

J. J. UNSWORTH.  
Support for Elliptic Springs.

No. 94,150.

Patented Aug. 24, 1869.

Fig: 1.

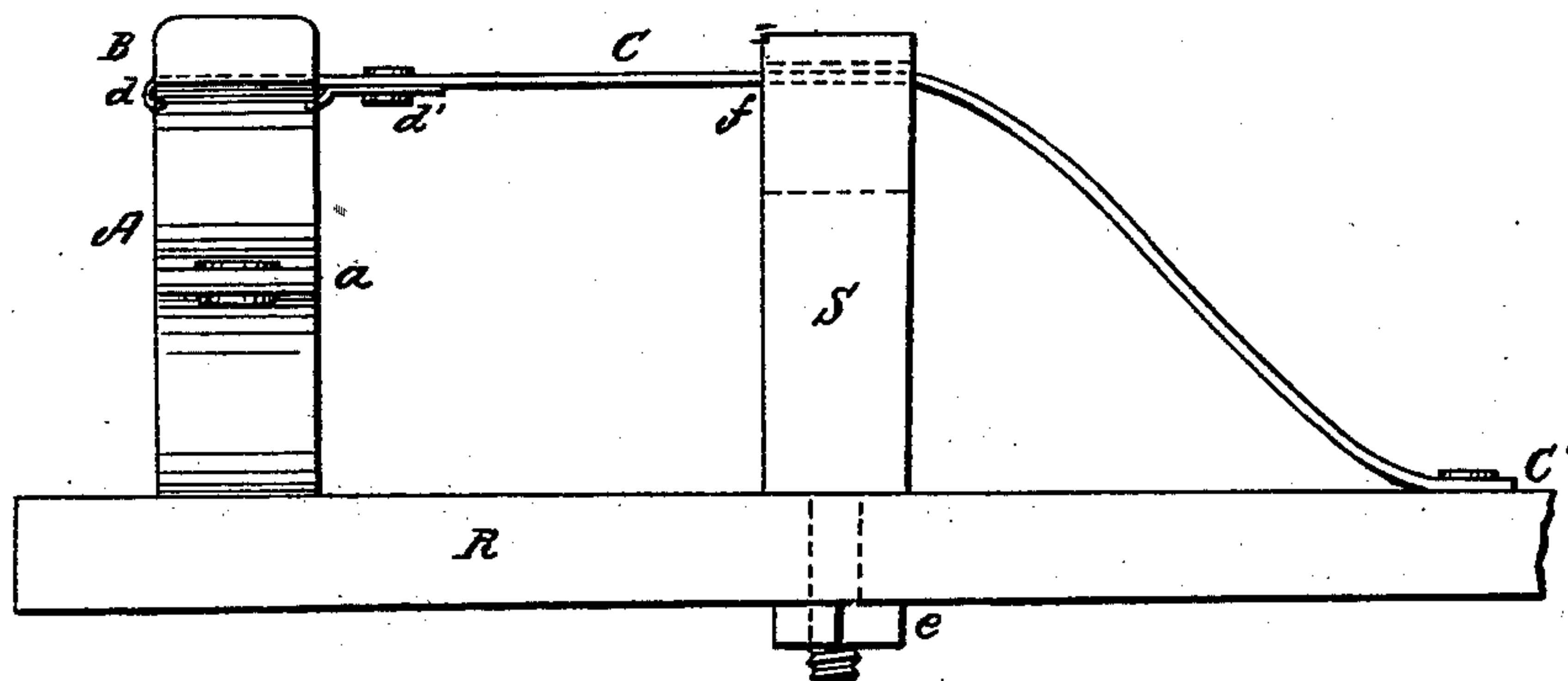
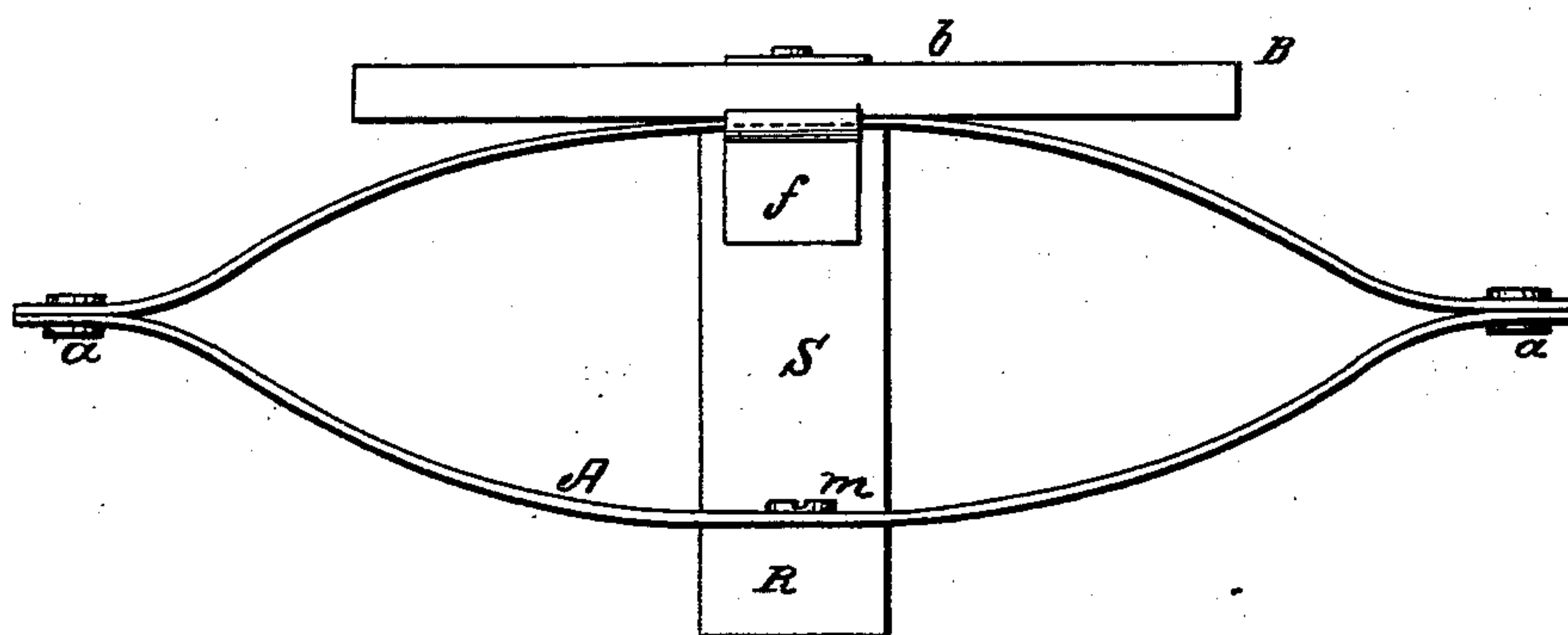


Fig: 2.



Witnesses:  
G. B. Fowler.  
W. T. Burris.

Inventor:  
John J. Unsworth.

# United States Patent Office.

JOHN J. UNSWORTH, OF WASHINGTON, DISTRICT OF COLUMBIA.

Letters Patent No. 94,150, dated August 24, 1869.

## IMPROVED SUPPORT FOR ELLIPTIC SPRINGS.

The Schedule referred to in these Letters Patent and making part of the same.

### To all whom it may concern:

Be it known that I, JOHN J. UNSWORTH, in the city of Washington, in the District of Columbia, have invented a new and useful Improvement in Elliptic Springs for Carriages and other Vehicles of similar character; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

It consists in the spring C, the guide or clutch *d* and *d'*, and the standard S, with receptacle therein, for the rubber, *f*, and spring C, as also, obviously, in the peculiar construction and arrangement of the parts aforesaid.

#### In the drawings—

Figure 1 represents a longitudinal view.

Figure 2 represents a front view.

Similar letters of reference indicate like parts.

My improvement in the construction of elliptic springs for carriages, and other vehicles of similar character, is designed to strengthen said springs, and to render them more elastic, and also less liable to be broken by heavy jolting, or the swaying of the vehicle consequent thereupon.

A represents two pieces of steel, which comprise the ordinary elliptical spring, the same being riveted together at the extremities thereof, as shown at *a*.

B is a wooden bar, which is screwed to the ellipse, the screw projecting from the interior of the said ellipse, through the wooden bar, the bar having a small metallic plate, *b*, located thereon, upon which the end of the screw is riveted.

C is a steel spring, which is screwed to the perch R at *c'*, and to the ellipse.

Said spring passes through the metallic standard S, and over the rubber provided in the aperture of said standard, and thence immediately over the elliptic

spring A, which it overlaps with a flange, *d*, provided or formed thereon. And the piece *d'*, also provided with a flange, and riveted to the spring C, comprises, together with the flange *d*, a guide or clutch for holding the elliptic spring, and causing it, when vibrated, to move vertically.

S represents an iron standard, the upper part of which is quadrilateral, and, from the perch downward, a screw. The screw-portion thereof projects through a suitable aperture in the perch R, and is secured thereto by the nut *e*.

Said iron standard has an aperture, *f*, formed therein, within which is firmly secured a piece of rubber, which latter is a few lines smaller at the upper part thereof than the aperture formed for its reception, in order to admit above it the steel spring C, which is caused to rest or impinge thereon, as aforesaid.

R represents the perch, which is not of peculiar construction, but of such construction as ordinarily obtains in the aforementioned vehicles, excepting that the elliptic spring is screwed to it at *m*, and the longitudinal spring at *c'*, and that the screw of the iron standard S projects through it, and is fastened thereto by a nut, *e*.

### Claim.

The longitudinal spring C, provided with clutch *d* and *d'*, for grasping the elliptic spring A, and the metallic standard S, provided with an aperture, and rubber located therein, the whole being constructed, applied, and arranged to operate in conjunction with elliptic springs, substantially as specified.

JOHN J. UNSWORTH.

### Witnesses:

W. BURRIS,  
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