

(No Model.)

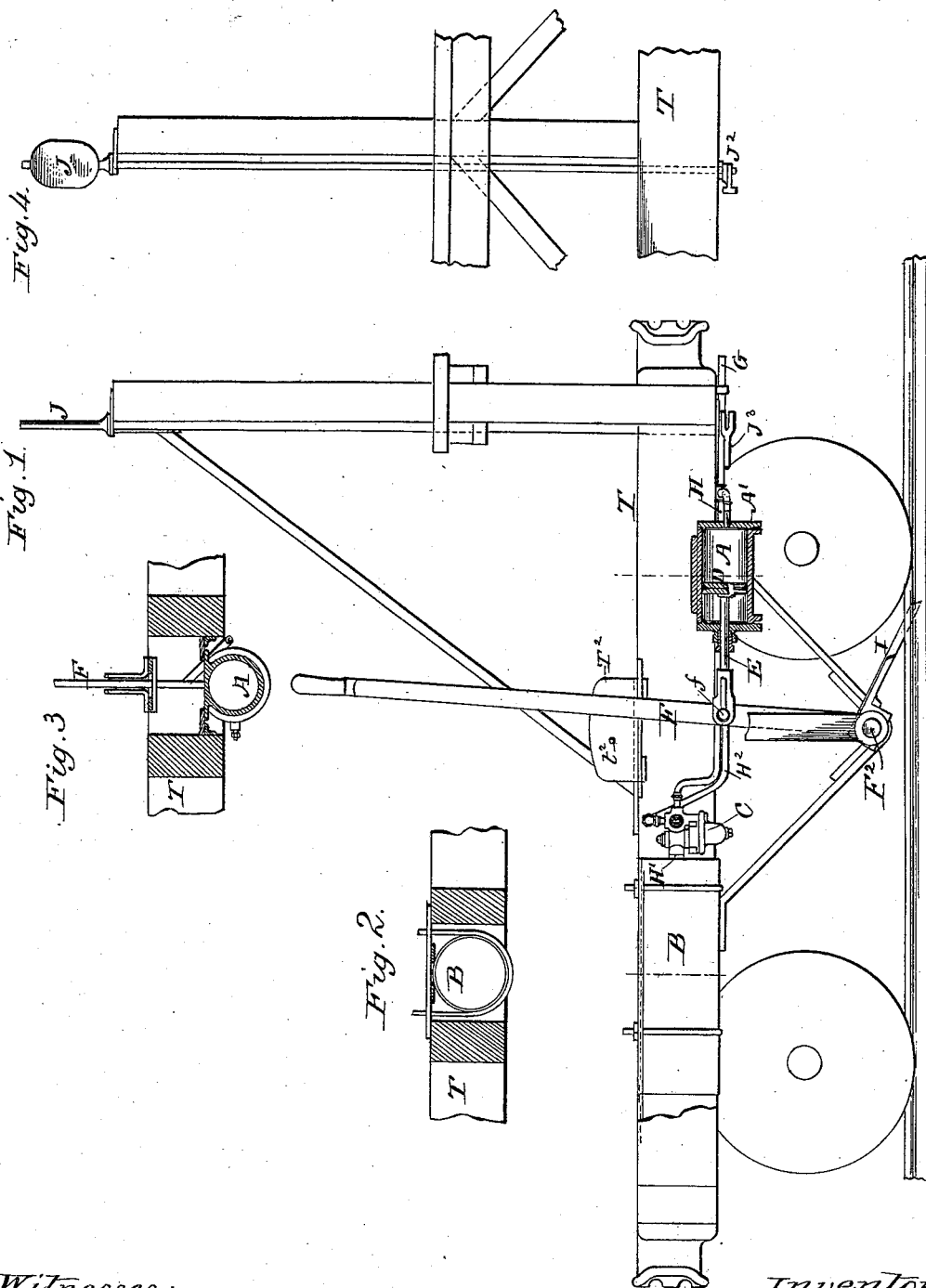
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G. F. CHAPMAN.

TRACK CLEARER.

No. 347,026.

Patented Aug. 10, 1886.



Witnesses:  
*L. C. Hill*  
*W. E. Masson*

Inventor:  
*George Frederic Chapman*  
*by E. E. Masson*  
*att'y.*

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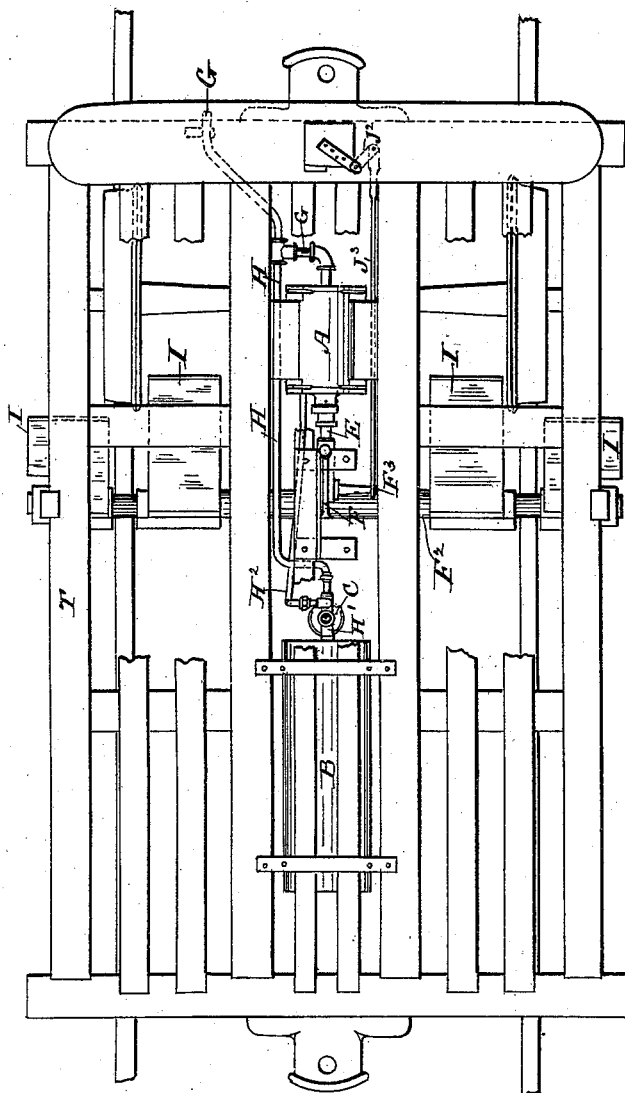
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Fig. 5.



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# UNITED STATES PATENT OFFICE.

GEORGE FREDERIC CHAPMAN, OF EVANSTON, WYOMING TERRITORY.

## TRACK-CLEARER.

SPECIFICATION forming part of Letters Patent No. 347,026, dated August 10, 1886.

Application filed April 23, 1884. Serial No. 128,981. (No model.)

### *To all whom it may concern:*

Be it known that I, GEORGE FREDERIC CHAPMAN, a citizen of the United States, residing at Evanston, in the county of Uintah and Territory of Wyoming, have invented certain new and useful Improvements in Track-Clearers, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

10 Figure 1 is a central vertical section of a track-clearer constructed in accordance with my invention. Fig. 2 is a transverse vertical section through the auxiliary reservoir thereof. Fig. 3 is a transverse vertical section through the brake-cylinder thereof. Fig. 4 is a front view of indicator. Fig. 5 is a top view of the truck carrying my improvement.

My invention relates to an improvement in track-clearers used to remove the snow lying 20 between the rails, and particularly the snow and ice adhering to the inside of the rails and standing in the way of the flange of the driving and truck wheels, and is an improvement upon the invention shown in Patent No. 25 175,156, of March 21, 1876.

The object of my invention is the employment of compressed air for raising, lowering, and controlling the knives, cutters, or shovels used to remove the snow or ice lodged between 30 or against the rails of the track; and my invention consists in using for that purpose, and with said cutters, the straight and automatic arrangement of the well-known Westinghouse air-brake, comprising parts that will be hereinafter described, and specifically set forth in the claims.

Upon the truck T, carrying the ice-removing knives, is placed a Westinghouse standard driving-wheel brake-cylinder, A, that is fitted 40 with double packing for operation. The cylinder is provided with pipe attachments at both ends, and is connected with the auxiliary reservoir B and a triple valve, C.

The above-mentioned appliances do not need 45 any description, as they come from the manufacturers, (the Westinghouse Air Brake Company,) and do not differ from the air-brake appliances, with the exception that double packing is used on the periphery of the piston in the brake-cylinder A, and air is used 50 on both sides of the piston D.

The piston-rod E of brake-cylinder A is attached to the lever F of the track-clearer by pin *f*, passing through a short slot in said lever, that leaves the piston-rod E and lever F free 55 to move together forward or back, and said lever is secured to a shaft, F<sup>2</sup>, held at a short distance above and across the track. The brake-cylinder A is attached rigidly to the truck-frame of the track-clearer. 60

Pipe attachments are made as follows: The brake-pipe G runs from the locomotive to the front of track-clearer frame, and from there to the front end of cylinder A. Before the main pipe G reaches cylinder A, it meets a 65 branch pipe, H, which connects the main brake-pipe G to the brake-pipe connection of the triple valve C, and the auxiliary pipe H' of triple valve C connects with the auxiliary reservoir B, and from the brake-cylinder connection of the triple valve a pipe, H<sup>2</sup>, leads from 70 the back end of cylinder A. The hose-connection G at the front of the track-clearer connects with the hose-coupling on the rear end of the locomotive, which locomotive is equipped 75 with the Westinghouse air-brake apparatus.

The action of the above arrangement of parts is as follows: Compressed air is admitted through the main brake-pipe G to the front end of cylinder A, and at the same time is 80 admitted to the auxiliary reservoir B through the pipe H and triple valve C. By admitting air of sufficient pressure to the front end of cylinder A when the piston D is in the forward end, A', of cylinder A, and the knives I 85 are down the piston is forced back, and consequently the knives I of track-clearer are raised. By reducing the pressure in the main brake-pipe G, the pressure of air in the front end of cylinder A is reduced, and by the automatic 90 action of the triple valve C, air of sufficient pressure is admitted from the auxiliary reservoir B to the back end of cylinder A, to throw the piston D and lever F forward, thus lowering the knives. An indicator or signal, J, pivoted to the truck-frame, is attached to the lever F by means of the crank-arm J<sup>2</sup>, at the lower end of the signal-rod, and the connecting-rod J<sup>3</sup>, pivoted to a stud, F<sup>3</sup>, projecting 95 from the side of the lever F, as shown, which 100 signal enables the engineer to see readily whether the knives are up or down. The end

of the cutters I can be retained elevated at a distance above the rails by inserting a pin,  $t^2$ , in front of the lever F through the guide-plates  $T^2$ , projecting from the top of the truck-frame.

5 Having now fully described my invention, I claim—

1. The combination of the truck-frame, the transverse shaft  $F^2$ , cutters I, and lever F, secured thereto, with the horizontal cylinder A, 10 having openings and pipes at each end leading from the same reservoir, and the piston-rod of said cylinder connected to the lever F, substantially as and for the purpose described.

2. The combination of the truck-frame, the 15 transverse shaft  $F^2$ , carrying cutters, and the lever F, with the piston-rod connected to said

lever, the horizontal cylinder A, the auxiliary reservoir B, the valve, and pipe-connections leading to each end of said cylinder, substantially as shown and described. 20

3. The combination of a truck-frame carrying cutters, the lever F, its stud  $F^3$ , connecting-rod  $J^3$ , crank-arm  $J^2$ , and indicator J, pivoted to the frame, substantially as and for the purpose described. 25

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE FREDERIC CHAPMAN.

Witnesses:

GEO. H. CAPEN,

ROBERT BURNS.