

W. R. ADAMS.  
Wagon Spring.

No. 238,478.

Patented March 8, 1881.

Fig. 1.

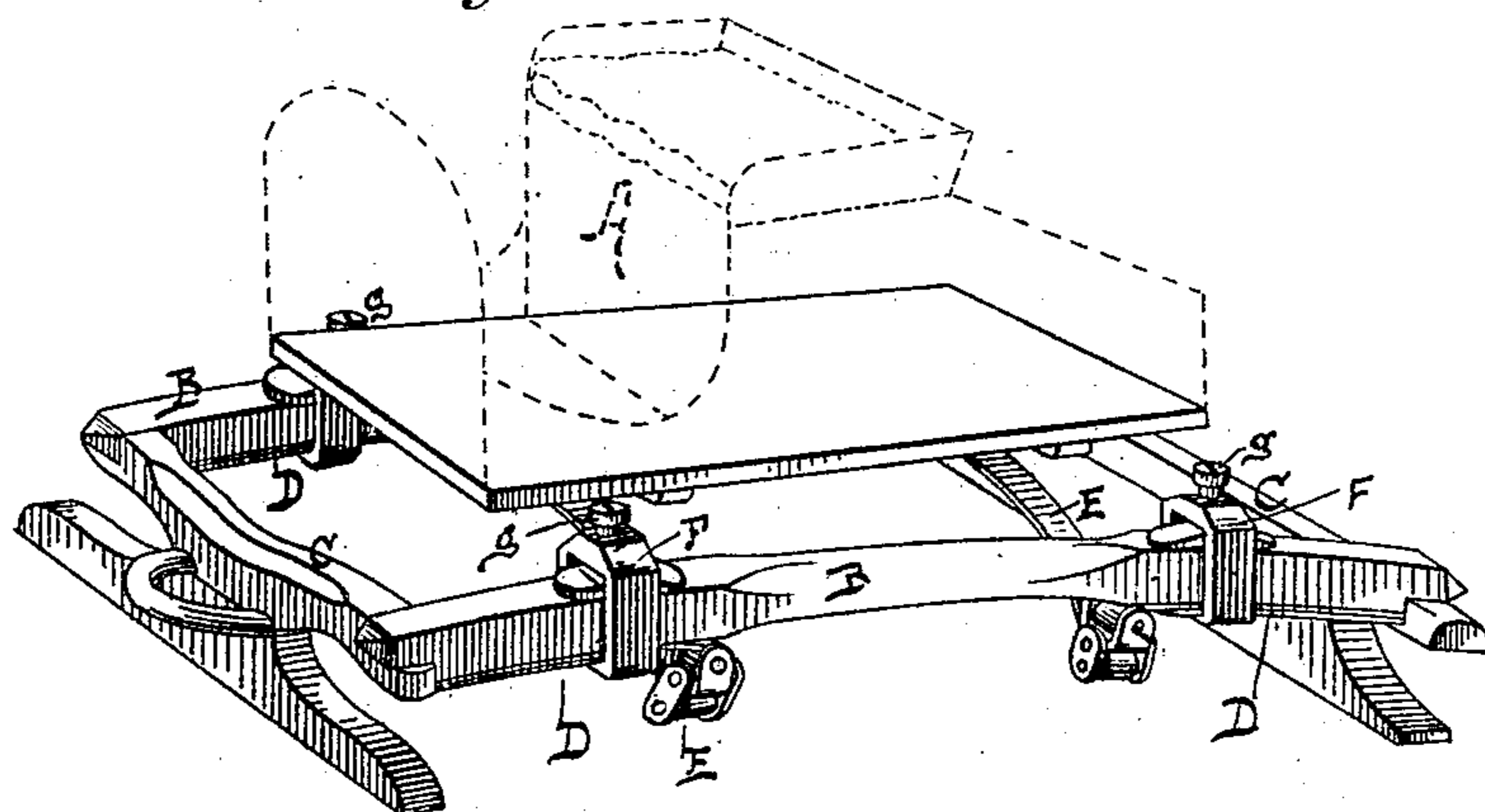


Fig. 2.

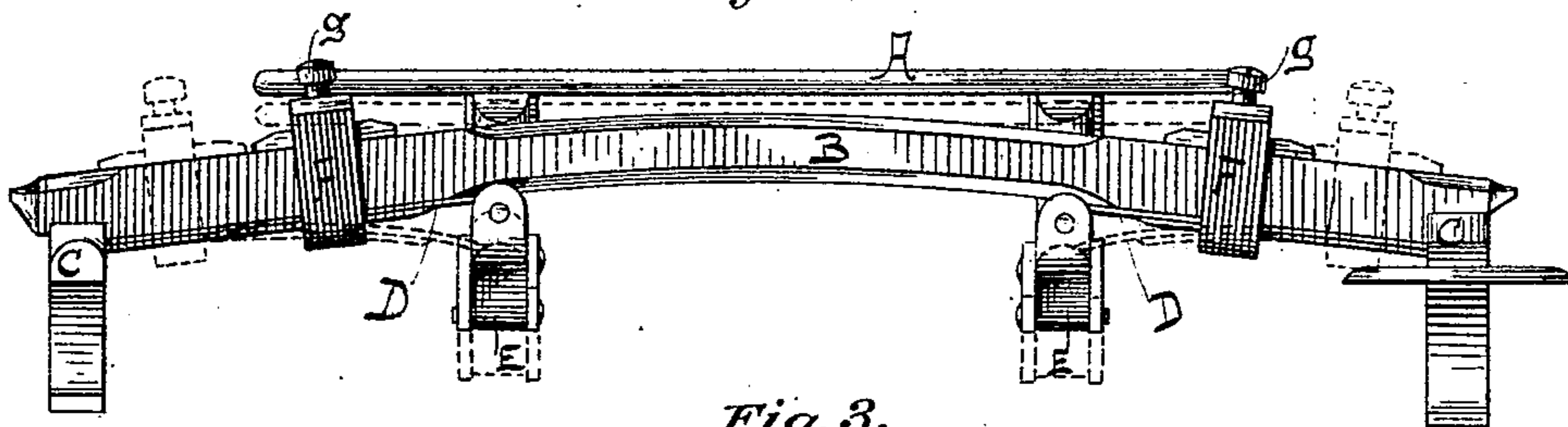
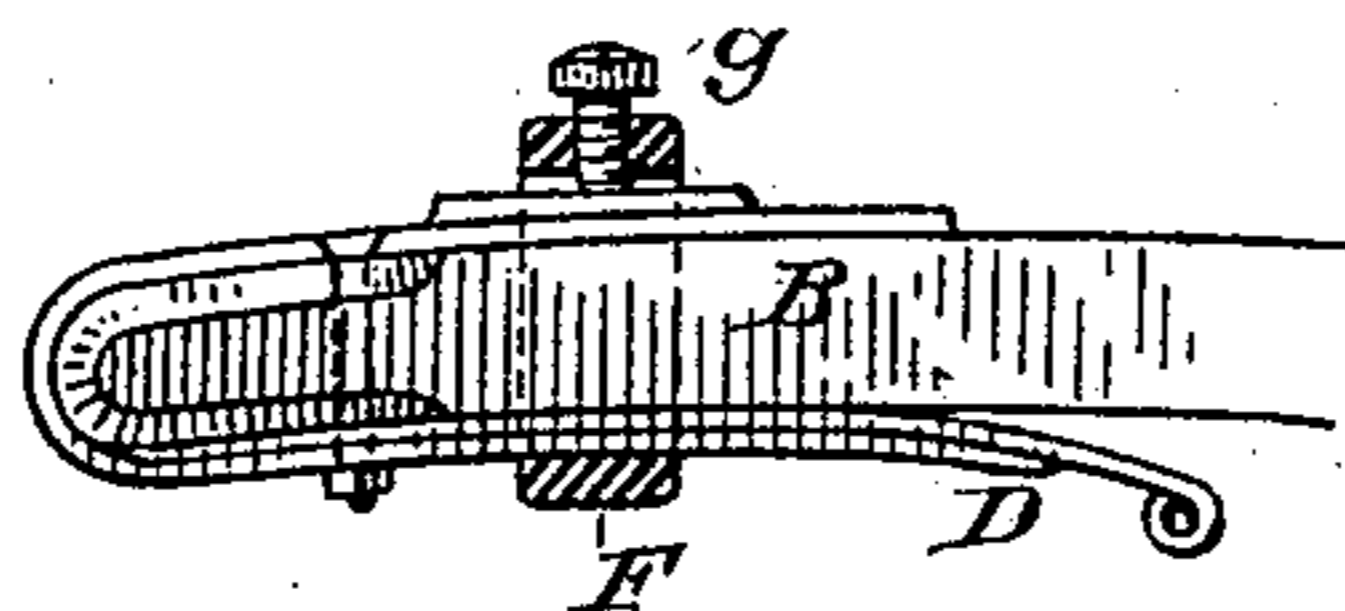


Fig. 3.



Witnesses:

F. Thomason  
R. H. Barnes.

Inventor:

Walter R. Adams  
By his Att'y  
R. D. Smith

# UNITED STATES PATENT OFFICE.

WALTER R. ADAMS, OF SHERMAN, CONNECTICUT.

## WAGON-SPRING.

SPECIFICATION forming part of Letters Patent No. 238,478, dated March 8, 1881.

Application filed February 20, 1880.

*To all whom it may concern:*

Be it known that I, WALTER R. ADAMS, of Sherman, in Fairfield county, in the State of Connecticut, have invented a new and useful  
5 Improvement in Wagon-Springs; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, wherein—

Figure 1 is a perspective view of my im-  
10 provement. Fig. 2 is a side elevation of the same. Fig. 3 is an elevation, showing the clip in section.

The object of my invention is to provide a spring of variable resistance to flexure, where-  
15 by the strength or power of the spring may be adjusted as to the load which it must carry and the excessive depression of the wagon-body under unusual load may be avoided.

My invention, therefore, consists in a wagon-  
20 body and side-bar frame provided with connecting-springs, which are rigidly fixed at one end to said side bar, and made variable as to tension by adjustable clips; also, in connection with the above, cross-springs; and, also, in  
25 the mode of attaching the first-named springs by bending them around the ends of the side bars, so as to inclose the same.

That others may fully understand my invention, I will particularly describe it.

30 A is a wagon-body, and B B are the side bars, which, as usual, are mounted upon the running-gear by means of front and rear cross bars or bolsters, C. The body A is supported upon springs D, either directly or by means  
35 of intermediate cross-springs, E, as may be preferred. The spring D is attached to the side bar, B, near its ends, and, though not essential, I prefer to lap the end of said spring over the end of the side bar, so that the lat-  
40 ter is thereby inclosed between the folds of

the spring, (see Fig. 3,) and is thereby relieved of a large portion of the strain to which it would otherwise be subjected.

The spring D may be attached to the side bar by means of screws or bolts, if desired; 45 but the principal means of attachment is the adjustable collar or clip F, which incloses both spring and side bar. A set-screw, g, serves to fasten the clip F in place, and permits it to be made fast or loose at pleasure. When loose 50 it may be moved forward or backward, and its position determines the length, and consequently the power, of the free end of the spring D. Hence, when the wagon is about to bear an unusual load the clip may be moved to 55 shorten the spring, and the load will then be carried as high and as easily as a lighter load would be carried with a longer spring.

Having described my invention, what I claim is—

1. A wagon-body, A, and side-bar frame B 6c  
C, connected thereto by means of springs D, rigidly connected at one end to said side bars, combined with adjustable clamping-clips F, whereby the effective or free length and 65 strength of said springs may be independently varied.

2. The wagon-body A, and frame composed of bars B B and C C, combined with springs D D, which are made adjustable by means of 70 the movable clamping-clips F and the cross-springs E, substantially as set forth.

3. The side bar, B, combined with the spring D, the fixed end whereof is turned over to in-  
close the end of said bar, and rigidly secured 75 thereto, as set forth.

WALTER R. ADAMS.

Witnesses:

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