

(No Model.)

E. LESLIE.
SNOW PLOW.

No. 338,759.

Patented Mar. 30, 1886.

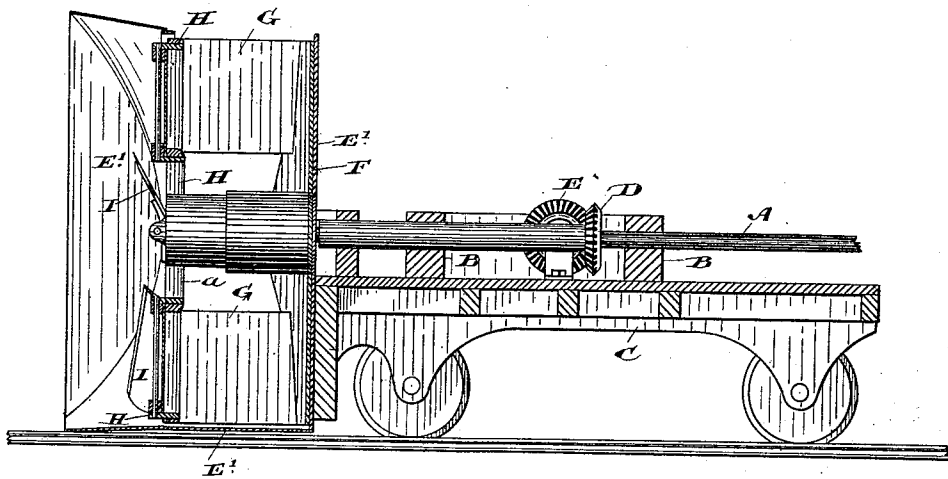


Fig. 1.

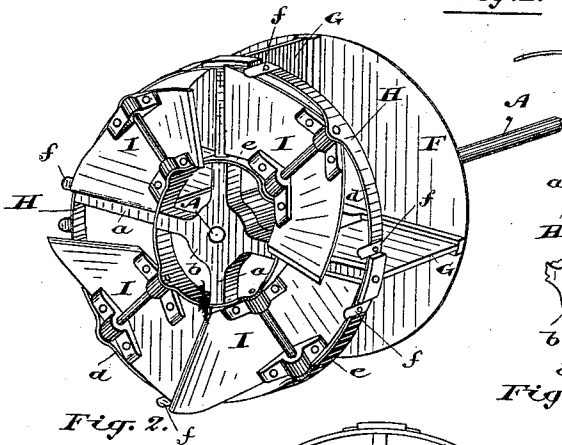


Fig. 2.

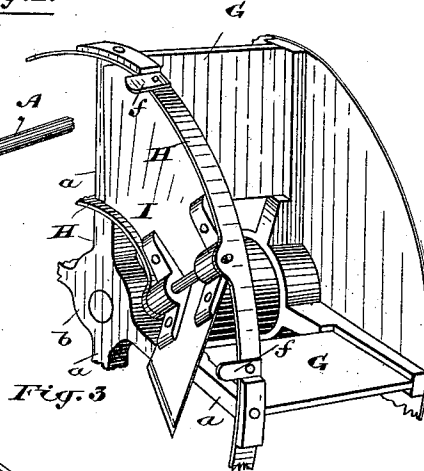


Fig. 3.

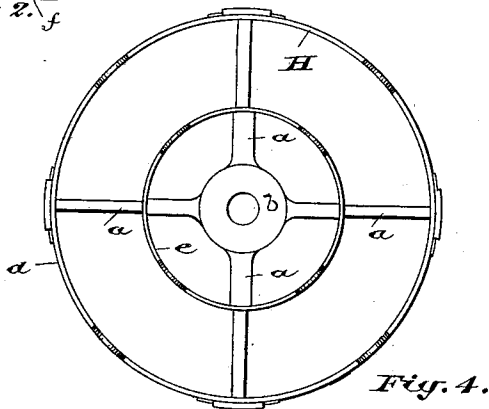


Fig. 4.

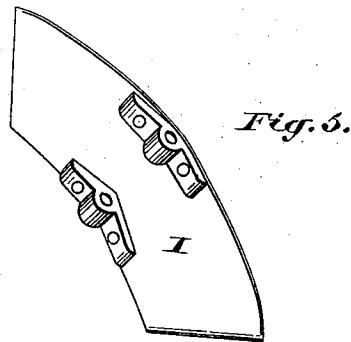


Fig. 5.

Witnesses.

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UNITED STATES PATENT OFFICE.

EDWARD LESLIE, OF ORANGEVILLE, ONTARIO, CANADA, ASSIGNOR TO THE
ROTARY STEAM SNOW SHOVEL MANUFACTURING COMPANY, OF PAT-
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SNOW-PLOW.

SPECIFICATION forming part of Letters Patent No. 338,759, dated March 30, 1886.

Application filed August 17, 1885. Serial No. 174,547. (No model.)

To all whom it may concern:

Be it known that I, EDWARD LESLIE, of the town of Orangeville, in the county of Dufferin, in the Province of Ontario, Canada, gentleman, have invented certain new and useful Improvements in Snow-Plows, of which the following is a specification.

The invention relates to that class of snow-plows in which a series of shovels are caused to revolve within a casing having an aperture in it, through which the snow is discharged by centrifugal force produced by the revolving of the shovel within the casing, and the object of the present invention is to arrange on the same shaft as the shovels a series of shears arranged to gather the snow into the shovels as the whole revolve; and it consists, essentially, in locating a plate between each pair of shovels designed to form a series of shears to shear off the face of the snow-bank being attacked, and gather the snow thus cut off into the space between the shovels, substantially as hereinafter more particularly explained.

Figure 1 is a sectional elevation of my improved snow-plow. Fig. 2 is a perspective detail of my improved wheel, formed by the shears and shovels. Fig. 3 is an enlarged detail of a section of the wheel. Fig. 4 is a detail of spider. Fig. 5 is a detail of the shearing-plate.

A is the driving-shaft, preferably carried in a long bearing, B, which is supported on the truck C in any suitable manner. The shaft A derives motion from any suitable motor, either carried on the truck C or otherwise located.

In the drawings I show a beveled pinion, D, secured to the shaft A and meshing with the beveled pinions E, located on either side of the bearing B, suitably journaled and having their shafts arranged to connect with a motor.

E' is a casing, made substantially in the manner described in United States Patents Nos. 297,408 and 317,809, patented to me.

F is a disk secured to the driving-shaft A, and designed to fit against the back of the casing E'. From this disk F a series of shovels, G, extend at right angles to the face of the said disk.

H is what may be termed a "spider," shaped substantially as shown in Fig. 4, and secured to the end of the shaft A, so as to form a support for the shovels G. It will be noticed that the spider H is composed of a series of arms, *a*, radiating from a hub, *b*, secured to the shaft A. These arms *a* form supports for the outer edges of the shovel G, and are braced together by the inner and outer rings, *d* and *e*. The spaces bounded by these rings *d* and *e* and by each pair of arms *a* are covered by the plates I, which are preferably bent at an angle, as shown in Fig. 5, and are preferably hinged at their center to the rings *d* and *e*, so that one-half of each space may be covered by one-half of each plate I, while the other half of each plate extends outwardly at an angle, as indicated, so as to form a series of shears extending from the face of the rings *d* and *e*, designed to shear off from the face of the bank of snow and gather into the spaces between the shovels the snow which is discharged from the casing A by the revolving of the said shaft.

As stated, I preferably hinge the plates I, which I do for the purpose of reversing the direction in which the shovels revolve—that is to say, when it is desired to discharge the snow from one side of the shovels, the said shovels are caused to revolve in the direction indicated by arrow in Fig. 2, and the plates I are in this case set as shown in that figure. If it is desired to discharge on the opposite side, the shovels are caused to revolve in the opposite direction, and the plates I are set so as to open the opposite side of the space.

A series of spring-catches, *f*, are formed on the ring *d*, so as to hold down whichever side of the plate it may be desired to retain.

Although I prefer the plate I to be shaped and hinged as indicated, a portion of the object of my invention would be obtained by making the plate a permanent fixture; but in such a case the shovels could only be used for discharging on one side of the machine.

When the plates I are hinged, it will be understood by reference to the drawings that they are self-setting—that is to say, whichever way the shovels are caused to revolve the plates I open, so as to act as shears in which-

ever way the wheel revolves, it being intended that the spring-catches should only be sufficiently strong to hold them from flapping.

What I claim as my invention is—

- 5 1. A series of shovels, G, connected to and radiating from the revolving driving-shaft A, in combination with a series of bent plates, I, placed between the shovels G, substantially as and for the purpose specified.
- 10 2. A series of shovels, G, fixed to and radiating from the revolving shaft A, in combination with the bent plates I, pivoted at their center between the shovels G, substantially as and for the purpose specified.

3. A series of shovels, G, connected to and radiating from the shaft A, the rings *d* and *e*, designed to brace the shovels together, as specified, in combination with the bent plates I, hinged to the rings *d* and *e*, substantially at the center of the plates and between the shovels G. 15 20

4. The bent plates I, hinged to the rings *d* and *e*, in combination with the spring-catches F, arranged substantially as and for the purpose specified.

EDWARD LESLIE.

In presence of—

CHAS. C. BALDWIN,
J. S. LESLIE.