

April 28, 1942.

W. HEWITT

2,281,289

SNOWPLOW

Filed Dec. 29, 1939

2 Sheets-Sheet 1

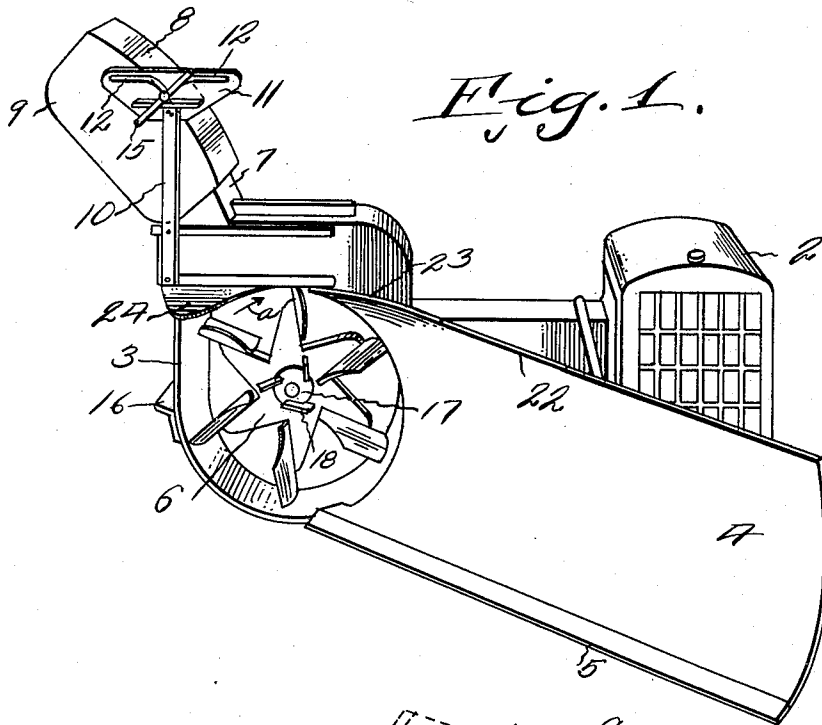
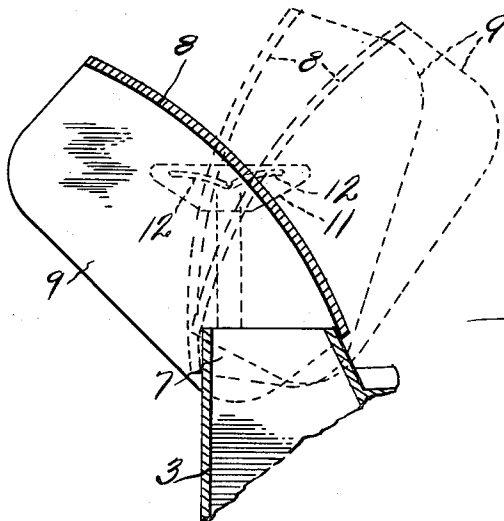


Fig. 2.

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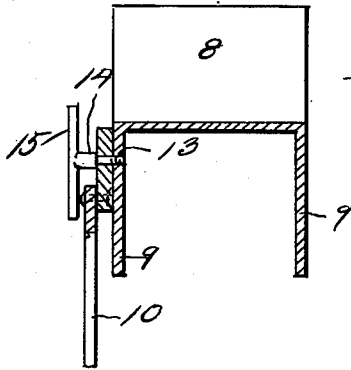


Fig. 4.

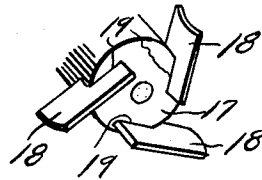


Fig. 5.

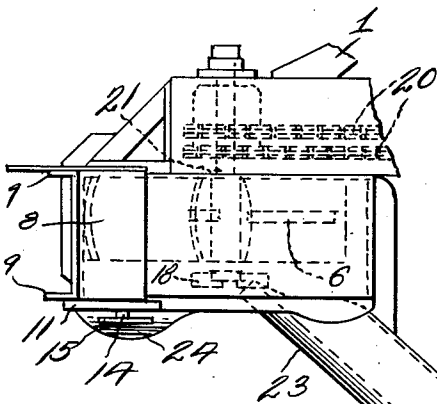
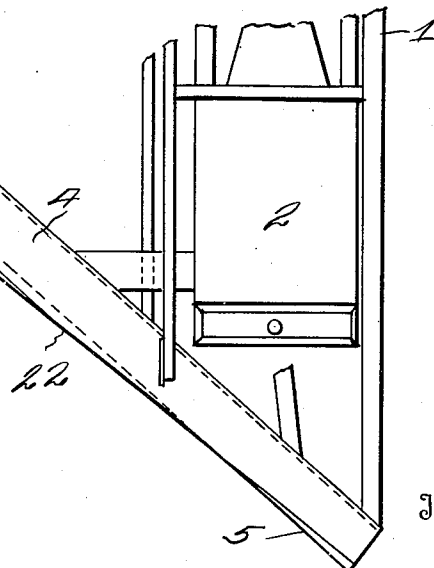


Fig. 3.



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UNITED STATES PATENT OFFICE

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SNOWPLOW

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3 Claims. (Cl. 37—43)

The invention relates to snow plows, and has for its object to provide a device of this character with a snow discharge spout at one side of the machine and a pivotally mounted discharge chute adjustable in a vertical transverse plane and forming means whereby snow discharged through the fan spout can be directed away from the spout side of the machine to one side of a roadway or transversely across the machine to the other side of the roadway.

A further object is to provide a pivotally mounted snow discharge chute which may be reversed end for end for discharging snow to either side of the machine, and at the same time allowing the chute to be easily positioned within the lines of the machine out of the way of obstructions when the machine is moved from place to place.

A further object is to provide the bladed rotor with auxiliary blades around the hub thereof for preventing the accumulation and solidifying of snow on the hub as the machines moves forwardly during a snow removal operation.

A further object is to provide the upper inner edge of the plow blade with a forwardly and slightly downwardly curved portion adjacent the upper side of the bladed rotor for turning an excess accumulation of snow downwardly towards the axis of the rotor.

A further object is to provide the rotor casing at its upper outer side with a forwardly and downwardly extending deflecting member for deflecting any upwardly thrown snow back into the casing during a snow removing operation.

A further object is to provide the outer side of the rotor casing with a deflecting bumper for preventing damage to the casing incident to engagement with obstructions.

With the above and other objects in view the invention resides in the combination and arrangement of parts as hereinafter set forth, shown in the drawings, described and claimed, it being understood that changes in the precise embodiment of the invention may be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings:

Figure 1 is a perspective view of the forward end of the snow plow.

Figure 2 is a vertical transverse sectional view through the discharge spout, showing various reversed positions in dotted lines.

Figure 3 is a top plan view of the forward end of the snow plow.

Figure 4 is a vertical transverse sectional view through the chute and its supporting means.

Figure 5 is a detail perspective view of the rotor hub, showing the auxiliary blades carried thereby.

Referring to the drawings, the numeral 1 designates a conventional form of snow plow frame which may be carried by any kind of a wheel supported vehicle, and 2 an engine carried by the frame. Mounted in the frame 1 is a rotor casing 3 having its axis longitudinal of the roadway and vehicle, and which casing, at one side thereof, terminates in a forwardly diagonally extending snow plow blade 4 having a lower scraping edge 5. As the snow plow moves forwardly, the blade 4 engages the snow and the snow moves towards the bladed rotor 6 within the casing 3, and is discharged against the same so that when the rotor is rotated in the direction of the arrow *a*, Figure 1, the snow is projected upwardly through a discharge spout 7 above the casing 3, and deflected to the side of the road by means of an arcuately shaped chute 8.

The chute 8 is arcuately shaped longitudinally and has its under side open. The side walls 9 of the chute receive therebetween the upper end of the spout 7, and the chute is supported on an upwardly extending bracket 10 carried by the rotor casing, and which bracket terminates in a transversely disposed plate 11 having oppositely extending slots 12, which curve downwardly at their inner ends, and connected together as shown in dotted lines in Figure 2. Threaded into one side of the chute 8 at 13 is a holding bolt 14 which extends through the slots 12, and provided with a cross handle 15 so the chute can be held at various adjusted positions in a vertical transverse plane in relation to the snow plow as a whole for guiding and discharging the snow to the side of the roadway and at a desired distance from the snow plow.

Referring to Figure 2 it will be seen that the chute 8 may be adjusted to various angles by simply loosening the bolt 14 and placing the same in the desired position in the outer slot 12. It has also been found that it is desirable to reverse the chute so the snow can be discharged across the machine to the other side of the road, and when this is desired it is only necessary to loosen the bolt 14 and pivotally move the chute 8 end for end on the bolt as a pivot to the dotted line position or positions shown in Figure 2 and then tighten the bolt. In this position the upwardly projected snow will be discharged upwardly and transversely to the opposite side of the machine.

If desired two brackets 10 may be used, however one has been found to be sufficient for supporting the chute.

One side of the casing 3 is preferably provided with a guard flange 16 for preventing damage to the casing should it come into engagement with an obstruction. This is particularly true where the device is used near a curbing.

It has been found that there is a tendency for snow to pile or collect on the hub 17 of the rotor 6, and to overcome this objection the hub 17 is provided with a plurality of blades 18 mounted in slots 19 of the hub. As the rotor revolves the blades 18 will throw the accumulating snow outwardly so it will pass upwardly through the spout 7 under the influence of the main bladed rotor, therefore it will be seen that the rotor will be free of accumulated snow which would stick and adhere adjacent the axis of the rotor.

The rotor 6 is driven in any suitable manner from the engine 2, however it is preferably driven through drive chain connections 20 to the shaft 21 which carries the rotor.

From the above it will be seen that an adjustable chute of relatively short type is provided for a snow plow which may be adjusted to discharge snow at various angles to either side of a snow plow, and said chute is pivotally mounted so it can be easily and quickly turned end to end for reversing the direction of discharge from the chute. It will also be seen that snow will be prevented from accumulating on the rotor.

It has been found in snow plows of this general character that there is a tendency for the snow, adjacent the inner end of the blade 4, to accumulate to a height above the upper edge of the blade adjacent the rotor. To overcome this difficulty, the inner upper edge of the blade inclines forwardly as at 22 and terminates in a forwardly and downwardly extending portion 23 adjacent the rotor, therefore it will be seen that

the snow will fall forwardly into the path of the rotor as the machine moves forwardly. In other words, it is deflected downwardly at the greatest point of snow pile on the blade. The upper side of the casing 3 is also provided with a forwardly and downwardly extending deflecting plate 24, which deflects downwardly any snow which may pass the end of the blade, and which is not entirely taken up and projected upwardly by the blades of the rotor.

The invention having been set forth what is claimed as new and useful is:

1. The combination with a snow plow comprising a rotor casing, a rotor within said casing, an upwardly extending discharge spout carried by said casing, of a channel shaped pivoted reversible discharge chute above said spout and into either end of which one end of the spout extends, said pivotal point of said chute being laterally shiftable.

2. The combination with an upwardly extending discharge spout carried by a casing of a snow plow, a channel shaped discharge chute above said spout and into one end of which the spout extends, of a supporting bracket for said chute, the upper end of said bracket having an enlargement thereon provided with inwardly and downwardly connected slots, a bolt extending through said slots and forming the pivotal point for the chute and adapted to be received in the various parts of the slots for holding the chute in various adjusted positions and in reverse position when the chute is turned end for end.

3. The combination with a snow plow bladed rotor disposed within a casing and having a hub, of a plurality of tangentially disposed blades carried by said hub of said rotor adjacent its axis and tangential to a circle between the axis of the hub and the periphery of the hub.

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