

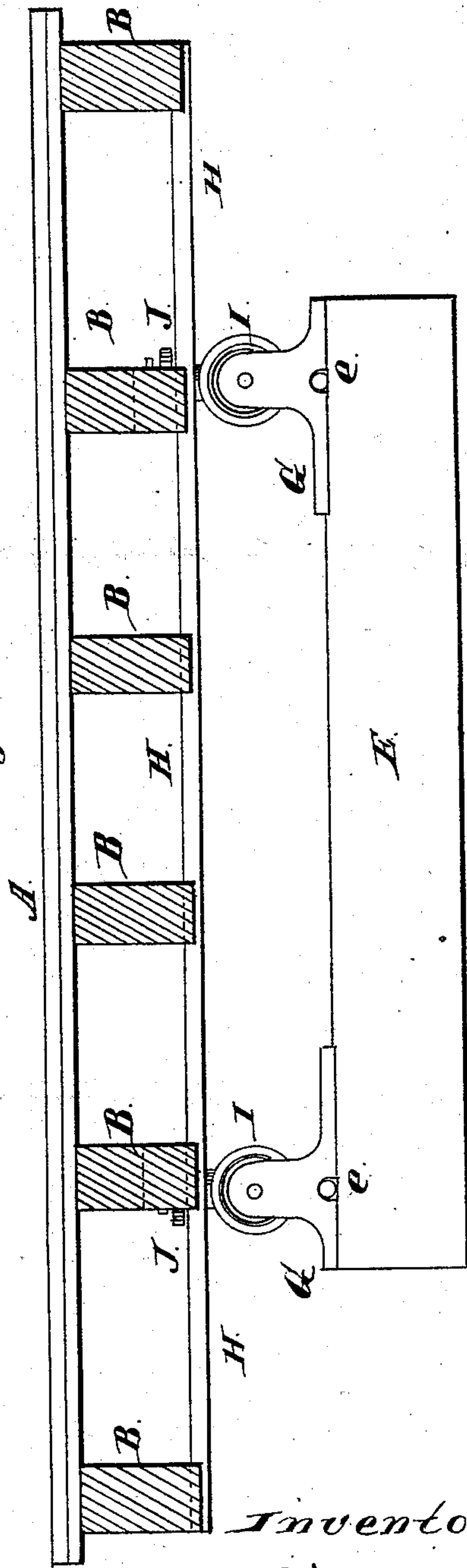
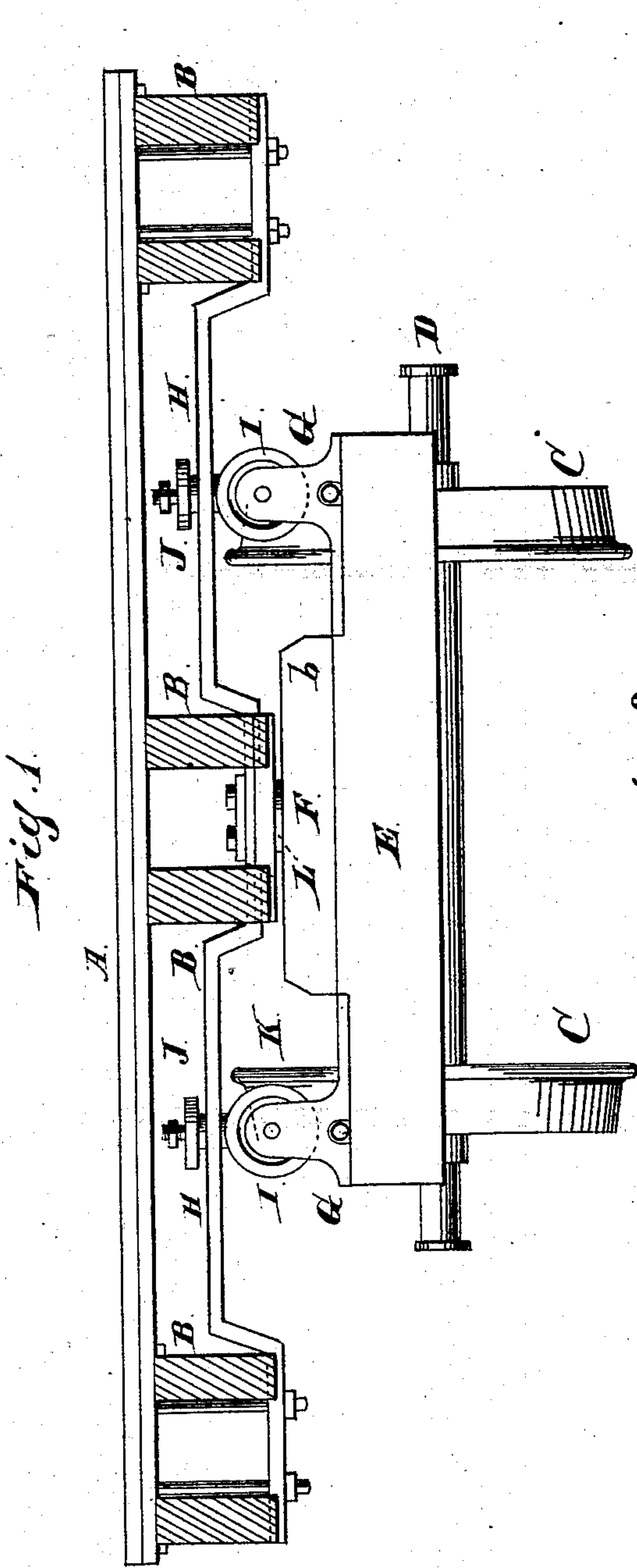
(No Model.)

2 Sheets—Sheet 1.

L. FINLAY.
CAR TRUCK.

No. 282,510.

Patented Aug. 7, 1883.



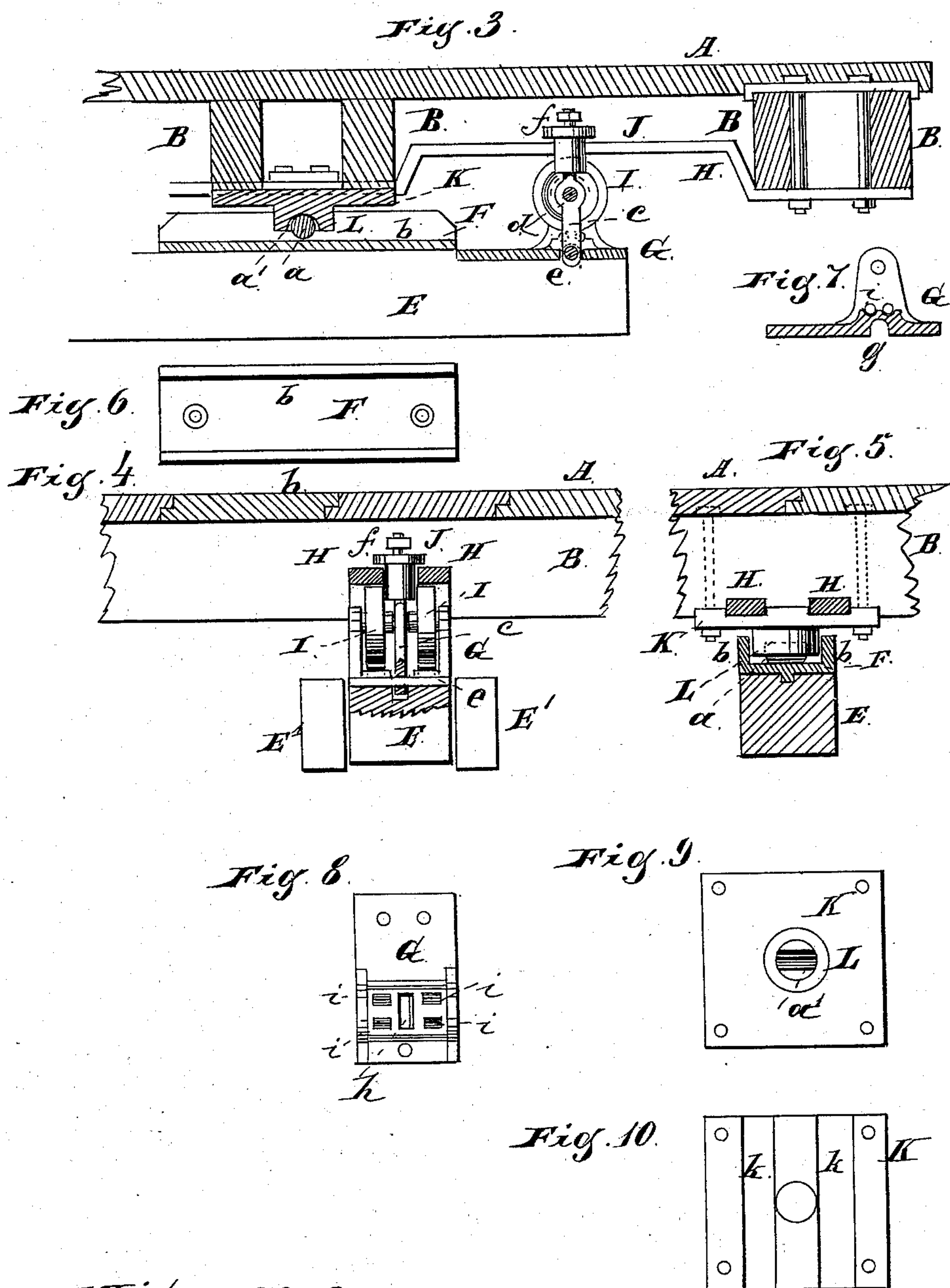
Witnesses:
B. A. Price,
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Inventor:
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UNITED STATES PATENT OFFICE.

LEONARD FINLAY, OF LITTLE ROCK, ARKANSAS.

CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 282,510, dated August 7, 1883.

Application filed May 12, 1883. (No model.)

To all whom it may concern:

Be it known that I, LEONARD FINLAY, residing at Little Rock, in the county of Pulaski and State of Arkansas, and a citizen of the United States, have invented new and useful Improvements in Supplemental Trucks for Railway-Cars, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a cross-section of the bottom or platform of a car where the supplemental truck is to be applied. Fig. 2 is a similar section of the platform of a car having a different construction; Fig. 3, a partial section, showing the central movable support and one of the side supports; Fig. 4, an end view of the bolster, showing a side elevation of one of the side supports with the supporting-rails in section; Fig. 5, a cross-section of the central supporting-plate, showing the method of connecting the upper and lower plates; Fig. 6, a top or plan view of the bottom plate of the central support; Figs. 7 and 8, section and plan views, respectively, of the supporting-plates at the ends of the bolster; and Figs. 9 and 10, under and upper views, respectively, of the top plate of the central connection or support.

The object of this invention is to provide means for supporting car-bodies at one or more points along their lengths and between the ordinary or usual end trucks, and to provide for an easy lateral motion of the car-body over or across the supplemental trucks; and its nature consists in the several improved devices and combinations of devices, hereinafter set forth and claimed as new.

In the drawings, A indicates the bottom of an inclosed car or the platform of an open car; B, the sills or longitudinal timbers; C D, ordinary car-wheels and axle; E, the bolster; E', side bars or timbers of the bolster; F, bottom plate of the central support; G, base-plates of the end supports on the bolster; H, guide-bars; I, supporting or bearing wheels; J, guide-wheels; K, upper plate of the central support; L, depending boss or cylinder on the plate K; a, unattached cylinder or ball upon which the boss L rests; a', socket in the boss L, preventing the roller a from getting out of position; b, side flanges on the plate F; c, plates or coupling-bolts for connecting the rollers J with the

plate G; d, central hole in the plate c, through which the shaft of the wheels I passes; e, cross rod or pin for fastening the plate c under the plate G; f, screw-nut on the upper end of the plate c; g, depression or notch in the plate G for the pin e; h, slot or opening through the plate G for the bar or plate c; i, rollers on the plate G, which partly support the rollers I; k, grooves in the plates K for the bars H.

My improvements are designed to be applied to freight, platform, and other cars of the usual construction, and in the form shown in Fig. 1 they are applied to a car which is under the usual height, and for this reason the bars H are bent, as shown. In Fig. 2 they are shown applied to a car of the ordinary height, and are not bent. The central support for both forms being alike, it is only shown in Fig. 1. My improvements can also be used with either swing-beam or rigid bolster-trucks, and any ordinary truck may be converted into my supplemental truck, as it does not require any special construction for the application thereto of my improvements. Only a portion of the supplemental truck is shown in Fig. 1, for the reason that it may be of any of the ordinary constructions. The bar E shown, being the bolster, will be between the wheels when the truck is completed or the four wheels applied. The bolster E is a pivoted bolster of the usual construction, and at the middle I apply the plate F, which is a simple casting having considerable length and having the side flanges, b. The length of this plate permits of a considerable traverse toward either side by the roller a, while the side flanges prevent the boss L from getting out of position or away from the bolster. The provision for an end-wise movement of the bolster or a lateral movement in reference to the car-body is necessary in applying a supplemental truck between the two ordinary or main trucks, as otherwise the wheels would bind upon the rails and be liable to throw the car if the connections were rigid when running on curves, over switches, &c. The length of the plate F will give the desired side movement without permitting the supplemental truck to escape or get out of position.

In order to give the whole width of the body of the car an additional support, I apply to the usual framing the cross-bars H, which are usually of wrought-iron, and apply them

straight or bent, as may be necessary, or as may be desired. I apply two of these bars parallel to each other with a space between them, as shown in Figs. 4 and 5. Beneath these cross-
 5 bars, and at the ends of the bolster, I place the supporting wheels or rollers I, which rollers are journaled in the plates G, which are provided with side plates or ears to give the journals of the rollers I their proper position.
 10 Between each pair of rollers, as seen at Figs. 3 and 4, the bar or plate *c* is placed from near the top of the rollers I to its lower end. This plate or bar is flat. Its upper end is round and forms the journal for the roller J, and for this purpose this
 15 plate requires to be strongly held in position. The shaft of the rollers I passes through it, and the plate *c* passes through the plate G, where the pin *e* is driven through in the notch or opening *g*, which locks it firmly and main-
 20 tains it in a vertical position, so that it will keep the roller J in place. The roller J plays between the bars H, and its upper end is provided with a flange having a greater diameter than the width of the space between the bars,
 25 so as to form a head or limit for the downward movement of the end of the bolster. This roller is held in place by the nut *f* on the upper end of the bar *c*, and it is placed in such position that the roller J may have a short
 30 movement up and down on its spindle, so as to prevent the connection between the end of the bolster and the bars H from being rigid, and for giving the necessary vertical play required in turning curves. The limit of the
 35 vertical movement of the rollers J is adjusted to any desired position by the nut *f*.

The plates F and G are firmly attached to the bolster by screw-bolts, clips, or otherwise. The plate G is provided with small rollers *i*,
 40 shown in Figs. 7 and 8, upon which the wheels I rest, or upon which they are supported, so as to relieve their center pivots or shafts from any strain that might otherwise bend or break them; and, as the wheels I are pivoted,
 45 it is not necessary to fasten the rollers *i* other than by placing them in depressions or sockets, as shown in Fig. 7.

The plate K, on its under surface, is provided with a boss, L, which fits against the
 50 side flanges, *b*, of the plate F. This plate is firmly secured to the platform or bottom timbers, as it is through or by this with its plate or boss L that the truck is held in place while the car is being moved. The lower end of
 55 the boss is provided with a groove, *a'*, in which the roller *a* is placed. This roller *a* removes the friction which would otherwise appear between the lower end of the boss and the plate F. The upper face of the plate K is provided

with grooves *k*, into which the bars H fit. 60 This, however, is not essential, as the bars may pass under and be bolted to this plate K.

The plates F, G, and K may be made of cast-iron or other suitable material.

By this construction and arrangement of 65 the intermediate or supplementary truck it has a free lateral motion under the car while carrying the greater portion of the weight of the car, and the vertical rollers J operate between the bars H, keeping the truck in a true 70 position either on curves or straight track, and at the same time permit the car-body to rise above the rollers I to the extent of the adjusted distance, thereby preventing rigidity between the truck and the car-body, and per- 75 mitting them to adjust themselves to each other in rounding curves or running on uneven track, and giving this supplemental truck an easy, rolling, lateral motion.

My improvements may be applied to either 80 broad or narrow gage cars, as may be desired.

Ordinarily one of these supplemental trucks will be sufficient; but when only one is used it will be placed midway between the end trucks. But two or more of these supple- 85 mental trucks may be used, if desired, and when more than one is used the space between them will be properly divided.

Four wheels or rollers, I, two at each end of the bolster, are shown, and I prefer this 90 number; but it is evident that two only—that is, one at each end of the bolster—may be used.

What I claim as new, and desire to secure by Letters Patent, is—

1. The plate K, having the boss or projec- 95 tion L and recess or guide *a'*, in combination with the single central roller, *a*, and base plate F, constructed and operating substantially as described.

2. The combination of the plate G and 100 wheels I with the flanged roller J and bars H, substantially as specified.

3. The combination of the plate G, wheels I, with the rollers *i* and bars H, substantially 105 as described.

4. In a supplemental or intermediate car-truck, the bolster or bar E, plate F, and plate K, having a boss or projection, L, in combination with the end plates, G, wheels I J, and bars H, substantially as and for the purpose 110 specified.

5. The bar *c* having the nut *f*, in combination with the roller J and plate G, substantially as described.

LEONARD FINLAY.

Witnesses:

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