A snow pusher has a blade sloping upward between a front lower and a rear upper edges interconnected by opposite side edges. A handle is carried upwardly and rearwardly from the blade for manual gripping by an operator. A support sled disposed at least partially beneath the blade extends rearwardly away from the front lower edge of the blade, and spans between opposite sides of the sled respectively disposed adjacent the opposite side edges of the blade. An underside of the sled, at a position adjacent each side thereof, slopes upward from a flat portion of the underside to the respective side of the sled. The sled provides significant area over which the weight of snow on the blade is distributed to minimize sinking of the pusher into snow over which it is slid during use, while the curved sides prevent the sled from digging into the snow during turns.
MANUAL SNOW PUSHER
CROSS REFERENCE TO RELATED APPLICATIONS


FIELD OF THE INVENTION

[0002] The present invention relates generally to manually operated snow pushers or snow clearing units, and more particularly to a manual sled blade in which the blade used to displace deposited snow is carried in an oblique orientation sloping upward from the ground by a sled bearing the weight of the apparatus and the carried snow.

BACKGROUND OF THE INVENTION

[0003] Prior inventions relating to clearing of snow from driveways, sidewalks, walkways, paths or other areas where pedestrian or vehicular passage is required after snowfall include shovels or pushers arranged to ride upon narrow skis or runners in an attempt to improve the snow clearing function by reducing friction during movement of the device over the ground to be cleared. Examples of prior art snow clearing units employing skis or runners include U.S. Pat. Nos. 2,933,836; 3,643,356; 4,130,959 and 5,271,169; and Canadian Patent Application Number 2,376,041.

[0004] However, a potential problem arises with such prior art because in regions subjected to heavy snowfall, it is often necessary to use a snow clearing device to clear away a layer of snow from atop a deeper layer of the same deposit or a previously existing build up of snow atop the ground surface. As a result of the narrow ski or runners used in the prior art to carry the snow clearing blade, the weight of the device and the snow thereon during the clearing process is spread over a relatively small surface area, meaning that each ski or runner is exerting a significant amount of pressure on any snow beneath it. Accordingly, the device may have a tendency to sink into the lower layer of snow beneath it when attempting to clear the upper part of the snow deposit, which may be detrimental to continued smooth forward motion of the device through the snow. Furthermore, side edges of the skis or runners may tend to dig into packed snow beneath them during attempts to turn the device to angle the device to change or curve the direction in which the collected snow is being displaced, or under tilting of the device as one ski is lifted relative to the other when moving over uneven terrain.

[0005] Accordingly, there remains room for improvement in the field of manual snow clearing devices.

SUMMARY OF THE INVENTION

[0006] According to a first aspect of the invention there is provided a manual snow pusher comprising:

[0007] a blade sloping upward between a front lower edge and a rear upper edge, and having opposite side edges interconnecting the front lower and rear upper edges;

[0008] a handle support structure connected to the blade and extending upwardly and rearwardly therefrom;

[0009] a handle carried on the handle support structure at a distance upward and rearward from the blade for manual gripping by an operator; and

[0010] a single support sled disposed at least partially beneath the blade, the support blade extending rearwardly away from the front lower edge of the blade to a rear end of the sled and spanning between opposite sides of the sled respectively disposed adjacent the opposite side edges of the blade.

[0011] Preferably there is provided a blade support structure connected to the support sled at a distance spaced rearward from the front lower edge of the blade and connected to at least one of the handle support structure and the blade to brace the blade in position above the support sled.

[0012] Preferably the blade support structure is separately connected to each of the handle support structure and the blade.

[0013] Preferably the blade support structure extends upwardly past the handle support structure to brace the blade proximate the rear upper edge thereof at a position over the handle support structure.

[0014] Preferably the blade support structure comprises braces connected to the support sled adjacent the opposite sides thereof, connected to the blade adjacent the opposite side edges thereof, and connected to opposite side support rails of the handle support structure where said braces extend upwardly therepast from the support sled to the blade.

[0015] Preferably a rear portion of the blade deviates from a slope of a front portion of the blade to slope more steeply toward the rear upper edge of the blade.

[0016] Preferably the blade curves from the front portion to the rear portion.

[0017] Preferably an underside of the support sled, at a position adjacent each side thereof, slopes upward from a flat portion of said underside to the side of the support sled.

[0018] Preferably the underside of the support sled, adjacent each side thereof, curves upward from the flat portion to the side of the support sled.

[0019] Preferably the support sled, adjacent each side thereof, comprises a curved bevel sloping upward from the flat portion of the underside of the support sled.

[0020] Preferably the support sled comprises at a plate having a flat downward facing surface spanning from adjacent one of the opposite sides of the support sled to adjacent the other of the opposite sides of the support sled.

[0021] Preferably a width of the support sled between the sides thereof, at a location beneath the blade, is at least forty percent (40%) of a width of the blade between the side edges thereof.

[0022] The width of the support sled between the sides thereof may be at least half (50%) of a width of the blade between the side edges thereof.

[0023] The width of the support sled between the sides thereof may be at least three quarters of a width of the blade between the side edges thereof.

[0024] The width of the support sled between the sides thereof may be at least equal to a width of the blade between the side edges thereof.

[0025] According to a second aspect of the invention there is provided a manual snow pusher comprising:

[0026] a blade sloping upward between a front lower edge and a rear upper edge, and having opposite side edges interconnecting the front lower and rear upper edges;

[0027] a handle support structure connected to the blade and extending upwardly and rearwardly therefrom;

[0028] a handle carried on the handle support structure at a distance upward and rearward from the blade for manual gripping by an operator; and

[0029] a support sled structure disposed at least partially beneath the blade, the support blade extending rearwardly
away from the front lower edge of the blade between opposite sides of the support sled structure, and an underside of the support sled structure, at a position adjacent each side thereof, sloping upward from a flat portion of said underside to the side of the support sled structure.

[0030] According to a third aspect of the invention there is provided a manual snow pusher comprising:

[0031] a blade sloping upward between a front lower edge and a rear upper edge, and having opposite sides edges interconnecting the front lower edge and rear upper edges;

[0032] a handle support structure connected to the blade and extending upwardly and rearwardly therefrom;

[0033] a handle carried on the handle support structure at a distance upward and rearward from the blade for manual gripping by an operator; and

[0034] a single support sled disposed at least partially beneath the blade, the support blade extending rearwardly away from the front lower edge of the blade to a rear end of the sled and spanning between opposite sides of the sled;

[0035] wherein each side of the sled, in a direction extending across the blade, lies closer to a respective one of the opposite sides edges of the blade than the other side of the sled; and

[0036] wherein a sled width measured between the opposite sides of the support sled, at a location beneath the blade, is at least forty percent of a blade width measured between the opposite sides edges of the blade.

[0037] Preferably an undersize of the sled presents one or more flat surfaces areas located beneath the blade and collectively spanning at least forty percent of the blade width measured between the opposite sides edges of the blade.

[0038] The sled and the flat surfaces areas of the underside thereof may span at least fifty percent of the blade width measured between the opposite sides edges of the blade.

[0039] The sled and the flat surfaces areas of the underside thereof may span at least seventy-five percent of the blade width measured between the opposite sides edges of the blade.

BRIEF DESCRIPTION OF THE DRAWINGS

[0040] In the accompanying drawings, which illustrate exemplary embodiments of the present invention:

[0041] FIG. 1 is a side elevational or profile view of a first embodiment snow pusher featuring a sled-carried blade.

[0042] FIG. 2 is a perspective or oblique view of the first embodiment snow pusher of FIG. 1.

[0043] FIG. 3 is a close up cross-sectional view of a sled portion of the first embodiment snow pusher marked by circled area A in FIG. 2.

[0044] FIG. 4 is a front perspective view of a second embodiment snow pusher.

[0045] FIG. 5 is a rear perspective view of a snow pusher similar to that of FIG. 4.

[0046] FIG. 6 is a partial cross-sectional view of the snow pusher of FIG. 5 as taken along line VI-VI thereof.

DETAILED DESCRIPTION

[0047] FIGS. 1 and 2 show a snow pusher or snow clearing device according to a first embodiment of the present invention. The device features a blade 1, a support sled 2, a support structure 3, a handle 4 and a handle support structure 5. The support sled 2 is in the form of a plate providing a flat underside over a substantially full width of the sled to provide a planar surface that provides a sliding interface for displacement of the sled over snow or ground and a surface area spanning substantially the full width of the blade 1 above it to bear the weight of the device and any snow loaded onto the blade 1. The sled and blade are connected at their front edges 1a, 2a, and the blade slopes upwardly rearward from its front edge to its rear edge, where it is braced at a height above the sled by the support structure 3. The handle support structure 5 extends rearward and upward from the blade to carry the handle 4 above and behind the rest of the device to enable manual pushing thereof by an operator gripping the handle.

[0048] The blade 1 slopes upward and rearward from its front edge 1a toward a rear edge 1b thereon opposite, the front and rear blade edges 1a, 1b being interconnected at respective ends thereof by opposing side edges 1c, 1d. The blade is formed by a curved plate having front portion 1e sloped obliquely to extend upward and rearward from the front edge 1a of the blade 1, and a rear portion 1f that deviates from a substantially linear slope of the front portion at a rear end thereof to curve more steeply upward to the rear blade edge 1b.

[0049] The handle support structure 5 features two rails 5a, 5b of tubing or other suitably rigid configuration sloping linearly upward and rearward from atop the support sled 2 near the front edge 2a thereof just inward from opposing sides of the sled (only one of which is shown; see 2b in FIGS. 1 and 2). The front portion 1e of the blade 1 lies atop the two handle support rails 5a, 5b and is secured thereto to maintain its shape and position. The handle 4 is in the form of a bar, rail, tube or other cross member extending laterally across the two handle support rails 5a, 5b at their upper rear ends furthest from the blade 1 to present a suitable gripping area between the support rails 5a, 5b for grasping by the hands of an operator in order to maneuver the device.

[0050] At a position part way between the front lower and rear upper ends of each handle support rail 5a, 5b, a respective sled support brace 3 extends from a lower rear end thereof, where it is rigidly connected to the sled 2 adjacent a rear end 2c thereof, to an upper rear end of the brace 3, where it is rigidly connected to the blade 1 proximate the upper rear end 1b thereof. Where it perpendicularly crosses the respective support rail 5a, 5b, each support brace 3 is also connected thereto. The braces form the support structure 3 that supports the handle support rails 5a, 5b and the blade 1 at respective heights over the support sled 2, thus maintaining the oblique angle between the support sled 2 and the blade 1 and handle support rails 5a, 5b at the front of the device.

[0051] With reference to FIG. 3, the support sled 2 features a curved beveled edge 2d that joins the flat upper surface 2e of the sled plate to the bottom surface 2f of the sled plate, which is otherwise flat except for these beveled edges. As a result of these curved edges, the underside of the sled plate that faces and rides over the ground to be cleared by the device smoothly curves from its otherwise planar bottom surface to the sled plate's planar topside 2e. Compared to a sled having right angle edges at its opposing sides, this curve better avoids the sled from digging into snow beneath it when the device is tilted during use to clear an upper layer of snow.

[0052] As shown in FIGS. 1 and 2, the underside of the support sled 2 not only curves upward toward its opposite sides from thereadjacent due to the beveled edges 2e, f, but also curves upward toward the rear edge 2c of the sled due to a curved rear portion 2g of the sled bent out of coplanar alignment with the remaining front portion 2h thereof. The result-
The curved rear portion of the sled also provides a notable surface area spanning the full width of the sled, onto which the sled can be tilted to raise the front edge of the sled and blade, for example as may be required to displace snow being carried on the blade up a pile, heap, or bank of previously deposited snow.

While the first embodiment employs beveled edges at the sides of the support sled to avoid sharp edges that may tend to dig into the snow or ground beneath the device during use, it will be appreciated that side portions of the sled plate may instead be bent or curved like the rear portion of the sled to provide the same dig-prevention functionality. It will also be appreciated that although the blade and sled are described as substantially flat plates bent into the described shapes or configurations, which is based on a prototype design constructed using diamond plate sheet metal to form the blade and sled, other materials and shapes can likewise be used to provide an upwardly and forwardly facing blade surface and a downwardly facing sled surface.

The snow pusher disclosed herein maximizes snow clearing for each unit of energy input and minimizes chance of personal injury by maximizing ergonomics. This is achieved by using the obliquely angled blade slope to deflect, push and pile snow without lifting.

The load blade functions to push and deflect the snow to clear its path forward, push the snow to a suitable area or point of deposit and carry snow on the load blade to enhance speed and efficiency and promote downward pressure for a better clearing result.

The support sled functions to support load blade on surface area that allows for correct and optimal positioning to deflect/collect/push snow, to minimize the effects of irregular surface area over which the device is slid by spreading out the load over a relatively large surface area, and to allow for heaping the load of snow on top of previous loads with the angle of the blade allowing for gravity actuated unloading of the blade. The illustrated support sled provides curvature of the back of the support sled to maintain a wide base of contact while running up a snow pile and to prevent snow from accumulating on the sled support when the unit is pulled backwards, and provides beveled edges to facilitate angled movement of blade over possible irregular surfaces over which the device may be slid during use. This allows for force to be exerted on the snow, narrower than the width of the blade resulting in a deflecting action on the snow towards the left or right depending on the angle direction presented to the snow by the operator. In other words, the device may be held by the operator in an oblique orientation at an acute angle relative to the direction of the motion in the plane of the ground or surface over which the device is being moved, thereby reducing the width spanned by the blade across the line of travel. This reduces the volume of snow that meets the blade during a single pass thereof along a line of travel, thereby reducing the effort by the operator during that single pass. Used in such a manner, the device can be manufactured with a large blade, to allow wide passes to clear a relatively low accumulation of snow quickly, since the low volume of snow results in a relatively small load on the device, requiring little effort by the operator, while the beveled side edges of the sled allow angled use of the blade to reduce the snow load per single pass of the blade when clearing a deeper accumulation of snow.

The support braces may have the elongate structure shown, for example as formed by tubular members of metal or other suitably strong material, or may be provided in another configuration, for example as flat side plates or panels connected between the sled and the blade on each of the opposing sides thereof. The braces function to support the weight of the snow by transferring this weight onto the support sled, and transmit force and allow maneuverability of the device from the handle. Side panel use in place of narrow braces can also be used to prevent snow accumulating on the sled during angled use of the device.

The handle functions to allow the operator to transmit energy to the blade in an ergonomic position and direct the unit forward or turn left or right; and when tilted down, will allow the operator to easily negotiate small obstructions or push snow up an existing snow heap. The handle also allows the operator to angle the blade for grading and deflecting snow, to the operators left or right.

The handle support rails function to support the curvature of the load blade and the curvature of the support sled, and to position support braces at correct height and position to ergonomically maximize positions for pushing and maneuvering the unit.

This combination of the load blade angled on the support sled overcomes previous snow clearing tools’ inefficiency by effectively and efficiently combining several methods of snow clearing. That is, the angle of the blade relative to the plane of the sled’s flat underside (and thus to the ground over which the device is slid during use) operates to both carry snow on the blade and push snow in front of the blade, and furthermore the device allows a further operational aspect by the above-described use of the blade in an angled orientation to additionally deflect or sweep snow to one side of the path being cleared in any single pass of the device, as snow will have a tendency to slide across the obliquely-oriented blade from the leading side edge thereof to the trailing side edge thereof in the direction of motion. Accordingly, the device can used in a manner that simultaneously deflects, carries and pushes accumulated snow during travel of the device through the snow accumulation.

The present invention provides improvements over previously existing snow clearing tools and aforementioned patents known in this field. Improvement is made over previous blade based tools in which a manual handle is the only support for the blade, where the edges of the tool tend to catch on irregularities and promote back and muscle injury in abrupt stops, and lifting or tipping activity is necessary to remove snow from blade. Improvement is also made over previous models with support skis, which present an area too small to effectively carry the weight of a lot of snow. Their small surface areas may cause them to sink away when used on snow, for example when forming a heap of snow, as may be needed at the desired point of deposit. Their multiple edges may also present significant problems with snagging on irregularities when pushed at an angle. In the present invention, the large, non-interrupted undersurface of the sled with beveled edges allows the resulting sled blade device to be used at an angle to the snow ahead, presenting more user-selectable blade orientation options to increase or decrease the force per pass, or effort per unit of snow, needed to safely and efficiently clear an accumulation of snow.
FIGS. 4 to 6 illustrate alternate embodiment snow pushers of the present invention where the support sled, blade support structure, handle and handle support structure of the first embodiment are replaced by a structure closely reflecting that of a conventional snow scoop. The snow scoop features a scoop or bucket having a flat, or substantially flat, horizontally oriented bottom panel that curves upward at its rear end to form a rear wall of the scoop. On each side of the bottom panel, a respective side wall extends upwardly from the bottom panel to the underside of the blade. The rear wall of the scoop spans between the two side walls, joining them together over the full height thereof. The blade fully covers what would otherwise be the open top of the scoop, and sits atop the top edges of the side and rear walls of the scoop. The handle and handle support rails of the snow pusher according to claim 5. The snow pusher according to claim 4 wherein the blade support structure comprises braces connected to the support of the present invention. For example, noting the illustrated configuration in which the support sled extends back past the rear end of the blade, it may be unnecessary to have a full-width rear end of the sled since the blade-carried snow load will not overlie a rearmost portion of the sled. Accordingly, other embodiments may feature a sled design in which the support sled, or at least the part thereof defining the ground-sloping underside of the sled, is narrower at the rear end of the sled than it is at the front end of the sled near the working or leading edge of the blade.

The tapered height of the side walls that are mirrored across the bottom panel gives the blade its upward and rearward sloped orientation like that described for the first embodiment. The scoop substitutes for the support sled and blade support structure of the first embodiment, with the bottom panel forming the flat underside for sliding over the ground, and the side and rear walls also block snow from entering the space between the bottom-scooped leading edge and the blade above it. As best shown in FIG. 6, the corner between the bottom panel and each side panel is smoothly curved for the same reasons described for curving or beveling of the support sled edges of the first embodiment.

The snow pushers of FIGS. 4 to 6 also differ from that of the first embodiment in that the blade has a width exceeding that of the sled or scoop beneath it. That is, the width of the blade spans past each of the two side walls of the scoop. Preferably the blade width is at least 40 percent of the blade width, and preferably approximately 50 percent of the blade width, and preferably no more than 100 percent of the blade width. The illustrations of FIGS. 4 to 6 are based on a prototype in which the blade is formed of a bent metal plate fastened in place atop a plastic scoop shovel with a metal-tubing handle. Other embodiments in which the blade is plastic may benefit from having the scoop/soop span substantially the full width so as not to leave overhanging portions of the blade unsupported from below. Additional supports may also span between the bottom panel of the scoop and the blade at one or more intermediate locations between the side walls to improve the strength and rigidity over the width of the blade.

With reference to FIG. 4, the blade thereof differs slightly from the other embodiments by having upturned corners at the opposite ends of its leading front edge. At each such front corner, the blade plate has been bent along a line crossing obliquely through the blade's leading edge and the respective side edge so that the corner slopes obliquely upward and laterally outward from the linear remainder of the un bent leading edge between these upturned corners. Accordingly, the underside of each such upturned corner presents a sloped surface that will tend to smoothly ride over the ground or snow under tilting of the blade in a direction that would lower one end of the blade's leading edge relative to the other end, rather than digging a sharp horizontal corner into the snow or catching such a corner on the ground. Such a configuration thus further improves the maneuverability of the snow pusher. The blade also differs from that of the first embodiment in that the rear portion of the blade curves through a greater angular range so that the blades curves back over itself a short distance to better block snow being pushed by the blade from sliding off the rear of the blade.

While the illustrated embodiments feature a sled of uniform width over its length from its front end to its opposing rear end, other embodiments are contemplated within the scope of the present invention. For example, noting the illustrated configuration in which the support sled extends back past the rear end of the blade, it may be unnecessary to have a full-width rear end of the sled since the blade-carried snow load will not overlie a rearmost portion of the sled. Accordingly, other embodiments may feature a sled design in which the support sled, or at least the part thereof defining the ground-sloping underside of the sled, is narrower at the rear end of the sled than it is at the front end of the sled near the working or leading edge of the blade. For example, such a sled may taper over part or all of its length, narrowing in a rearward direction from its front end to, or at least toward, its rear end, or from some intermediate point along its length to or toward its rear edge. Providing a reduced sled-width at the areas requiring less support may be used to reduce the overall material requirements, possibly resulting in reduced manufacturing costs.

Since various modifications can be made in my invention as herein above described, and many apparently widely different embodiments of same made within the spirit and scope of the claims without departure from such spirit and scope, it is intended that all matter contained in the accompanying specification shall be interpreted as illustrative only and not in a limiting sense.

1. A manual snow pusher comprising: a blade sloping upward between a front lower edge and a rear upper edge, and having opposite side edges interconnecting the front lower and rear upper edges; a handle support structure connected to the blade and extending upwardly and rearwardly therefrom; a handle carried on the handle support structure at a distance upward and rearward from the blade for manual gripping by an operator; and a single support sled disposed at least partially beneath the blade, the support blade extending rearwardly away from the front lower edge of the blade to a rear end of the sled and spanning between opposite sides of the sled respectively disposed adjacent the opposite side edges of the blade.

2. The snow pusher according to claim 1 further comprising a blade support structure connected to the support sled at a distance spaced rearward from the front lower edge of the blade and connected to at least one of the handle support structure and the blade to brace the blade in position above the support sled.

3. The snow pusher according to claim 2 wherein the blade support structure is separately connected to each of the handle support structure and the blade.

4. The snow pusher according to claim 2 wherein the blade support structure extends upwardly past the handle support structure to brace the blade proximate the rear upper edge thereof at a position over the handle support structure.

5. The snow pusher according to claim 4 wherein the blade support structure comprises braces connected to the support
sled adjacent the opposite sides thereof, connected to the blade adjacent the opposite side edges thereof, and connected to opposite side support rails of the handle support structure where said braces extend upwardly therepast from the support sled to the blade.

6. The snow pusher according to claim 1 wherein a rear portion of the blade deviates from a slope of a front portion of the blade to slope more steeply toward the rear upper edge of the blade.

7. The snow pusher according to claim 6 wherein the blade curves from the front portion to the rear portion.

8. The snow pusher according to claim 1 wherein an underside of the support sled, at a position adjacent each side thereof, slopes upward from a flat portion of said underside to the side of the support sled.

9. The snow pusher according to claim 8 wherein the underside of the support sled, adjacent each side thereof, curves upward from the flat portion to the side of the support sled.

10. The snow pusher according to claim 8 wherein the support sled, adjacent each side thereof, comprises a curved bevel sloping upward from the flat portion of the underside of the support sled.

11. The snow pusher according to claim 1 wherein the support sled comprises a plate having a flat downward facing surface spanning from adjacent one of the opposite sides of the support sled to adjacent the other of the opposite sides of the support sled.

12. The snow pusher according to claim 1 wherein a width of the support sled between the sides thereof, at a location beneath the blade, is at least forty percent of a width of the blade between the side edges thereof.

13. The snow pusher according to claim 1 wherein a width of the support sled between the sides thereof, at a location beneath the blade, is at least fifty percent of a width of the blade between the side edges thereof.

14. The snow pusher according to claim 1 wherein a width of the support sled between the sides thereof, at a location beneath the blade, is at least equal to a width of the blade between the side edges thereof.

15. A manual snow pusher comprising:
   a blade sloping upward between a front lower edge and a rear upper edge, and having opposite side edges interconnecting the front lower and rear upper edges;
   a handle support structure connected to the blade and extending upwardly and rearwardly therefrom;
   a handle carried on the handle support structure at a distance upward and rearward from the blade for manual gripping by an operator; and
   a support sled structure disposed at least partially beneath the blade, the support blade extending rearwardly away from the front lower edge of the blade between opposite sides of the support sled structure, and an underside of the support sled structure, at a position adjacent each side thereof, sloping upward from a flat portion of said underside to the side of the support sled structure.

16. The snow pusher according to claim 15 wherein the underside of the support sled structure, adjacent each side thereof, curves upward from the flat portion to the side of the support sled structure.

17. The snow pusher according to claim 15 wherein the support sled structure, adjacent each side thereof, comprises a curved bevel sloping upward from the flat portion of the underside of the support sled structure.

18. The snow pusher according to claim 15 wherein the support sled structure comprises a plate having a flat downward facing surface spanning from adjacent one of the opposite sides of the support sled structure to adjacent the other of the opposite sides of the support sled structure.

19. A manual snow pusher comprising:
   a blade sloping upward between a front lower edge and a rear upper edge, and having opposite side edges interconnecting the front lower and rear upper edges;
   a handle support structure connected to the blade and extending upwardly and rearwardly therefrom;
   a handle carried on the handle support structure at a distance upward and rearward from the blade for manual gripping by an operator; and
   a single support sled disposed at least partially beneath the blade, the support blade extending rearwardly away from the front lower edge of the blade to a rear end of the sled and spanning between opposite sides of the sled;
   wherein each side of the sled, in a direction extending across the blade, lies closer to a respective one of the opposite side edges of the blade than the other side of the sled; and
   wherein a sled width measured between the opposite sides of the support sled, at a location beneath the blade, is at least forty percent of a blade width measured between the opposite sides edges of the blade.

20. The snow pusher according to claim 19 wherein an underside of the sled presents one or more flat surface areas located beneath the blade and collectively spanning at least forty percent of the blade width measured between the opposite sides edges of the blade.

* * * * *