Jan. 6, 1925. 1,522,340

W. L. STADIG

SNOW REMOVER

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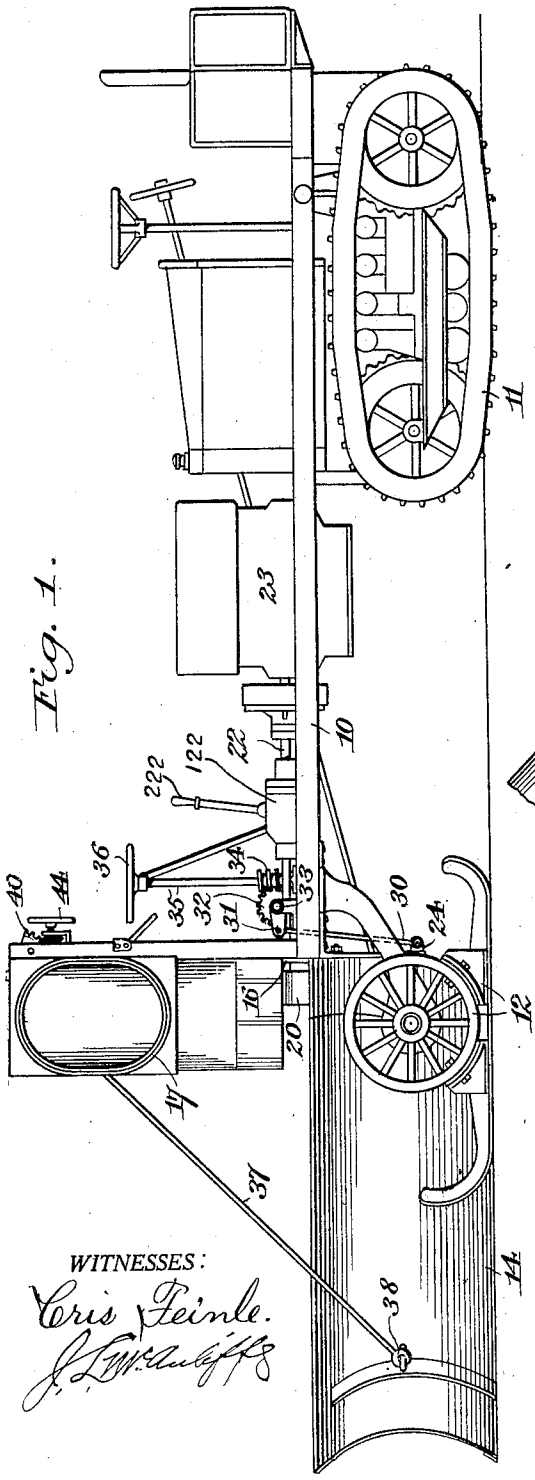


Fig. 1.

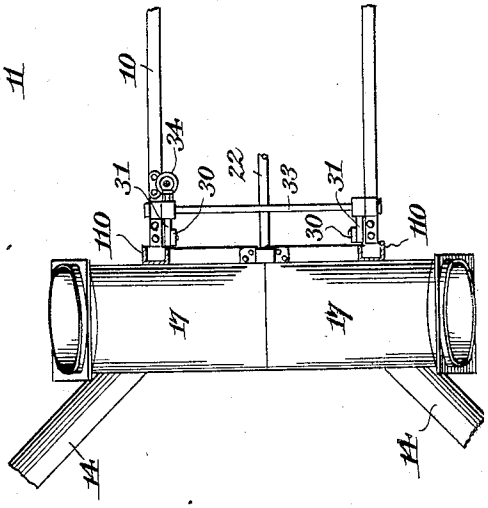


Fig. 2.

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Fig. 4.

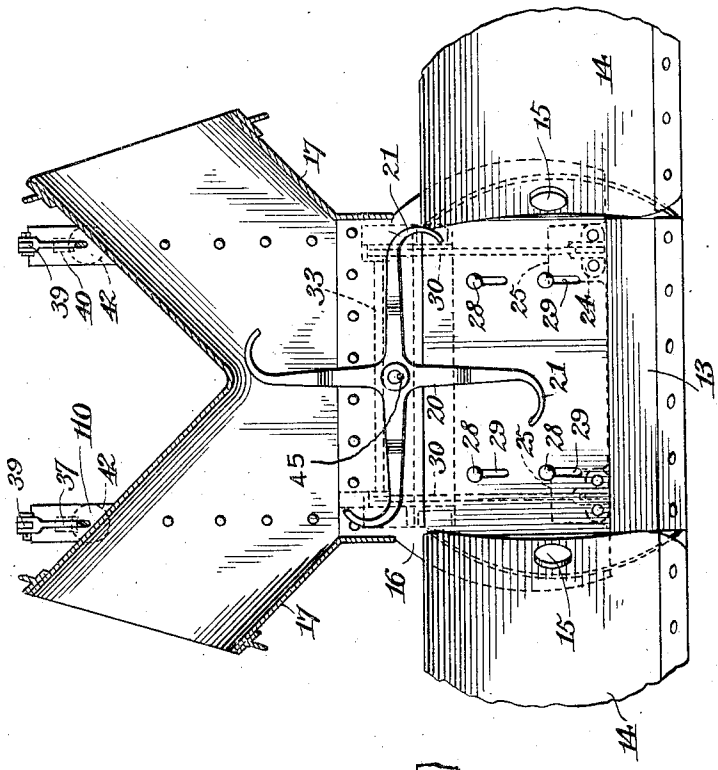
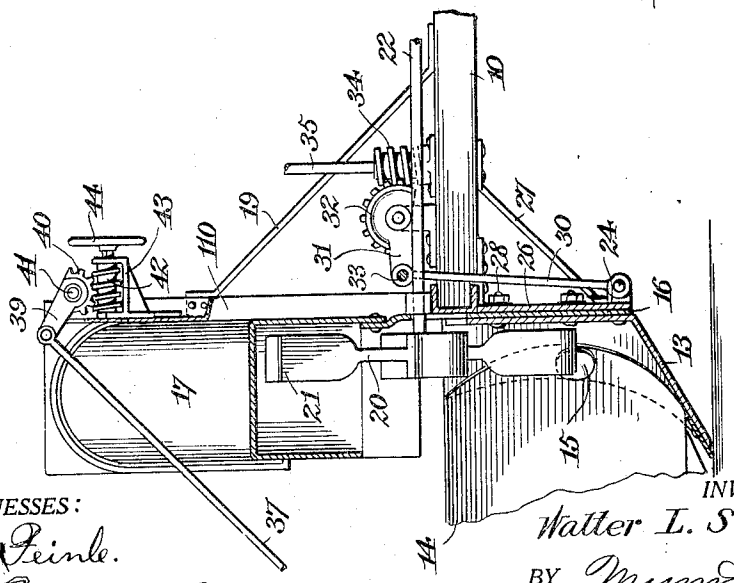


Fig. 3.



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UNITED STATES PATENT OFFICE.

WALTER LESLIE STADIG, OF BANGOR, MAINE, ASSIGNOR TO EASTERN TRACTORS COMPANY INCORPORATED, OF CAMBRIDGE, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

SNOW REMOVER.

Application filed February 5, 1924. Serial No. 690,809.

To all whom it may concern:

Be it known that I, WALTER LESLIE STADIG, a citizen of the United States of America, and a resident of Bangor, in the county of Penobscot and State of Maine, have invented a new and Improved Snow Remover, of which the following is a description.

My invention relates to a snow remover having a frame mounted to travel and propelling means and particularly relates to a snow remover in which the snow is gathered and directed upwardly to laterally disposed chutes for discharging the snow into a vehicle for example traveling alongside the snow remover, or discharging the snow at the sides of the roadway.

The general object of the present invention is to provide a novel snow scraping and gathering assemblage and an agitating fan to prevent banking of the snow at the scrapers or in the region of the base of the chutes.

A further object of the invention is to provide novel means for raising and lowering the scraper means relatively to the fan and to the chutes and for adjusting the side scraper elements relatively to the central scraper.

The nature of the present invention and its distinguishing features and advantages will clearly appear as the description proceeds.

Reference is to be had to the accompanying drawings forming a part of this specification, it being understood that the drawings are merely illustrative of one example of the invention.

Figure 1 is a side elevation of a snow remover embodying my present invention;

Figure 2 is a plan view of a portion of the frame, the scrapers, and showing the chutes, the frame being partly shown in horizontal section;

Figure 3 is a longitudinal vertical section at the front portion of the snow remover, parts being broken away;

Figure 4 is a transverse vertical section at the front.

My improved snow remover includes a suitable frame 10 here shown as supported at its rear end by a propelling tractor 11 which may be of any approved form and supported at the front end by a wheel and runner assemblage 12, the tractor and the wheel and runner assemblage not forming part of the present invention.

The present invention comprises a central scraper plate 13 and the side gathering wings 14 secured by pins 15 or any other suitable means to a depending plate 16 appurtenant to laterally directed chutes 17. The chutes 17 are supported by the frame 10 to which the depending plate 16 is secured by any suitable means and in practice is suitably braced as by oblique brace members 19.

At the base of the chutes 17 I employ a snow cutting and agitating fan 20 disposed in a vertical plane and turning about a horizontal axis, the blades of which fan are preferably return-bent in hook form at their outer ends as at 21. The fan 20 is on the shaft 22 of a suitable motor 23 mounted on frame 10 and is positioned adjacent the back of the central scraper 13 and the back wall of the chutes 17, its purpose being to agitate and cut the snow and prevent the same from packing and banking against the back of the central scraper 13 and the back wall of the chutes at the bases of the latter. Said central scraper 13 it will be observed is in the same vertical plane as the back wall of the chute assemblage 17.

For raising and lowering the scraper assemblage composed of the central scraper 13 and wings 14, the following means is provided: Projecting rearwardly from the vertical back of the scraper 13 are ears 24 and said ears extend rearwardly through cutouts 25 in the depending plate 16 and in the fixed back plate 26, which back plate 26 is disposed transversely at the front end of the frame 10 and fastened in position by any suitable means including braces 27. Thus, the depending plate 16 is between the vertical back of the scraper 13 and the fixed backing plate 26. Vertical guided movement is afforded the central scraper 13 by means of headed pins or bolts 28 which extend forwardly from the backing plate 26 through the depending plate 16 and through slots 29 in the back of the scraper 13. Connected to the ears 24 are links 30. The upper ends of the links 30 are pivoted to crank arms 31 integral with a worm sector 32 on a transverse shaft 33. Meshing with the sector 32 is a worm 34 on a vertical shaft 35 having a handwheel 36 for the manual turn-

ing of said shaft. Thus, with the turning of the shaft 35, the worm 34 will give turning movement to the sector 32 and thereby through crank arms 31 and links 30 raising and lowering the scraper assemblage relatively to the fixed chutes 17.

Wing scrapers 14 are adjusted relatively to the central scraper 13 as follows: Connecting rods 37 are connected at their lower ends by any suitable means with the wing scrapers 14 as indicated at 38 and the upper ends of said rods 34 are pivotally secured to crank arms 39 rigid with a worm sector 40 on a shaft 41. Meshing with the sector 40 is a worm 42 turning in suitable bearings in a bracket 43 rigid with frame parts 110 and rigid with the chute structure 17, the shaft of said worm having a handwheel 44 for turning the same. Thus, after the raising or lowering of the central scraper 13 and with it the wings 14, said wings may be given an adjustment relatively to the scraper 13 through the medium of the worm 42 and worm sector 40.

I would state that the clutch interposed in the shaft 22 and here shown conventionally and designated by the number 122 may be any approved form of reversible clutch controlled by a lever 222. Said reversible clutch is well known and forms no part of my invention but is employed for its usual reversible attributes in reversing the direction of the fan 20 to throw the snow to the right or to the left. It will be observed from Figure 4 that the fan 20 is keyed to the shaft 22 as indicated by the numeral 45. Thus, the fan may be reversed by removing it from the shaft 22 and replacing it with the curved ends 21 to throw the snow in the desired direction.

I would state in conclusion that while the illustrated example constitutes a practical embodiment of my invention, I do not limit myself strictly to the exact details herein illustrated, since, manifestly, the same can be considerably varied without departure from the spirit of the invention as defined in the appended claims.

Having thus described my invention, I claim:

1. In a snow remover, a central scraper, wing scrapers pivoted at their rear ends adjacent the sides of the main scraper and adjustable relatively thereto, and a chute assemblage above the central scraper and supported in fixed position, the back wall of the chute assemblage and the back of the central scraper lying approximately in the same vertical plane.

2. In a snow remover, a central scraper, wing scrapers disposed at the sides of the central scraper, a chute assemblage above the central scraper and revolving snow agitating means turning in a vertical plane in front of the back of the central scraper and the back wall of the chute assemblage.

3. In a snow remover of the class described, snow gathering means including a central portion presenting a back wall, a chute assemblage above said central portion, and revolving snow agitating means turning in a vertical plane over the back wall of the chute assemblage and over the back of the said central portion.

4. In a snow remover of the class described, snow gathering means including a central portion presenting a back wall, a chute assemblage above said central portion, and a driven fan mounted to turn about a horizontal axis and having blades turning in front of said central portion of the gathering means and in front of the back wall of the chute assemblage, said fan presenting blades returned in curved hook form at their outer ends.

5. A snow remover including snow gathering means presenting a back plate at the central portion, a fixed plate at the back of the first plate, and means to raise and lower said snow gathering means, said raising and lowering means being disposed at the rear of said fixed back plate and having a connection with the said central back portion of the snow gathering means.

6. A snow remover including snow gathering means presenting a back plate at the central portion, a fixed plate at the back of the first plate, a connecting rod disposed in the rear of the last-mentioned plate and connected at its lower end with the first-mentioned plate to raise and lower the same, and lift means connected with said connecting rod.

7. In a snow remover, a frame, snow gathering means, a central scraper, wing scrapers at the sides of the central scraper and pivotally secured at their rear ends, raising and lowering means connected with said central scraper at the back, and raising and lowering means connected with said scrapers to adjust the same relatively to the central scraper.

WALTER LESLIE STADIG.