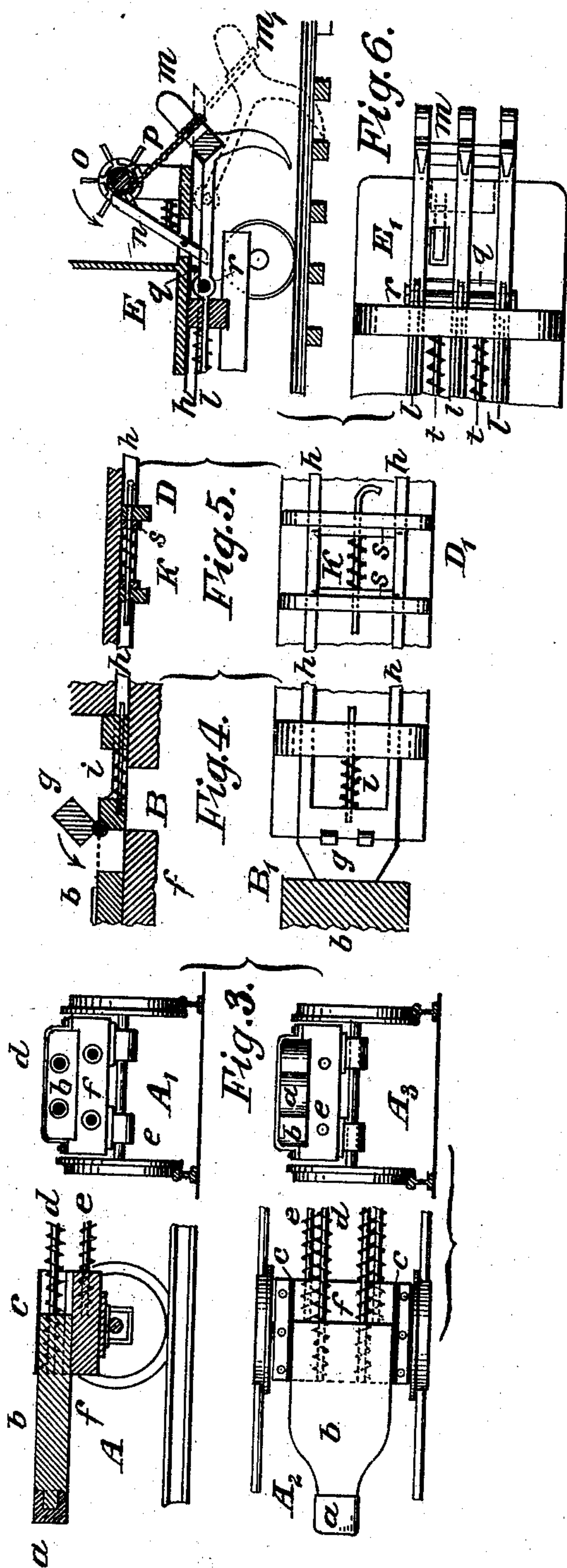
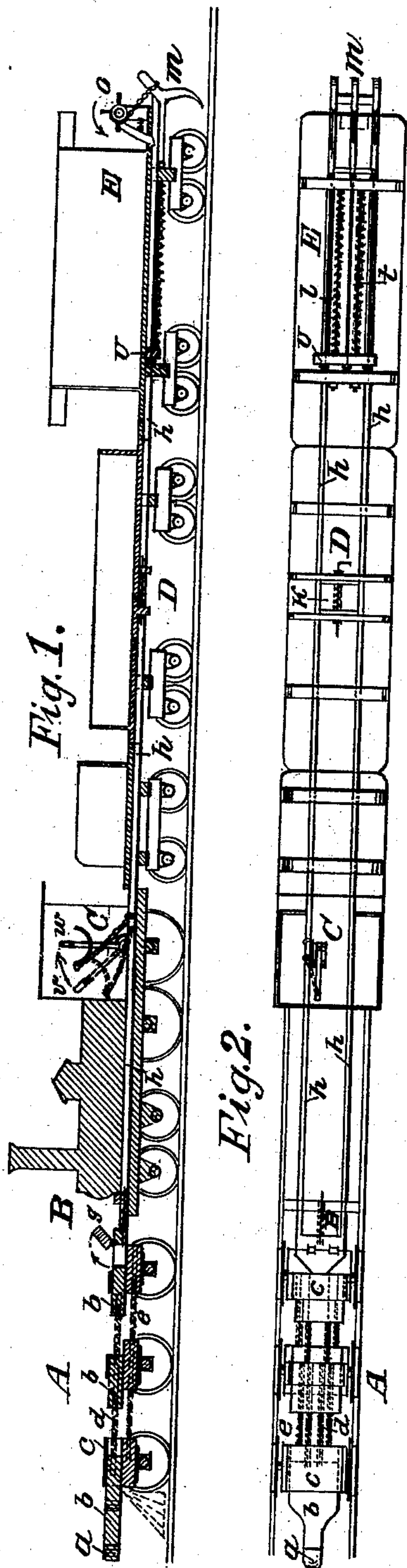


(No Model.)

G. LINK.  
PILOT CAR.

No. 505,406.

Patented Sept. 19, 1893.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

GUSTAV LINK, OF DUFF, NEBRASKA.

## PILOT-CAR.

SPECIFICATION forming part of Letters Patent No. 505,406, dated September 19, 1893.

Application filed March 11, 1893. Serial No. 465,491. (No model.)

*To all whom it may concern:*

Be it known that I, GUSTAV LINK, a citizen of the United States, residing at Duff, in the county of Rock and State of Nebraska, have  
5 invented a new and useful Machine to be Attached to a Railroad-Train, of which the following is a specification.

This invention has for its object to moderate or lessen the shocks of rail road collisions and also to lessen the liability of the cars to  
10 "telescope" when collisions occur, as more fully hereinafter set forth.

The above mentioned objects are attained by the means illustrated in the accompanying  
15 drawings in which—

Figure 1. represents a vertical longitudinal sectional view of a rail road train, showing my invention applied. Fig. 2. is partly a top view and partly a view from below of the  
20 apparatus. Fig. 3. represents a detail view, of the apparatus, showing a vertical section and a rear view thereof. Fig. 4. represents a detail view of a portion of the train. Fig. 5. is a detail view of attachment shown by Fig. 1., and Fig. 6. detail views of the anchor cars and mechanism for operating the anchors.

Referring to the drawings the reference letter A (Figs. 1 and 3 of the drawings) indicates a pilot-car which forms a part of my  
30 invention. This consists preferably of three trucks, mounted each on the shaft of a pair of wheels. These trucks consist of heavy plates of wrought iron, which are connected by heavy spiral springs *e*. through which extend longitudinally the heavy wrought iron  
35 rod, *e'*. The said rods are fastened at the outer ends in the plates at each end of the car, but extend loosely through perforations in the central head being provided with collars and heads to limit their movement.  
40 Upon the said plates are movably mounted similar plates B which are connected by spiral springs *b* through which extend similar wrought iron rods *d*, which are fastened rigidly to the end plates but pass and slide freely  
45 through apertures in the center plate being provided with collars and heads to limit their movement, and allow the plates to slide toward and from each other when necessary.

The forward truck is provided with a pilot or  
50 cow catcher *x* to remove obstructions from the track.

The letter *h* indicates two rods, extending through suitable guides or ways longitudinally under the respective cars of the train.  
55 These at their forward ends are provided with a hinged nose *g* which abuts against the forward plate, to take the shock therefrom when forced backward in case of a collision. These rods extend through the cab C of the  
60 locomotive B and are connected with the throttle valve rod thereof, so as to move it back and forth automatically as the rods *h* are operated.

To the rear of the train is secured a box  
65 car E having anchors *m* pivotally secured to the spring-controlled rods *i. t.* The said anchors are connected by a chain or chains P with a windlass Q having detent arms which are held normally by a lever *n* which is ar-  
70 ranged to be tripped, when the anchors are thrown back by the rods *h* so as to drop the same and to lock the cars to the cross ties of the road bed as indicated in the dotted lines in Fig. 6. of the drawings. The anchors are  
75 pivoted to a strong pin *r* and the movement of the levers is limited by a rod *q* shown in Fig. 6. of the drawings. The rods *h* at suitable intervals indicated by the letter *k* may be connected with mechanism for automati-  
80 cally operating the air brakes of the train.

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

1. The combination with a train or car, of  
85 a pilot car consisting of spring-connected trucks and movable connecting rods and the sliding spring-connected plates and movable rods, substantially as specified.

2. The combination with the pilot car and  
90 its spring-connected trucks and plates and movable rods, of the movable rods extending to the rear of the train and connected to the throttle valve rod of the locomotive and the air brakes of the train, substantially as and  
95 for the purposes, as specified.

3. The combination with the rear car and the movable spring-controlled rods, of the piv-

oted anchors and windlass and its details, the connecting chains and trip lever, the whole arranged to operate to lock the train to the road bed, substantially as specified.

- 5 4. The combination with the pilot car, having spring-connected trucks and sliding plates, with movable connecting rods, of a pilot or

cow catcher located on the front truck whereby obstructions will be swept or thrown from the track substantially as specified.

GUSTAV LINK.

Witnesses:

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