

June 2, 1942.

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2,285,162

CASING FOR CONVEYING DEVICES FOR SNOW REMOVING MECHANISM

Filed Feb. 15, 1940

2 Sheets-Sheet 1

Fig. 1

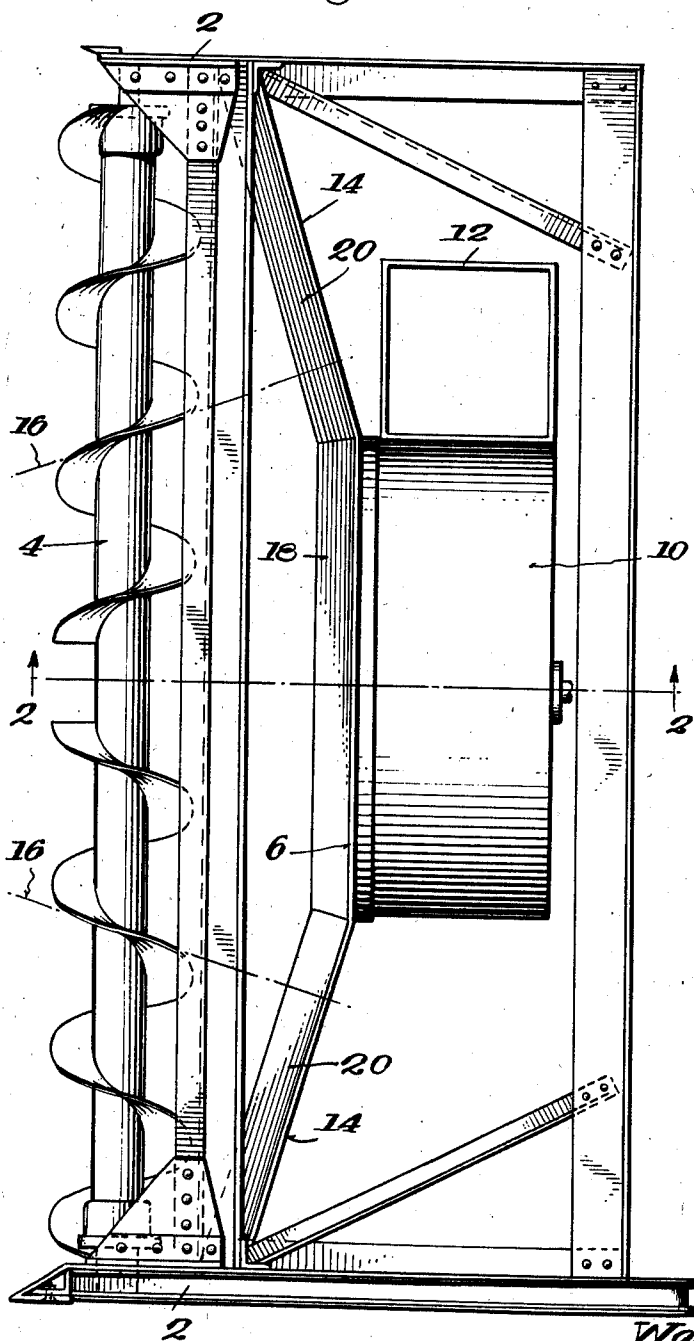
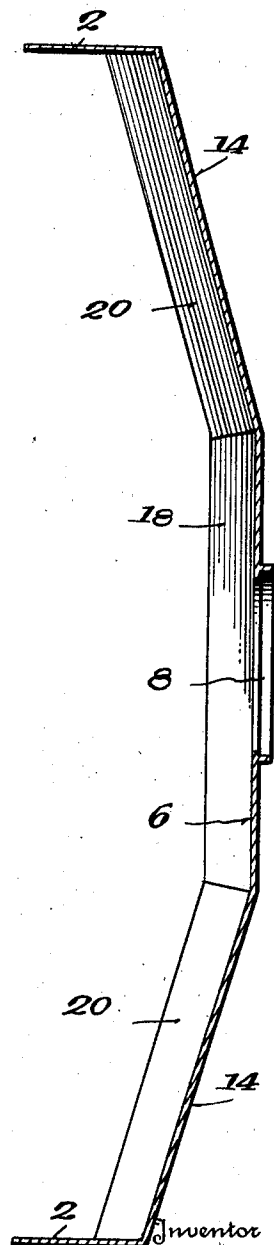


Fig. 4



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Fig. 2

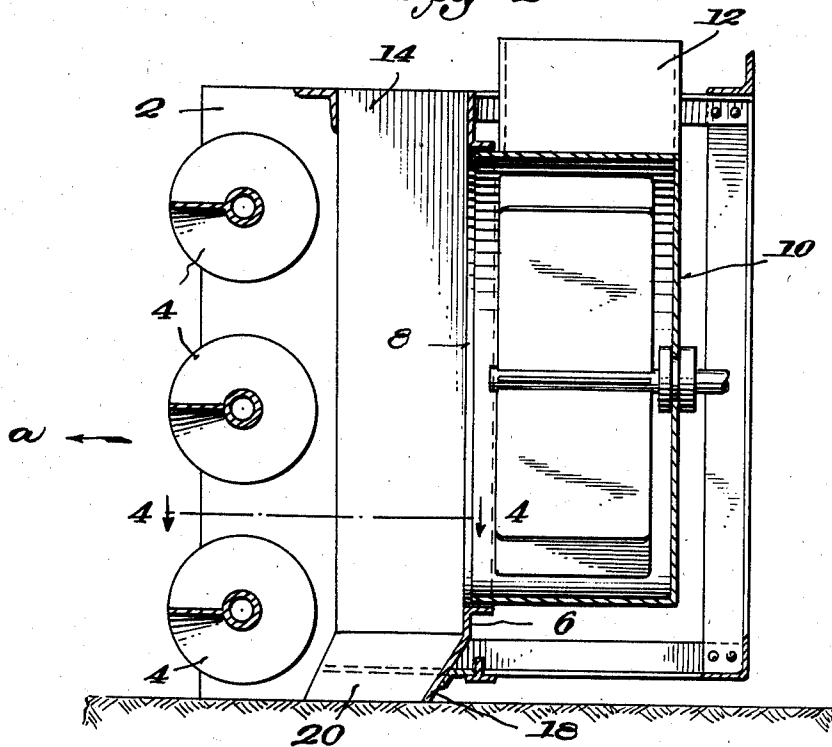
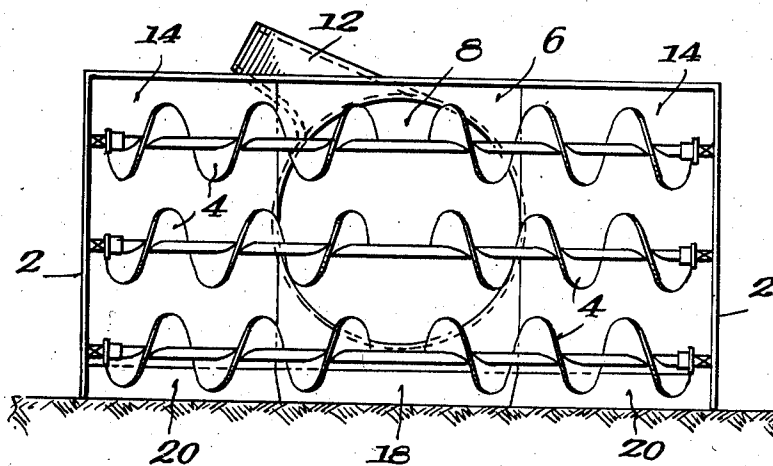


Fig. 3



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UNITED STATES PATENT OFFICE

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CASING FOR CONVEYING DEVICES FOR
SNOW REMOVING MECHANISM

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Application February 15, 1940, Serial No. 319,132

3 Claims. (Cl. 37-43)

My invention relates to casings for conveying devices for snow removing mechanisms, and particularly for power driven, rotary snow removers.

The invention is particularly applicable to the type of snow remover in which a horizontally arranged auger or conveyor extending transversely to the direction of movement of the snow remover is driven to feed the snow to a snow discharging mechanism.

The usual type of casing heretofore used in such arrangements has been rectangular, with a straight back wall. Such machines are fairly satisfactory in soft snow, but where the snow is hard or icy, the forward movement of the vehicle is likely to cause the snow to pack in the auger.

The primary object of the present invention is to provide an arrangement such that the packing of snow is avoided. This permits the vehicle to move at a higher rate of speed in snow and particularly in heavy snow or ice, and thus increases the efficiency of the device.

One of the reasons for the packing of the snow is that the forward movement of the vehicle is superimposed on the lateral movement of the auger. Unless the auger conveys the snow laterally as rapidly as it enters the auger through the forward motion of the vehicle, obviously with the usual type of snow remover having a continuous auger of equal diameter and a straight back wall in the casing which contains the auger the snow will pack. This not only tends to stop progress of the plow but further puts a heavy and unusual load on the snow discharging mechanism.

According to one feature of the present invention, this disadvantage is avoided by sloping back the rear wall of the auger casing. This is especially advantageous in combination with the other features of the invention, but is useful with any type of conveyor.

Preferably, in order that this sloping back wall may have its most efficient action in cooperation with the conveyor so as to avoid clogging or blocking of the snow remover, the slope of the back wall is substantially equal to the developed pitch of the auger. In other words, the back wall is perpendicular to a line which is tangent to the auger at its upper side.

Further objects and advantages of the invention will appear more fully from the following description, particularly when taken in conjunction with the accompanying drawings which form a part thereof.

In the drawings:

Fig. 1 is a top plan view of a snow remover embodying my invention;

Fig. 2 is a cross-section on the line 2-2 of Fig. 1;

Fig. 3 is a front view of the snow remover;

Fig. 4 is a cross-section on the line 4-4 of Fig. 2.

The snow remover is to be mounted on the front of a vehicle in any suitable manner, for example that shown in my prior Patent No. 2,114,311. It includes a casing having vertical side walls 2 between which are mounted horizontal conveyors or augers 4 which are suitably driven to feed snow from both ends towards the center of the casing.

The back wall of the casing, which in prior devices of this type has normally been straight, is formed of a central transverse portion 6 having an opening 8 therein communicating with a suitable fan casing 10 having a discharge spout 12.

Central wall portion 6 is spaced backwardly from augers 4, and its edges are connected to the rear edges of side walls 2 by sloping lateral back wall portions 14.

In the preferred form, the slope of the rear wall of the casing is substantially equal to the developed pitch of the auger; or, in other words, the rear wall is substantially perpendicular to a line 16 which is tangent to the top portion of the auger. This feature is especially efficient in the prevention of blocking of the snow remover.

The bottom parts 18 and 20 respectively of the central and lateral back wall portions 6 and 14 are sloped forwardly as shown in Fig. 2.

With the arrangement above described, if the plow moves forward at such a rate that snow enters the casing faster than the auger is able to move it laterally, this excess snow will not be packed or compressed by the auger, nor will it block the plow. Instead, the snow moves into the space behind the auger and is directed by the sloping wall to the discharge mechanism.

Where, as in the preferred form, the slope of the rear wall is equal to the pitch of the auger, the auger and rear wall will cooperate to move the snow in the most efficient manner and with the least danger of packing.

As shown in Fig. 2 in the preferred form of the invention a plurality of these augers are arranged one above the other and extending transversely to the direction of movement of the snow remover represented by the arrow *a*. The augers and the snow discharging mechanism in-

cluded in the fan casing may be driven in any suitable and well known manner.

While I have described herein one embodiment of my invention, I wish it to be clearly understood that I do not intend to limit myself thereby except within the scope of the appended claims.

I claim:

1. In a snow remover, a casing open at the top, a snow discharging mechanism mounted behind said casing, said casing having a rear wall provided with an aperture therein into said discharging mechanism and a substantially plane portion sloping rearwardly towards said aperture, said opening being substantially unobstructed from the front, and a snow engaging screw conveyor mounted in said casing spaced in front of the edge of said wall remote from the aperture to turn about a horizontal axis and extending transversely of the casing and in front of said opening at the same level as said sloping portion for conveying snow towards said opening.

2. In a snow remover, a casing open at the top, a snow discharging mechanism mounted behind said casing, said casing having a rear wall provided with an aperture therein into said discharging mechanism and a substantially plane portion sloping rearwardly towards said aper-

ture, said opening being substantially unobstructed from the front, and a snow engaging screw conveyor mounted in said casing spaced in front of the edge of said wall remote from the aperture to turn about a horizontal axis and extending transversely of the casing and in front of said opening at the same level as said sloping portion for conveying snow towards said opening, the slope of said rear wall portion being substantially equal to the developed pitch of said screw conveyor.

3. In a snow remover, a casing open at the top, a snow discharging mechanism mounted behind said casing, said casing having a rear wall provided with a central aperture therein into said discharging mechanism and substantially plane portions sloping rearwardly from opposite sides towards said aperture, said opening being substantially unobstructed from the front, and a snow engaging screw conveyor formed of portions adapted to feed snow from both ends towards the center mounted in said casing spaced in front of the edges of the wall portions remote from the aperture to turn about a horizontal axis and extending transversely of the casing and in front of said opening, at the same level as said sloping portions for conveying snow towards said opening.

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