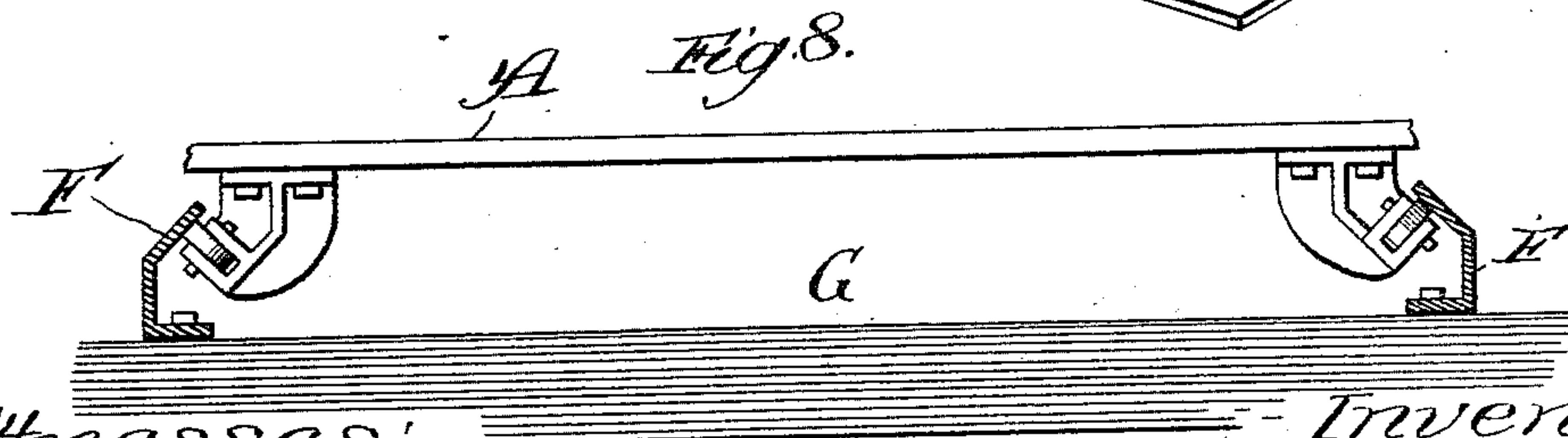
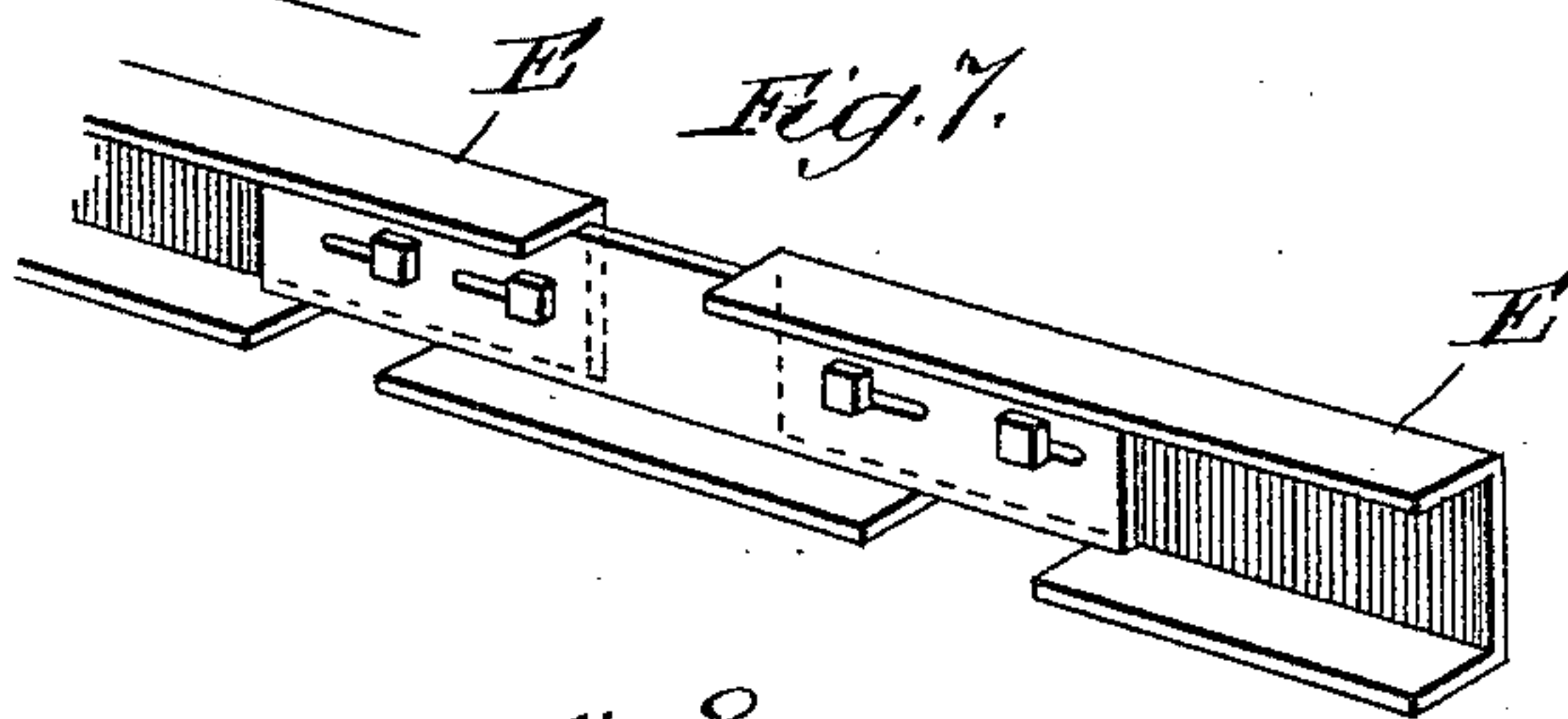
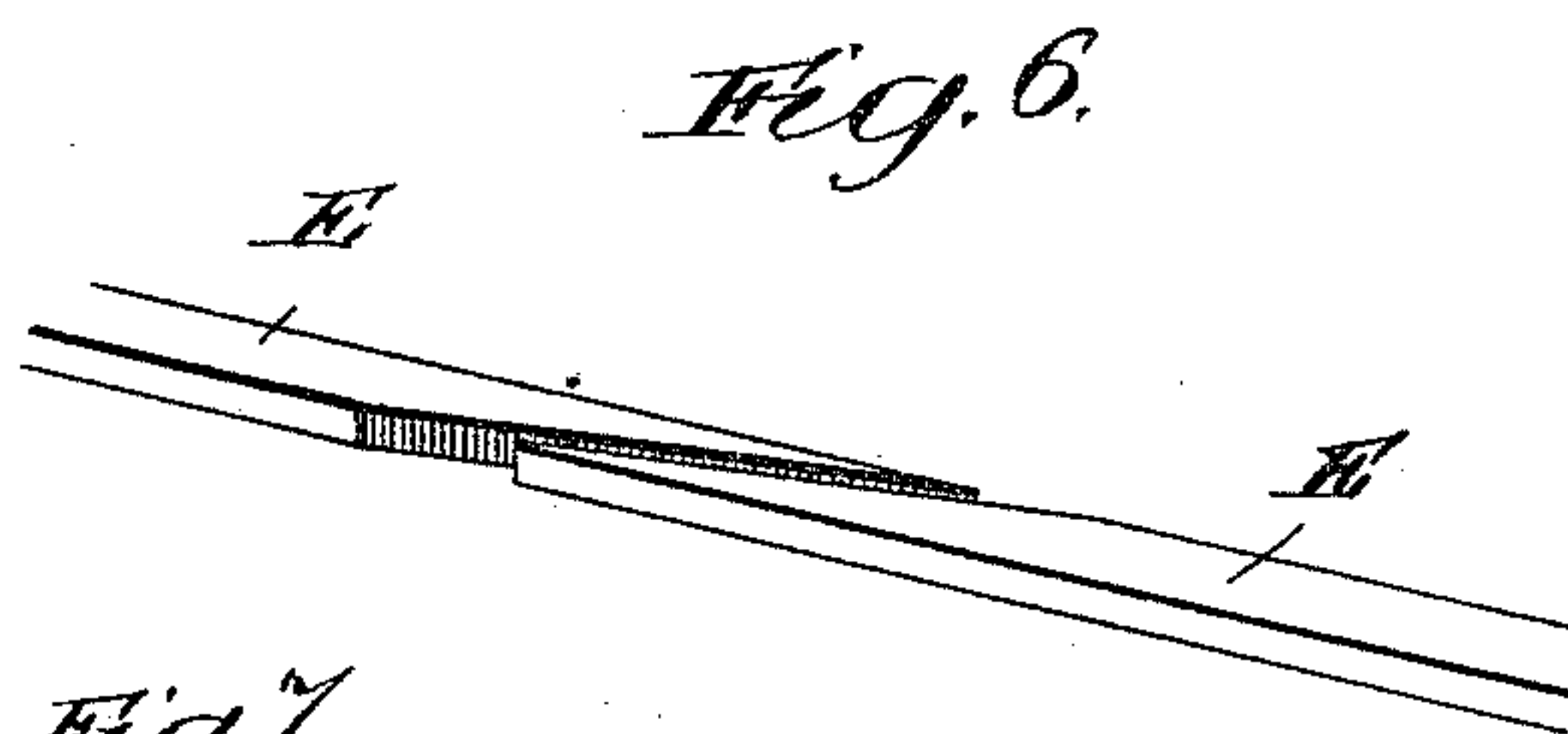
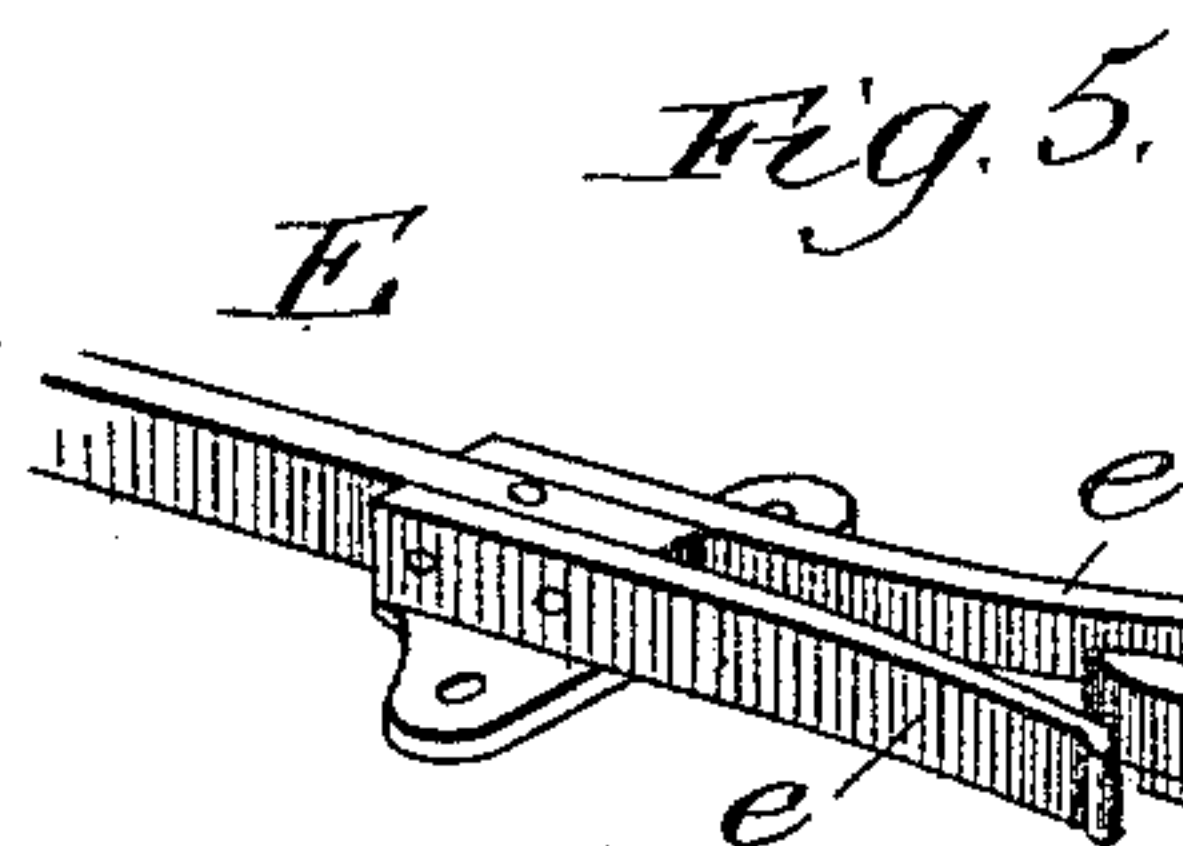
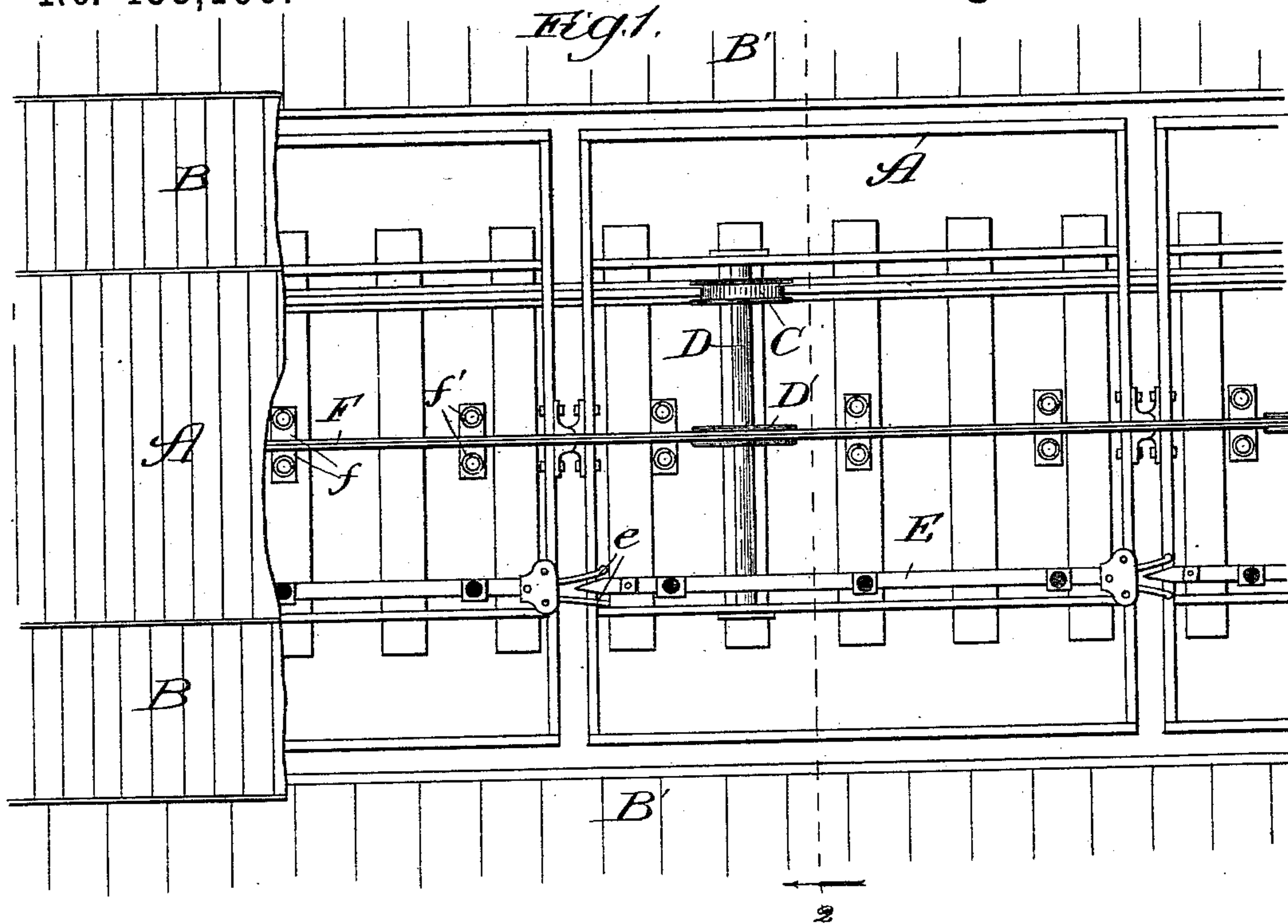


J. L. SILSBEE.
RAILWAY CONSTRUCTION.

No. 458,196.

Patented Aug. 25, 1891.



Witnesses:
Chas. E. Gaylord,
Clifford P. White

Inventor:
Joseph L. Silsbee,
By Banning & Banning & Payson,
Attys

(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

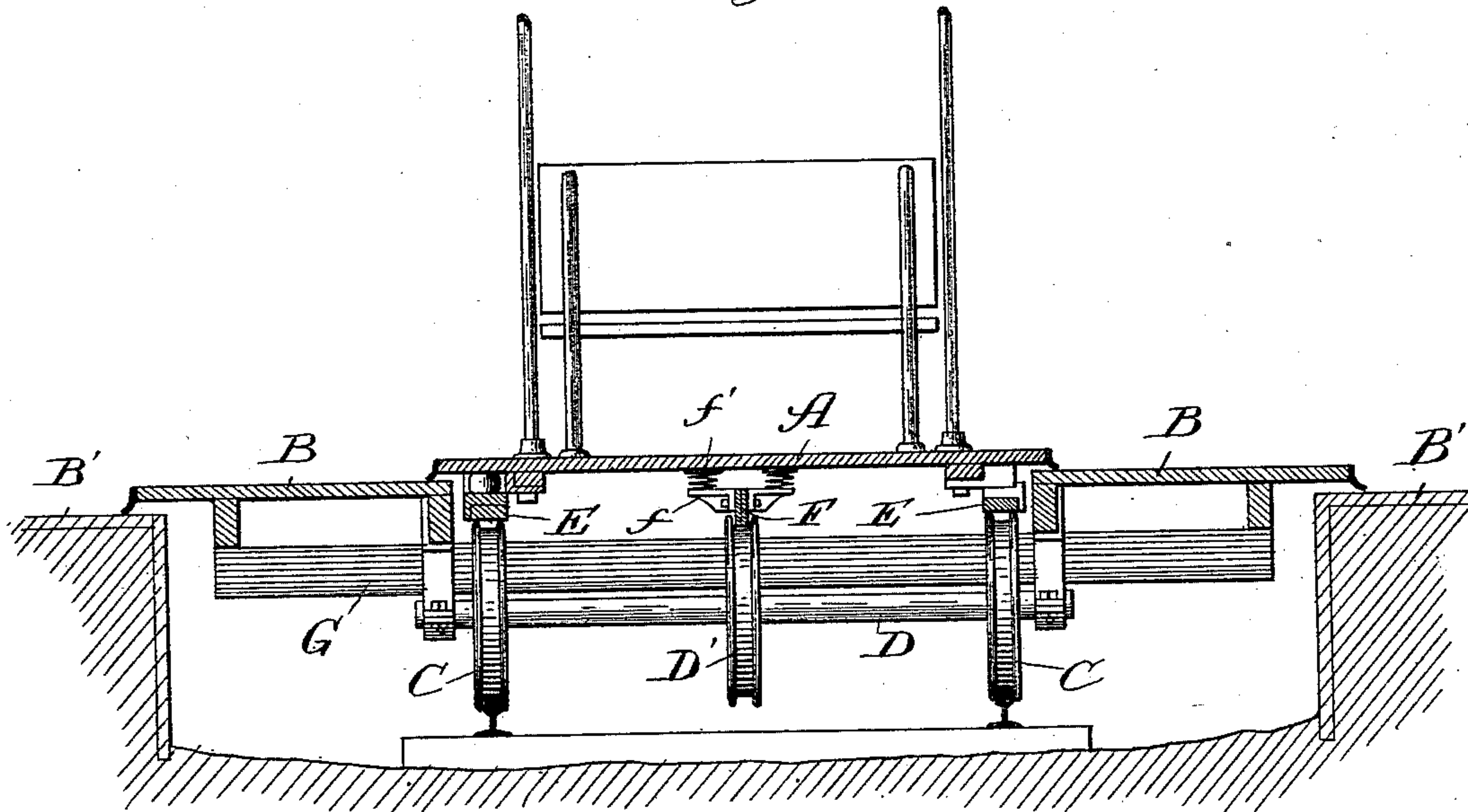


Fig. 3.

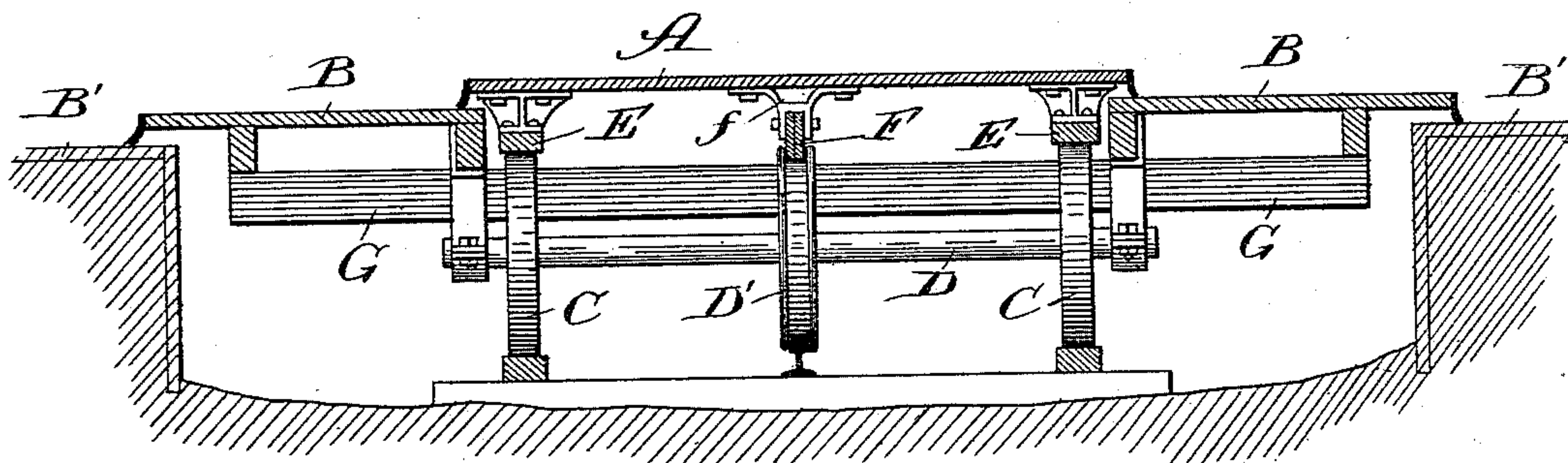
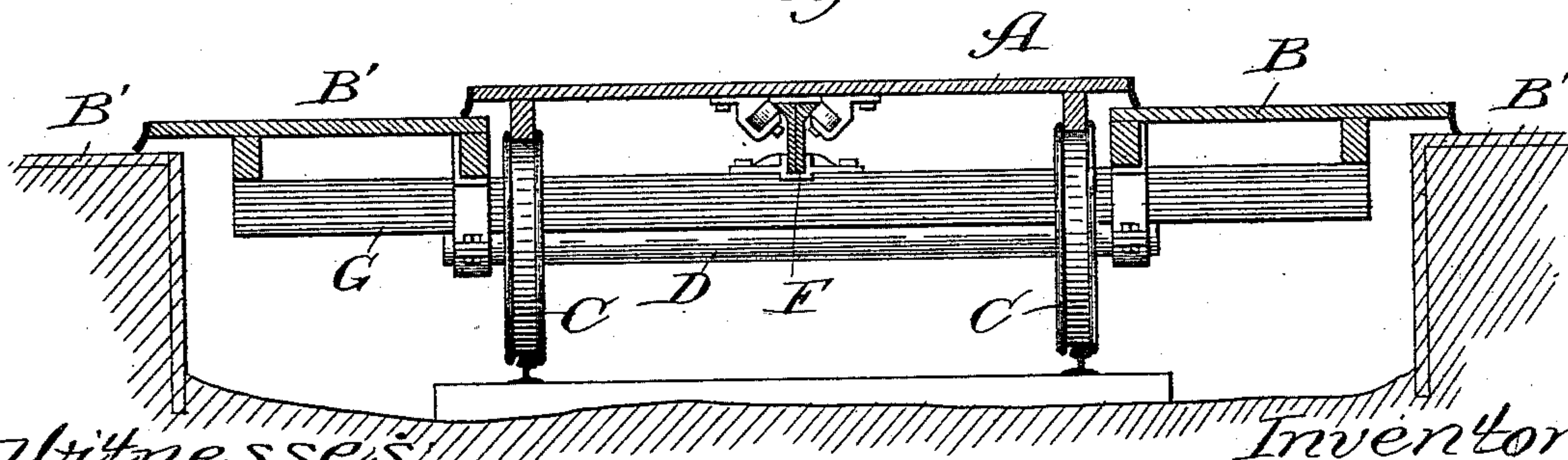


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOSEPH L. SILSBEE, OF CHICAGO, ILLINOIS.

RAILWAY CONSTRUCTION..

SPECIFICATION forming part of Letters Patent No. 458,196, dated August 25, 1891.

Application filed February 14, 1891. Serial No. 381,447. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH L. SILSBEE, a citizen of the United States, residing at Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Railway Construction, of which the following is a specification.

The invention sought to be covered herein is intended as an improvement upon that shown in Letters Patent of the United States, No. 440,725, issued November 18, 1890, to myself and Max E. Schmidt for an improvement in railway construction. In that patent we showed and described a railway for the transportation of freight and passengers in which the cars were supported on movable tracks or traveling rails resting upon the peripheries of suitably-connected wheels, so that as the axles connecting such wheels traveled at a certain rate of speed the cars supported upon the peripheries of the wheels ran at double such speed. The traveling rails to which the cars were attached were two in number, and were made flexible in order to enable the train of cars to move around curves of various radii.

The cars in the present invention are preferably provided with three rails, only one of which is flexible, the others being jointed or connected at the ends of the cars in such manner as to enable the latter to pass around curves. The flexible rail may be the rail from which the motion is derived, or it may serve merely as a guide, and may be attached to the cars or to the frame-work which supports the platforms at the side of the cars, as may be desired; and the invention consists in the features and details of construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a plan view of a portion of a train of cars, together with the traveling and stationary platforms, part of the floor of the cars and the traveling platforms being removed to show the construction of the track and parts beneath the car; Fig. 2, a vertical cross-section on line 2 2 of Fig. 1, looking in the direction of the arrow; Figs. 3 and 4, similar cross-sections illustrating modifications of the invention; Figs. 5, 6, and 7, details showing the construction of the rigid traveling rails, and Fig.

8 a detail showing a modification of the construction shown in Fig. 4.

The cars A, traveling platforms B, wheels C, and axles D are made in the manner described in the previous patent, and, inasmuch as their construction, except as hereinafter set forth, forms no part of the present invention, they require and will receive no further description. When made in the form shown in the first two figures of the drawings, the axle D is provided with a flanged wheel or drum D', as shown. The rigid rails E are connected with the car by means of springs or in any other suitable manner, and rest, as shown, upon the peripheries of the wheels C, which may be made in any suitable form with one or two flanges or without flanges, as shown in Fig. 3, thus depending upon the manner in which the flexible rail is used, as a guide or as a means whereby the motion is communicated to the train. The flexible rail F runs, as shown, beneath the center of the car, to which it is attached, preferably, by means of brackets *f*, between which and the car I interpose suitable springs *f'*. This flexible rail may be constructed in any suitable manner—as, for instance, it may be made of a piece of steel or of two or more pieces of steel laid side by side and secured together in such a way as to allow them to play upon each other or slide when passing around curves—such a form of rail, for instance, as shown in the patent above referred to, or any other form which will afford the necessary flexibility. This rail travels, as shown, between the flanges of the wheels D', the motion of the car being obtained by the friction between the rails E and the wheels C, the center rail acting as a guide to prevent the side rails from slipping off the wheels. It is not necessary, therefore, that the center rail should rest upon the periphery of the wheel D', but simply enter between the flanges sufficiently to prevent sidewise movement of the car. This wheel D' could be made of any suitable size, and although it is not essential, yet the flexible rail may, if desired, rest upon its periphery, in which case all three wheels will act together to drive the car.

As I have said above, the rigid rails are attached beneath the car-body at each side

at a suitable point to travel upon the wheels C. As these rails do not bend, they cannot be continuous or made in a single piece, and some means is necessary for connecting them between the ends of adjacent cars, so as to form a practically continuous track, in order to prevent bumping or jarring as the various cars pass over the wheels. This result may be attained in various ways, and in Figs. 5, 6, and 7 I have shown three forms in which this can be accomplished, without, however, intending to limit myself to such forms or either of them, the gist of my invention in this particular consisting in providing rigid or unbending rails connected at their ends, so as to form a practically continuous rail, yet in such manner as to admit of passing around curves either by sliding upon or within each other or in any other suitable manner. As shown in Fig. 5, the end of one rail is provided with two strips *e*, attached to either side thereof and branching out to a suitable length. The end of the rail next adjoining enters between these pieces and is preferably beveled, as shown. By means of this construction I form a practically continuous rail, each piece of which is rigid or independent, but the ends of which are so connected that as the car travels around a curve the rails will travel smoothly and continuously over the supporting-wheels.

In Fig. 6 I have shown another form wherein the adjacent ends of the rails are beveled and adapted to slide upon each other as the cars pass around curves, still affording a practically continuous but rigid rail.

In Fig. 7 I have made use of pieces of channel-iron, jointed together by means of bolts and slots, as shown, portions of the flanges being cut away to allow the sections of the rail to slide within each other. This idea can be carried out in a variety of other ways, but I do not consider it necessary to show them.

In Fig. 3 I have shown a modified form of the car, wherein the side wheels are unflanged and travel upon flat rails or strips of metal or other material, and the center wheel is flanged and travels, as shown, upon an ordinary railroad-rail placed between the outer rails. The flexible rail *F* may be made in any suitable manner, and is secured to the car by means of brackets *f* of a somewhat different form from those shown in Figs. 1 and 2. The rails in this case preferably rest upon the periphery of the wheel; but this is not essential, since the motion may be derived from the side rails *E*, the center rail and wheel acting simply as guides to prevent the cars and side wheels from becoming derailed.

In Fig. 4 I have shown still another form, wherein the flexible rail is wedge-shaped in cross-section and is attached to the beam *G*, which connects the outer ends of the platforms *B* and assists in supporting them. Wheels *H* are attached to the car-floor by means of brackets *h*, and the flexible rail

travels between these wheels, as shown, and may support the car or merely serve as a guide to keep the car upon the rails, and in any event serves from its peculiar form and the way in which the wheels engage it to steady the car. If desired, this steadying and guiding of the car can be attained by means of the construction shown in Fig. 8, where I have two flexible rails fastened to the cross-bar which supports the platforms, one at either side of the cars, and set, as shown, at an angle, so that the wheels engage with the under side of it and hold the car to the rails and steady.

In the claims I have used the word "connected" when speaking of rigid rails. By this I do not mean that the ends of the rails are fastened together in any way, but merely that they abut or engage or are otherwise so constructed as to form a rail that, while rigid and arranged to bend at the section's end, is yet continuous to avoid jarring.

I claim—

1. A rigid traveling rail made in sections connected at their ends in such manner as to enable the rail to travel around curves, substantially as described.

2. A rigid traveling rail made in sections loosely connected at their ends, forming a continuous rail capable of bending upon itself, whereby it is enabled to travel around curves, substantially as described.

3. In a railway for increasing the speed of the car over that of the axle, a car provided with three traveling rails, at least one of which is flexible, substantially as described.

4. In a railway for increasing the speed of the car over that of the axle, the combination of a fixed track, wheels revolving on such track and connected by an axle, a flanged drum mounted upon such axle, a car or cars, rigid traveling rails, and a flexible traveling rail attached thereto, the rigid rails resting upon the peripheries of the wheels and a flexible rail engaging with the drum, substantially as described.

5. In a railway for increasing the speed of the car over that of the axle, the combination of wheels traveling upon a fixed track, rigid traveling rails resting upon the peripheries of such wheels, a car or cars supported upon and traveling with such rails, and a flexible traveling rail acting as a guide to prevent the rigid rails from slipping off the wheels, substantially as described.

6. In a railway for increasing the speed of the car over that of the axle, the combination of wheels connected by an axle traveling upon a fixed track, rigid traveling rails resting upon such wheels and being made in sections loosely connected to enable the rails to pass curves, a car or cars supported upon and moving with such rails, a drum mounted upon the axle, and a flexible traveling rail attached to the car or cars and engaging with such drum, substantially as described.

7. A rigid traveling rail made in sections,

one end of each section being forked and the adjacent end of the next section entering the fork, whereby the sections form a practically continuous rail, which is capable of bending to pass around curves, substantially as described.

8. In a railway for increasing the speed of the car over that of the axle, the combination of a fixed track, wheels rotatable on the fixed track, rigid traveling rails resting upon such wheels, a car or cars supported upon such rails, a flexible traveling rail, and wheels secured to the car and engaging with the sides of such rail, whereby the car is held in place and steadied, substantially as described.

9. In a railway for increasing the speed of

the car over that of the axle, the combination of a fixed track, wheels rotatable on such track, rigid traveling rails resting upon the peripheries of said wheels and advanced as they rotate, cars supported by such rails, platforms supported upon the axles connecting the wheels, beams supporting such platforms, a flexible rail or rails attached to such beams with its lower sides at an angle thereto, and wheels secured to the cars and engaging with the under sides of such rail or rails, whereby the cars are steadied and held in place, substantially as described.

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Witnesses:

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JULIUS D. MENTZEL.