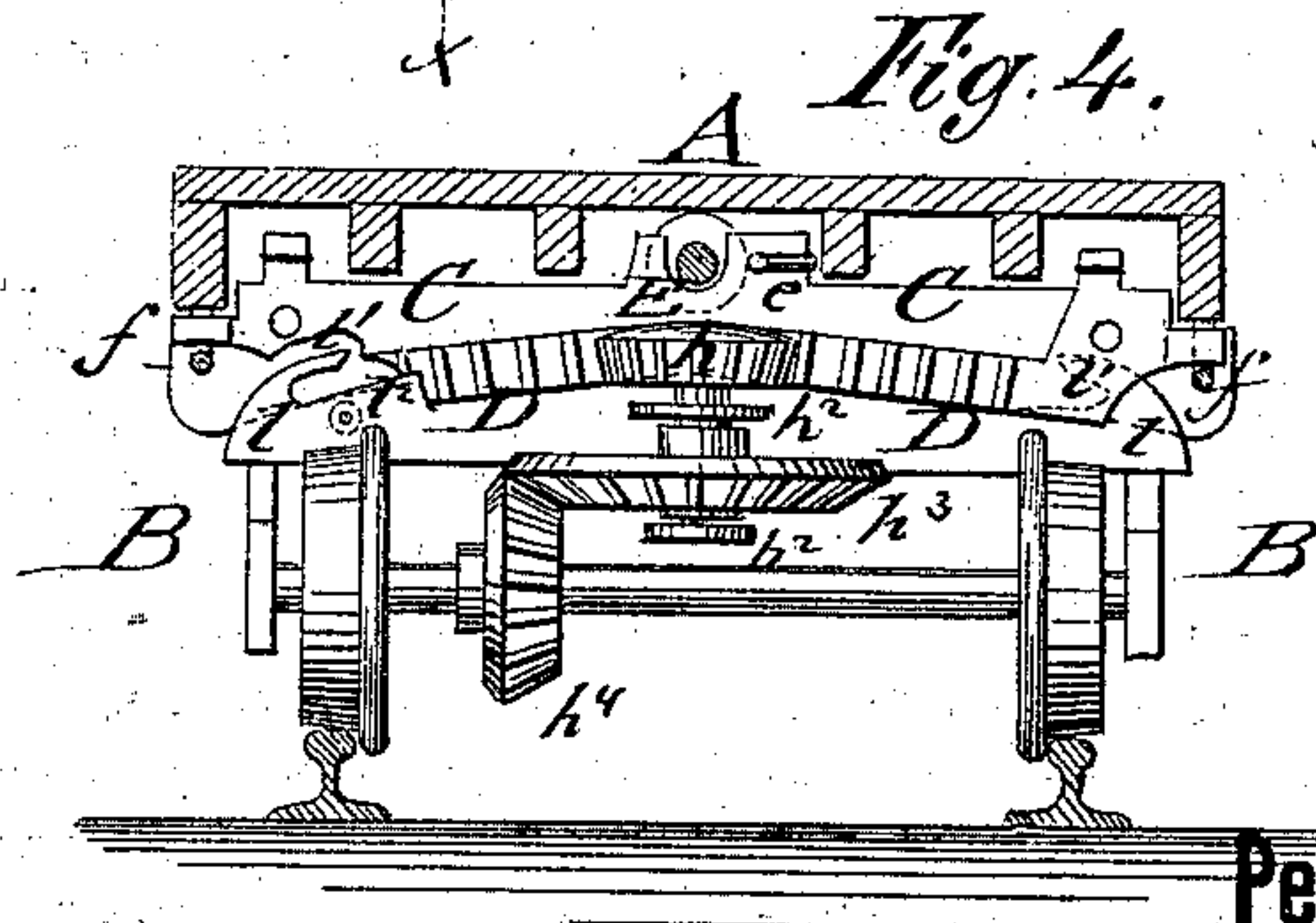
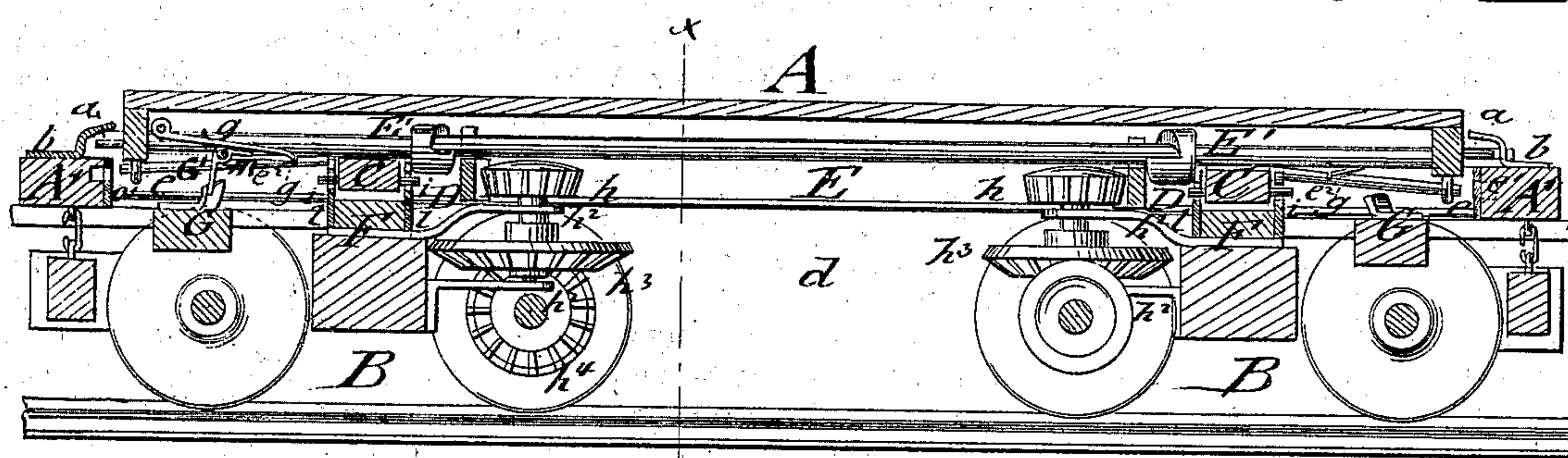
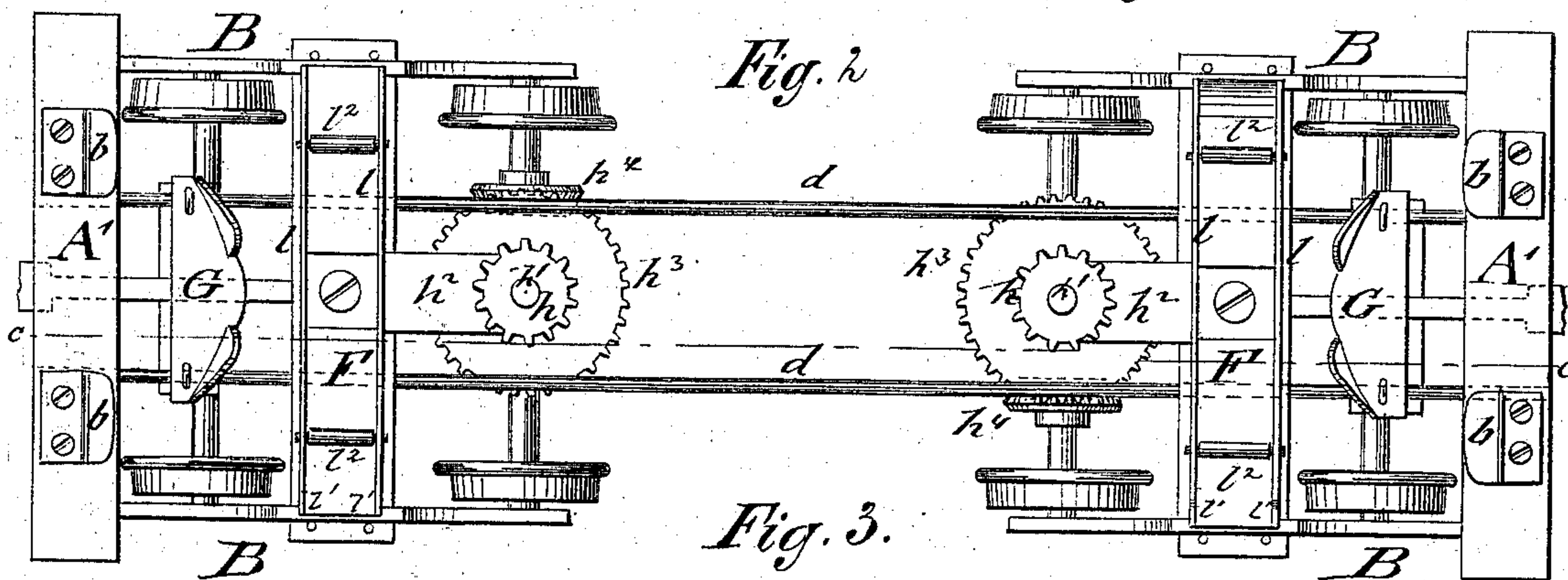
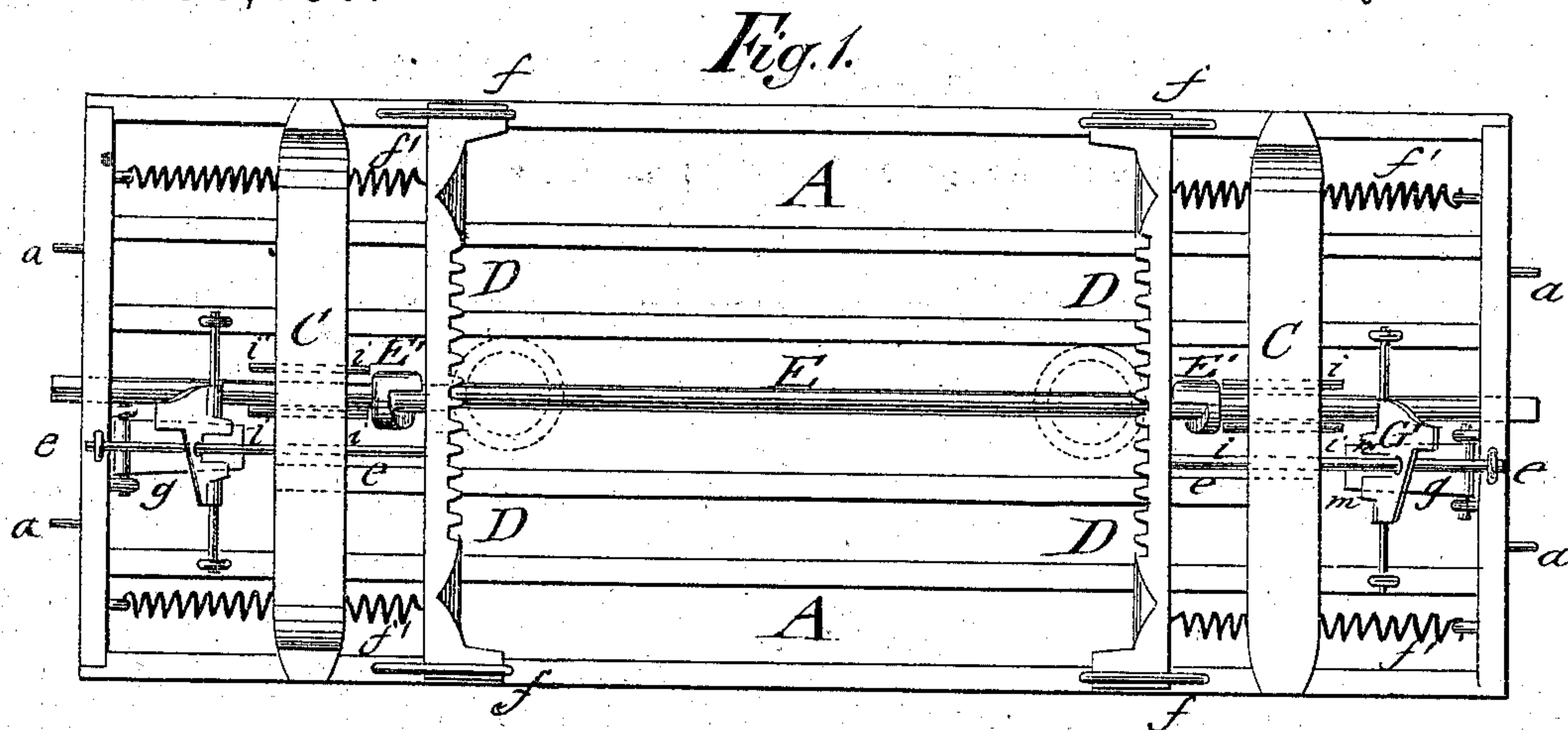


J. E. BEMIS.  
Dumping-Cars.

No. 150,460.

Patented May 5, 1874.



Witnesses.

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# UNITED STATES PATENT OFFICE.

JOHN E. BEMIS, OF CHICAGO, ILLINOIS.

## IMPROVEMENT IN DUMPING-CARS.

Specification forming part of Letters Patent No. **150,460**, dated May 5, 1874; application filed February 28, 1874.

*To all whom it may concern :*

Be it known that I, JOHN E. BEMIS, of Chicago, in the county of Cook and State of Illinois, have invented a new and Improved Platform Dumping-Car, of which the following is a specification :

In the accompanying drawing, Figure 1 represents a bottom view of my improved platform detached from the car-trucks; Fig. 2, a top view of the trucks with platform detached; Fig. 3, a vertical longitudinal section on the line *c c*, Fig. 2, of platform and trucks; and Fig. 4, a vertical transverse section of the same on the line *x x*, Fig. 3.

Similar letters of reference indicate corresponding parts.

The object of my invention is to furnish, for the purpose of facilitating the transportation of goods, agricultural products, material for the construction of railroads, and other articles, an improved platform dumping-car, which unloads to either side as required, by tipping and refastening the platform automatically, on moving the engine back or forth as required. My invention consists of a movable platform, which is supported and firmly attached to trucks in such a manner that by turning a longitudinal rod with spiral shoulders the connection of platform and trucks is separated, and sliding cog-wheel segments thrown into gear with pinion driven in connection with the truck-axes. The motion of the trucks in either direction carries the platform sidewise till it tips by the weight of the load thereon for unloading, being carried back over the trucks by moving them in opposite directions, and locked automatically thereon by suitable mechanism, which releases the sliding segments and bolts.

A in the drawing represents a freight-car platform of the usual construction, made separate and detachable from the trucks B on which it rests, by rockers C, being also secured, by projecting end pins *a*, to staples or shoulder-plates *b* of the supplementary platforms A' at the outer end of each truck. The end platforms A' and trucks B are connected by longitudinal strengthening-rods *d*. The draw-bars and other parts are attached to the end platforms and connecting-rods. The pins *a* prevent the detaching and tipping of the plat-

form, and steady the same in carrying high and bulky loads. Platform A is, furthermore, locked to the end platforms A' by sliding bolts or rods *e*, which enter into sockets or recesses *e*<sup>1</sup> of the end platforms. These lock-bolts *e* establish the firm connection of platform and trucks till withdrawn from the end platforms. Lock-bolts *e* pass along the under side of the platform through recesses of the rockers C to the toothed segments D, which slide in side staples *f*, and are forced toward the outer ends of the platform by spiral springs *f*<sup>1</sup>, Fig. 1. Bolts *e* are fastened to segments D, and slide with the same. The segments D at both ends of the platform are simultaneously moved toward each other, so as to withdraw thereby bolts *e* from the end platforms by spiral shoulders E' of a longitudinal rod, E, which is operated by a key turned in the required direction and applied to the projecting ends. The direction in which the rod has to be turned is indicated by arrows, or other suitable manner, at the end of the platform A. A full turn of the rod carries the segments and bolts toward each other, and secures them in that position by hinged spring-dogs *g*, Figs. 1 and 3, which lock into notches *e*<sup>2</sup> of rods *e*. Each toothed segment D is thereby retained in position to be engaged by a conical pinion, *h*, which is keyed to a vertical shaft, *h*<sup>1</sup>, turning in supporting-plates *h*<sup>2</sup> of the truck-frame, while a cog-wheel, *h*<sup>3</sup>, at its lower end, gearing with a cog-wheel, *h*<sup>4</sup>, of the inner truck-axle, imparts motion to the pinion as soon as the trucks are moved in either direction. The wheels *h*<sup>4</sup> are keyed to the truck-axes at opposite sides of the longitudinal axis of the car, turning thereby the pinions in opposite directions, which produces the intermeshing with the segments and the uniform side motion of the platform. When the locomotive is, therefore, moved slowly into forward or backward direction, the platform is carried over to the required side till the center of gravity of the combined weight of platform and load falls outside and tips the same. Balancing-pins *i* projecting at both sides of the rockers C pass along guide-plates *l* and rollers *l*<sup>2</sup> of the center beams F of the trucks until hook-shaped ears *l*<sup>1</sup>, at both ends of the plates, take up the pins and arrest thereby the side motion. After un-



loading, the center of gravity of the platform being inside of pins *i*, the same will tip back on the trucks. By starting the car in opposite direction to its former movement the pinions carry the platform back into the old position. Simultaneously with the return motion of the platform A a plate, G, with inclined upward-projecting edges, engages a curved pendent plate, G<sup>1</sup>, hinged to the bottom of the platform, so as to gradually press the latter sideways, and raise by its lug, in Fig. 3, rectangularly therewith the spring-dogs *g* from the notches *e*<sup>2</sup> in the lock-bolts *e*. This carries instantly, by the action of the spiral springs *f*<sup>1</sup>, segments D, and bolts *e*, in outward direction, locking thereby the platform to the car till detached for unloading, in the manner described. The automatic unloading of a platform-car load, by the motion of the engine, and its reattaching to the trucks, saves considerable expense for hands, and permits the rapid unloading of a whole train of platform-cars, requiring merely the turning the central rods and the fore and return motion of the cars by the engine.

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

1. The sliding lock-bolts *e*, in combination with sockets *e*<sup>1</sup> of end platform A', to se-

curely attach main platform A thereto, as described.

2. The longitudinal bottom rod E of the main platform, having spiral shoulders E', combined with sliding toothed segments D, having spiral springs *f*<sup>1</sup> to throw them into gear with the truck-pinions, as described.

3. The toothed segments D, with lock-bolts *e*, having notches *e*<sup>2</sup>, in combination with hinged spring-dogs *g*, for retaining segments in gear and unlocking the platform, as set forth.

4. The combination, with pinions *h*, of the platform A and toothed segments D, as and for the purpose specified.

5. The rockers C of the platform, having projecting balancing-pins *i*, in combination with the guide-plates *l* and slotted ears *l*<sup>1</sup> of the truck-beams F, for swinging the platform in tipped position for unloading and back, as specified.

6. The combination of plate G of the trucks, having inclined upturned edges, with the pivoted pendent plate G' of the platform, and spring-dogs *g*, substantially in the manner and for the purpose set forth.

JOHN E. BEMIS.

Witnesses:

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