

(No Model.)

G. A. PARMENTER & S. H. PEIRCE.
TRACK CLEANER FOR STREET RAILWAY CARS.

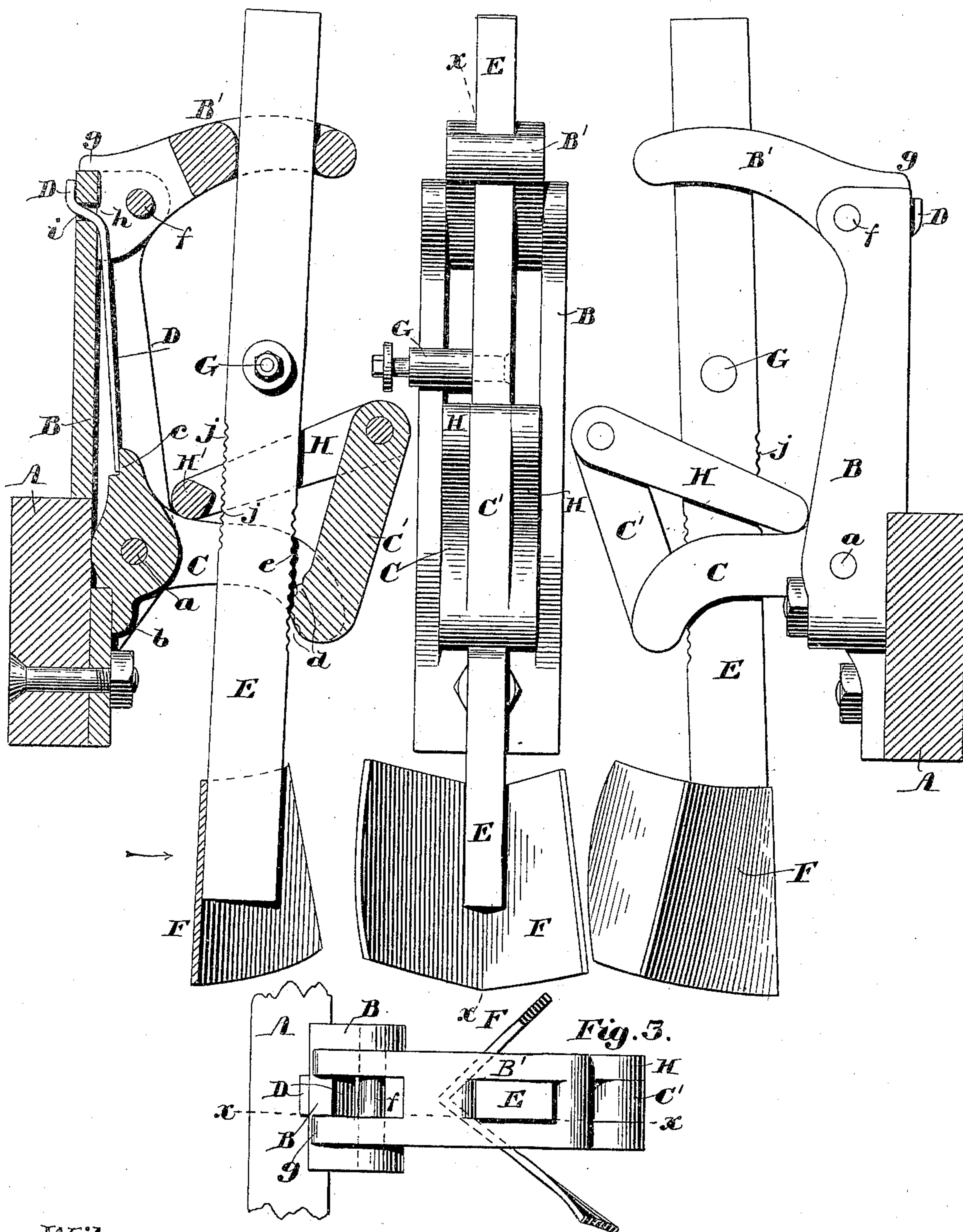
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Fig. 4.

Fig. 2.

Fig. 1.



Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE A. PARMENTER AND STEPHEN H. PEIRCE, OF CAMBRIDGE,
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TRACK-CLEANER FOR STREET-RAILWAY CARS.

SPECIFICATION forming part of Letters Patent No. 604,543, dated May 24, 1898.

Application filed March 8, 1898. Serial No. 673,068. (No model.)

To all whom it may concern:

Be it known that we, GEORGE A. PARMENTER and STEPHEN H. PEIRCE, of Cambridge, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Track-Cleaners for Street-Railway Cars, of which the following, taken in connection with the accompanying drawings, is a specification.

Our invention relates to track-cleaners for street-railway cars, and is an improvement upon the invention described in Letters Patent No. 594,552, granted to us November 30, 1897; and it consists in certain novel features of construction, arrangement, and combination of parts, which will be readily understood by reference to the description of the accompanying drawings and to the claims hereto appended and in which our invention is clearly pointed out.

Figure 1 of the drawings is a side elevation of our improved track-cleaner. Fig. 2 is a rear elevation of the same. Fig. 3 is a plan; and Fig. 4 is a sectional elevation, the cutting plane being on line *xx* on Figs. 2 and 3.

In the drawings, A is the pilot-board of the car-truck, to the rear side of which is firmly bolted the stand B, directly over the track-rail.

C is a vertically-slotted radius-arm pivoted at *a* to said stand B and provided with the stop-shoulder *b* to limit the downward movement of its free end and the shoulder *c*, which is engaged by the movable end of the spring D, the tension of which tends to hold said arm C in its normal position, with the shoulder *b* in contact with the foot-plate of said stand B, as shown in Fig. 4. The inner curved surface of the rear end of the slot through said arm C is provided with a series of teeth *d*, which are engaged by similar teeth *e* on the rear edge of the upright bar E, extending through the slot in said arm C and having secured to its lower end the V-shaped scraper or plowshare F, as shown.

So far the construction and arrangement of the several parts are substantially the same as in our before-cited patent.

In our present invention the bearing for the upper end of the bar E is in the slotted

arm B', which instead of forming an integral part of the stand B is formed separate therefrom and secured thereto by a single pin or bolt *f*, said arm B' being provided with lugs *g*, which rest upon the top of the web of the stand B, and with perpendicular bearing-surfaces beneath said lugs which fit against the rear upright face of said web, as shown in Fig. 4.

The spring D, instead of being bolted to the web of the stand B, as in our previous patent, has an offset *h* formed near its upper end and is inserted through a slot *i*, cut through the web of said stand B, as shown in Fig. 4, said spring being maintained in operative position without further fastening.

The bar E has set therein the stud G, to which is connected the mechanism for lifting the bar E and plowshare when not required for use, substantially as in our before-cited patent.

Practical experience in operating the track-cleaner described in our patent before cited has demonstrated the desirability of providing for an automatic lift of the scraper or plowshare when the car is being run backward and said share comes in contact with a paving-stone or other obstruction more fixed or less easily moved than the snow or dirt adhering to the track. To accomplish this desirable end, we have added to the radius-arm C the extension-arm C', formed in one piece therewith and extending obliquely upward from the movable end of the arm C, (shown and described in our prior patent,) and pivot to its upper end one end of the arm H, made U-shaped, as seen in plan, the two side branches of which are connected together by a tie H', integral therewith, the inner side of which is V-shaped, as shown in Fig. 4. The free end of the arm H rests upon the arm C near the stand B, with the apex of the V thereof near the forward edge of the bar E, which is provided with a second series of teeth *j*, which when the car is backing and the plowshare F in moving in the direction indicated by the arrow on Fig. 4 comes in contact with an unyielding obstruction will engage the apex of the V of the tie H', and the pressure

thereon, acting through the arm H upon the upper end of the extension-arm C', will move the arm C C' about the pivot-pin *a* and raise the bar E and share F to clear the obstruction.

When the car is moving forward, or in the direction opposite to that indicated by the arrow on Fig. 4, the bar E is pressed into contact with the toothed end of the slot in the lever C, and when the scraper or share meets with a resistance sufficient to overcome the tension of the spring D the arm C will be moved about its pivot to lift the bar E and plowshare F by virtue of the fact that the point of contact between the bar E and the arm C is at a considerably lower level than the axis of motion of said arm. As soon as the obstruction is passed the tension of the spring D, assisted by the force of gravity, will cause the arm C to be returned to its normal position and the bar E to descend until the plowshare is again in contact with the rail, whether the car is moving forward or backward. This is a great advantage inasmuch as the motorman is relieved of the care of looking after and raising said plowshare whenever he is, as often happens, called upon to back his car suddenly to avoid an accident, as he knows that the automatic lifting of the plowshare when a certain pressure is applied thereto will prevent breakage or injury to the track-cleaning mechanism.

The inner surface of the tie H', connecting the two arms of the forked link H, may have a series of teeth in the form of a segment of a pinion, and the rear end of the slot through the radius-arm C may have a single tooth, like the V-shaped tooth on the tie H' of the link H, without affecting the principles of our invention.

The advantage of making the bearing for the upper end of the bar E in a separate piece from the stand B and connecting it to said stand in the manner shown and described is that the track-cleaner can be more readily removed when not wanted for use or when it becomes necessary to repair the same, as it is only necessary to remove the pins *a* and *f* and disconnect the lifting mechanism from the stud G to remove the plowshare, its shank, and the arms C C' and H without removing the bolts that secure the stand B to the pilot-board A.

What we claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a track-cleaner for street-railway cars, the combination with the truck-frame of a stand carried by said frame and provided with a slotted arm at its upper end; a radius-arm pivoted at one end to said stand and provided with a vertical slot through the same, and with a rearwardly and upwardly projecting extension-arm at its rear end; a forked or U-shaped arm or link pivoted by the ends of its forks to the upper end of said oblique extension-arm; a scraper or plowshare to contact with the track-rail and provided with a shank or bar which projects upward through the slots in the radius-arm, the forked link, and the arm at the upper end of said stand; a series of teeth formed upon both the front and rear edges of the shank of said plowshare; a toothed surface at the rear end of the slot through said radius-arm to engage the teeth on the rear edge of said plowshare-shank; and a toothed surface in said forked link arranged to engage the teeth on the front edge of said plowshare-shank substantially as described.

2. In a track-cleaner for street-railway cars the combination with the pilot-board of a truck-frame, the stand B secured to said pilot-board; the slotted arm B' secured to said stand by a single pin or bolt; the radius-arm C C' pivoted to said stand B and provided with the shoulders *b* and *c* and having a vertical slot through the same having in its rear end a toothed surface; a spring engaging the shoulder *c* of said radius-arm; the forked link H pivoted at one end to the upper end of the radius-arm C C', and provided at its other end with the tie H' having a toothed inner surface; the bar E provided with the two series of teeth *e* and *j*; and the plowshare F carried by said bar substantially as described.

In testimony whereof we have signed our names to this specification, in the presence of two subscribing witnesses, on this 7th day of March, A. D. 1898.

GEORGE A. PARMENTER.
STEPHEN H. PEIRCE.

Witnesses:

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