(No Model.)

T. W. MACFARLANE.

FLANGER.

No. 517,704. Patented Apr. 3, 1894.

Fig. 1

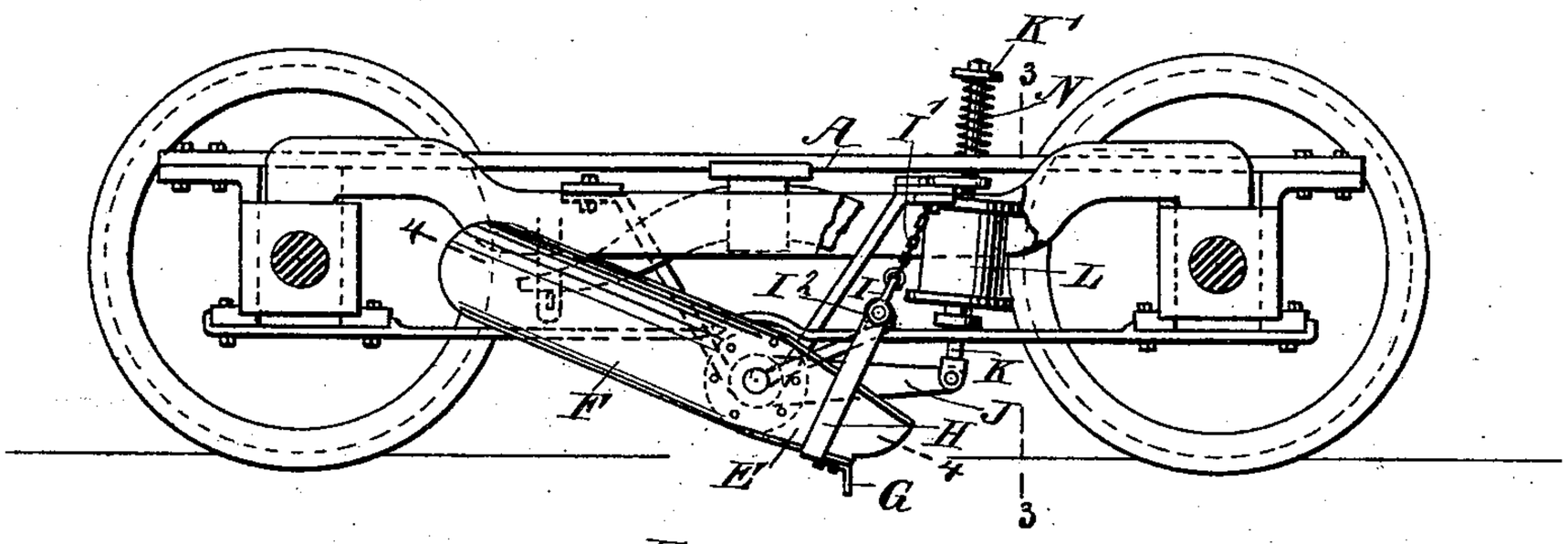


Fig. 2

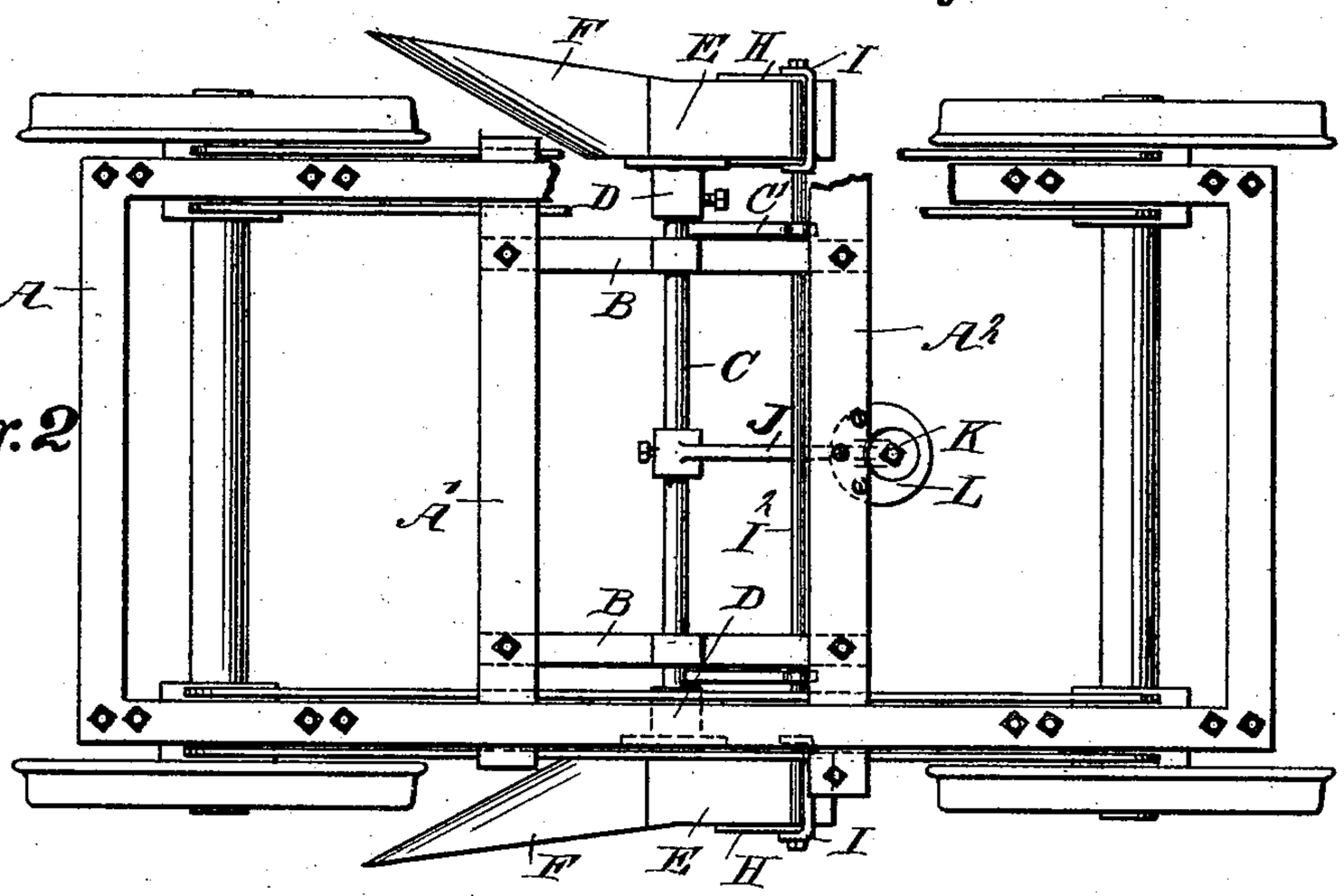


Fig. 3

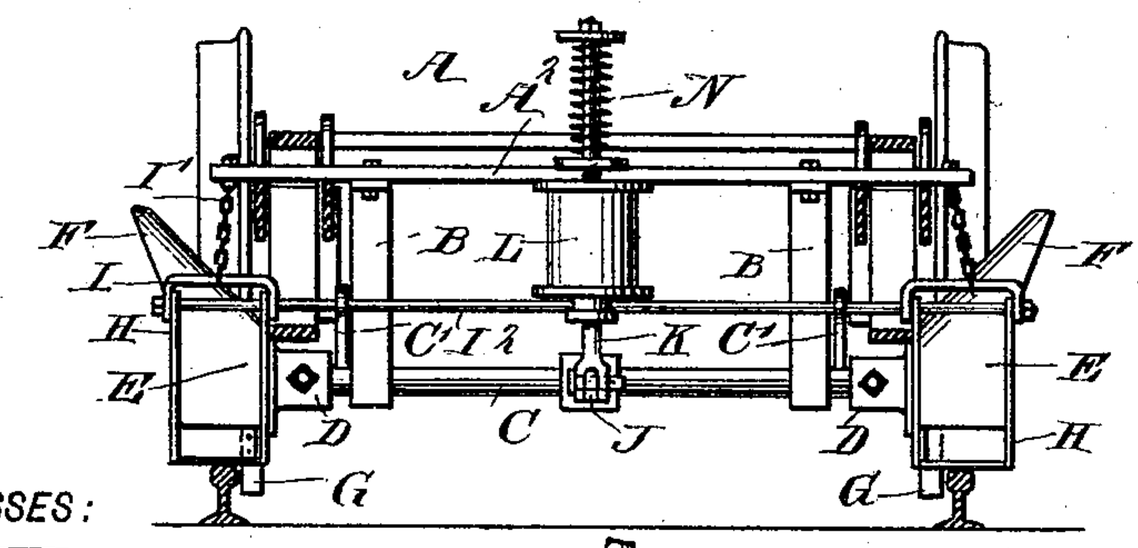
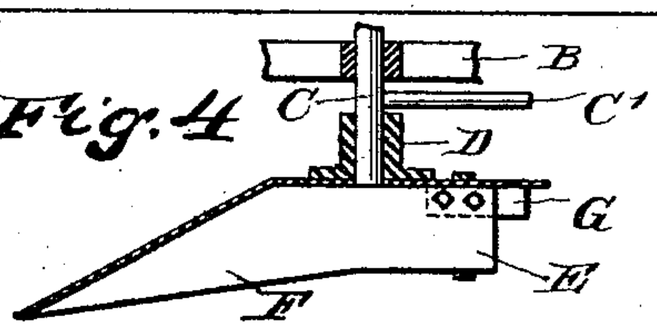


Fig. 4



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FLANGER.

SPECIFICATION forming part of Letters Patent No. 517,704, dated April 3, 1894.

Application filed July 3, 1893. Serial No. 479,485. (No model.)

To all whom it may concern:

Be it known that I, THOMAS W. MACFARLANE, of Ellensburg, in the county of Kittitass and State of Washington, have invented a new and Improved Flanger, of which the following is a full, clear, and exact description.

The invention relates to devices for removing snow and ice from the rails of railroad tracks, and the object of the invention is to provide a new and improved flanger, which is simple and durable in construction, very effective in operation, and arranged to remove the snow or ice usually left by the snow plow on the tops and sides of the track rails.

The invention consists of certain parts and details and combinations of the same, as will be hereinafter described, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the improvement with parts broken out. Fig. 2 is a plan view of the same with parts broken out. Fig. 3 is a cross section of the same on the line 3—3 of Fig. 1; and Fig. 4 is a sectional plan view of the flanger proper on the line 4—4 of Fig. 1.

The improved flanger is mounted directly on the truck A of the locomotive, car or other vehicle traveling over the rails to be freed from the snow and ice left by the snow plow.

On the truck A are secured the hangers B in which is journaled a transversely-extending shaft C provided on each end with a flanged collar D secured by a set screw or other means to the shaft.

On the flange of each collar D is riveted or otherwise secured the flanger E proper made U-shaped in cross section and having one end engaging the top of the rail, as will be readily understood by reference to Fig. 3. The middle portion of each flanger is made a center support of the whole, with its upper rearward portion extending outwardly so as to prevent the loosened snow or ice from passing inside of the track.

On the rear end of each flanger E is secured or formed an outwardly-bent apron F for guiding the snow a suitable distance from the outer sides of the rails. The front end of each flanger E is provided with a downwardly-extending cutter G engaging the inside of the rail, as will be readily understood by reference to Figs. 3 and 4, the said cutter removing or loosening the snow or ice on the inside of the rail and delivering the same to the flanger to be carried outside of the rail with the snow or ice taken off the top of the rail by the said flanger.

The front end of each flanger E carries a U-shaped upwardly-extending band H and the two bands are connected with each other by a bar I^2 connected with clevises I one for each band H, the said clevises being attached by chains I′ to the cross bar A^2, which, with the cross bar A′, forms the support for the hangers B of the shaft C.

On the shaft C at or near the middle of the same is secured a forwardly-extending arm J pivotally-connected with the piston rod K of an air or steam cylinder L secured on the truck frame A and connected with a suitable steam or air supply, so that a pressure may be exerted on the piston in the cylinder to move the piston rod K downward to cause a downward swinging of the arm J and turning of the shaft C, to move the front end of the flangers E in contact with the top of the rail.

On the upper end of the piston rod K is coiled a spring N, pressing with one end on a washer K′ secured to the said piston rod K, the other end of the spring resting on the support for the piston or on the piston itself. Now, when the pressure on the piston in the cylinder L is diminished, the spring N will force the piston K upward to its normal position, thus causing an upward swinging of the arm J and consequent turning of the shaft C to swing the flangers E out of contact with the rails.

In order to assist the flangers E in swinging upward, and tipping the apron F, I provide the shaft C with one or more arms C′ having eyes to receive the bar I^2 carrying the clevises I. It will be seen that by this construction the snow and ice are readily loosened and removed from the top and sides of the rails, and carried off to the sides of the railroad track by the aprons F which are extensions of the flangers.

The cutters G are bolted or riveted to the

under side of the flangers E so that in case of negligence on the part of the operator, the said ice cutters are broken off on coming in contact with the projections in the railroad bed, such as railroad frogs, &c., and to prevent the other parts of the flangers from being broken.

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

1. A flanger comprising hangers attached to the truck frame, a shaft journaled in the said hangers, flangers attached to the ends of the said shaft, means for imparting a rocking movement thereto, a rod connecting the upper portions of the flangers, and arms projected from the shaft and connected with the said rod, as and for the purpose set forth.

2. A flanger comprising hangers directly attached to the truck frame, a shaft journaled in the said hangers, flangers attached to the end of the said shaft and adapted to engage the railroad rails, a cylinder having its piston rod connected with an arm on the said shaft, to impart a rocking motion to the said shaft and thereby a swinging motion to the said flangers, a spring for returning the said piston rod to its normal position when the pressure in the cylinder decreases, and an apron extending from the rear end of each of the said flangers and arranged at angles thereto, substantially as shown and described.

3. A flanger comprising hangers directly attached to the truck frame, a shaft journaled in the said hangers, flangers attached to the end of the said shaft and adapted to engage the railroad rails, a cylinder having its piston rod connected with an arm on the said shaft, to impart a rocking motion to the said shaft and thereby a swinging motion to the said flangers, a spring for returning the said piston rod to its normal position when the pressure in the cylinder decreases, and a scraper bolted to the free end of each flanger to engage the inside of the rails, substantially as shown and described.

4. A flanger comprising hangers directly attached to the truck frame, a shaft journaled in the said hangers, flangers attached to the end of the said shaft and adapted to engage the railroad rails, a cylinder having its piston rod connected with an arm on the said shaft, to impart a rocking motion to the said shaft and thereby a swinging motion to the said flangers, a spring for returning the said piston rod to its normal position when the pressure in the cylinder decreases, an apron extending from the rear end of each of the said flangers and arranged at angles thereto, and means, substantially as described, for limiting the downward swinging motion of the flangers, as set forth.

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