2 Sheets—Sheet 1.

A. DAY.

Track-Clearer.

No. 204,205. Patented May 28, 1878.

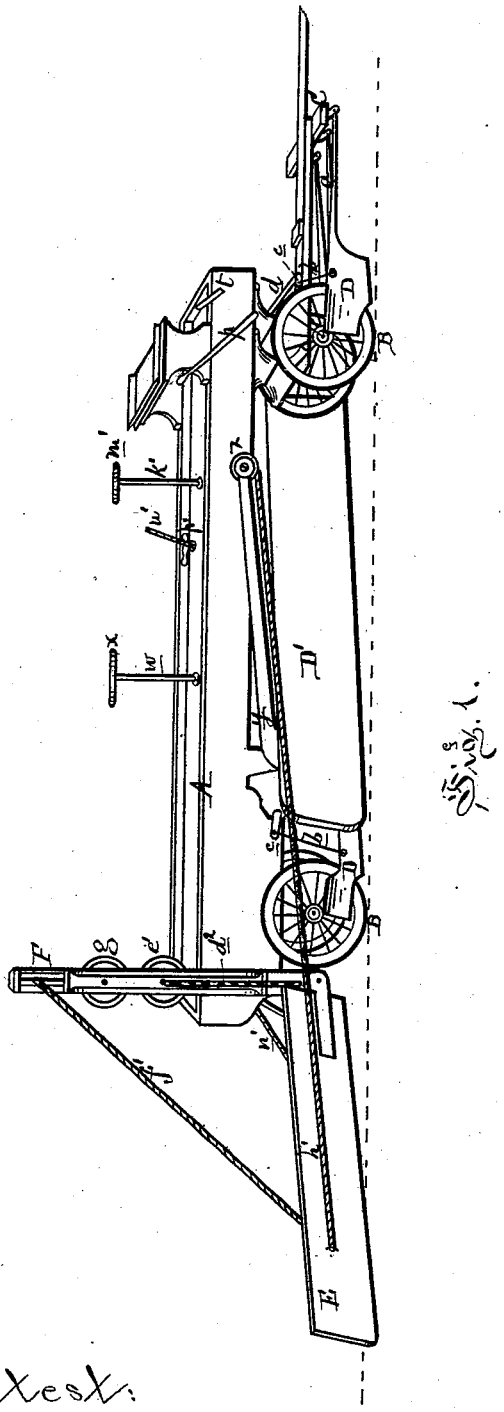

Fig. 1.

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2 Sheets—Sheet 2.

A. DAY.

Track-Clearer.

No. 204,205. **Patented May 28, 1878.**

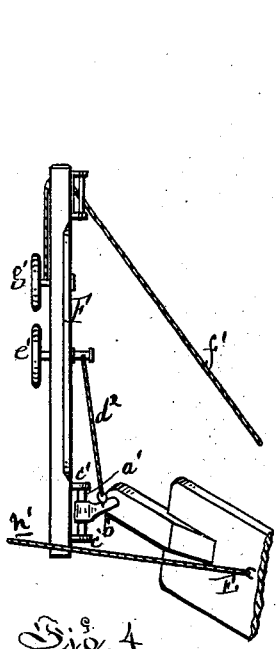

Fig. 4.

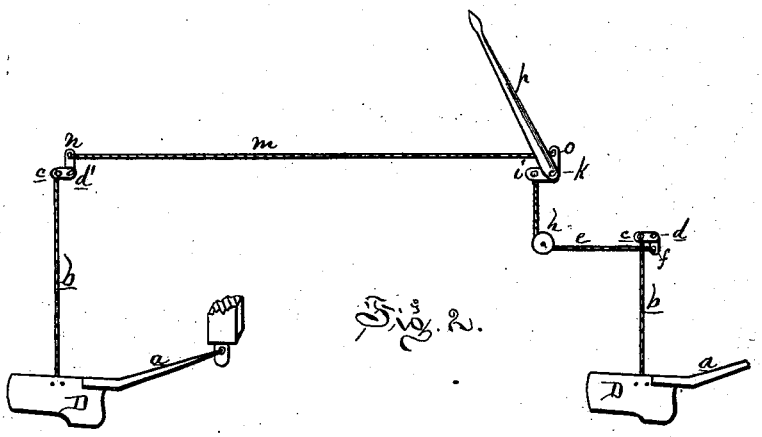

Fig. 2.

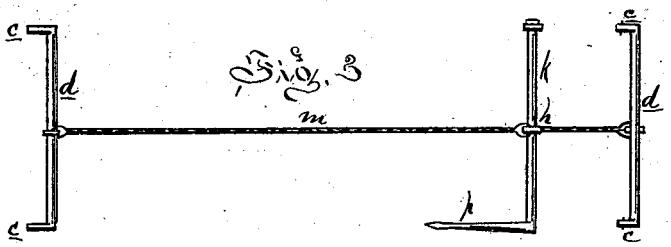

Fig. 3.

Fig. 7.

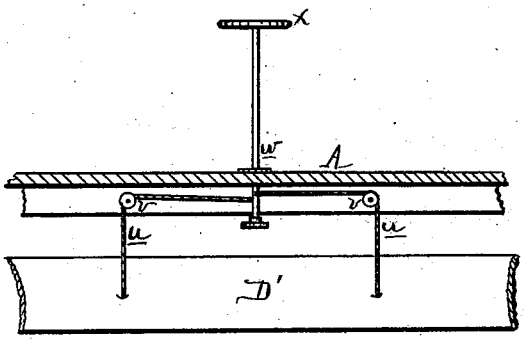

Fig. 5.

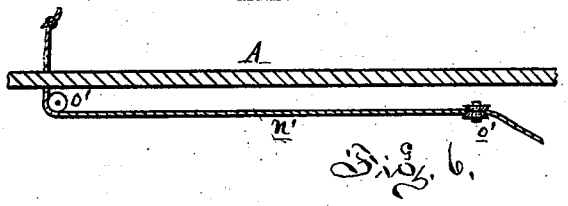

Fig. 6.

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UNITED STATES PATENT OFFICE.

AUGUSTUS DAY, OF DETROIT, MICHIGAN.

IMPROVEMENT IN TRACK-CLEARERS.

Specification forming part of Letters Patent No. **204,205**, dated May 28, 1878; application filed February 8, 1878.

To all whom it may concern:

Be it known that I, AUGUSTUS DAY, of Detroit, in the county of Wayne and State of Michigan, have invented an Improvement in Snow-Plows and Track-Clearers for Street-Railways, of which the following is a specification:

The nature of my invention relates to new and useful improvements in the construction of a device for effectually clearing street-railways from snow and ice, so arranged that the snow will not only be cleared away from the face of the rails, but also from between the rails, and a suitable distance on each side of the track; and the invention consists in the construction, arrangement, and combination of the various parts, as more fully hereinafter set forth.

Figure 1 is a perspective view of my improvements attached to a suitable truck or carriage. Fig. 2 is a side elevation of the mechanism for raising and lowering the track or rail scrapers simultaneously. Fig. 3 is a plan view of the same. Fig. 4 is a rear elevation of the mechanism for raising and lowering the swinging and adjustable supplemental share for clearing away the snow deposited by the main share at the side of the track; also the tightening-rope for drawing the supplemental share back. Fig. 5 is an elevation of the main share or plow, showing the devices for raising and lowering both ends of the same simultaneously, as shown by diagonal section across the carriage, parallel with the plow. Fig. 6 is a longitudinal section through the floor of the carriage, showing pulleys guiding the tightening-rope, shown in Fig. 4. Fig. 7 is an elevation of a truck-wheel, showing form of rim best calculated to follow a street-car track.

Like letters indicate like parts in each figure.

In the drawings, A represents the floor of a truck secured to the rear axle, and pivoted by the usual bolster to the front axle, so that the direction of the forward trucks may be changed at will. The principal feature in the truck is the shape of the rim of the wheels B, which are beveled on each side of the tread, as shown in Fig. 7, this form being best adapted to follow the track of a street-railway as usually constructed.

To a cross-piece, C, supported transversely beneath the tongue, are attached track-scrapers D, and in front of the rear wheels, on each side of the truck, are attached similar scrapers. These scrapers are secured to draw-bars *a*, the forward ends of which are pivoted to the front bars of the tongue-hounds for the front scrapers, while the rear ones are pivoted in like manner and in any convenient way to any convenient part of the truck in front of the rear wheels. Chains or ropes *b* connect each of these scrapers to the rigid cranks *c* on the ends of rock-shafts *d*, which are suitably journaled to any convenient portion of the carriage above the scrapers.

Another chain or rope, *e*, is secured at one end to the crank-arm *f* on the front rock-shaft, and passes to the rear and around the pulley *h*, suitably journaled underneath and at the transverse center of the truck-floor, and its other end secured to the crank-arm *i* of the rock-shaft *k*.

Another chain or cord or rod, *m*, is secured to the crank-arm *n* of the rock-shaft d^1, and leads forward, under the floor of the truck, to the crank-arm *o* of the rock-shaft *k*, and to the end of this rock-shaft is secured the handle *p*, which projects upward by the side of the driver's seat, as shown in Fig. 1, these chains, cords, or rods, being so connected with the scrapers, rock-shafts, and handle, as described, that the operator may simultaneously raise or lower all the track-scrapers by one movement of the handle. A notched bar, *t*, secured to the truck, engages with this handle when the latter is thrown forward to raise the scrapers from the track.

D′ is a share or plow, of proper shape, suspended by means of the chains or cords *u* beneath the floor A of the carriage, diagonally across the same, so that each end will project beyond the rails on each side of the track, and with its concave side presented toward the front end of the carriage.

The cords or chains *u* pass over the pulleys *v* beneath the floor of the truck, and are secured to the shaft *w* of the hand-wheel *x*, so that when the shaft is rotated both ends of the plow will be raised and lowered at the same time. Draw-bars *y* are rigidly secured, one near each end of this plow, and these bars ex-

tend forward and are pivoted, as at z, to the sides of the carriage.

E is the supplementary adjustable swinging plow, hung, by means of the rod a' and sleeved arm b' and brackets c', to the vertical post F at the rear end of the carriage.

A vertical adjustment to varying heights is obtained by means of the chain d^2 and wheel e' and chain f' and wheel g', the chain d^2 being secured to the pivoted or inner end of the plow, and the chain f' near the outer end of the same.

A draft-chain, h', is attached near the outer end of the plow E, which leads forward and is secured beneath the floor of the carriage to the shaft k' of the hand-wheel m'; and by this means the angle of the plow to the track is determined at will by the operator on the floor of the carriage.

A tightening chain or rope, n', is secured to the opposite side of the plow E, and leads to the opposite rear corners of the carriage, thence over the pulleys o' forward and upward through the floor A, where it is secured to a belaying-pin, p'.

The object of this supplementary plow is to throw farther away from the track the snow which has been thrown to the side of the track by the diagonally-situated plow D', and to spread and pack the same, thereby preventing the device from leaving the snow removed from the track in ridges or snow-banks along the street.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with a truck carrying snow-cleaning devices, of the track-scrapers D, one in front of each of the four wheels to the truck, the rock-shafts d d^1 and k provided with double cranks, the connecting chains or rods, and the single lever, whereby all the scrapers can be raised simultaneously by operating a single lever, substantially as described and shown.

2. The combination, with a truck or carriage carrying devices for cleaning the snow from the track, of the supplementary plow or scraper E, pivoted at its inner end to the carriage, so as to be vertically and laterally adjustable, and extending outwardly from one side of the said carriage, substantially as and for the purpose set forth.

3. The combination, with the platform A mounted upon wheels, of the plow or scraper E, pivoted at its inner end to the said platform by means of the rod a' and sleeved arm b, and the ropes or chains d^2, f', and n', substantially as described and shown.

AUGUSTUS DAY.

Witnesses:
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R. A. SPRAGUE.