

CENTRIFUGAL SNOW PLOW.

The vast systems of railroads in the United States north of latitude 40 every winter become obstructed with snow, and a great expenditure of time, labor and means are required to clear the tracks; indeed, in some sections the roads are abandoned for a large part of the winter, for want of a suitable arrangement to create a passage for the trains. Recognizing these difficulties, a prominent Western inventor, Mr. J. W. Haughawout, of Traer, Iowa, has constructed a snow plow which by centrifugal force completely clears the track, no matter how large the drift. By actual experiment it has been found that the plow can be run through a drift of from five to fourteen feet at the rate of twenty miles an hour, completely clearing the tracks. Clogging of the plow is an impossibility.

As shown in our engraving on this page, it consists of an apron and a wheel revolving in a vertical plane, and mechanism for controlling the action of said wheel, which is 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 it.

This apron 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 blade 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 the angles formed as at the front end, where the sides ascend at an angle of about forty-five degrees to where the rounded portion of the apron stops, and are then continued vertically upward a suitable distance.

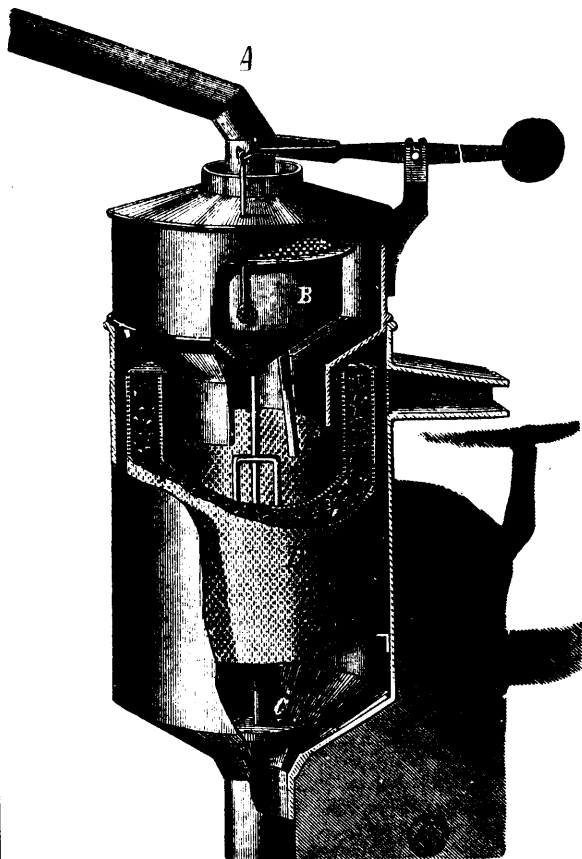
The hub of the wheel has any suitable number of blades secured thereto, which keep the apron clear of snow. This hub is made sufficiently large, and projects out some distance from the blades, and is tapered to a point, so that it can more easily part the snow and direct it to the paddles or blades,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

This mechanism can be attached directly to the front of a locomotive, and operated either by the front wheel or by any suitable mechanism.

When attached to a car with machinery inside for running it, if desired, two bevel gear wheels can be journaled to a bearing having a sliding motion and operated by a lever, so that one wheel is always in contact with bevel gear wheel. 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 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 towards each wheel, which can be done without much additional expense, the mechanism employed for driving the one wheel being sufficient for that purpose.—*Am. Inventor.*



ZUBER'S FILTER.

IMPROVED FILTER.

The engraving shows an improved filter which purifies the water passing through it and removes the sediment automatically.

The invention consists in a cylindrical vessel containing a tubular sieve, D, filled with charcoal, and provided with a spout at about half its height, and with a valve opening in the funnel shaped bottom, closed by a valve, C, attached to a rod carrying a cup-shaped vessel, B. This vessel is connected with one end of a balanced lever, so that when the water enters the filter through the pipe, A, the cup-shaped vessel is filled and descends, the valve closing the aperture in the bottom of the vessel, when the water rises in the cylinder, passes through the sieve and charcoal, is purified, and passes off through the spout. When the supply of water is cut off, the water is removed from the cup-shaped vessel by the siphon, E, and the weight of the lever raises the vessel, B, and the valve, C, so that the sediments can be washed off through the bottom by the water running from the filter.—*Scientific American.*