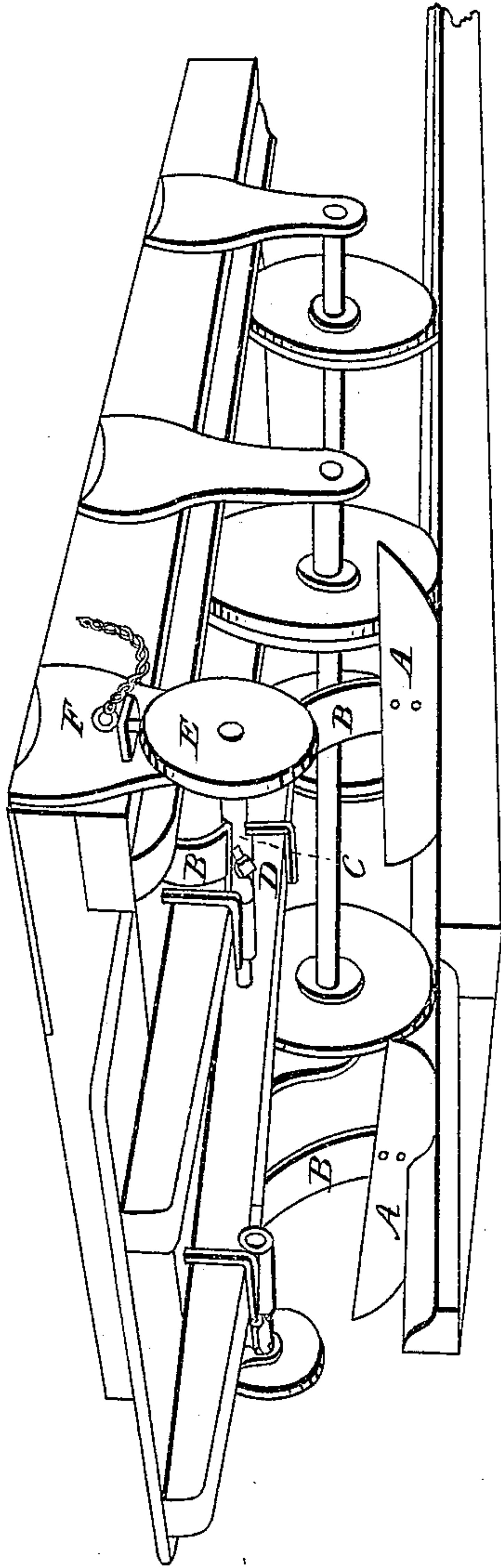


B. FOLSOM.  
Car-Track Clearer.

No. 53,968.

Patented Apr. 17, 1866.



**Witnesses:**

*Philip J. D. Van Dyke*  
*W. G. Thompson.*

**Inventor:**

*Benjamin Folsom*

# UNITED STATES PATENT OFFICE.

BENJAMIN FOLSOM, OF DETROIT, MICHIGAN.

## IMPROVED SNOW, ICE, AND MUD SCRAPER FOR RAILROADS.

Specification forming part of Letters Patent No. 53,968, dated April 17, 1866.

*To all whom it may concern:*

Be it known that I, BENJAMIN FOLSOM, of Detroit, Wayne county, Michigan, have invented a new and useful Machine for Removing Snow, Mud, and Ice from the Rails of a Railway-Track, styled "Folsom's Snow, Mud, and Ice Railroad-Scraper;" and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification.

My invention consists of a metallic scraper of a shape adapted to the purpose designed therefor, attached by means of a steel or other metallic spring to a shaft fastened underneath the body of a railroad-car in front of the fore wheels thereof and running half-way across the car, said scraper being brought to bear on the rail of the track by said metallic band or spring, which is so twisted at or near its juncture with the scraper as to give the latter its proper angle (about forty-five degrees) with the rail, the upper end of said spring being bent semicircularly, so that its end shall fit into a mortise cut into the aforesaid shaft, where it is held in place by an adjustable screw, the said shaft being so joined to the car as to turn on its axis, and in turning to press the scraper on the rail or lift it therefrom when not in use, its place in either position being secured by a pin in a crank on the end of the shaft. When thus placed for use the scraper, by the ordinary motion of the car, clears the track of snow, ice, or mud without materially impeding the car's progress.

To enable others skilled in the art to make and use this my invention, I will now proceed to describe its construction and operation.

I construct a steel or other metallic scraper, (marked A in the drawings,) in shape bent or crooked, so as generally to resemble the mold-board of a plow, about three-sixteenths of an inch thick, from twenty to thirty-six inches (more or less) in length, and about six and a half inches wide, perpendicularly, in the center, tapering off to a point toward either end, with greater fullness or bluffness to the front, but more sharply toward the rear. This scraper is attached by rivets to a spring (marked B in the drawings) consisting of a band of steel or other metal, about two and one-half inches

wide and two feet or more in length, and so twisted or turned in its shape at or near its point of juncture with the upper side of the scraper as to give to the latter its proper angle (about forty-five degrees) with the rail of the track when in working position. This spring, (marked B, as above,) at its upper end, is bent in a curve of about half a circle, descending into a mortise cut into the shaft marked C in the drawings, which is placed at right angles with the spring and attached or let into the under side of the car, and the effect of which spring, in the operation of the scraper, is, by a firm and close pressure, to hold the latter down snugly upon the rail, so as to displace the snow, mud, or ice, and still enable it to work freely, and when encountering obstacles on the track suffering it to rise over them, and then immediately returning it again to its position on the track or rail. The upper end of this spring (marked B, as above) is held in its place in the mortise above described by an adjustable screw. (Marked D in the drawings.) About the middle and on the under side of the scraper I cut out about a half an inch in depth and six or seven inches in length, so as to make a niche which conforms to the shape of the top of the rail and fits the scraper on and across the rail at the angle already given of forty-five degrees or more. Where the top of the rail is below or on a level with the pavement on the outside of the rail this scraper should be lessened in width or height just outside the rail, so as to allow the scraper to maintain its pressure on the rail and not be lifted from it by the greater height of the pavement. Where the top of the rail is higher than the pavement the form of the scraper is as above described.

The shaft or roller, (marked C, as above,) which may be from eighteen inches to four feet long, is attached to the body or under side of the car by being let into the beams of the car and fastened by encircling-bands, and is turned on its axis by means of the wrench marked E in the drawings, which is held in the position desired by the pin marked F in the drawings; and the said roller or shaft (marked C, as above) graduates or regulates the pressure of the scraper on the rail, or lifts and holds it entirely from the rail when not in requisition for use. When there is a turn-table at the end of the route, so that cars can be shifted



around, a pair of these scrapers, one on either side of the car in front of each fore wheel, is all that one car requires; but when the car cannot be thus reversed it is desirable to apply a pair at both ends of the car in the manner described, so that one pair may be in use in whichever direction the car is going. But generally the passage of a pair of scrapers once over the track will sufficiently clear it of a snow of the depth of six inches or more, a second application not being necessary unless there be a second or fresh deposit of snow.

The scraper, when in full operation, with snow, mud, or ice on the track, catches the same on the inside of the rail, passes it rearward over the rail to the outside of the track and to the rear of the scraper, when and where, by means of the mold-board-like twist of the scraper, it is thrown still farther to the rear and to the outside of the track, the distance which it is thus thrown depending both on the length of the scraper and the speed of the car;

but in any case it is thrown far enough to completely clear the track, and this without in any material degree impairing or retarding the speed of the car. The scraper, when thus attached to the car, needs no attention, nor is there any fear of its clogging, being made to operate in the manner already described by the mere motion of the car, and will successfully clear and turn from the track a snow of six inches without materially impeding the speed of the horses.

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

The combination of the scrapers A, the springs B, the wheels E, and the set-pins F, in the manner and for the purpose herein described.

Dated Detroit, January 25, 1866.

BENJAMIN FOLSOM.

Witnesses:

PHILIP J. D. VAN DYKE,  
W. G. THOMPSON.