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SCOOP SHOVEL

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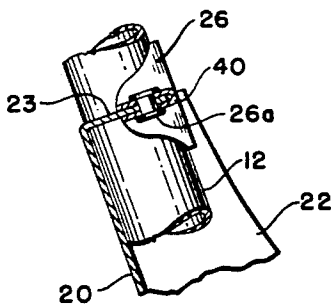
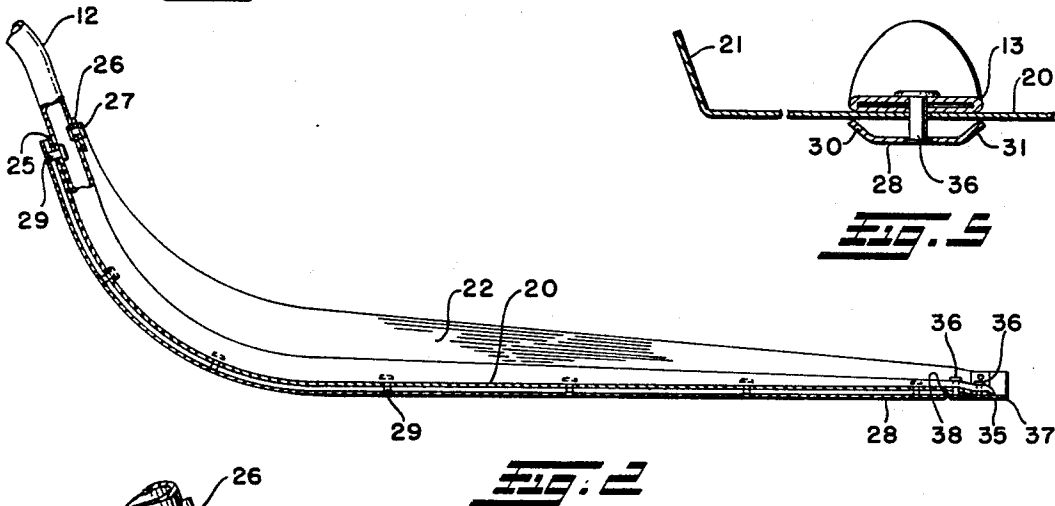
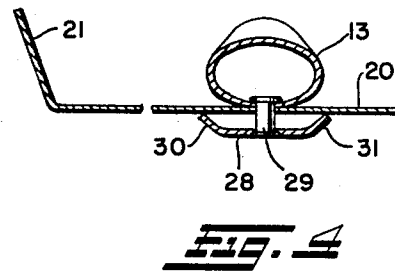
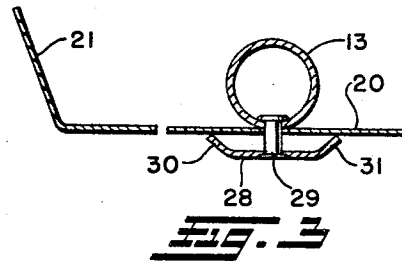
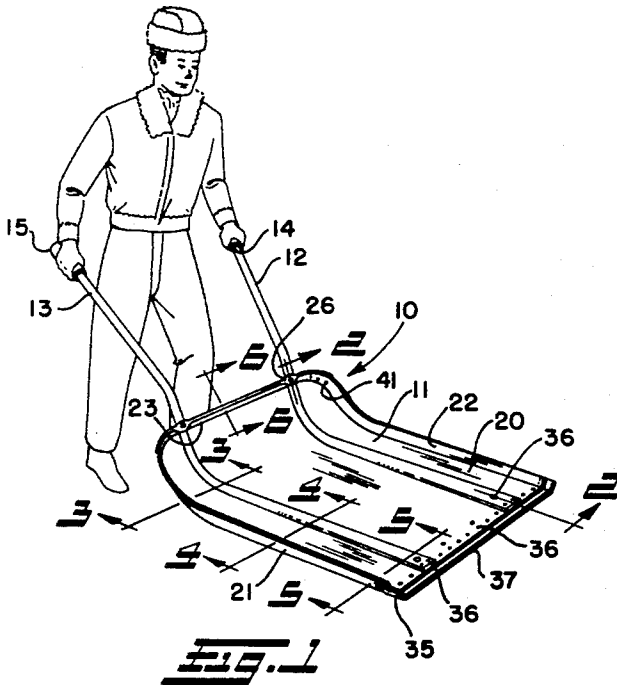


FIG. 6

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SCOOP SHOVEL

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The present invention relates as indicated to a scoop shovel, having particularly advantageous use in the handling and removing of snow.

Heretofore, manually operable snow removal equipment of the type here concerned has not been completely satisfactory for a number of reasons. A common, commercially available type of snow shovel comprises a generally flat or slightly curved blade, with the curvature being transverse to the direction of travel or movement of the shovel during normal use thereof. Such shovels are open at the sides and, as a result, have a decidedly limited capacity. Moreover, such shovels customarily come with a single handle extending rearwardly from the blade generally centrally thereof so that the snow must be lifted, with the operator normally placing one hand fairly far down the handle toward the blade to perform the lifting operation. In shoveling relatively deep snow, the necessary lifting of the snow requires considerable effort, and is a recognized cause of heart attacks and the like.

Due to the relatively small capacity as noted of the blade type snow shovels, snow scoops have been provided which include side portions which extend generally normal to the blade or bottom of the shovel and which act to confine or retain the snow collected in the scoop during dumping thereof. Although such scoops are able to handle substantially increased quantities of snow in a single collecting and dumping operation, the scoops which applicant is familiar with have been relatively inconvenient to use and have, in certain constructions, required undesirable lifting thereof in order to remove the snow therefrom. Moreover, the above-noted health hazard involved in lifting the snow is applicable to this type of equipment as well.

With the above in mind, a primary object of the present invention is to provide a scoop shovel which is of lightweight construction and relatively high capacity, while at the same time being easily maneuvered for convenient collecting and dumping of the snow.

A further object of the present invention is to provide a scoop having handle members which extend from the body portion of the shovel in a manner to enhance movement of the scoop shovel in collecting the snow and in subsequently dumping the same. In this latter regard, the handles are uniquely constructed and arranged relative to the body of the scoop to permit dumping of the snow from the scoop to either side of the shovel or to the front thereof, with relatively little effort being required by the operator when in a normal, upright position.

A further object of the present invention is to provide a scoop of the type described which is constructed of lightweight material but reinforced in the areas subjected to the greater stresses and wear thereby to provide a shovel which is rugged and longlasting.

A further object of the present invention is to provide a scoop shovel of the type described which is easily fabricated and relatively inexpensive to manufacture, and which is capable of nested arrangement with other such shovels for economical storage and transportation.

These and other objects and advantages of the present invention will become apparent as the following description proceeds.

To the accomplishment of the foregoing and related ends, the invention, then, comprises the features hereinafter fully described and particularly pointed out in the claims, the following description and the annexed drawing setting forth in detail certain illustrative embodi-

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ments of the invention, these being indicative, however, of but a few of the various ways in which the principle of the invention may be employed.

In said annexed drawing:

FIG. 1 is a perspective view showing the normal manner of use of the scoop shovel of the present invention;

FIG. 2 is a longitudinal sectional view through the body of the shovel showing the manner in which the handles are attached thereto;

FIG. 3 is a sectional view taken on line 3—3 of FIG. 1; FIG. 4 is a sectional view taken on line 4—4 of FIG. 1; FIG. 5 is a sectional view taken on line 5—5 of FIG. 1, and

FIG. 6 is a sectional view through the top flange of the shovel body between the handle portions, taken on line 6—6 of FIG. 1.

Referring now in more detail to the drawings wherein like parts are indicated by like reference numerals, the scoop shovel of the present invention is generally indicated at 10 and includes a body portion 11 and handles 12 and 13 mounted in transversely spaced relationship on the body and extending to the forward edge thereof. The handles 12 and 13 are suitably spaced for convenient and comfortable grasping of the grip portions 14 and 15, respectively, by the operator when using the scoop, with the handles preferably being spaced and at an elevation from the ground when the shovel is in the use position to approximate the spacing and elevation of the handles of a wheelbarrow. In such position the operator can use the shovel when standing in an upright position and force can be more effectively applied to move the shovel forwardly through the snow.

The body 11 of the scoop includes a bottom 20, upwardly and outwardly flared side walls 21 and 22, and a back wall 23 which extends generally normal to the adjacent region of the bottom 20, as can be seen in FIG. 6. The side and rear walls 21—23 thus define with the bottom 20 of the shovel a snow receiving and retaining area capable of collecting relatively large quantities of snow. In the form shown, the side and rear walls 21—23 are integrally formed with the body 20 and the body is preferably stamped from a suitable material, for example sheet aluminum. Although the dimensions of the body are not critical, highly satisfactory results have been obtained with the dimensions of the bottom 20 being approximately 28 inches wide and 40 inches long, thereby providing a considerable surface area for receiving the snow.

Referring to FIGS. 2—5, the handles 12 and 13 extend through the rear wall 23 of the shovel body and forwardly to the front edge of the shovel, with the handles in the region of the bottom 20 conforming to the shape thereof and mounted thereto in a manner to be presently described. As can be seen from the longitudinally spaced sectional views of FIGS. 3—5, the handles 12 and 13 are gradually flattened beginning substantially at the regions thereof which extend through the rear wall 23 to their forward ends, with the latter being completely flattened as shown in FIG. 5.

The rear wall 23 is formed with openings 25 which in the form shown intersect the top edge of the rear wall and through which the handles 12 and 13 extend. A reinforcing strip 26, bent around the top edge of the rear wall 23 and riveted thereto by rivets 26a or the like, is flattened in the area immediately above the handles 12 and 13 to form a rivet supporting surface through which top rivets 27 extends for rigidly interconnecting the rear wall and the handles 12 and 13.

Reinforcing strips 28, preferably of stainless steel, extend along the underside of the bottom 20 directly below the handles 12 and 13. A series of longitudinally spaced rivets commonly designated at 29 rigidly secure both the

strip 28 and the handle 13 to the bottom 20, as seen in FIGS. 3-5. The rivets 29 are preferably placed 5 to 6 inches apart along the length of the stainless steel strips 28 to rigidly connect these members.

As can be seen in FIGS. 3 and 4, the strips 28 are generally dish-shaped in cross-section, and are formed with flared side flanges 30 and 31 which engage the underside of the bottom 20 of the shovel body. The dish construction serves to significantly increase the resistance of the strips to transverse bending thereby strengthening the entire shovel body. The strips 28 are preferably slightly countersunk in the regions of the rivets 29 to provide a relatively flat bottom surface to reduce the friction of the shovel bottom during use thereof.

As previously noted and as shown in FIG. 5, the handles 12 and 13 are substantially entirely flattened adjacent the forward or leading edges thereof thereby to provide little or no resistance to the snow moving rearwardly over the forward end of the shovel. As best seen in FIG. 2, a front strip 35 preferably of stainless steel is riveted by means of rivets 36 to the bottom 20 of the scoop and to the flattened, leading ends of the handles 12 and 13. The extreme forward end 37 of the steel strip 35 projects beyond the bottom 20 and the flattened ends of the handles 12 and 13 to present a leading blade edge better adapted to absorb the greater friction and consequent wear which occur at such end. The trailing end 38 of the strip 35 terminates adjacent the forward ends of the bottom reinforcing strips 28.

In the preferred use of the scoop shovel of the present invention, the shovel is placed so that the flat portion of the bottom 20 rests flat on the surface to be shoveled. In such position, the handles 12 and 13 extend upwardly for convenient grasping by the user when in an upright position, in much the same manner as the grasping of a wheelbarrow. The shovel is then moved forwardly with the leading blade edge 37 scraping the surface and the snow moving over such leading edge into the scoop area defined by the bottom 20, side walls 21 and 22, and rear wall 23. It will be noted that in such use, the operator's body can freely extend into the area between the handles 12 and 13 thereby more efficiently to exert the force necessary to move the shovel through the snow.

When the scoop area has become filled with snow, the snow may be dumped forwardly of the shovel or to either side thereof. If the snow is dumped forwardly, in the manner material is dumped from a wheelbarrow, the handles 12 and 13 are simply moved upwardly by the operator and the snow is discharged by gravity from the bottom 20 forwardly of the shovel. When snow is to be discharged at either side of the shovel, the respective sides on the forwardmost corner edges of the shovel serve as pivots for pivoting the shovel in either sideward direction. For example, referring to FIG. 1, if the operator desired to dump the snow to the area on his right, the shovel would be simply pivoted about the juncture of the side 21 and the bottom 20, or the right edge of the strip 35 by manipulation of the handles 12 and 13 for gravity discharge of the snow from the bottom 20.

It will thus be seen that the position and spacing of the handles 12 and 13 afford a flexibility in use of the scoop shovel not available in present snow shovels and scoops of this general type. Relatively large amounts of snow can be more effectively handled by virtue of the more efficient application of force. The snow is dumped, rather than lifted, and as a result there is considerably less effort required than with prior shovels of this general type.

Although the scoop shovel of the present invention is designed primarily for snow removal, it will be apparent that other material, for example leaves, could be handled as well with equally satisfactory results. It will also be apparent to those skilled in the art that changes could be made from the preferred form disclosed without, however, departing from the invention concepts. For example, the rear wall 23 could be made wider and partially folded upon itself to provide the desired increased rigidity now afforded by the reinforcing strip 26. In such event, openings could be formed in such double thickness region for receiving the handles 12 and 13.

Other modes of applying the principle of the invention may be employed, change being made as regards the details described, provided the features stated in any of the following claims or the equivalent of such be employed.

I therefore particularly point out and distinctly claim as my invention:

1. A scoop shovel for shoveling snow and the like comprising a body having bottom and integral side and rear walls defining an area for the collection and temporary retention of snow or the like, the front of said bottom wall being flat along a substantial longitudinal distance and the rear portion of said bottom wall being upwardly and rearwardly curved so that said rear wall is substantially elevated from the supporting surface, separate tubular handles extending through said rear wall and over said bottom wall and terminating adjacent the forward end of said bottom wall, said handles in the regions thereof coextensive with said bottom wall conforming to the shape of said bottom wall, said handles extending rearwardly of said body a substantial distance and being spaced to provide an open area therebetween in which the user can maneuver during normal use of the shovel, reinforcing means extending longitudinally along the underside of said bottom wall vertically aligned with said handles, and means for connecting said handles and said reinforcing means to said bottom wall.

2. The shovel of claim 1 wherein said tubular handles are gradually flattened in the direction toward the forward end of the shovel, with such handles being completely flattened adjacent the forward edges of such shovel.

3. The shovel of claim 1 further including a steel strip rigidly connected to the forward end of said bottom wall of said shovel, said steel strip extending partially beyond such forward end to provide a leading edge.

4. The shovel of claim 1 wherein said reinforcing means extending longitudinally along the underside of said bottom wall comprise steel strips rigidly carried by said bottom wall of said shovel, each of said steel strips being generally dish-shaped so as inherently to resist longitudinal bending thereof.

5. The combination of claim 4 wherein said longitudinally extending steel strips are connected to said bottom wall by rivet means which additionally operatively secure said tubular handles to said bottom wall.

References Cited

UNITED STATES PATENTS

2,047,485	7/1936	McBrady	294-57
3,154,336	10/1964	Nelson	294-54

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