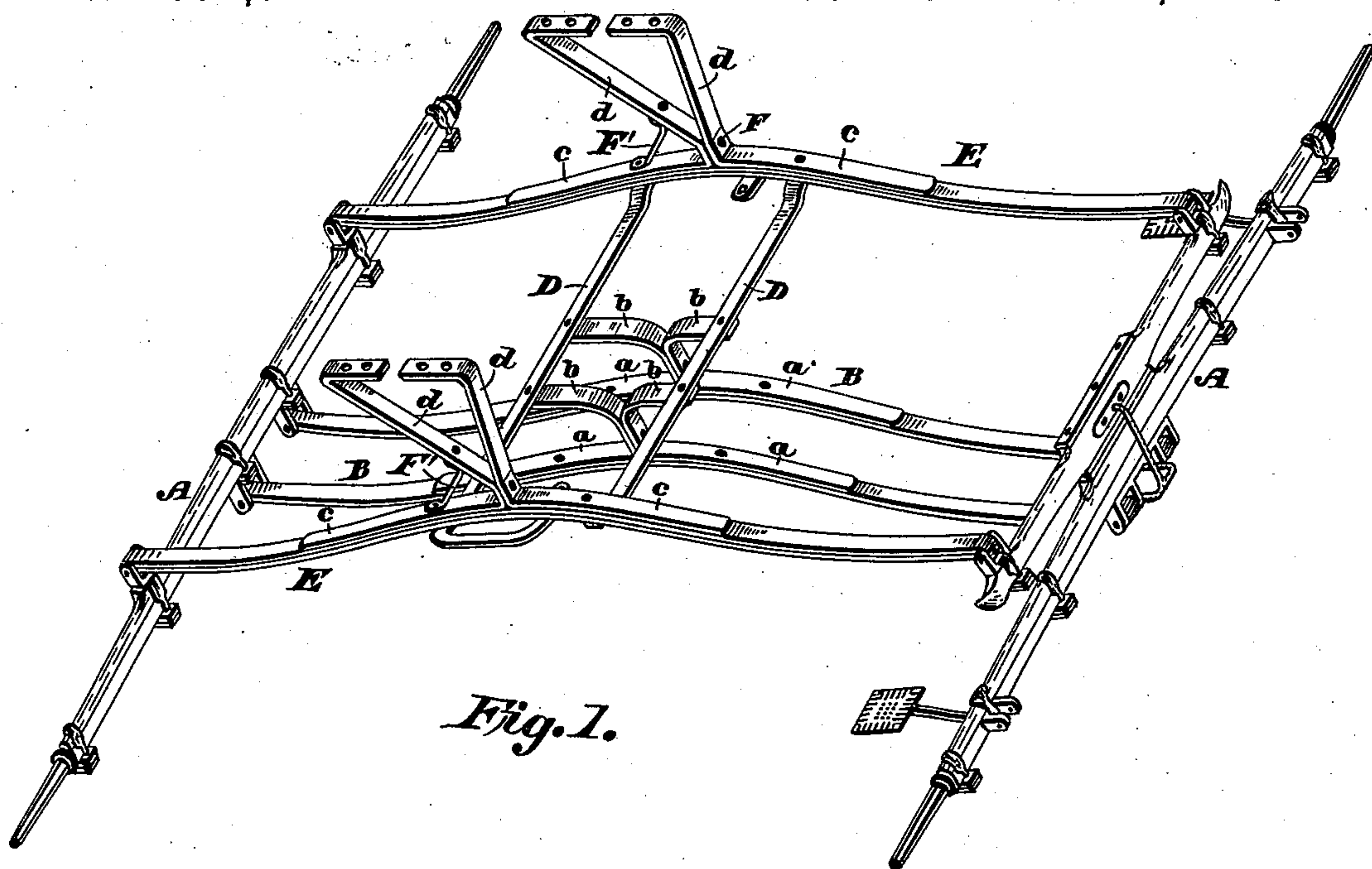


Fig. 1.

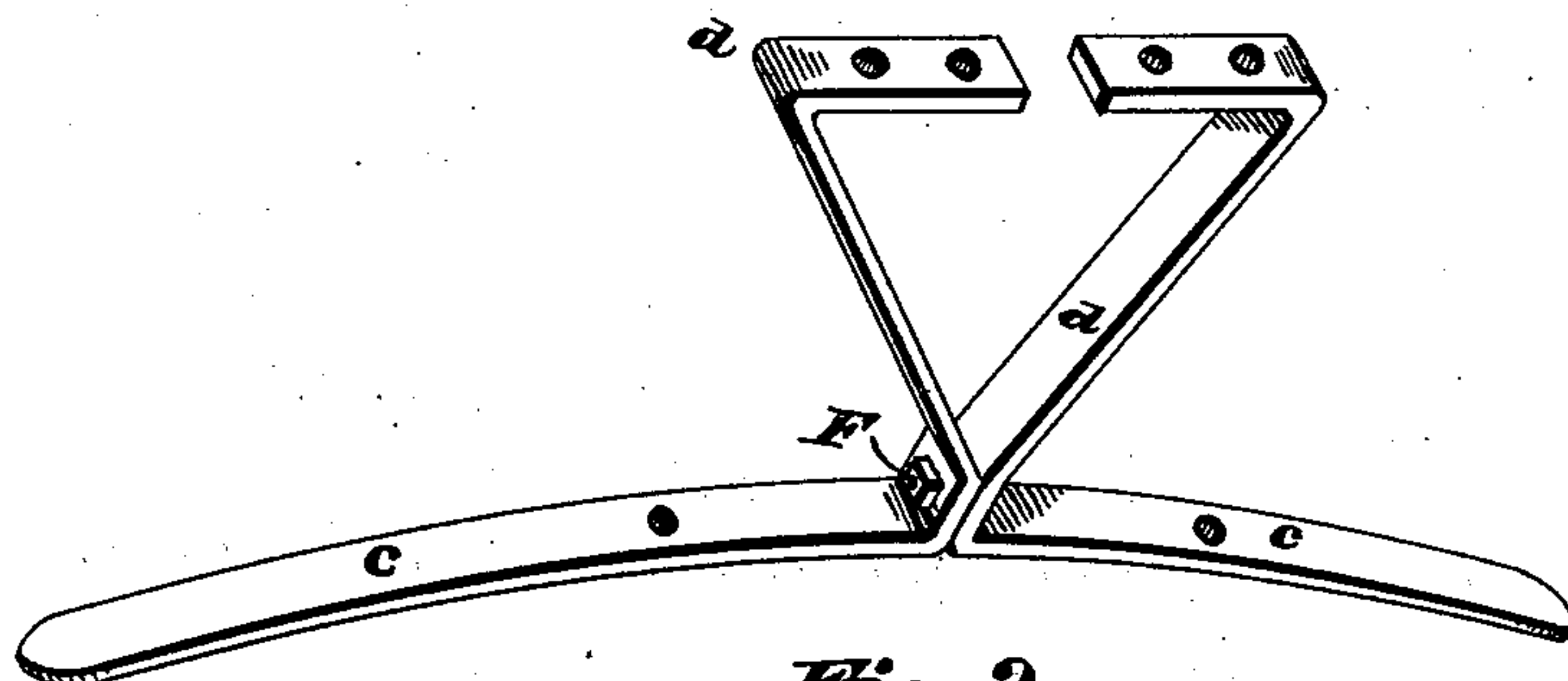


Fig. 2.

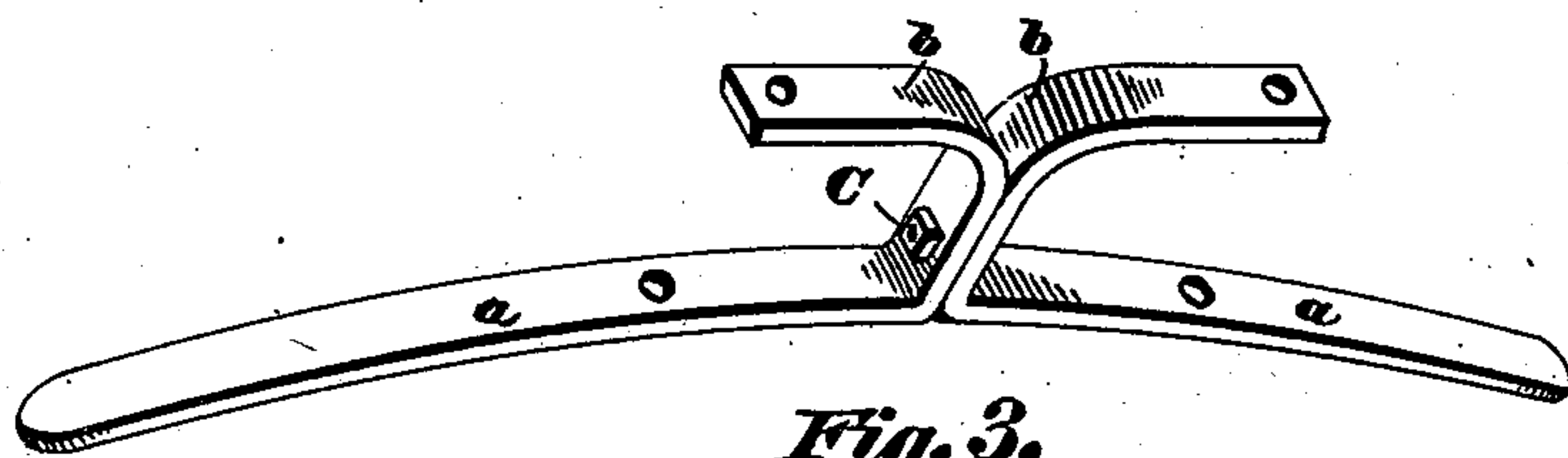


Fig. 3.

WITNESSES

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UNITED STATES PATENT OFFICE.

JOHN F. GROSS, OF CANTON, OHIO.

VEHICLE-SPRING.

SPECIFICATION forming part of Letters Patent No. 352,918, dated November 23, 1886.

Application filed May 15, 1886. Serial No. 202,332. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. GROSS, a citizen of the United States, and a resident of Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Vehicle-Springs; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon, in which—

Figure 1 is a perspective view of the running-gear, showing springs attached thereto. Fig. 2 is a detached view of seat-springs. Fig. 3 is a detached view of the top leaves of main spring.

The present invention has relation to vehicle-springs; and its nature consists in the different parts and combination of parts hereinafter described, and particularly pointed out in the claims.

Similar letters of reference indicate corresponding parts in all the figures of the drawings.

In the accompanying drawings, A A represent the axles of a vehicle, which are constructed in the ordinary manner, and to which the different parts belonging thereto are properly attached in any well-known manner.

To the axles A A are securely attached the connecting-springs B B, which may be substantially of the form shown in the accompanying drawings. In the drawings said springs are shown formed of a single piece; but, if desired, additional leaves may be provided for the purpose of strengthening said springs.

To the top or upper sides of the springs B B are riveted or bolted the auxiliary springs a a, said springs being provided with the bent or curved portions b b, and may be substantially of the form shown in the drawings, said bent or curved portions being securely held together by means of the clamping-bolt C.

To the top or upper portions of the bent or curved portions b b are riveted or bolted the cross-bars D, substantially as shown in the

drawings, the ends of said cross-bars D being properly attached to the top or upper springs, E, said top or upper springs, E, being properly attached to the different parts, substantially as shown in the drawings.

To the top or upper sides of the springs E are riveted or bolted the auxiliary springs c c, said auxiliary springs being provided with the bent or curved portions d d, said bent or curved portions being so formed that a vehicle-seat can be attached.

For the purpose of holding the auxiliary springs together, the clamping-bolts F are located substantially as shown in the drawings, and for the purpose of assisting in holding the bent or curved portions d d in proper position the braces F' are provided, which may be riveted or bolted substantially as shown.

It will be seen that by my peculiar arrangement and adjustment all of the springs will act in unison, and that the axles A A will spread apart or come together as the springs vibrate.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The springs B B, provided with the auxiliary springs a a and the bent or curved portions b b, and the clamping-bolt C, substantially as and for the purpose specified.

2. The springs E, provided with the auxiliary springs c c and the bent or curved portions d d, and the clamping-bolts F, substantially as and for the purpose specified.

3. The combination of the parallel springs B B and E, provided with the bent or curved portions b b and d d, of the auxiliary springs a a and c c, the clamping-bolts C and F, substantially as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JOHN F. GROSS.

Witnesses:

JOHN E. MOUNOT,
FRED W. BOND.