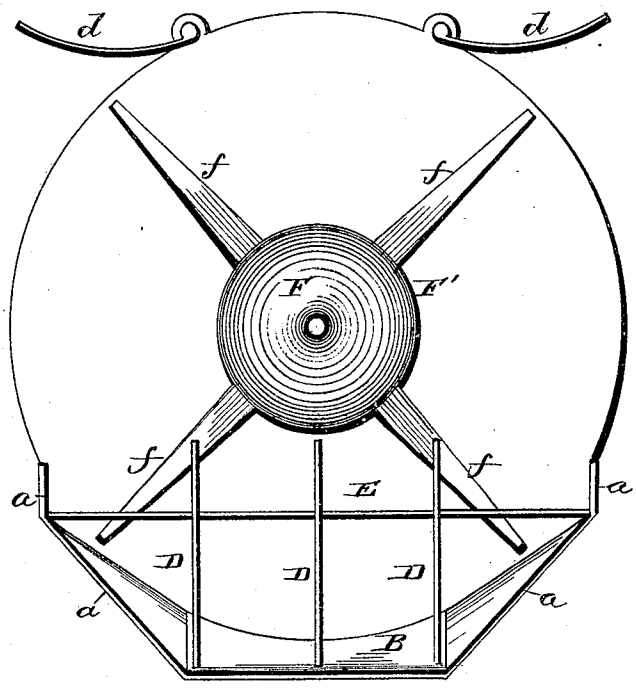
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J. W. HAUGHAWOUT.

SNOW PLOW.

No. 245,296. Patented Aug. 9, 1881.

Fig. 1.



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Fig. 2.

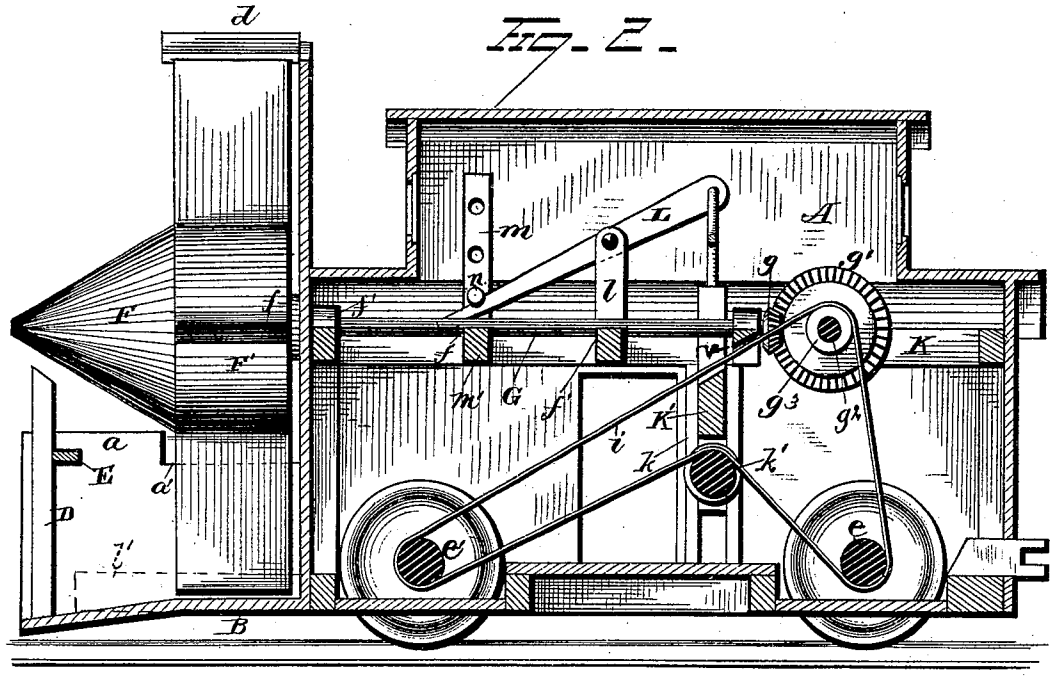
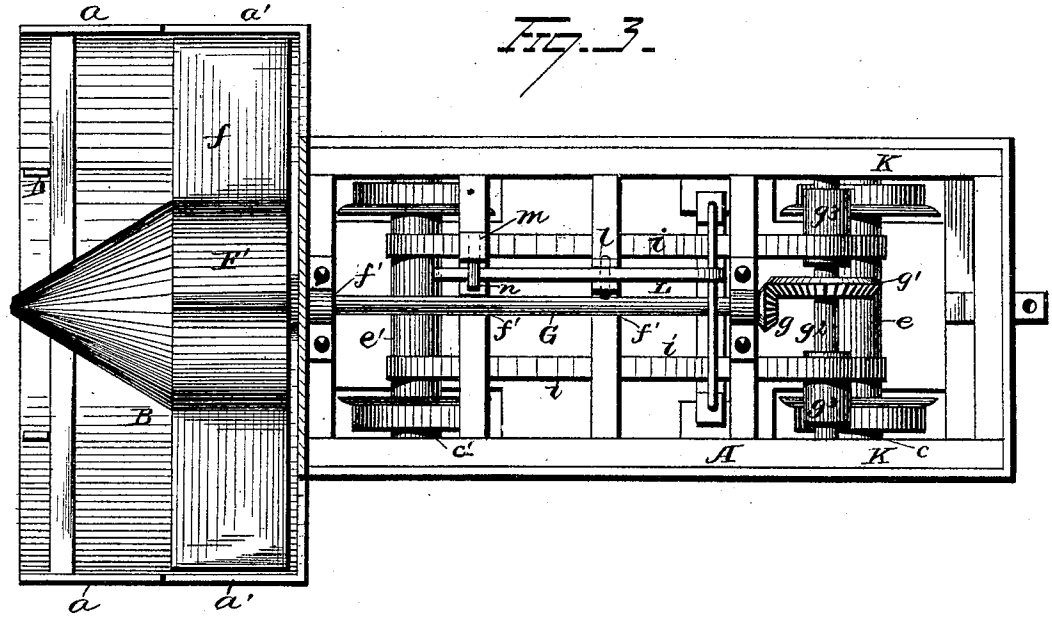


Fig. 3.



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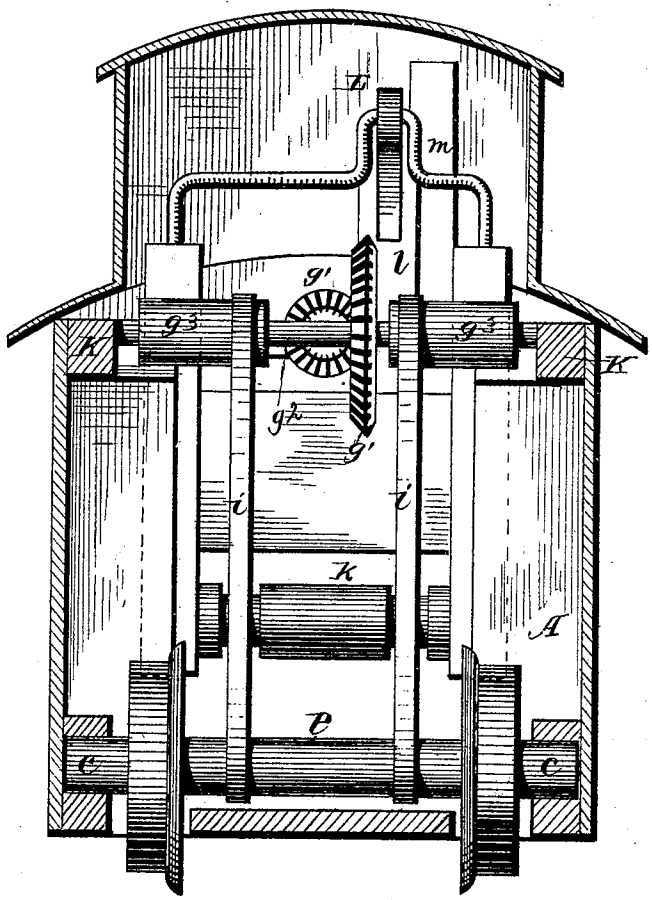
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SNOW PLOW.

No. 245,296. Patented Aug. 9, 1881.

Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN W. HAUGHAWOUT, OF TRAER, IOWA.

SNOW-PLOW.

SPECIFICATION forming part of Letters Patent No. 245,296, dated August 9, 1881.

Application filed April 25, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. HAUGHAWOUT, of Traer, in the county of Tama and State of Iowa, have invented certain new and useful Improvements in Snow-Plows; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to an improvement in snow-plows, the object of the same being to provide a plow that will remove the snow from a railroad-track and deposit it on either side of the same; and it consists of an apron and a wheel revolving in a vertical plane, and mechanism for controlling the action of said wheel, said apron or wheel being detachably secured to the forward end of a car, or rigidly secured to a car especially adapted for the purpose and containing the necessary mechanism for revolving the wheel.

In the accompanying drawings, Figure 1 is a front view of my device. Fig. 2 is a longitudinal section. Fig. 3 is a plan view, and Fig. 4 is a view with the rear end of the car cut away.

A represents the car, to the forward end of which is secured the apron B. This apron B is made of boiler-iron, of suitable thickness, bolted together, and so situated that the forward end thereof rests a slight distance above the rails, and gradually inclines upward as it approaches the car until it reaches the blades of the wheel, where it runs horizontally backward parallel to the ends of the blades, which work over it. This portion of the apron immediately under the wheel, instead of lying parallel to the track, as at the front end, is formed in the arc of a circle of little larger diameter than the circumference of the wheel, thereby affording no room for the snow to become clogged or impacted on the apron, which would be the case were there angles formed, as at the front end, where the sides *a* ascend at an angle of about forty-five degrees to where the rounded portion *a'* of apron B stops, and then continued vertically upward a suitable distance.

The apron or plow B is of sufficient width to clear the snow from the track and from both sides thereof to allow the cars to pass through, and is of such form at its front end that after opening the passage the snow at the sides has no tendency to fall onto the track. The front end of this apron or plow is provided with upright knives or cutters D, rigidly secured at one end to the top of the apron, and supported near their top by a horizontal cutter or brace, E. These cutters are placed at suitable distances apart and extended sufficiently upward to cut or separate the snow and to prevent obstructions from coming in contact with the wheel.

F is the hub of the wheel, having any suitable number of blades, *f*, secured thereto, which keep the apron clear of snow. This hub is made sufficiently large and projects out some distance from the blades, and is tapered to a point, so that it can more easily part the snow and direct it to the paddles or blades *f*, where it is thrown by centrifugal force up at an angle of about thirty-five degrees or forty degrees.

The back, or that portion of the plow which rests against the car, forms a stop, which prevents the snow from passing between the blades, and is provided on top with pivoted wings *d*, extending over the top of the wheel, which completely break the current of snow arising from either side, caused by the wheel being rapidly revolved, and throws it at an angle of about forty degrees; and when the wheel is in snow above its hub it will throw the snow out at the top, between the blades, just about the same angle, thus preventing snow from going directly upward, which would return on the train or track.

As before stated, this mechanism can be attached directly to the front of a locomotive, and operated either by the front wheels or by any suitable mechanism; and instead of the construction of the parts shown in the car attached thereto in the drawings, a steam-chest can be placed therein and attached to a pipe leading directly from the boiler, with the pitman connected directly to the shaft G, or to proper gearing meshing with the wheel *g;* but the mechanism shown in the car A answers all the required purposes, and at the same time is

less expensive than some of the constructions above mentioned.

This car A is set well down around the wheels, with the axles *c* passing through the interior thereof, and is provided with drums or pulleys *e e'*, around which the operating-belts pass. The side beams of the car-frame project out in front and form bearings, on which the apron or plow B rests.

The wheel F' is attached to the forward end of the shaft G, which is supported in bearings *f'*, and provided at its rear end with the bevel-gear wheel *g*, which meshes with the wheel *g'* on the shaft g^2, said shaft being journaled in the longitudinal beams K. This shaft is also provided with drums g^3, around which the driving-belts pass. These belts *i* wind over the drums g^3, under axle *c*, over belt-tightener K', and under axle *c'*.

The belt-tightener is composed of a sliding frame working in the guide *k*, and provided with a bail on top, to which the handle L is secured.

A roller, *k'*, is journaled at the lower end of the sliding frame, having grooves in its periphery, in which the belts run. The upper portion is cut away, as shown at *v*, to allow the belts, after passing around the drums *e e'*, to have an uninterrupted passage to the shaft g^2.

The handle L is pivoted in the upright standard *l*, secured to the transverse beam, with its handle end forward and resting alongside of the upright standard *m*, secured to the transverse beam *m'*. This upright is provided with perforations, in which is inserted a removable pin, *n*, adapted to hold the handle down, which elevates the sliding frame and tightens the belts. When desired, the pin can be withdrawn, thereby allowing the sliding frame to descend, which releases the tension on the belts and allows the wheel to remain motionless.

If desired, two bevel-gear wheels can be journaled to a bearing having a sliding motion on shaft g^2 and operated by lever, so that one wheel is always in contact with bevel-gear wheel *g*. By this arrangement the motion can be reversed, thereby allowing advantage to be taken of high winds and low sides of cuts.

Instead of using only one cleaning-wheel, as above described, two smaller ones may be used side by side and operated by substantially the same mechanism as described for the single wheel. If, however, two wheels are used, the apron will have to be somewhat modified, so that the snow will be parted in the center of the apron and directed toward each wheel, which can be done without much additional expense, the mechanism employed for driving the one wheel being sufficient for that purpose.

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

1. In a snow-plow, the combination, with the revolving snow-wheel F and apron B, of the wings *d d*, located above the wheel and pivoted to the frame on opposite sides of the vertical center of the snow-plow, substantially as set forth.

2. In a snow-plow, the combination, with the revolving snow-wheel F, of the shaft G, bevel-gears *g g'*, shaft g^2, belts *i i*, drums *e e'*, roller *k'*, roller-frame K', lever L, upright *m*, and pin *n*, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 25th day of March, 1881.

JOHN W. HAUGHAWOUT.

Witnesses:
J. C. PREHM,
E. M. WOOLLEY.