M. G. HUBBARD.

Carriage-Spring.

No. 12,890. Patented May 15, 1855.

Fig. 2.

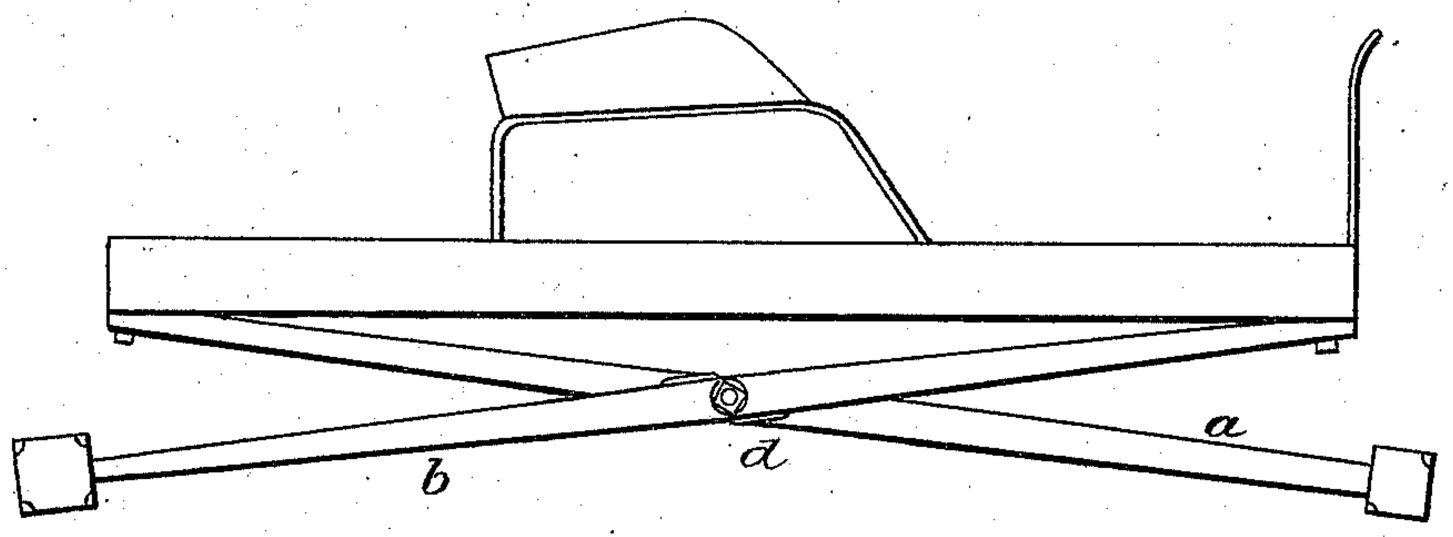


Fig. 3.

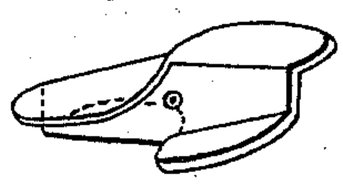
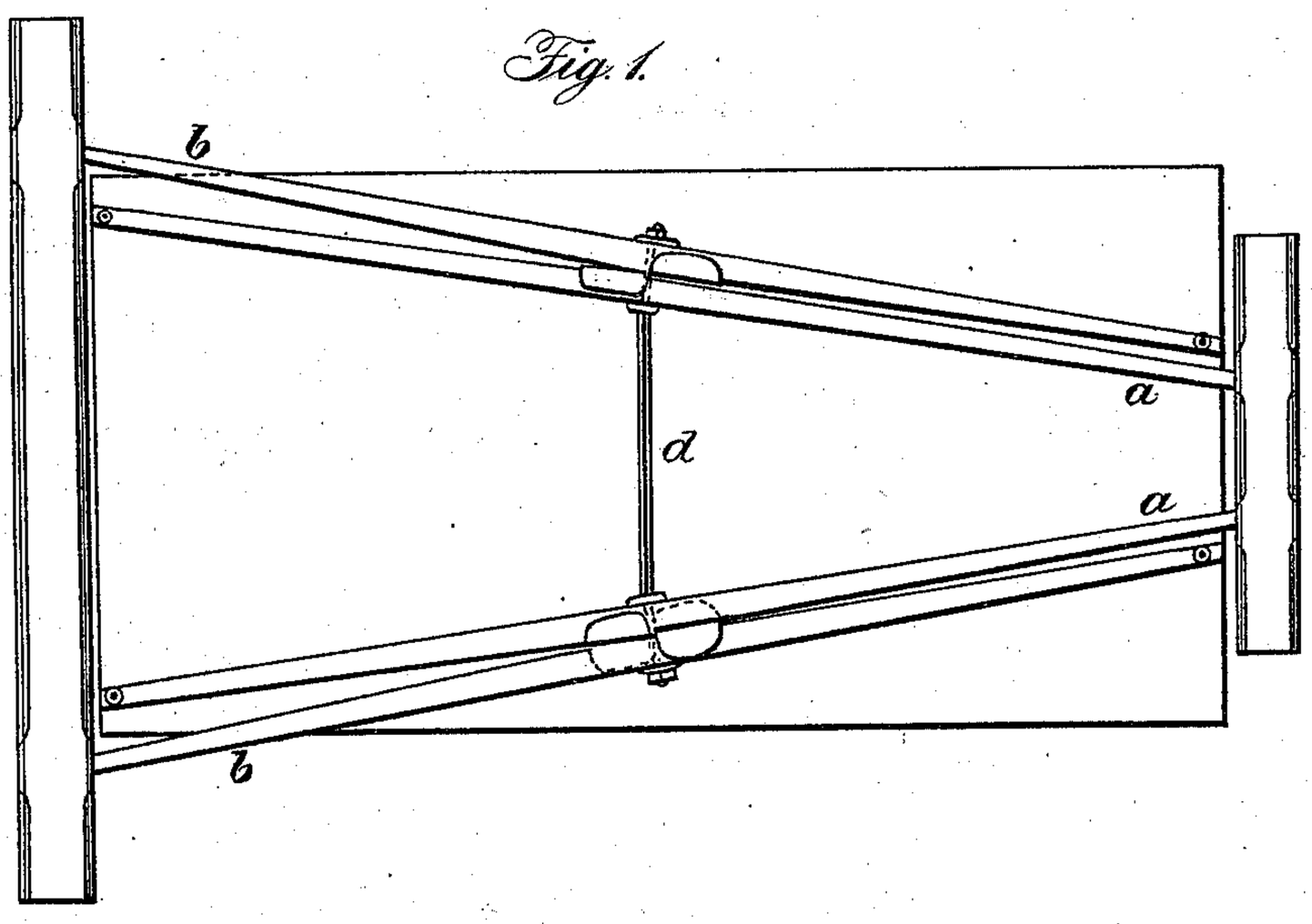


Fig. 1.



Inventor:

M. G. Hubbard.

UNITED STATES PATENT OFFICE.

M. G. HUBBARD, OF NEW YORK, N. Y.

SPRING FOR CARRIAGES.

Specification of Letters Patent No. 12,890, dated May 15, 1855.

To all whom it may concern:

Be it known that I, M. G. HUBBARD, of the city, county, and State of New York, have invented certain new and useful Improvements in Carriage-Springs; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, in which—

Figure 1, is a plan. Fig. 2, is a side elevation.

By long practical experience I have found that in using four long elastic bars over a rocker under the bottom of a carriage as a spring for steadying the motion and as a reach, while I obtain a delicate spring with great strength and simplicity of construction there is a defect only discoverable on a practical application which injures its usefulness and impairs its value, and this is the noise which accompanies its action there is a constant rumbling sound very difficult to account for and I have expended much time and money to overcome the only objection to one of the best and simplest springs ever discovered; after many fruitless attempts I have found a remedy for the defect and its application forms the basis of my present invention.

The construction is as follows: I attach to the bolster the front ends of two springs made of a straight taper from end to end these springs are lettered *a* in the drawing, two other similar springs *b* are affixed by their rear ends to the hind axle. The forward ends of springs *b* and rear ends of springs *a* are bolted to the corners of the body as clearly shown in the drawings. These parts are not new but my improvement is to dispense with the rocker or center support on the bottom of the carriage body which has heretofore been required as a fulcrum and joining them by a bolt *d* where the forward and back springs cross each other, to strengthen and sustain these parts I form a clip (see Fig. 3,) which having flanches turned each way embraces both springs as clearly represented. This gives the elasticity required and prevents the great strain upon the carriage body, or rocker at the center when used as a fulcrum at that point and removes the objectionable noise as well preventing the strain on the parts, and consequent wear.

Having thus fully discovered my improved carriage springs what I claim therein as new and for which I desire to secure Letters Patent is—

Joining the fulcrum of the springs as above described by connecting them by a clip and bolt at their crossing point as herein specified.

M. G. HUBBARD.

Witnesses:

SYLVESTER LAY,

JACOB HATZEL, Jr.