V. W. MASON, Jr.

SNOW PLOW.

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Fig. 1.

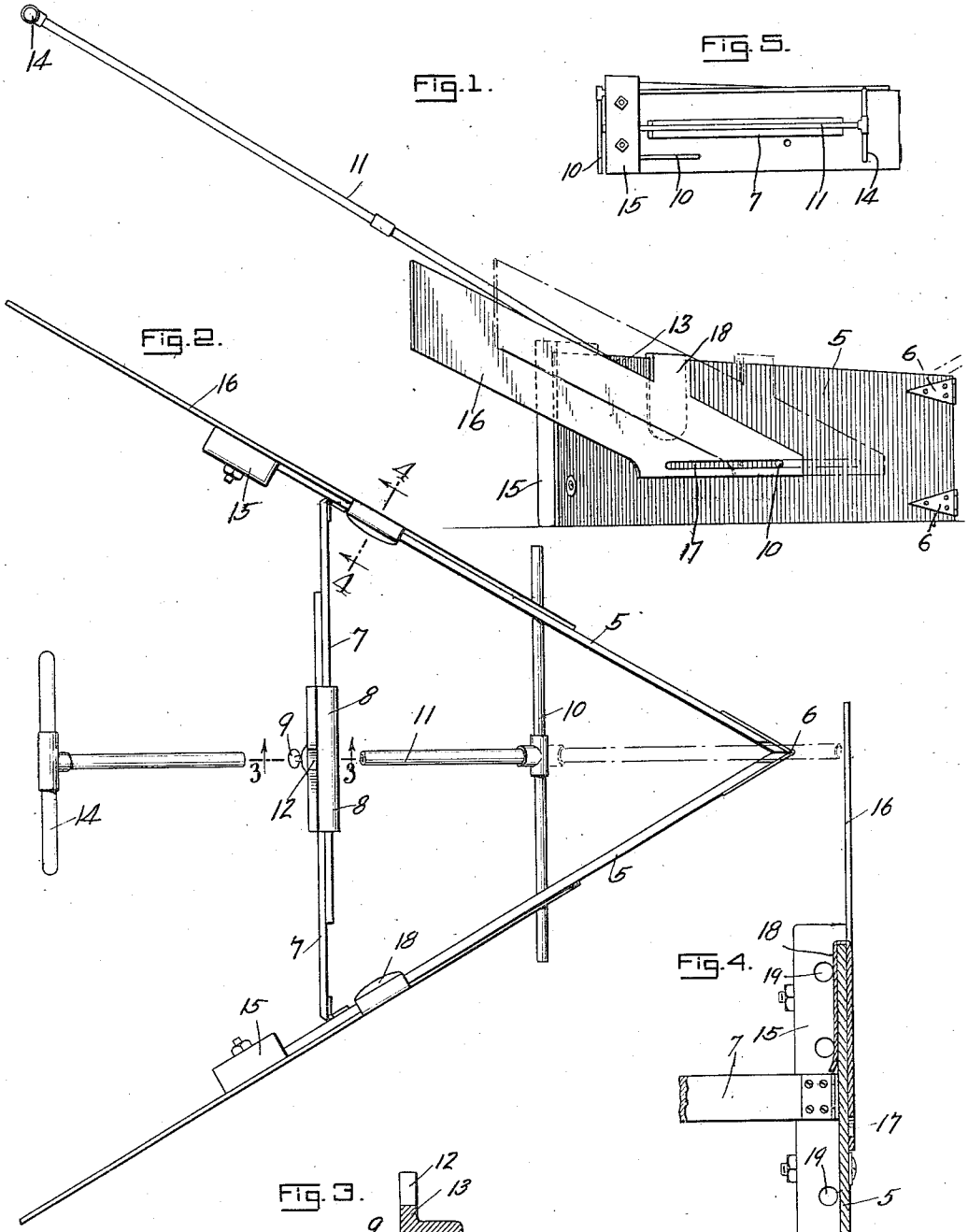
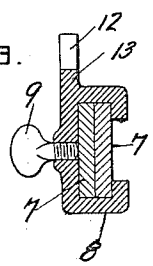


Fig. 2.

Fig. 5.

Fig. 4.

Fig. 3.



WITNESSES

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SNOW-PLOW.

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To all whom it may concern:

Be it known that I, VOLNEY W. MASON, Jr., a citizen of the United States, and a resident of Kingston, in the county of Ulster and State of New York, have invented a new and Improved Snow-Plow, of which the following is a full, clear, and exact description.

My invention relates to snow plows, and an object thereof is to provide a simple, inexpensive, efficient, and collapsible plow.

Another object of the invention is to provide a snow plow of the V type, the angularity of which may be varied to plow paths of different widths.

A further object of the invention is to provide a snow plow which can be dragged or pushed, with means for steering in pushing or dragging the same.

A still further object of the invention is to provide a plow of the manual type with weights and handle so related as to prevent the attacking or front end from digging into the ground and the rear end from rising when plowing the snow by dragging or pushing the plow.

With the above and other objects in view, the nature of which will more fully appear as the description proceeds, the invention consists in the novel construction, combination and arrangement of parts as herein fully described, illustrated and claimed.

In the accompanying drawings, forming part of the application, similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of a plow of the manual type embodying my invention;

Fig. 2, a top plan view;

Fig. 3, a section on line 3—3, Fig. 2;

Fig. 4, a section on line 4—4, Fig. 2; and

Fig. 5 is an elevation of the plow in collapsed position ready for transportation or storage.

Referring to the drawings, 5 5 are mold boards connected at one end by hinges 6 so as to form a V, the angularity of which may be varied. Each of the mold boards preferably widens to the rear, to prevent the packed snow from passing over the top edge when the snow is deep. Each board is provided with a brace 7 hinged to the inner face of the mold board and adapted to extend toward the face of the other mold board, the two braces being retained against one another by a bracket 8 in which the braces 7 are free to slide. A set screw 9 is provided in the bracket to lock the braces in the bracket and thereby prevent a relative movement of the two mold boards. By means of these braces and bracket the width of the V formed by the mold boards may be varied. The braces are preferably provided near the rear end of the mold boards so as to better resist the pressure which tends to collapse the plow.

Each of the mold boards 5 has an opening substantially midway between the hinged end and the hinged brace, the two openings alining to receive a transverse bar 10 of a handle 11, the transverse bar being free to turn in the alining openings so that it can be swung either toward the apex of the V, as indicated in dotted lines in Figs. 1 and 2, or maintained against the bracket 8 as shown in full lines in said figures. The transverse bar 10 is generally introduced first into one of the openings at an angle and then pushed through the other and the handle 11 brought into the central plane of the plow on the bracket 8 wherein a suitable notch 12 is provided in an extension 13 of the bracket. This notch 12 when engaging the handle 11 prevents lateral movement of said handle and, therefore, if pressure is applied to the handle bar 14 of the handle 11 the plow can be guided while pushed, for there will be two points at which the steering is effected; one, the engagement of the handle bar with the notch 12; and the other, the engagement of the transverse bar 10 with the mold board. The same effect takes place when the handle is swung to the front to drag the plow; in which case the engagement of the apex with the handle proper is one of the points which facilitates the steering, the other point being the engagement of the transverse bar 10 with the mold boards.

To prevent the front of the plow from digging into the ground when pushed or dragged, I provide a weight 15 at the rear end of each of the mold boards. As shown, these weights are in the shape of a cast block bolted to the mold board; but they may be in the shape of a receptacle for loose weight or to accommodate a concrete block. These weights being located in the rear prevent the rear of the plow from rising when the plow moves through the snow; other-

wise the pressure would cause the rear of the plow to rise and thereby cause the front to dig in and interfere with the proper movement of the plow. When the plow is pushed the handle will be in the position as shown in full lines in Fig. 2; and the tendency in pushing will be to maintain the apex end of the plow at the ground, while the rear end will be prevented from rising by the handle displosed over the braces 7, since the handle is engaged with the notch 12 and, therefore, any tendency of the rear to rise will be prevented by said handle, and this tendency will be easily overcome by a slight downward pressure while the plow is pushed. In consequence, the plow will be always maintained on the ground.

On the other hand, when the plow is dragged, the tendency of the attacking end is to rise, but the same is prevented by the handle lying over the attacking end. Any tendency of the front end to rise is easily overcome by a slight pressure on the handle, resting on the apex, against the counterbalance weights. The rear end is prevented from rising by the weights secured to the rear ends of the boards. So, it will be noted in pulling or pushing the attacking end of the plow can be maintained on the ground and, therefore, the snow cleaned in a proper manner.

The handle proper is made of tubular members which render the same resilient or yielding, and can be taken apart into sections not exceeding the length of the mold board. The resiliency of this handle facilitates the transmission of the man power to the plow itself and serves partially as a shock absorber in case the plow strikes an obstruction.

Each of the mold boards is provided with a wing 16 extending diagonally and rearwardly of the mold board and above the same. Each of the wings has a slot 17 at the lower end through which the end of the transverse member 10 of the handle 11 projects. Each of the wings has also a yielding jaw 18 which clamps the wing to the board. This jaw also maintains the wing at a proper inclination to the mold board while it is adjusted longitudinally of the mold board. These wings increase the height of the plow at the rear, and also the width of the plow, without the necessity of adjustment of the braces 7 and the bracket 8. The dotted line of the wings in Fig. 1 clearly indicates the adjustment derived from the wings.

To collapse the plow the handle 11 is removed; the set screw 9 is manipulated to release pressure on the braces 7; one of the braces is drawn out of the bracket; and the mold board with the drawn-out brace is then folded so as to bring the outer faces of the mold board in contact. The braces will then be folded against the inner faces of the mold boards and will be on the outside of the folded plow. The weights will also be on the outside. The handle can then be taken apart and placed against one of the mold boards. Thus, when the snow plow is collapsed it will occupy a very small space and, therefore, can be easily stored. This collapsing of the plow to small volume facilitates the transit of same. The weights 15 have openings 19 which form seats for the sections of the handle, and whereby the same are retained in proper position against the mold boards.

From the above description it will be noted that the binding clamp has the notch 12 so formed therein that it receives the handle so as to maintain it at the proper angle for plowing. The transverse bar 10 being located nearer the apex 6 than the weights 15 permits the use of smaller weights 15 for counterbalancing the tendency of the plow to rise from the ground in plowing, this being due to the greater leverage.

I claim:

1. In a snow plow, a pair of mold boards hinged to form a V, transverse braces between the mold boards in proximity of the unconnected ends, and a resilient handle pivotally mounted in the boards between the braces and the apex of the V formed by the boards so that said handle can be swung on to the braces or the apex so that the plow may be pushed or pulled.

2. In a snow plow, a pair of mold boards hinged to form a V, a brace pivotally connected to each of the boards in proximity to its free end and adapted to extend toward the other mold board, a bracket having a sliding engagement with the braces, means for locking said braces in the bracket, and a resilient handle mounted pivotally in the mold boards between the bracket and the apex of the V formed by the boards, said bracket having an extension provided with a notch for receiving the handle when said handle is swung to rest on said extension, said handle being adapted to be swung to rest on the apex of the V formed by the boards, whereby the plow may be pushed or pulled.

3. In a snow plow, a pair of mold boards hinged to form a V, a brace connecting the mold boards in proximity to the free ends of said boards, a weight at the free end of each mold board, and a handle pivotally connected to the mold boards between the weights and the apex formed by the boards, said handle being adapted to be swung to rest on the brace or the apex of the V formed by the boards, whereby the plow may be pushed or pulled.

4. In a snow plow, a pair of mold boards

connected to form a V, a brace between the boards, a handle pivotally connected to the boards between the brace and the apex formed by the boards so as to engage either the brace or the apex, and a wing for each of the boards, each of the wings having a jaw for engaging the upper edge of the board and a slot for engaging the handle portion which engages the corresponding board whereby the wings can be adjusted longitudinally of the board.

5. In a snow plow, a pair of mold boards forming a V, a brace between the mold boards, a handle having a transverse bar revolubly mounted in the boards so that the handle can be supported by the brace or the apex of the V, and a wing for each of the boards adapted to extend upwardly and rearwardly of each board, said wing having a jaw for resiliently engaging the board at the upper edge, said wing having also a slot for engaging the transverse bar of the handle and whereby the wings may be adjusted longitudinally of the boards.

6. In a snow plow, a pair of mold boards hinged to form a V, a brace for adjusting the width of the V, weights at the rear ends of the boards, and a handle secured pivotally to the boards to be disposed above the brace or the apex of the V to prevent the rising of the rear or the front end of the plow respectively when pulling or pushing the plow by the handle.

7. In a snow plow, a pair of mold boards, means hinging the boards to form a V which can be folded to bring the outer surfaces in contact, foldable brace members associated with the boards, including means for preventing the collapsing of the V formed by the boards when the plow is in use, a handle detachably and pivotally secured to the boards to be supported by the apex formed by the boards or by the brace members when the plow is in use.

8. In a snow plow, a pair of mold boards connected to form a V, a brace preventing the collapsing of the V formed by the boards, weights associated with the rear ends of the boards, and a handle swinging in the boards between the brace and the apex formed by the boards and adapted to be disposed above the brace or the apex to prevent the rising of the rear or the front of the plow respectively when the plow is pulled or pushed by the handle.

9. In a snow plow, a pair of mold boards, means hinging the boards to form a V which can be folded to bring the outer surfaces in contact, foldable brace members associated with the boards, means for engaging the foldable brace members for preventing a collapsing of the V formed by the boards when the plow is in use, a handle detachably pivoted to the boards to be supported by the apex formed by the boards or by the means connecting the brace members when the plow is in use, said handle being so pivoted to the boards that when resting on the apex or said means connecting the brace members the handle is at a proper angle for pulling or pushing the plow, and weights associated with the unconnected ends of the boards, said weights being such as to properly react with the effort applied to the handle when pushing or pulling the plow.

10. In a snow plow, a pair of mold boards hinged to form a V, a brace connecting the mold boards, a weight at the free end of each mold board, and a handle pivoted in the mold boards between the weight and the apex to rest on the brace or the apex, whereby the handle exerts a downward leverage by opposing the weights in pulling, or acting with the weights in pushing.

11. In a snow plow, a pair of mold boards connected to form a V, means bracing the V formed by the boards, a handle secured pivotally to the boards and adapted to extend over the apex of the V, and weights associated with the boards and adapted to counterbalance the effort on the handle in the manipulation of the plow by the handle.

12. In a snow plow, a pair of mold boards connected to form a V, a weight associated with the rear end of the plow, and a handle pivotally connected to the plow to swing on its pivot forwardly and rearwardly to be disposed in the vertical central plane of the plow whereby the plow may be pulled or pushed by said handle.

13. In a snow plow, a pair of mold boards forming a V, a weight at the unconnected extremities of each of the mold boards, and means for manipulating the plow.

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