

H. A. HIGHT, Sr.  
VEHICLE-SPRING.

No. 169,808.

Patented Nov. 9, 1875.

Fig. 1.

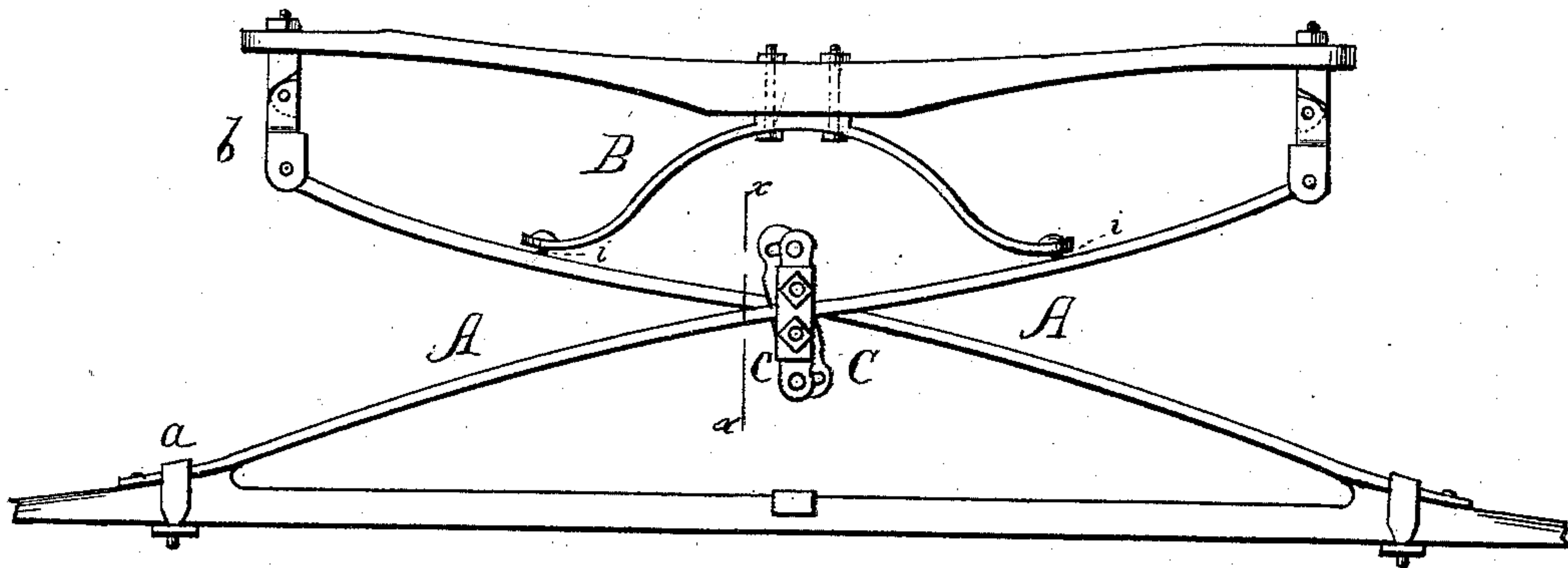


Fig. 2.

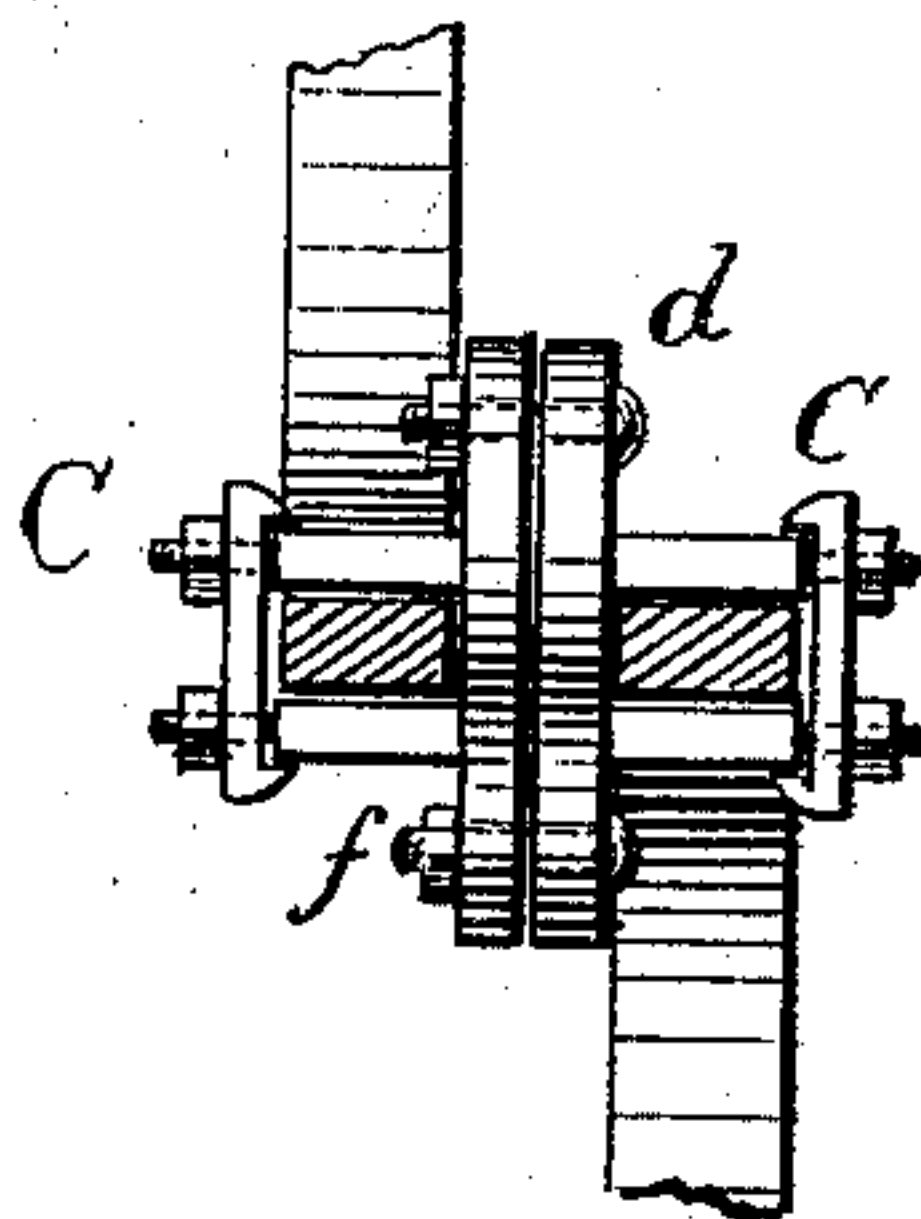


Fig. 5.



Fig. 3.

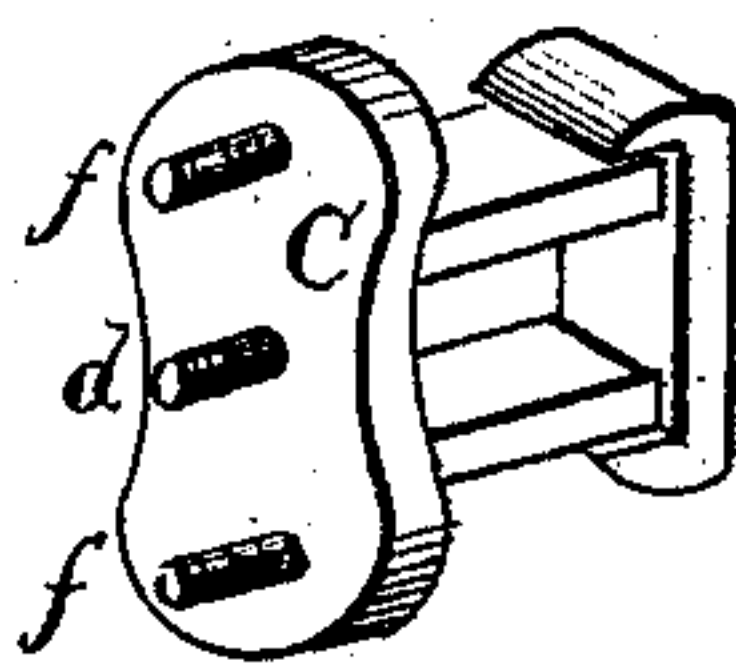
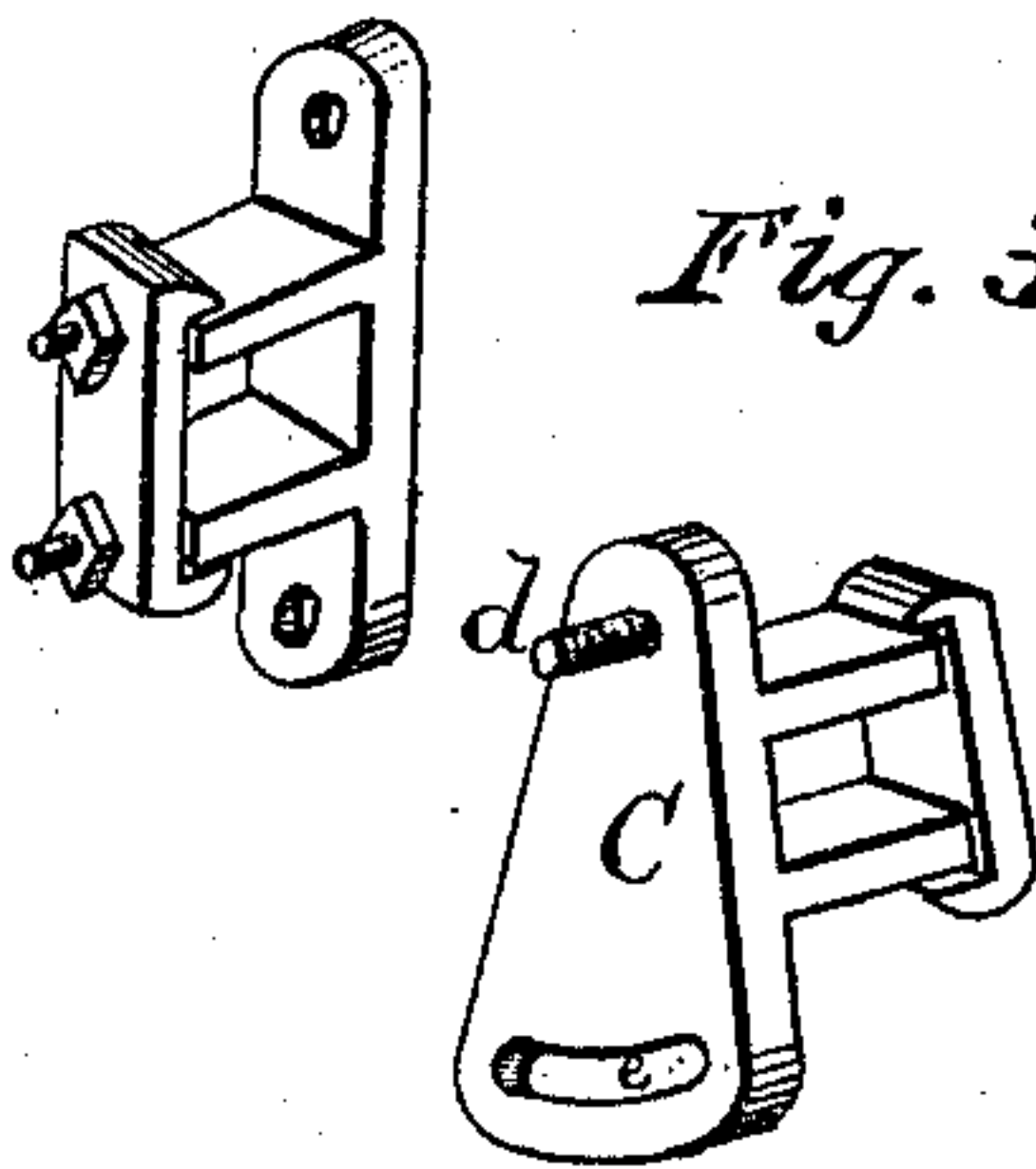
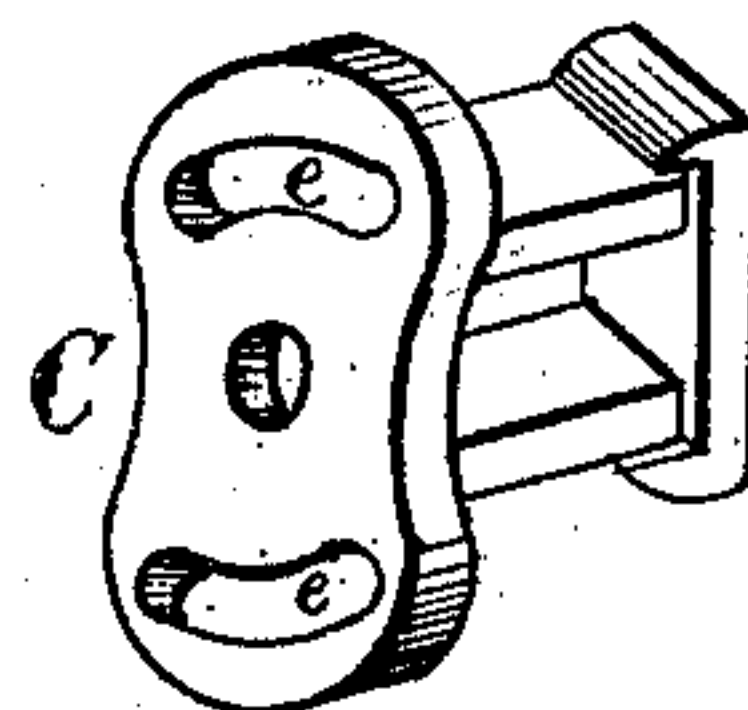


Fig. 4.



WITNESSES:  
P. C. Dieterich.  
H. C. Scott.

INVENTOR:  
H. A. Hight, Sr.  
per. J. H. Alexander  
ATTORNEY

# UNITED STATES PATENT OFFICE.

HENRY A. HIGHT, SR., OF FORT WAYNE, INDIANA.

## IMPROVEMENT IN VEHICLE-SPRINGS.

Specification forming part of Letters Patent No. **169,808**, dated November 9, 1875; application filed July 2, 1875.

*To all whom it may concern:*

Be it known that I, H. A. HIGHT, Sr., of Fort Wayne, in the county of Allen and State of Indiana, have invented certain new and useful Improvements in Carriage-Springs; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

The nature of my invention consists in certain improvements upon Letters Patent No. 151,876, granted to me, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a front elevation of my improved carriage-spring; and Figs. 2, 3, 4, and 5 are detached views of parts thereof.

A A represent two equalizing spring bars or plates or series of plates, which cross each other in the center, or at any other given point desired, so as to suit the width of the carriage-body. Their lower ends are secured to the axle or spring-bar of vehicle by means of clips *a*, and their upper ends by means of jointed connections *b* with the carriage-body. A half-elliptic spring, B, is also secured to the carriage-body, and has its ends resting on the equalizing bars or plates A A. These bars or plates A A are joined together at the point or place of crossing by a double box or clip

coupling, C C. One of these parts is securely fastened to its equalizing-bar, while the other bar passes loosely through the other part of the coupling, and the two parts of the coupling are united in the following manner: The adjoining plates of the coupling are pivoted together at their upper ends by a bolt, *d*, and at their lower ends a bolt, *f*, from one passes through a curved slot, *e*, in the other; or they may be pivoted in the center, and at each end have a bolt from one plate pass through a slot in the other plate. In either case the spring-bars A A are allowed to work easily, while they are, at the same time, coupled together in such a manner as not to get out of their proper positions. In each end of the half-elliptic spring B is a nib or shank, *i*, which enters a slot in the bars or plates A, allowing free motion of the parts, while it prevents them from coming apart.

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

The combination, with the equalizing spring bars or plates A A, of the double coupling C C, arranged as described, and the two parts pivoted together, as and for the purposes herein set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

HENRY A. HIGHT, SR.

Witnesses:

G. I. Z. RAYHOUSER,  
A. H. BITTINGER.