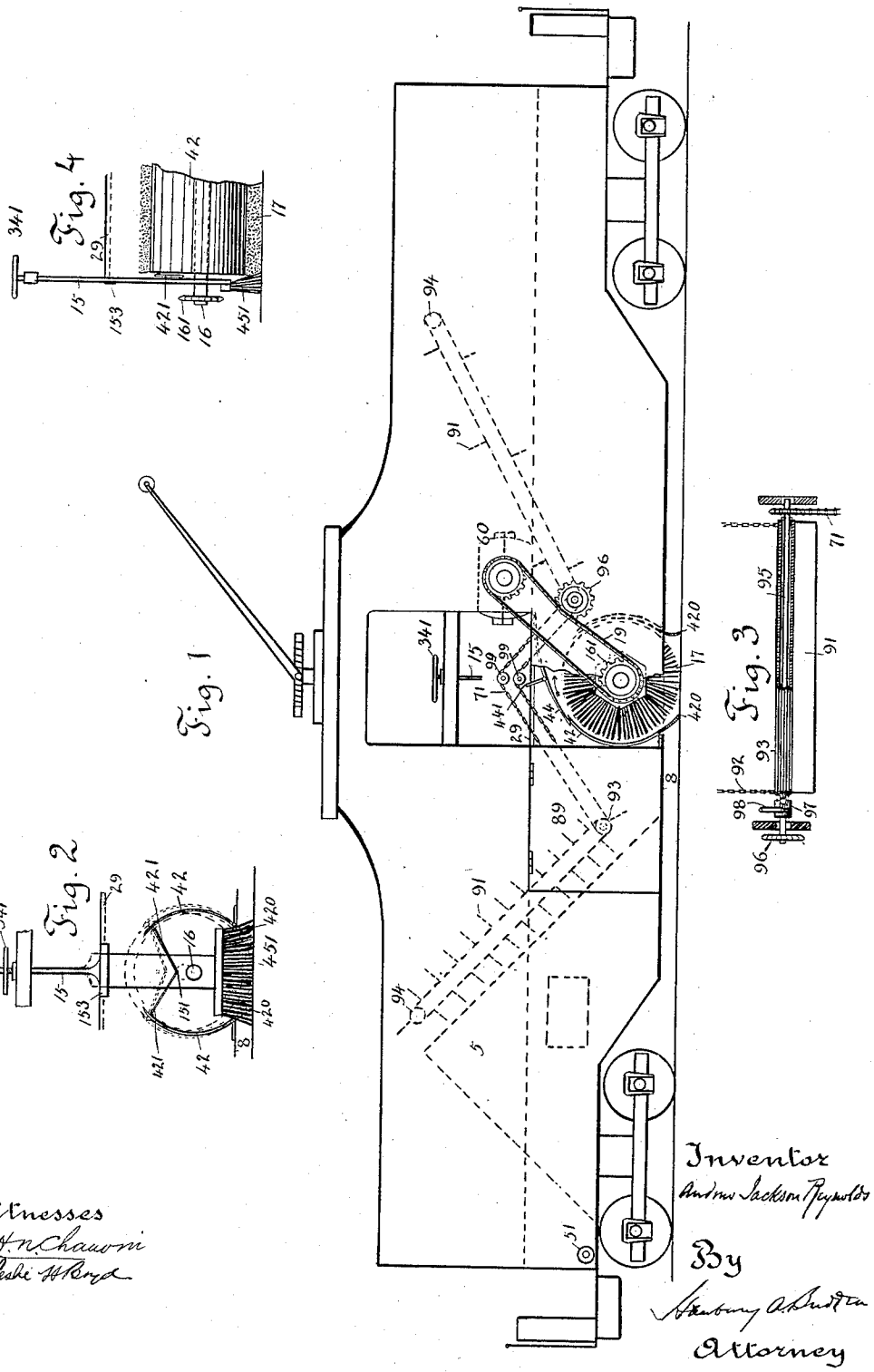
No. 612,789. Patented Oct. 18, 1898.

A. J. REYNOLDS.

ELECTRIC SELF LOADING STREET CLEANING CAR.

(Application filed Feb. 2, 1897.)

(No Model.)



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UNITED STATES PATENT OFFICE.

ANDREW JACKSON REYNOLDS, OF WORCESTER, MASSACHUSETTS.

ELECTRIC SELF-LOADING STREET-CLEANING CAR.

SPECIFICATION forming part of Letters Patent No. 612,789, dated October 18, 1898.

Application filed February 2, 1897. Serial No. 621,712. (No model.)

To all whom it may concern:

Be it known that I, ANDREW JACKSON REYNOLDS, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Electric Self-Loading Street-Cleaning Cars, of which the following is a specification.

My invention relates to street-cleaning cars which collect street-sweepings, and has for its object an improved construction of the sweeping apparatus and its connections and adjustments, the construction being adapted to transfer the sweepings from the brush toward the end of the car or over the surface of a heater; and it has also for its object to provide a self-loading car adapted to be reversely run on tracks with a reversible track-sweeping and car-loading brush having an independent motor and also to provide such car with means for collecting and suitably disposing either snow or dust.

Reference is made to the annexed drawings, in which—

Figure 1 shows a side view of a double-truck car fitted with my device, the left side being fitted with the snow-melting apparatus and the right side with the apparatus for keeping the brush clear and for moving the sweepings. Fig. 2 is an elevation of a side brush and of the casings of the main brush, which latter is indicated by the inner dotted circle. Fig. 3 is a plan of the connections of the scraper-spindle. Fig. 4 is a front elevation of the main brush, showing its relation to the side brushes.

In the center of the car is a raised floor 29, upon which the brush-motor 60 is situated. At each side of this floor are suitably-supported vertically-adjustable bars 15, in which the brush 17 is journaled and to which are attached side brushes 451. These side brushes close the space between the aprons 420 and the lower part of the casings 42 to prevent the sweepings from escaping from the end of the main brush 17. The side casings 42 are hinged at their lower side to the edge of the car-floor 8 and have rubber aprons 420 attached to their lower edges. These flexible aprons are made relatively narrow, so that they can be automatically reversed in position by the moving of the car in a reverse direction. The casings near the upper parts are linked to a pin 151 on the bars 15 by the links 421 in such manner that raising the bars 15 turns the casings 42 on their hinges and separates their upper parts, as indicated in Fig. 2, the brush being simultaneously raised and kept in proper relation to the casings. If the brush is lowered to compensate for wear, the casings are also lowered and kept in proper relation to the brush-surfaces.

The brush-axle 16 bears a sprocket 161, which is driven by chain 19 from a motor 60. In Fig. 1 the arrow indicates that the brush and its sprocket-gear 16 are turning to the right. This would have the effect to move the lower portions of the adjacent endless scraper-carrying chains away from the center of the car, whereby the lower scrapers 91 are operated to move the dirt accumulating below the belt. On reversing the sweeping-motor the left-hand scraper-chains will be so moved as to scrape material toward the front in similar manner and will push it up the inclined surface of the heater 5 when such is used. In case it is not desired to melt snow, or if it is desired to melt it after the accumulation of a load, the sweepings can be loaded in whole or in part and subsequently unloaded either by melting or otherwise. This motor can be reversed to permit the car to operate the brush in either direction, according to the direction of the moving car. An adjustable deflector 44, pivotally supported immediately over the center of the brush, meets the upper edge of either casing when said deflector is suitably adjusted, according to the direction the car is traveling. The deflector is operated by the lever 441.

The scrapers 91 are arranged to remove the sweepings from the immediate vicinity of the brush. They are attached to sprocket-chains 92, which run between the rollers 93 and 94. The scrapers or pushers 91 are operative to move material away from the region of the brush along an inclined plane whether such plane be the inclined top of a heater or of a pile of loaded refuse, and the scraper-carrying chains are driven to move the upper scrapers toward and the lower ones away from the brush. The roller 93 is a hollow spindle turning freely on the shaft 95, which shaft is driven by the sprocket-wheel 96, at-

tached to one of its ends, and the sprocket-wheel is driven by the chain 19. A clutch 97, operated by the lever 98, connects or disconnects at will the roller 93 and shaft 95. A similar apparatus at the other side of the brush is operated by the chain 71, running between the shaft 95 and the roller 93 over idle rollers 98 and 99. Side doors 89 allow access to the brush for cleaning purposes.

When the apparatus is adapted for sweeping snow, a heat-generator 5 may be fitted in the end of the car. This is provided with an extended heating-surface for the purpose of melting the snow which is swept into the car and spread over the inclined surface of the heater by scrapers 91. The water from the melted snow escapes at the bottom of the car through the side outlets 51.

I do not limit my invention to any special form of heater in combination with a self-loading car, as I consider it broadly new.

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

1. In combination a car adapted to be run upon tracks in either direction at will and having a refuse-receiving space at each end, a reversible street-sweeping and car-loading brush situated intermediate the ends of the car, casings for the brush, means comprising an adjustable deflector and mechanism for moving refuse toward either end of the car at will, and an independent motor to operate said brush and refuse-moving devices in either direction at will, substantially as described.

2. The combination of a car adapted to be run upon tracks in either direction at will and having a refuse-receiving space at each end, a reversible street-sweeping and car-loading brush, casings for the brush, means for moving refuse toward either end of the car at will, and an independent motor to operate said brush in either direction at will, automatically-reversible aprons below the casings, and a reversible deflector above the casings, substantially as described.

3. In a self-loading street-sweeping car the combination of a rotary brush, casings situated, one on each side thereof, each having its lower part hinged to a support, vertically-adjustable supporting devices to operatively support the brush at various elevations, and links or the like to adjustably hold the casings adjacent the brush under different elevations thereof, substantially as described.

4. In a self-loading street-sweeping car the combination of a rotary brush, casings situated one on each side of the brush, each having its lower part hinged to a support, and links or the like to adjustably hold the casings adjacent the brush under different elevations thereof, and bars 15 supporting the brush, said links being pivoted to the bars and the latter made vertically adjustable, substantially as described.

5. In a self-loading street-sweeping car, a rotary brush, casings each having its lower part hinged, links or the like to adjustably support the upper parts of the casings, and bars provided with means for raising and lowering the same, said links being pivoted and the brush journaled in said bars whereby raising or lowering the bars adjusts the casings to the brush in its various elevations, substantially as described.

6. In a self-loading car the combination of a rotary brush, adjustable side casings and side brushes adapted to close the space between the aprons and the lower part of the casings at the ends of the brush, substantially as described.

7. In a self-loading car, the combination of a rotary brush, adjustable side casings, flexible aprons thereto, and side brushes attached to the bars in which the main brush is journaled, substantially as described.

8. In a self-loading car, the combination of a reversible rotary brush, an electric motor to operate same, adjustable side casings, an adjustable deflector adapted to connect with either casing, and flexible reversible aprons, substantially as described.

9. In a self-loading car, a brush adapted to throw its sweepings into the car, a heater, and a refuse moving or scraping device to move the swept-up refuse to and spread it along upon the heater, substantially as described.

10. In a self-loading car, the combination of a rotary brush, side casings, aprons below the casings, a heater having an extended surface and a sprocket-chain provided with scrapers adapted to spread the sweepings over the extended heating-surface of the heater, substantially as described.

11. In a self-loading car, the combination of a rotary brush, an electric motor to operate same, side casings with flexible aprons, a heat-generator having an extended heating-surface, and means for spreading the sweepings over the heating-surface, substantially as described.

12. In a self-loading car, the combination of a rotary brush, casings, an adjustable deflector adapted to direct sweepings in either direction according to its adjustment, endless chains located on both sides of the brush and provided with scrapers, a motor, operating devices connecting the motor and brush, said devices being also connected to drive the scraper-chains, substantially as described.

13. In a self-loading car, the combination of a rotary brush, casings, an adjustable deflector adapted to direct sweepings in either direction according to its adjustment, endless chains provided with scrapers, a motor, operating devices connecting the motor and brush, said devices being also connected to drive the scraper-chains, a second scraping device comprising scraper-carrying chains, and connections between the two scraping mechanisms whereby the last-named scraping device is driven, substantially as described.

14. In a self-loading car, the combination of a rotary brush, casings, an adjustable de-

flector adapted to direct sweepings in either direction according to its adjustment, endless chains provided with scrapers, a motor, operating devices connecting the motor and brush, said devices being also connected to drive the scraper-chains, a second scraping device comprising scraper-carrying chains, and connections between the two scraping mechanisms whereby the last-named scraping device is driven, said connecting mechanism comprising a driving-chain and idle-rollers to support the intermediate parts of the said driving-chain above the brush, substantially as described.

15. In a self-loading car, the combination of a rotary brush, casings, an adjustable deflector adapted to direct sweepings in either direction according to its adjustment, endless chains provided with scrapers operatively arranged beneath said chains, a motor, operating devices connecting the motor and brush, said devices being also connected to drive the scraper-chains, a second scraping device comprising scraper-carrying chains, and connections between the two scraping mechanisms whereby the last-named scraping device is driven, said connecting mechanism comprising a driving-chain and idle-rollers to support the intermediate parts of the said driving-chain above the brush, substantially as described.

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