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MANUALLY OPERATED SHOVEL PUSHED BY USER

Abstract

A manually operated shovel designed to be pushed by a user to clear material from a surface, and related method. The shovel includes a blade with length and width, bottom edge, top edge, front face and back face. An elongated-shaft having an elongated-shaft blade end and an elongate-shaft user end. A selectively-pivotable joint is connected with an elongated-shaft blade end and the back face of the blade. The selectively-pivotable joint (i) is fixed in place and (ii) pivots around a joint center point to move an elongated-shaft user end in an arc relative to spaced apart side edges of the blade. A T-shaped handle is connected with the elongated-shaft user end and the T-shaped handle is selectively-adjustable to enable the user to adjust a position of the T-shaped handle relative to the elongated-shaft user end.

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Background/Summary

TECHNICAL FIELD

[0001] This invention generally relates to shovels. More specifically, this relates to a manually operated shovel pushed by a user to clear material from a surface, for example, snow or another substance, where push-clearing with a blade at an angle is preferred to shoveling and lifting the material to move it from one place to another.

BACKGROUND

[0002] There exist a variety of shovels, and particularly snow shovels, that attempt to make shoveling material like snow easier and/or quicker. However, as best the inventor can determine, no existing products or methods provide such a quality and efficient means for using a shovel in such an ergonomic and powerful way as the present disclosure. This is particularly necessary when desiring to clear a smaller amount of material from a surface in a snowplow-like manner to successively push material out the side of a shovel forming a row and then come back pushing the row further aside, and eventually to a delivery area, by continuing the snowplow-like action in the same or opposite directions.

SUMMARY

[0003] Without being limited to a theory of understanding, the inventor has surprisingly discovered that providing the desired leverage to push a shovel, and particularly with a blade in a snowplow like manner, is substantially compromised by existing handle configurations, and is further limited by a user's height and pushing preferences (e.g., left hand or right hand dominate). Thus, to meet all needs in a one-size-fits-all shovel (which needs tend to move in opposite directions to each other) and still enable an efficient, effective and ergonomic-friendly push shovel structure and method, the inventor employs key features embodied in a shovel blade, a selectively-pivotable joint, an elongated-shaft with selectively-adjustable T-shaped handle, and the way these features work together.

[0004] More particularly, to address one or more deficiencies in the art and better achieve the desirable requirements for a push shovel, particularly when used to push and move or remove material from a surface in a snowplow-like manner, there is provided a manually operated shovel designed to be pushed by a user to clear material from a surface. The shovel includes a blade. The blade includes a length and a width, where the length is greater than the width. The blade also includes a bottom edge to engage the surface and a top edge spaced from the bottom edge. The blade further includes a front face defined between the top edge and the bottom edge. And, the blade includes a back face defined between the top edge and the bottom edge wherein the back face is opposed to and separated from the front face. The shovel further includes an elongated-shaft having an elongated-shaft blade end and an elongate-shaft user end, where the elongated-shaft user end is spaced apart from the elongated-shaft blade end. Further, the shovel includes a selectively-pivotable joint connected with an elongated-shaft blade end and the back face of the blade. The selectively-pivotable joint (i) is fixed in place relative to the length direction of the blade and (ii) pivots around a joint center point to move an elongated-shaft user end in an arc relative to spaced apart side edges of the blade. Yet further, the shovel includes a T-shaped handle connected with the elongated-shaft user end. The T-shaped handle is selectively-adjustable to enable the user to adjust a position of the T-shaped handle relative to the elongated-shaft user end.

[0005] In another aspect, there is provided a method for pushing a shovel to clear material from a surface. The method includes using a blade as described herein. The method also includes selectively-pivoting a joint connected with an elongated-shaft blade end and the back face of the blade, where the joint (i) is fixed in place relative to the length direction of the blade and (ii) pivots around a joint center point to move an elongated-shaft user end in an arc relative to spaced apart side edges of the blade. Another step of the method is angularly adjusting a T-shaped handle connected with the elongated-shaft user end to position the T-shaped handle substantially parallel to the surface when the elongated-shaft user end is positioned from ten degrees to forty-five degrees

on either side of a perpendicular position defined by the elongated-shaft relative to the blade. Then, this is a step of pushing the shovel to clear material from the surface.

[0006] Other aspects of the disclosure are directed to configurations and features for the blade, the selectively-pivotable joint, the T-shaped handle, and combinations thereof.

[0007] As used herein, “substantially” means exactly the stated condition and also including plus and minus up to 20 percent of the exact condition. More preferably, and in degrees of increasing preferences, “substantially” means: plus and minus up to 15percent of the exact condition, plus and minus up to 10 percent of the exact condition, plus and minus up to 5 percent of the exact condition, plus and minus up to 2 percent of the exact condition, and the exact condition.

Description

DESCRIPTION OF THE DRAWINGS

[0008] The invention may be more completely understood in consideration of the following detailed description of various features of the invention in connection with the accompanying drawings, in which:

[0009] FIG. 1 shows a top front elevation view of a manually operated shovel of this disclosure;

[0010] FIG. 2 shows a top view of that seen in FIG. 1, with the shovel laying flat on a surface like a driveway, sidewalk, garage, or other substantially flat surface, and with the elongated-shaft positioned in an angle of 90 degrees, i.e., perpendicular position, relative to the top edge of the blade;

[0011] FIG. 3 shows an enlarged view of a portion of the shovel seen in FIGS. 1 and 2, and with the elongated-shaft positioned in an angle less than 90 degrees, i.e., in the range of ten degrees to forty-five degrees, relative to the top edge of the blade, which is in comparison to the 90 degree angle seen in FIGS. 2 and 4;

[0012] FIG. 4 shows a front face left elevational view of that seen in FIG. 2;

[0013] FIG. 5 shows a back face left elevational view of that seen in FIG. 2;

[0014] FIG. 6 shows a right side elevation view of that seen in FIGS. 4 and 5;

[0015] FIG. 7 shows a perspective view of the handle and a portion of the elongated-shaft seen in FIG. 1;

[0016] FIG. 8 shows a perspective view of that seen in FIG. 8, but in a different position for the handle relative to the elongated-shaft;

[0017] FIG. 9 shows an enlarged perspective view of the selectively-pivotable joint in an unlocked configuration;

[0018] FIG. 10 shows an enlarged perspective view of the selectively-pivotable joint in a locked configuration;

[0019] FIGS. 11A, 11B and 11C are, respectively, a schematic top view and then two schematic back views, of the relative orientation of the blade, the elongated-shaft and the T-shaped handle as further described herein;

[0020] FIGS. 12A, 12B and 12C are, respectively, a schematic top view and then two schematic back views, of the relative orientation of the blade, the elongated-shaft and the T-shaped handle as further described herein;

[0021] FIGS. 13A, 13B and 13C are, respectively, a schematic top view and then two schematic back views, of the relative orientation of the blade, the elongated-shaft and the T-shaped handle as further described herein;

[0022] FIG. 14 is a schematic top view of a shovel as disclosed herein being pushed in a first direction to clear material aside in a material clearing direction in a snowplow-like manner; and,

[0023] FIG. 15 is a schematic top view of the shovel depicted in FIG. 14, now being pushed in an opposite direction to clear material aside in the material clearing direction in a snowplow-like

manner.

[0024] The drawings show some but not all embodiments. The elements depicted in the drawings are illustrative and not necessarily to scale, and the same (or similar) reference numbers denote the same (or similar) features throughout the drawings, though all the same (or similar) features are not always separately numbered to help avoid over numbering and obscuring what the drawings are disclosing.

DETAILED DESCRIPTION

[0025] In accordance with the practice of my innovative shovel, as seen in the Figures for example, now described is my manually operated shovel **10** designed to be pushed by a user **12** to clear material **14** from a surface **16**. The shovel **10** includes a blade **20**. Blade **20** has a length **22** extending in a length direction **23**, and a width **24** extending in the width direction **26**. The length **22** is greater than the width **24**. Length and width are measured and defined by a straight line from the outer most edge of one side to the outer most edge of the spaced apart, opposite side. And, preferably, in the case of a curved face like that seen in the figures, the curve is ignored and straight line distance from top edge to bottom edge is determined. The blade further includes a bottom edge **31** to engage the surface **16** and a top edge **32** spaced from the bottom edge **31**. A front face **36** is defined between the top edge **32** and the bottom edge **31**. A back face **40** is defined between the top edge **32** and the bottom edge **31**, and the back face is opposed to and separated from the front face by a thickness **21** of the blade. While the faces **36**, **40** can take on a variety of shapes, preferably they are, respectively, the front face **36** being concave shaped **38** and the back face **40** being convex shaped **42**. More or less curvature can be used as desired by the user to collect and/or throw and roll the material forward ahead of and out of the shovel as the shovel is being used to clear material from the surface.

[0026] Shovel **10** further includes an elongated-shaft **70**. Shaft **70** has an elongated-shaft blade end **72** and an elongated-shaft user end **74**. The user end **74** is spaced apart from the blade end **72**, and each is located on opposite ends of the shaft **70**. A selectively-pivotable joint **50** is connected with the elongated-shaft blade end **72** and the back face **40** of the blade. For example, the joint **50** can connect with back face **40** directly (not shown) or more indirectly as shown via extension **44**. Extension **44** helps provide more versatility and/or leverage for connecting joint **50** and face **40**. Extension **44** can be molded right into and as part of blade **20**, or it can be separately formed and then connected to blade **20** at face **40**. Additionally, preferably, if desired, the elongated-shaft **70** can have a shaft length direction **76** that is parallel with at least a portion of the blade in width direction **26** of the blade (e.g., best seen in FIG. 6). This can be advantageous, for additional reasons discussed herein regarding joint **50**. The selectively-pivotable joint **50** is fixed in place relative to the length direction of the blade, and preferably, fixed in the width direction as well. Joint **50** functions to pivot around a joint center point **52** to move the elongated-shaft **70**, and most pronouncedly move the shaft user end **74** in an arc **54** relative to spaced apart side edges **34** of the blade **20**.

[0027] A T-shaped handle **80** is connected with the elongated-shaft user end **74**. The T-shaped handle **80** is selectively-adjustable to enable the user to adjust a position **82** of the T-shaped handle **80** relative to the elongated-shaft user end **74**. As used herein, T-shaped can be exactly a T at the user end **74** as seen in the drawings, and also includes any extension off of the user end **74** that radiates outwardly from the user end at least one inch, preferably at least 2 inches, more preferably at least 3 inches, and even more preferably at least 4 inches, to form a structure the user can hold onto more easily and that helps push forward the shovel **10**. Further in this regard, the structure radiating off of end **74** does so at an angle of preferably at least 10 degrees, more preferably at least 20 degrees, even more preferably at least 30 degrees, yet more preferably at least 40 degrees and most preferably 70 to 100 degrees relative to the shaft length direction **76**. Preferably, such radiating off structure does so on both sides of the user end **74**, as seen, and does so evenly on each side, all for providing even better leverage to the user pushing the shovel.

[0028] Referring to FIGS. 1, 2, 7 and 8, the T-shaped handle **80** is further described. The T-shaped handle is preferably adjustable angularly **84** relative to or with an elongated axis **78** of the elongated-shaft to select the position **82** of the T-shaped handle relative to the elongated-shaft user end. In this way, for example, the T-shaped handle can be made substantially parallel to the surface for pushing, especially when joint **50** is located out of perpendicular relative to blade **20** (as described further herein). For example, if the T-shaped handle is substantially parallel to the surface, this means comparing the handle's longitudinal axis to a plane defined by the surface and the handle's axis being anywhere from exactly parallel to 18 degrees out of parallel either toward or away from the surface (i.e., there are 90 degrees between parallel and perpendicular and 20% of 90=18 degrees). Additionally, with the T-shaped handle being adjustable angularly, preferably there is an adjustable ring **86** on the handle with a locking clasp **88** to open and close the ring and thereby lock the ring in place around the user end **74** of the shaft **70**. Such ring and clasp relationship also includes other similar resulting mechanical structures that can be used as one of ordinary skill in the art would know to do in combination with the teaching herein, to thereby temporarily and selectively lock the T-shaped handle **80** in place relative to the user-end **74**. And, this can be done to manage one or both of length direction **76** movement of handle **80** relatively to shaft **70** and/or angular movement **84** of handle **80** relatively to shaft **70**.

[0029] Still referring to FIGS. 1, 2 and 7, 8, additional features of handle **80** can be understood. For example, the T-shaped handle **80** can include a handle-rung **89**. The handle-rung **89** is spaced from the elongated-shaft user end **74** and can be D-shaped as shown, or more U-shaped (not shown) or V-shaped (not shown) or anything in between these, the design being to provide added leverage for easier two-handed control when pushing the shovel **10**. Additionally, preferably, handle-rung is adjustable forward-backward (i.e., forward **90** and backward **91**, successively) relative to the front face **36** and the back face **40** of the blade **20** to select the position **82** of the handle-rung relative to the elongated-shaft user end **74**. Again, the design being to provide added leverage for easier two-handed control when pushing the shovel **10**, as well as added versatility for different heights of the handle-rung **89** for different leverage points and/or for different height users. Still additionally, preferably, and if desired, being adjustable forward-backward **90, 91** can be by the structure of interlocking teeth **92** and a screw **94** locking-unlocking relationship, where loosening the screw unlocks the interlocking teeth and tightening the screw locks the interlocking teeth. Yet additionally, preferably, and if desired, the handle-rung **89** can be adjustable forward-backward **90, 91** through a range of motion of at least 90 degrees relative to a shaft length direction **76** of the elongated-shaft **70** (FIG. 6).

[0030] Referring to FIGS. 1-6, additional features of the selectively-pivotable joint **50** are now explained. For example, the selectively-pivotable joint can be located within a bottom half **27** of a distance of the width of the blade with the bottom half **27** including the bottom edge **31** and defined from the top edge **32** to the bottom edge **31**. For example, this further aids the leverage provided to the blade from the elongated shaft **70**, especially when pushing the blade at an angle in a snowplow-like manner. Additionally, or alternately, and for similar leverage reasons and further aiding in the snow rolling and throwing capability of the concave shaped blade, some portion of the selectively-pivotable joint **50** can be located within a middle one-third **29** of a distance of the width **24** of the blade **20** as defined from the top edge **32** to the bottom edge **31**. Additionally, or alternately, and further aiding in the angling of the blade relative to the shaft **70**, and thus the blade angle relative to the material on the surface being cleared, the selectively-pivotable joint **50** can be selectively positionable in a direction **56** parallel to a length direction **23** of the blade. Yet additionally, or alternately, and further aiding in the angling of the blade relative to the shaft **70**, the selectively-pivotable joint **50** is selectively positionable between zero degrees **58** and 180 degrees **59** relative to the spaced apart side edges **34** of the blade. Further in this regard, and in increasing degrees of preference, the selectively-pivotable joint **50** can be selectively positionable in arc **62** less than ninety degrees such as between ten degrees and forty-five degrees, between ten degrees

and thirty degrees, between fifteen degrees and thirty degrees, and between fifteen degrees and twenty-five degrees, on either side of a perpendicular position **61** defined by the elongated-shaft relative to the blade.

[0031] Referring to FIGS. **9** and **10**, yet additional features of the joint **50** are explained. For example, the selectively-pivotable joint **50** can be a button **60** operative with a spring (internal to the structure and not seen) where depressing the button **60** unlocks the joint **50** and unpressing the button **60** locks the joint. FIG. **10** shows the unlocked orientation with the button depressed, and consequently the teeth **63** pressed out of locking slots **64**, and then the joint can be freely pivoted so the blade **20** and elongated-shaft **70** can move to a desired position relative to one another, and then be locked in place as desired once the button is no longer depressed. In FIG. **9**, the joint is in a locked orientation so teeth **63** are locked into slots **64** and the joint no longer freely pivots so the blade **20** and elongated-shaft **70** cannot move out of the desired position. A relationship like that detailed in FIGS. **7-8** for interlocking teeth **92** and screw **94** could alternately be employed here too, but would be less preferred here because not as easily and readily selectively adjustable as the discussed spring, teeth **63** and locking slots **64**.

[0032] To use my innovative shovel **10**, generally as seen in the FIGs. and especially FIGS. **11-15** inclusive, there is disclosed a method for pushing the shovel to clear material **14** from the surface **16**. The method includes a first step of using blade **20**, with blade **20** having one or more of the features described above. Another step is selectively-pivoting joint **50** connected with the elongated-shaft blade end **72** and the back face **40** of the blade **20**. Further in this step, the joint **50** is fixed in place relative to the length direction **23** of the blade and pivots around joint center point **52** to move the elongated-shaft **70**, and most pronouncedly user end **74**, in arc **54** relative to spaced apart side edges **34** of the blade **20**. A further step is angularly adjusting T-shaped handle **80** connected with the elongated-shaft user end **74** to position the T-shaped handle **80** substantially parallel to the surface **16** when the elongated-shaft user end **74** is positioned from ten degrees to forty-five degrees on either side of perpendicular position **61** defined by the elongated-shaft **70** relative to the blade **20**. And, a still further step is then pushing, e.g., in direction of force **18** and first as seen in FIG. **14**, the shovel **10** with the blade and joint so configured to thereby push material aside in a material clearing direction **19**, e.g., in a snowplow-like manner.

[0033] For similar reasons discussed above, and further seen in use of shovel **10** and depicted in FIGS. **11-13** inclusive, the leverage provided to the blade **20** from the elongated shaft **70**, especially when pushing the blade at an angle in a snowplow-like manner, can be preferably employed with a step of pivoting the joint by moving the elongated-shaft user end **74** toward the left spaced apart side edge **34** of the blade (e.g., FIGS. **12A** to **12B**) and angularly adjusting the T-shaped handle **80** by moving a far left edge of the T-shaped handle upward relative to the surface **16** (e.g., FIGS. **12B** to **12C**). As depicted, FIG. **12A** shows a top view of the pivoting of shaft **70** toward left edge **34**. FIG. **12B** shows a back view of the way handle **80** will be oriented if not angularly-adjusted from its level-with-the-surface orientation when the shaft and the joint **50** is in the perpendicular orientation **61**. Then, FIG. **12C** shows a back view of the way handle **80** will be oriented if the T-shaped handle is angularly-adjusted by moving a far left edge **81** of the T-shaped handle upward relative to the surface **16** and thereby make the T-shaped handle be substantially level with the surface **16**, especially when the shaft and the joint **50** are in an arc position **62** that is less not the perpendicular orientation **61**. Further in this regard, additionally or alternately, there can be a step of pivoting the joint **50** by moving the elongated-shaft user end **74** toward a right spaced apart side edge **35** of the blade (e.g., FIGS. **13A** to **13B**) and angularly adjusting the T-shaped handle **80** by moving a far right edge **83** of the T-shaped handle upward relative to the surface **16** (e.g., FIGS. **13B** to **13C**). Yet additionally or alternately, in this regard, there can be a step of substantially leveling (e.g., FIGS. **12B** to **12C**, and alternately **13B** to **13C**, respectively) the T-shaped handle **80** relative to the surface **16** when pivoting the joint **50** by moving the elongated-shaft user end **74** toward the left spaced apart side edge **34** (e.g., FIGS. **12A** to **12B**) of the blade or toward the right

spaced apart side edge **35** (e.g., FIGS. **13A** to **13B**) of the blade. And yet additionally, now also referring to

[0034] FIGS. **14** and **15**, preferably in between each of the pivoting steps described in this paragraph, there can be a step of pushing the shovel (e.g., with and in direction of force **18**) in an opposite direction (FIG. **15**) to clear material **14** from the surface, and with the blade in an opposite orientation (FIG. **15**) from when the blade was pushed in the first direction of travel (FIG. **14**), to thereby continue to push material **14** further aside in a same material clearing direction **19**, e.g., in a snowplow-like manner until the material is cleared, as much as desired, off of the surface **16**. And, for completeness, FIG. **11A** shows a top view of the perpendicular position **61** of shaft **70** when not in a snowplow-like orientation, and thus FIG. **11B** shows a back view of the way handle **80** will be oriented substantially level with the surface and not need any angular-adjusting when simply pushing the shovel in the perpendicular position **61**, and therefore, FIG. **11C** shows the same back view of the handle **80** as for FIG. **11B** because the T-shaped handle is already substantially level with the surface.

[0035] Referring to FIGS. **1**, **2**, **7** and **8**, additional features of the shaft relative to the blade and the handle are now explained. For example, this further aids the leverage provided to the blade from the elongated shaft **70**, especially when pushing the blade at an angle in a snowplow-like manner. The method can include some portion of the joint **50** being located within the middle one-third **29** of the distance of the width **24** of the blade as defined from the top edge **28** to the bottom edge **30**. Additionally, preferably, there can be a step with the T-shaped handle **80** including handle-rung **89**, and then and further comprising adjusting the handle-rung **89** forward-backward **90**, **91** relative to the front face **36** and the back face **40** of the blade to selectively position the T-shaped handle-rung **89** relative to the elongated-shaft user end **74**.

[0036] Additional discussion of the disclosure in various embodiments now follows: [0037] A. A manually operated shovel designed to be pushed by a user to clear material from a surface. The shovel includes a blade. The blade includes a length and a width, where the length is greater than the width. The blade also includes a bottom edge to engage the surface and a top edge spaced from the bottom edge. The blade further includes a front face defined between the top edge and the bottom edge. And, the blade includes a back face defined between the top edge and the bottom edge wherein the back face is opposed to and separated from the front face. The shovel further includes an elongated-shaft having an elongated-shaft blade end and an elongate-shaft user end, where the elongated-shaft user end is spaced apart from the elongated-shaft blade end. Further, the shovel includes a selectively-pivotable joint connected with an elongated-shaft blade end and the back face of the blade. The selectively-pivotable joint (i) is fixed in place relative to the length direction of the blade and (ii) pivots around a joint center point to move an elongated-shaft user end in an arc relative to spaced apart side edges of the blade. Yet further, the shovel includes a T-shaped handle connected with the elongated-shaft user end. The T-shaped handle is selectively-adjustable to enable the user to adjust a position of the T-shaped handle relative to the elongated-shaft user end. [0038] B. The shovel of any of the prior embodiments, wherein the front face is concave shaped. [0039] C. The shovel of any of the prior embodiments, wherein the back face is convex shaped. [0040] D. The shovel of any of the prior embodiments, wherein the selectively-pivotable joint is located within a bottom half of a distance of the width of the blade with the bottom half including the bottom edge and defined from the top edge to the bottom edge. [0041] E. The shovel of any of the prior embodiments, wherein some portion of the selectively-pivotable joint is located within a middle one-third of a distance of the width of the blade as defined from the top edge to the bottom edge. [0042] F. The shovel of any of the prior embodiments, wherein the selectively-pivotable joint is selectively positionable in a direction parallel to a length direction of the blade. [0043] G. The shovel of any of the prior embodiments, wherein the selectively-pivotable joint is selectively positionable between zero degrees and 180 degrees relative to the spaced apart side edges of the blade. [0044] H. The shovel of any of the prior embodiments, wherein the selectively-

pivotable joint is selectively positionable between ten degrees and forty-five degrees on either side of a perpendicular position defined by the elongated-shaft relative to the blade. [0045] I. The shovel of any of the prior embodiments, wherein the selectively-pivotable joint is selectively positionable between fifteen degrees and thirty degrees on either side of a perpendicular position defined by the elongated-shaft relative to the blade. [0046] J. The shovel of any of the prior embodiments, wherein the selectively-pivotable joint comprises a button operative with a spring wherein depressing the button unlocks the joint and unpressing the button locks the joint. [0047] K. The shovel of any of the prior embodiments, wherein the elongated-shaft has a shaft length direction that is parallel with at least a portion of the blade in a width direction of the blade. [0048] L. The shovel of any of the prior embodiments, wherein the T-shaped handle is adjustable angularly with an elongated axis of the elongated-shaft to select the position of the T-shaped handle relative to the elongated-shaft user end. [0049] M. The shovel of any of the prior embodiments, wherein adjustable angularly comprises a selectively adjustable ring and locking clasp relationship between the T-shaped handle and the elongated-shaft. [0050] N. The shovel of any of the prior embodiments, wherein the T-shaped handle includes a handle-rung, and the handle-rung is spaced from elongated-shaft user end and is adjustable forward-backward relative to the front face and the back face of the blade to select the position of the handle-rung relative to the elongated-shaft user end. [0051] O. The shovel of any of the prior embodiments, wherein adjustable forward-backward comprises interlocking teeth and a screw wherein loosening the screw unlocks the interlocking teeth and tightening the screw locks the interlocking teeth. [0052] P. The shovel of any of the prior embodiments, wherein the handle-rung is adjustable forward-backward through a range of motion of at least 90 degrees relative to a shaft length direction of the elongated-shaft. [0053] Q. A method for pushing a shovel to clear material from a surface. The method includes using a blade as described herein. The method also includes selectively-pivoting a joint connected with an elongated-shaft blade end and the back face of the blade, where the joint (i) is fixed in place relative to the length direction of the blade and (ii) pivots around a joint center point to move an elongated-shaft user end in an arc relative to spaced apart side edges of the blade. Another step of the method is angularly adjusting a T-shaped handle connected with the elongated-shaft user end to position the T-shaped handle substantially parallel to the surface when the elongated-shaft user end is positioned from ten degrees to forty-five degrees on either side of a perpendicular position defined by the elongated-shaft relative to the blade. Then, this is a step of pushing the shovel to clear material from the surface. [0054] R. The method of any of the prior method embodiments, further comprising pivoting the joint by moving the elongated-shaft user end toward a left spaced apart side edge of the blade and angularly adjusting the T-shaped handle by moving a far left edge of the T-shaped handle upward relative to the surface. [0055] S. The method of any of the prior method embodiments, further comprising pivoting the joint by moving the elongated-shaft user end toward a right spaced apart side edge of the blade and angularly adjusting the T-shaped handle by moving a far right edge of the T-shaped handle upward relative to the surface. [0056] T. The method of any of the prior method embodiments, further comprising pushing the shovel in an opposite direction to clear material from the surface and with the blade in an opposite orientation to thereby continue to push material further aside in a same material clearing direction. [0057] U. The method of any of the prior method embodiments, further comprising substantially leveling the T-shaped handle relative to the surface when pivoting the joint by moving the elongated-shaft user end toward the left spaced apart side edge of the blade or toward the right spaced apart side edge of the blade. [0058] V. The method of any of the prior method embodiments, wherein some portion of the joint is located within a middle one-third of a distance of the width of the blade as defined from the top edge to the bottom edge. [0059] W. The method of any of the prior method embodiments, wherein the T-shaped handle includes a handle-rung and further comprising adjusting the handle-rung forward-backward relative to the front face and the back face of the blade to selectively position the T-shaped handle-rung relative to the elongated-shaft user end.

[0060] Each and every document cited in this present application, including any cross referenced or related patent or application, is incorporated in this present application in its entirety by this reference, unless expressly excluded or otherwise limited. The citation of any document is not an admission that it is prior art with respect to any embodiment disclosed in this present application or that it alone, or in any combination with any other reference or references, teaches, suggests, or discloses any such embodiment. Further, to the extent that any meaning or definition of a term in this present application conflicts with any meaning or definition of the same term in a document incorporated by reference, the meaning or definition assigned to that term in this present application governs.

[0061] The invention includes the description, examples, features, embodiments, and drawings disclosed; but it is not limited to such description, examples, features, embodiments, or drawings. As briefly described above, the reader should assume that features of one disclosed embodiment can also be applied to all other disclosed embodiments, unless expressly indicated to the contrary. Unless expressly indicated to the contrary, the numerical parameters set forth in the present application are approximations that can vary depending on the desired properties sought to be obtained by a person of ordinary skill in the art without undue experimentation using the teachings disclosed in the present application. Modifications and other embodiments will be apparent to a person of ordinary skill in the shovel art in combination with the teachings disclosed here, and all such modifications and other embodiments are intended and deemed to be within the scope of the invention.

Claims

1. A manually operated shovel designed to be pushed by a user to clear material from a surface, comprising: a blade comprising: a length and a width wherein the length is greater than the width, a bottom edge to engage the surface and a top edge spaced from the bottom edge, a front face defined between the top edge and the bottom edge, and a back face defined between the top edge and the bottom edge wherein the back face is opposed to and separated from the front face; an elongated-shaft having an elongated-shaft blade end and an elongate-shaft user end wherein the elongated-shaft user end is spaced apart from the elongated-shaft blade end; a selectively-pivotable joint connected with an elongated-shaft blade end and the back face of the blade wherein the selectively-pivotable joint (i) is fixed in place relative to a length direction of the blade and (ii) pivots around a joint center point to move an elongated-shaft user end in an arc relative to spaced apart side edges of the blade; and, a T-shaped handle connected with the elongated-shaft user end wherein the T-shaped handle is selectively-adjustable to enable the user to adjust a position of the T-shaped handle relative to the elongated-shaft user end.
2. The shovel of claim 1, wherein the front face is concave shaped.
3. The shovel of claim 2, wherein the back face is convex shaped.
4. The shovel of claim 1, wherein the selectively-pivotable joint is located within a bottom half of a distance of the width of the blade with the bottom half including the bottom edge and defined from the top edge to the bottom edge.
5. The shovel of claim 1, wherein some portion of the selectively-pivotable joint is located within a middle one-third of a distance of the width of the blade as defined from the top edge to the bottom edge.
6. The shovel of claim 1, wherein the selectively-pivotable joint is selectively positionable in a direction parallel to a length direction of the blade.
7. The shovel of claim 1, wherein the selectively-pivotable joint is selectively positionable between zero degrees and 180 degrees relative to the spaced apart side edges of the blade.
8. The shovel of claim 7, wherein the selectively-pivotable joint is selectively positionable between ten degrees and forty-five degrees on either side of a perpendicular position defined by the

elongated-shaft relative to the blade.

9. The shovel of claim 8, wherein the selectively-pivotable joint is selectively positionable between fifteen degrees and thirty degrees on either side of a perpendicular position defined by the elongated-shaft relative to the blade.

10. The shovel of claim 1, wherein the selectively-pivotable joint comprises a button operative with a spring wherein depressing the button unlocks the selectively-pivotable joint and unpressing the button locks the selectively-pivotable joint.

11. The shovel of claim 1, wherein the elongated-shaft has a shaft length direction that is parallel with at least a portion of the blade in a width direction of the blade.

12. The shovel of claim 1, wherein the T-shaped handle is adjustable angularly with an elongated axis of the elongated-shaft to select the position of the T-shaped handle relative to the elongated-shaft user end.

13. The shovel of claim 12, wherein adjustable angularly comprises a selectively adjustable ring and locking clasp relationship between the T-shaped handle and the elongated-shaft.

14. The shovel of claim 1, wherein the T-shaped handle includes a handle-rung, and the handle-rung is spaced from elongated-shaft user end and is adjustable forward-backward relative to the front face and the back face of the blade to select the position of the handle-rung relative to the elongated-shaft user end.

15. The shovel of claim 14, wherein adjustable forward-backward comprises interlocking teeth and a screw wherein loosening the screw unlocks the interlocking teeth and tightening the screw locks the interlocking teeth.

16. The shovel of claim 14, wherein the handle-rung is adjustable forward-backward through a range of motion of at least 90 degrees relative to a shaft length direction of the elongated-shaft.

17. A method for pushing a shovel to clear material from a surface, comprising: using a blade comprising: a length and a width wherein the length is greater than the width, a bottom edge to engage the surface and a top edge spaced from the bottom edge, a front face defined between the top edge and the bottom edge, and a back face defined between the top edge and the bottom edge wherein the back face is opposed to and separated from the front face; selectively-pivoting a joint connected with of an elongated-shaft at an elongated-shaft blade end joined with the back face of the blade wherein the joint (i) is fixed in place relative to a length direction of the blade and (ii) pivots around a joint center point to move an elongated-shaft user end in an arc relative to spaced apart side edges of the blade; angularly adjusting T-shaped handle connected with the elongated-shaft user end to position the T-shaped handle substantially parallel to the surface when the elongated-shaft user end is positioned from ten degrees to forty-five degrees on either side of a perpendicular position defined by the elongated-shaft relative to the blade; and, pushing the shovel to clear material from the surface.

18. The method of claim 17, further comprising pivoting the joint by moving the elongated-shaft user end toward a left spaced apart side edge of the blade and angularly adjusting the T-shaped handle by moving a far left edge of the T-shaped handle upward relative to the surface.

19. The method of claim 18, further comprising pivoting the joint by moving the elongated-shaft user end toward a right spaced apart side edge of the blade and angularly adjusting the T-shaped handle by moving a far right edge of the T-shaped handle upward relative to the surface.

20. The method of claim 19, further comprising pushing the shovel in an opposite direction to clear material from the surface and with the blade in an opposite orientation to thereby continue to push material further aside in a same material clearing direction.

21. The method of claim 17, further comprising substantially leveling the T-shaped handle relative to the surface when pivoting the joint by moving the elongated-shaft user end toward a left spaced apart side edge of the blade or toward a right spaced apart side edge of the blade.

22. The method of claim 17, wherein some portion of the joint is located within a middle one-third of a distance of the width of the blade as defined from the top edge to the bottom edge.

23. The method of claim 17, wherein the T-shaped handle includes a handle-rung and further comprising adjusting the handle-rung forward-backward relative to the front face and the back face of the blade to selectively position the T-shaped handle relative to the elongated-shaft user end.
