(No Model.) 2 Sheets—Sheet 1.

G. H. BENJAMIN.

SPRING CAR BUMPER.

No. 379,528. Patented Mar. 13, 1888.

Fig. 2.

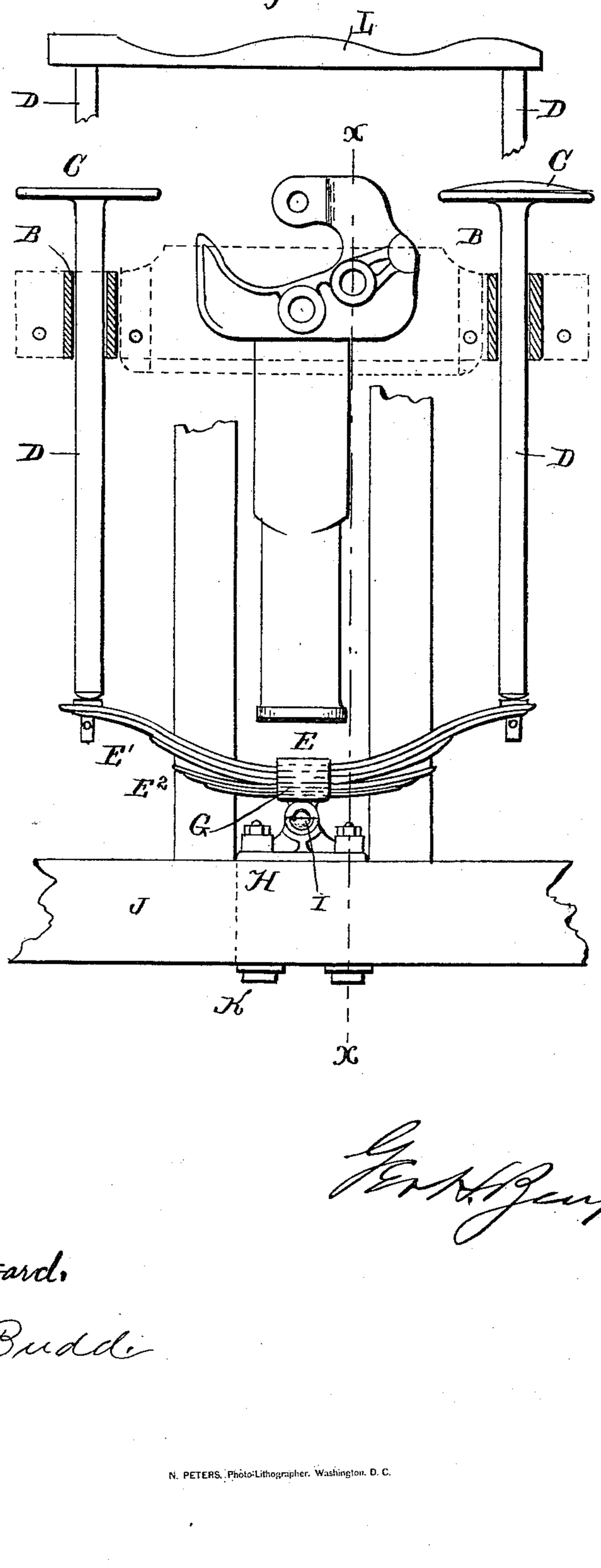

Fig. 1.

WITNESSES:

Ira R. Steward.

F. K. Budd.

Geo. H. Benjamin.

INVENTOR.

(No Model.) 2 Sheets—Sheet 2.

G. H. BENJAMIN.

SPRING CAR BUMPER.

No. 379,528. Patented Mar. 13, 1888.

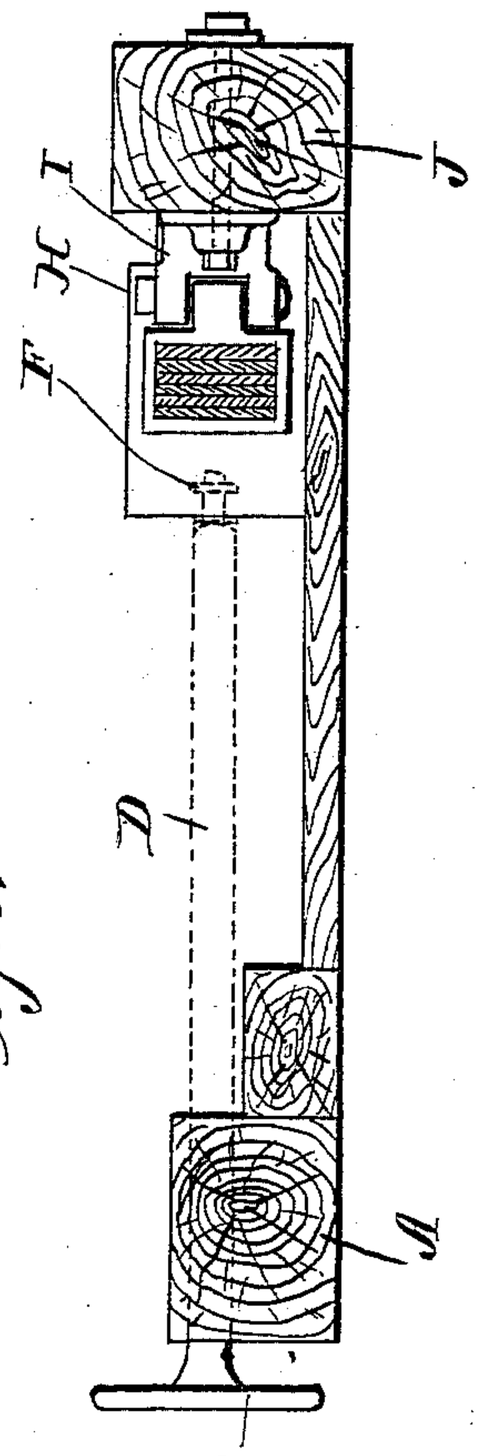

Fig. 3.

WITNESSES:

Ira R. Steward.

F. K. Budd.

INVENTOR

BY

ATTORNEY

UNITED STATES PATENT OFFICE.

GEORGE H. BENJAMIN, OF NEW YORK, N. Y., ASSIGNOR TO THE CONSOLIDATED COUPLING COMPANY, OF NEW JERSEY.

SPRING CAR-BUMPER.

SPECIFICATION forming part of Letters Patent No. 379,528, dated March 13, 1888.

Application filed November 30, 1887. Serial No. 256,492. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. BENJAMIN, of the city, county, and State of New York, have invented certain new and useful Improvements in Spring Car-Bumpers, of which the following is a specification.

My invention relates to spring car-bumpers of the class designed more especially for passenger-coaches; and it consists in the combination, with the buffer-plates, of a half-elliptic spring, the plates of which are arranged in two or more sections, and such sections given a different set or arch, and such spring pivoted to the body-bolster of the car, whereby the buffers are adapted to resist a light or heavy blow, and the spring as a whole serves as an equalizing-bar for the buffers.

In the accompanying drawings, which illustrate my invention, similar letters of reference indicate like parts.

Figure 1 is a plan view of a portion of the end of a railway-car, showing the location of the several parts forming my bumping device. Fig. 2 is a plan view showing a continuous buffer-plate. Fig. 3 is a longitudinal section on the line *x x* of Fig. 1.

In the drawings, A indicates the buffer-beam of a car-platform, B buffer-guides arranged therein, and C the buffer-plates.

D indicates the buffer-stem, passing through the guides B and through the ends of two of the plates of the half-elliptic spring E, being fastened therein by the spring-keys F, Fig. 3.

The half-elliptic spring E is shown as composed of six plates. It may be any number of plates. The plates are shown as divided into two portions or sections, E′ E², and the whole held together by the spring-band G, which is pivoted to the plate H by the pin I. The plate H is secured to the body-bolster J by the bolts K.

The spring E is made in two portions, for the purpose of adapting it to meet different buffing blows. It may be in three or more portions. When the buffing blow is light, the plates E′ resist the blow. When the blow is heavy, the plates E² are brought into action, and all the plates of the spring resist the blow. My object in pivoting this spring is for the purpose of having the spring follow the motion of the buffer-plates, as when a car rounds a curve, and thus preserve the normal position of the spring relative to the buffer-plates, so that the spring, whatever the position of the buffer-plates, does not change its relation as regards them, thus serving as an equalizing-bar in addition to its function as a spring.

Instead of using the two buffer-plates, as shown at C, I may use a continuous buffer-plate, L, connected to the buffer-stems. By reason of this arrangement the buffing apparatus may be utilized with either a buffer of the Miller or Janney type without requiring any change or addition of parts.

I do not wish to limit myself to the precise construction of spring shown in the drawings, as various modifications may be made therein without departing from the intent of my invention.

I claim as my invention—

1. In a spring car-bumper, the combination, with the bumper-stems, of a half-elliptic spring pivoted to the body-bolster of said car, substantially as described.

2. In a spring car-bumper, the combination, with the buffer-stems, of a half-elliptic spring, the leaves of which are divided into two or more portions, and said portions having a different set or arch and said spring pivoted to the body-bolster of said car, substantially as described.

3. In a spring car-bumper, the combination, with the buffer-stems, of a half-elliptic spring composed of two or more sets of leaves, the set or arch of which differs, of a spring-band for said leaves, and said band pivoted to the body-bolster of said car, substantially as described.

4. In a spring car-bumper, the combination, with the buffer-stems, of a half-elliptic spring composed of two or more sets of leaves having a different set or arch, and one set of leaves connected to said buffer-stems, and said spring as a whole having a pivotal attachment to the car wherein it is placed.

5. In a spring car-bumper, the combination, with a continuous buffer-plate and the stems therefor, of a half-elliptic spring pivoted to the frame of the car, substantially as described.

6. In a spring car-bumper, the combination, with the buffer-stems, of a half-elliptic spring attached to said stems and a pivotal connection for said spring, whereby said spring serves the purpose of an equalizing-bar and follows the motion of the stems to which it is attached, substantially as described.

In witness whereof I have hereunto set my hand this 19th day of October, 1887.

GEO. H. BENJAMIN.

Witnesses:
IRA R. STEWARD,
F. BUDD.