Oct. 30, 1928. 1,690,000

E. H. FAHRNEY

SNOWPLOW

Filed May 13, 1926 2 Sheets-Sheet 1

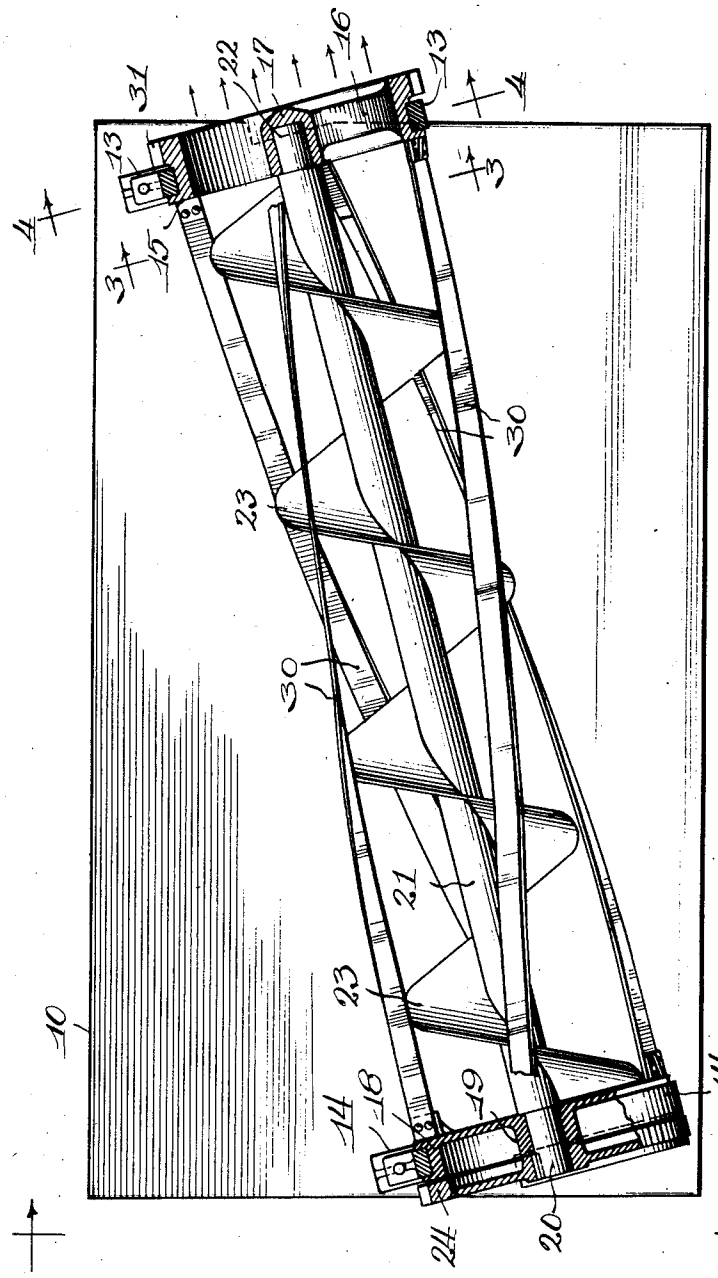


Fig. 1

Inventor,
Emery H. Fahrney,
By Edmonds & Edmonds Atty.

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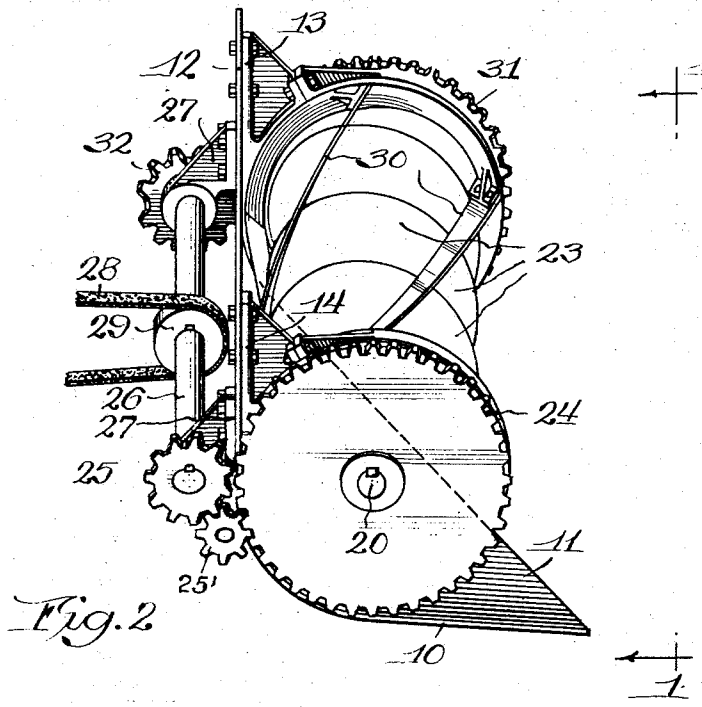


Fig. 2

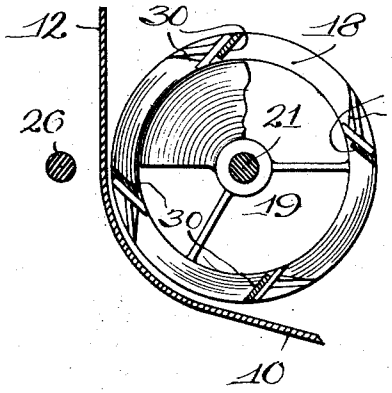


Fig. 3

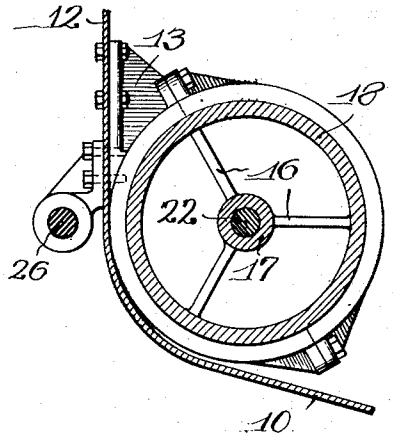


Fig. 4

Inventor,
Emery H. Fahrney
by Gehrmann & Atty.

Patented Oct. 30, 1928. 1,690,000

UNITED STATES PATENT OFFICE.

EMERY H. FAHRNEY, OF CHICAGO, ILLINOIS.

SNOWPLOW.

Application filed May 13, 1926. Serial No. 108,744.

This invention relates in general to snow plows for removing snow from roads, streets, or highways, the apparatus embodying a scoop like formation into which the snow is delivered to be conveyed therefrom and discharged to one side of the road or path made by the advancement of the plow, and one of the objects of the invention is to provide improved means for preventing the packing of the snow within the scoop and for keeping the snow in motion at all times during the advancement of the plow.

A further object is to provide an improved apparatus of this character which will be of a comparatively simple and compact construction and which will be effective and efficient in operation.

To the attainment of these ends and the accomplishment of other new and useful objects as will appear, the invention consists in the features of novelty in substantially the construction, combination and arrangement of the several parts, hereinafter more fully described and claimed and shown in the accompanying drawings illustrating this invention, and in which

Figure 1 is a front elevation taken on line 1—1, Figure 2, of a plow of this character constructed in accordance with the principles of this invention.

Figure 2 is an end elevation taken on line 2—2, Figure 1.

Figure 3 is a detail sectional view taken on line 3—3, Figure 1.

Figure 4 is a detail sectional view taken on line 4—4, Figure 1.

Referring more particularly to the drawings the numeral 10 designates generally a scoop like formation which is arranged at the front of a supporting structure (not shown) to be forced into the snow bank as the vehicle advances.

This scoop may be of any desired formation and is preferably provided only with a bottom 11 and back wall 12.

Carried by the scoop and preferably by the rear wall 12 thereof, are bearings 13—14. In the bearing 13 is journaled an annular member 15 which is preferably provided with spokes 16 and a hub like portion 17.

Journaled in the bearing 14 is a rotatable member 18 having a hub 19, which latter forms a bearing for one extremity 20 of a shaft 21. The other end 22 of the shaft 21 is journaled in the bearing 17 in the member 15.

The bearings 13 and 14 are so disposed with respect to each other that the bearing 13 will be in a higher plane than the bearing 14 so that the shaft 21, which is journaled in the bearings 19 and 17, will be inclined upwardly.

Propeller blades 23, preferably of a spiral configuration, are connected with the shaft 21 to rotate therewith and the shaft is rotated preferably by means of a gear wheel 24 secured to the shaft 21 and with which gear 24 a gear 25′ meshes, the latter in turn meshing with another gear 25 on a shaft 26.

The shaft 26 is journaled in suitable bearings 27 and receives its motion from any suitable source of power (not shown) preferably through the medium of a drive belt 28 passing over a pulley 29 that is connected with the shaft 26.

The shaft 21 may be of any desired length according to the distance between the members 15 and 18 and these members are spaced from each other preferably for a distance substantially equal to the width of the scoop like formation 10 so that the shaft 21 will extend substantially thereacross.

Connected with the members 15 and 18 are blades 30 which are secured by their ends to the members 15 and 18. These blades 30 are preferably comparatively wide with respect to their thickness and are twisted throughout their length and shaped to form cutter blades.

The members 15 and 18 are of such a diameter that the blades 30 will be disposed on the outside of but in proximity to the periphery of the spiral blades 23.

The blades 30 together with the members 15 and 18 produce a cage like formation within which the spiral blades 23 and shaft 21 are rotatable, and the shaft 21 and the spiral blades 23 are rotated in a direction opposite to the direction of rotation of the members 15—18 and the blades 30.

The blades 30 together with the members 15 and 18 are rotated preferably by means of a gear wheel formation 31 connected with the member 15, and meshing with the teeth of the gear 31 is a gear 32 carried by the shaft 26.

It will therefore be seen that when the shaft 26 is rotated the blades 23 will be rotated in the opposite direction with respect to the blades 30 by reason of the fact that the blades 30 are driven by a direct gear connection 31—32 with the shaft 26, while the

blades 23 are driven indirectly from the shaft 26 through the medium of the train of gears 24—25′ and 25.

In use and when the snow enters the scoop like formation, the blades 30 will chop up or disintegrate the snow and prevent it from packing, and at the same time the snow will pass between the blades 30 to the spiral conveyor blades 23, the latter operating upon the snow fed thereto to convey and discharge the same through the member 15, as indicated by the arrows in Figure 1, and to the side of the road or path.

The blades 30 also operate to produce a conduit or passage in the snow which is piled in the scoop 10 and thereby form an exit through which the snow is driven by means of the conveyor blades 23.

While the preferred form of the invention has been herein shown and described, it is to be understood that various changes may be made in the details of construction and in the combination and arrangement of the several parts, within the scope of the claims, without departing from the spirit of this invention.

What is claimed as new is:—

1. A snow plow including a scoop like structure, a conveyor disposed within and transversely across the scoop for delivering the snow to one side thereof, means encompassing and rotatable about the conveyor for disintegrating the snow and feeding the same to the conveyor therethrough, and means for operating the conveyor and the first said means.

2. A snow plow including a scoop like structure, a conveyor disposed within and transversely across the scoop for delivering the snow to one side thereof, means encompassing and rotatable about the conveyor for disintegrating the snow and feeding the same to the conveyor therethrough, and means for operating the conveyor and the first said means, the said conveyor and the first said means operating in opposite directions with respect to each other.

3. A snow plow including a scoop like structure, a conveyor disposed within and transversely across the scoop for delivering the snow to one side thereof, means encompassing and rotatable about the conveyor for disintegrating the snow and feeding the same to the conveyor therethrough, and means for operating the conveyor and the first said means, the axes of the said conveyor and the first recited means inclining upwardly from one side to the other side of the scoop.

4. A snow plow including a scoop like structure, a conveyor disposed within and transversely across the scoop for delivering the snow to one side thereof, means encompassing and rotatable about the conveyor for disintegrating the snow and feeding the same to the conveyor therethrough, and means common to the said conveyor and the first said means for rotating them in opposite directions with respect to each other.

5. A snow plow including a scoop like structure, a rotatable cage like structure extending thereacross, said cage including spaced and elongated longitudinal members shaped to form cutters, a rotatable conveyor within said cage like structure and operating to deliver the snow through one end of the cage, and means for rotating the conveyor and said cage like structure in opposite directions with respect to each other.

6. A snow plow including a scoop like structure, a rotatable cage like structure extending thereacross, said cage including spaced and elongated longitudinal members shaped to form cutters, a rotatable conveyor within said cage like structure and operating to deliver the snow through one end of the cage, and means for rotating the conveyor and said cage like structure in opposite directions with respect to each other, the said conveyor and cage like structure inclining upwardly in directions from one side of the scoop to the other side thereof.

7. A snow plow including a scoop like structure, a rotatable cage like structure extending thereacross, said cage including spaced and elongated longitudinal members shaped to form cutters, a rotatable conveyor within said cage like structure and operating to deliver the snow through one end of the cage, means for rotating the conveyor and said cage like structure in opposite directions with respect to each other, the said conveyor embodying a shaft, and bearings in the ends of the cage like structure and in which bearings the said shaft is journaled.

8. A snow plow embodying a scoop like structure, spaced members rotatably mounted adjacent opposite sides of the scoop, spaced longitudinal members secured by their respective extremities to said members and shaped to form cutters, a shaft journaled in the first recited spaced members, conveying means secured to and about the shaft, said conveying means being disposed within and encompassed by the said blades, and means for rotating the said blades and the said shaft in opposite directions with respect to each other.

9. A snow plow embodying a scoop like structure, spaced members rotatably mounted adjacent opposite sides of the scoop, spaced longitudinal members secured by their respective extremities to said members and shaped to form cutters, a shaft journaled in the first recited spaced members, conveying means secured to and about the shaft, said conveying means being disposed within and encompassed by the said blades, and means for rotating the said blades and the said shaft in opposite directions with respect to each other, the said blades and the said shaft inclining upwardly in directions from one side of the scoop towards the other side thereof.

10. A snow plow embodying a scoop like structure, a conveyor disposed therein and extending thereacross, a disintegrator within the scoop separate from and revolvable about the conveyor, and means common to the conveyor and disintegrator for operating them, the said conveyor and disintegrator inclining upwardly from one end to the other end thereof.

11. A snow plow embodying a scoop like structure, a conveyor arranged therein and extending thereacross, a disintegrator rotatable about the conveyor, said disintegrator including spaced and extended blades extending lengthwise of the conveyor, said blades being separate from and encompassing the conveyor, each of the blades being twisted on its longitudinal axis, and means for rotating the conveyor and the said disintegrator.

12. A snow plow embodying a scoop like structure, a conveyor arranged therein and extending thereacross, a disintegrator rotatable about the conveyor, said disintegrator including spaced and extended blades extending lengthwise of the conveyor, said blades being separate from and encompassing the conveyor, each of the blades being twisted on its longitudinal axis, and means for rotating the conveyor and the said disintegrator in opposite directions with respect to each other, the said disintegrator and the conveyor being inclined upwardly from one end to the other end thereof.

In testimony whereof, I have signed my name to this specification, on this 11th day of May, 1926.

EMERY H. FAHRNEY.