(No Model.)

2 Sheets—Sheet 1.

T. S. MANNING.

TRACK CLEARER.

No. 302,576. Patented July 29, 1884.

FIG. 1.

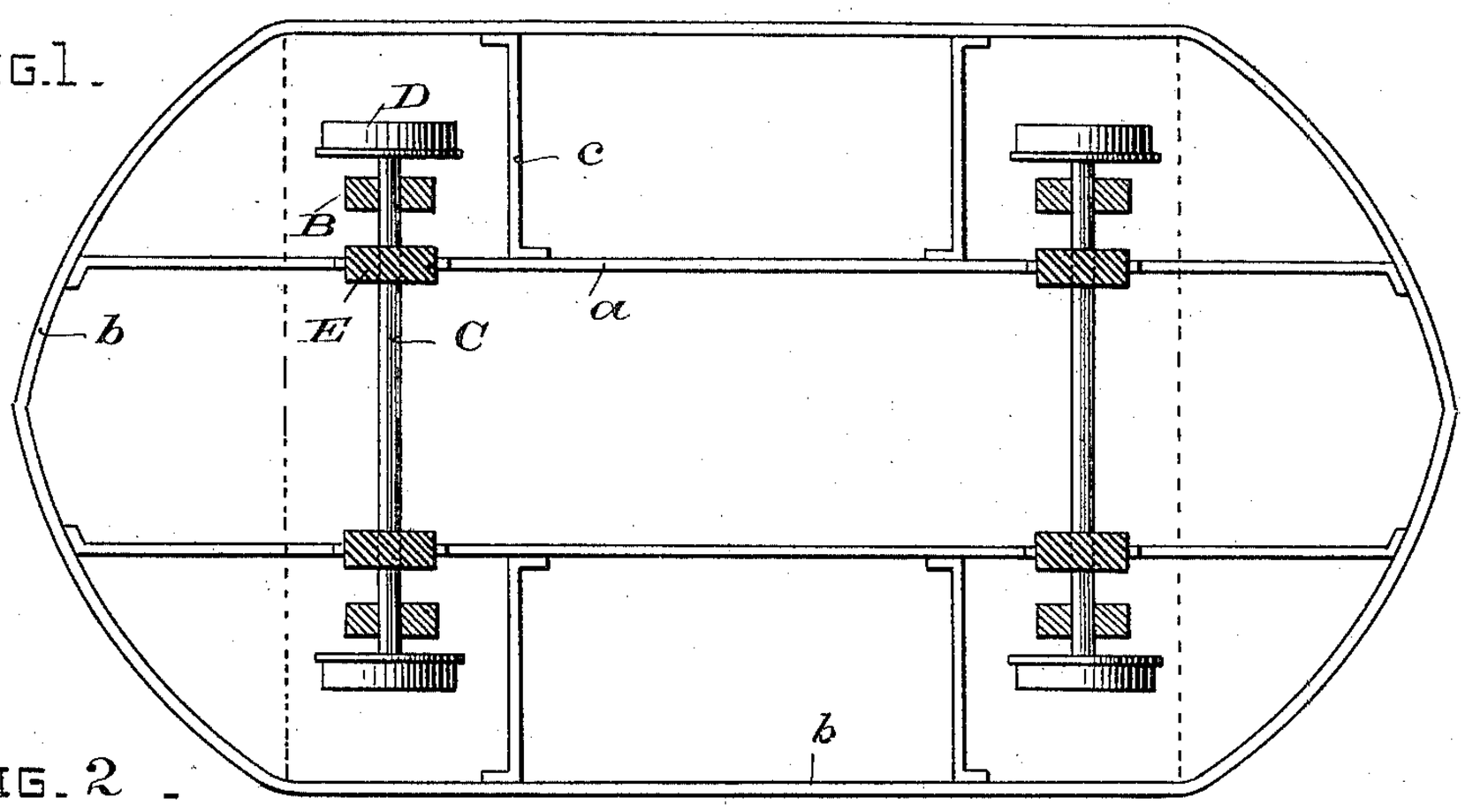


FIG. 2.

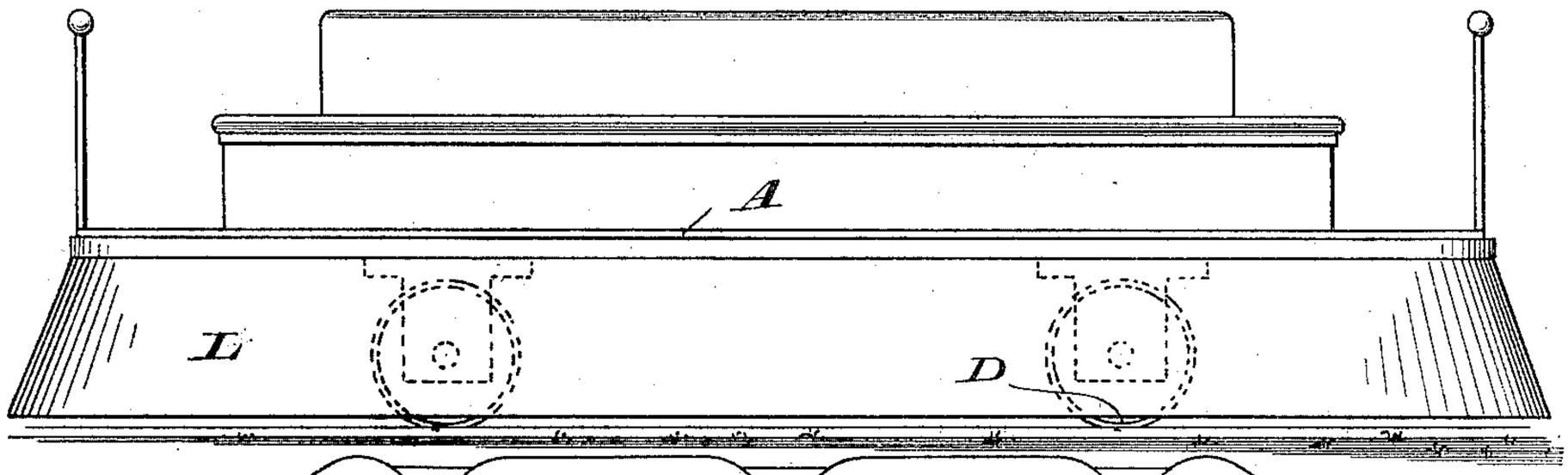
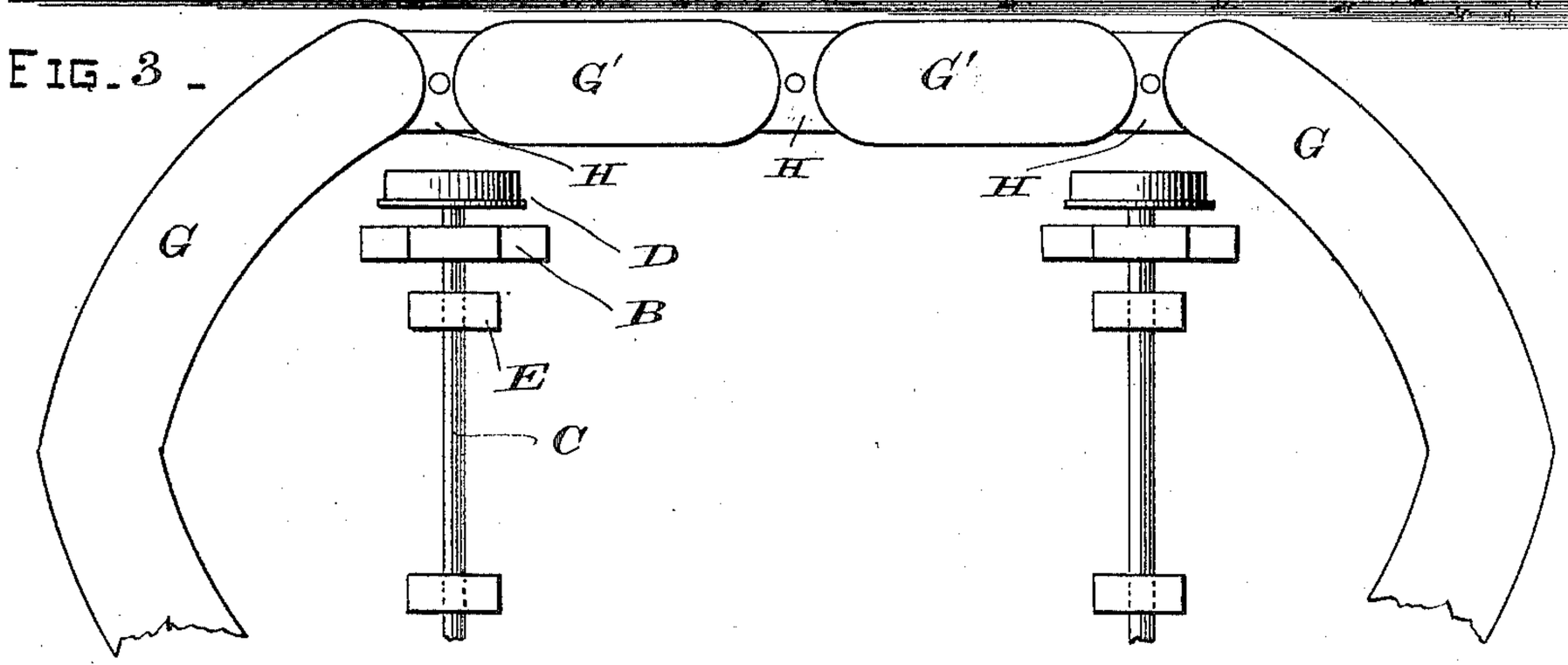


FIG. 3.



WITNESSES

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Attorney.

(No Model.)

2 Sheets—Sheet 2.

T. S. MANNING.

TRACK CLEARER.

No. 302,576. Patented July 29, 1884.

FIG. 4.

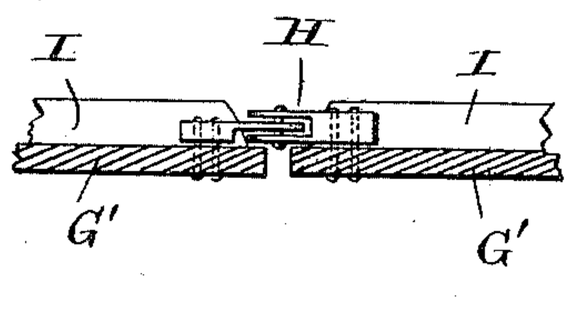


FIG. 5.

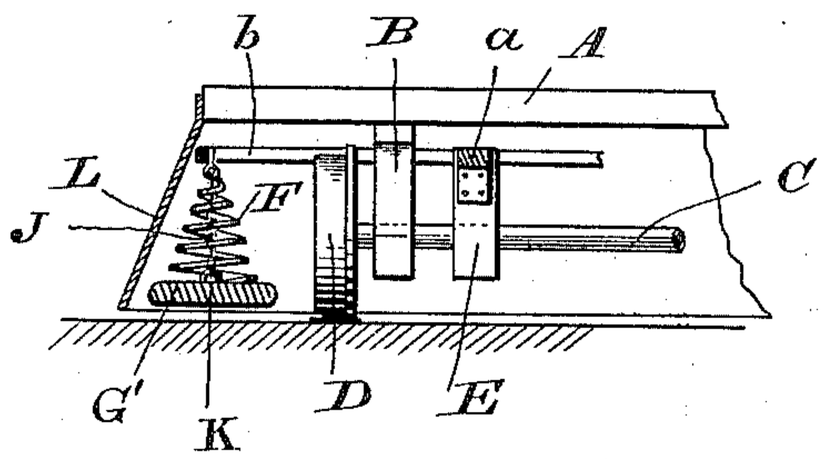
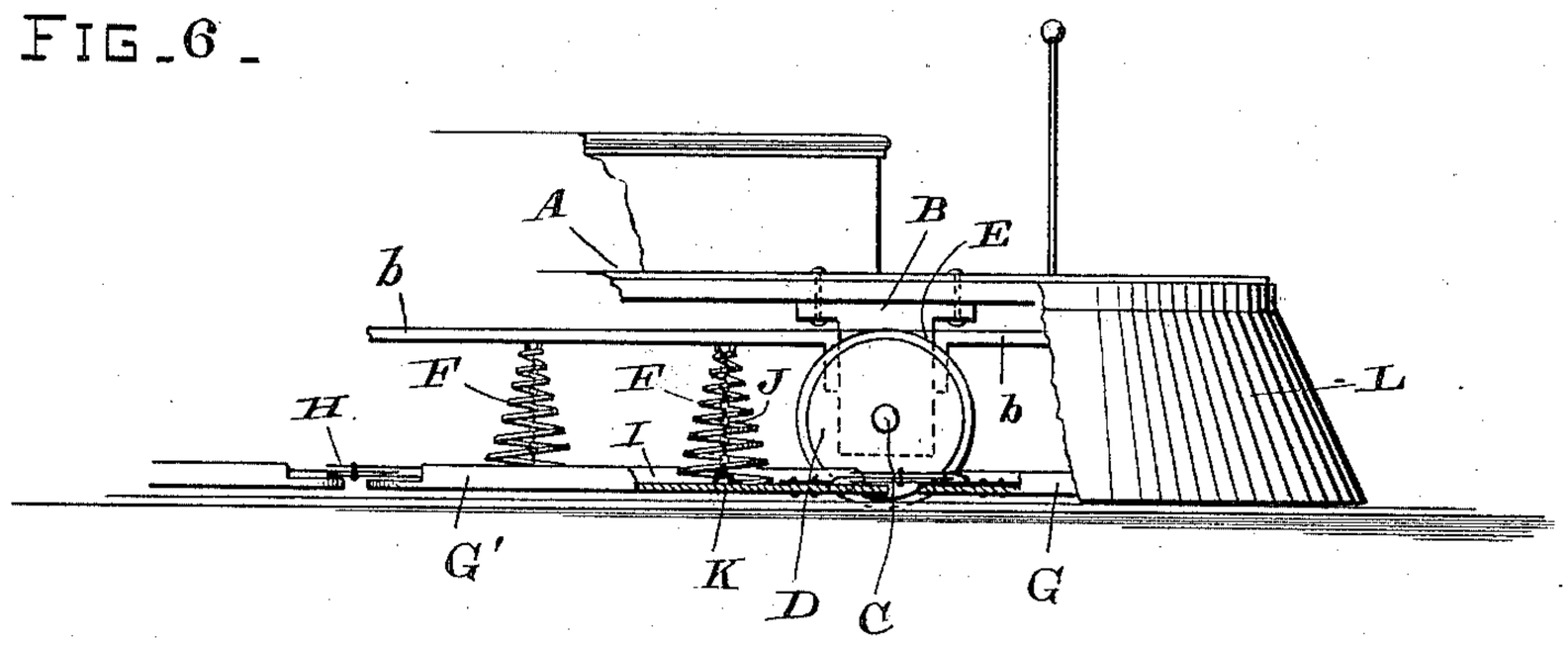


FIG. 6.



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UNITED STATES PATENT OFFICE.

THOMAS S. MANNING, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR OF ONE-HALF TO WILLIAM B. HOOPER, OF SAME PLACE.

TRACK-CLEARER.

SPECIFICATION forming part of Letters Patent No. 302,576, dated July 29, 1884.

Application filed March 31, 1884. (No model.)

To all whom it may concern:

Be it known that I, THOMAS S. MANNING, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Track-Clearers, of which the following is a specification.

In the accompanying drawings, forming a part of this specification, Figure 1 is a plan view of the rigid frame attached to the car-axles. Fig. 2 is a side elevation representing my improvement applied to the platform of a dummy-car. Fig. 3 is a bottom view, partly broken away, showing the flexible fender or hinged guard. Fig. 4 is a side elevation of the hinge-joint connecting two sections of the hinged guard. Fig. 5 is a vertical cross-section through one of the sections of the hinged guard. Fig. 6 is a sectional side elevation showing the floor of the dummy, the suspended independent fender-supporting frame-work, the coiled springs, and the guard or fender, with their suspending-chains and connecting-hinges.

Similar letters of reference are used to indicate like parts throughout the several figures.

A represents the floor or frame-work of a dummy or car; B, the journal-boxes for the car-axles; C, the axles, and D the wheels.

To the boxes E, mounted upon the car-axles near either end thereof, I attach the beams *a*, extending fore and aft from box to box, and projecting outwardly beyond the line of the axles to the front and rear of the dummy or car-frame. The outer ends of these beams are flanged over, and are bolted to the continuous iron band *b*, which completely surrounds the car, passing outside of the wheels, and is braced at the sides by the stays *c c*, made of flat or angle iron, and having their ends flanged over to receive the bolts which connect with the surrounding band and with the beams *a*. The whole frame-work may be made of either flat or angle iron, and the meeting ends may be flanged up and riveted or bolted, or may be brought together with square joints, and the connection made by separate cast or wrought angle-irons. Thus it will be seen that I am enabled to obtain a strong, durable, and cheap frame for the support of the flexible guard or fender, and one which can be placed and maintained at any desired elevation above the roadway or track, and entirely disconnected from, and not affected by, the springing motion of the car-body, which is mounted upon springs in the usual manner.

From the outer surrounding band of the rigid frame-work above described are suspended spiral springs F. These springs are placed, at suitable intervals apart, around the said outer band, *b*, and, increasing downward from the point of smallest diameter to the base, are connected to the linked or chain frame-work of the flexible guard. The guard or fender consists of two inclined triangular or curved advance pieces or pilots, G, which are suspended at the front and rear ends of the car or dummy, and to these are connected the intermediate flat links or plates, G′, by means of joints H, which permit the links and advance pieces to be forced backward or inwardly when an opposing object comes in contact with them, and, when the object is removed, will assume their position again in line. The upper faces of the links and advance pieces or pilots are provided with broad flat grooves I, in which the ends or arms of the joints of the system work, and they are connected or held to the ends of the links by suitable bolts.

In order to limit and control the forward and backward movement, and also the lateral movement of the system or links of the track-clearer, and also for supporting and upholding it, I provide chains J, which are attached to the surrounding band *b* of the frame-work, and extend downward through the spiral springs and connect with the eyebolts K K, around which the end coils of the spiral springs pass. By this means, also, the spiral springs are supported and the links and advance pieces prevented from coming in contact with the wheels D of the car.

To the outer edge or face of the frame-work or platform of the car or dummy, I attach an apron or net-work, L, which may be of canvas, leather, or other flexible material of sufficient strength to receive the shock of an object coming or falling suddenly upon or against it, and which is nailed or otherwise

confined to the edge of the platform of the car-body, and hangs loosely downward and overlaps the outer edge of the fender, and closely approaches the surface of the ground, and thereby prevents the passage of any obstruction through the space left between the top edge of the fender and the lower side of the car-floor.

It should here be observed that the linked connections of this track-clearer are so far removed from the wheels of the car or dummy that no object can come within the line of their trend, neither will the track-clearer come in contact with the wheels, as the connecting or suspending chains will limit the lateral as well as the end and vertical movements.

In practice, the track-clearer is suspended from the frame-work (attached to the wheel-axles) in such a manner as to just clear the face of the track-rails and provide for the inequalities of the track; and when coming in contact with opposing objects, whether animate or inanimate will quickly displace them, and in the former case without loss of life or serious injury to body or limbs, as but a slight shock will be felt when contact takes place, by reason of the yielding capacity of the jointed and flexible parts embodying my invention.

I do not confine myself to the use of chains for supporting the hinged fenders or links, as rods provided with turn-buckles will answer every purpose; and although this invention is especially applicable to traction or endless cable cars, yet it may be applied with equal advantage to horse-cars and to steam-cars.

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

1. A flexible track-clearer consisting, essentially, of the advance pieces or pilots and connecting links and joints, and adapted for lateral and end movement when coming in contact with opposing objects, by means of flexible connections with a supplemental supporting frame-work attached to the car-wheel axles, and the frame or links of the track-clearer, constructed, arranged, and operating substantially in the manner as herein set forth and specified.

2. The pointed or inclined advance pieces or pilots and their respective side links having jointed connections, in combination with the spiral springs and suspending-chain connections adapted for vertical, lateral, and end play, constructed, arranged, and operating substantially in the manner as herein set forth and specified.

3. The combination of the car-frame A, having journal-boxes B, the axles C C, having wheels D and boxes E, the beams *a a*, bands *b b*, stays *c c*, springs F F, linked guards or fender G G′ H, the chains J J, and the apron L, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand and seal.

THOMAS S. MANNING. [L. S.]

Witnesses:
WILMER BRADFORD,
CHAS. E. KELLY.