

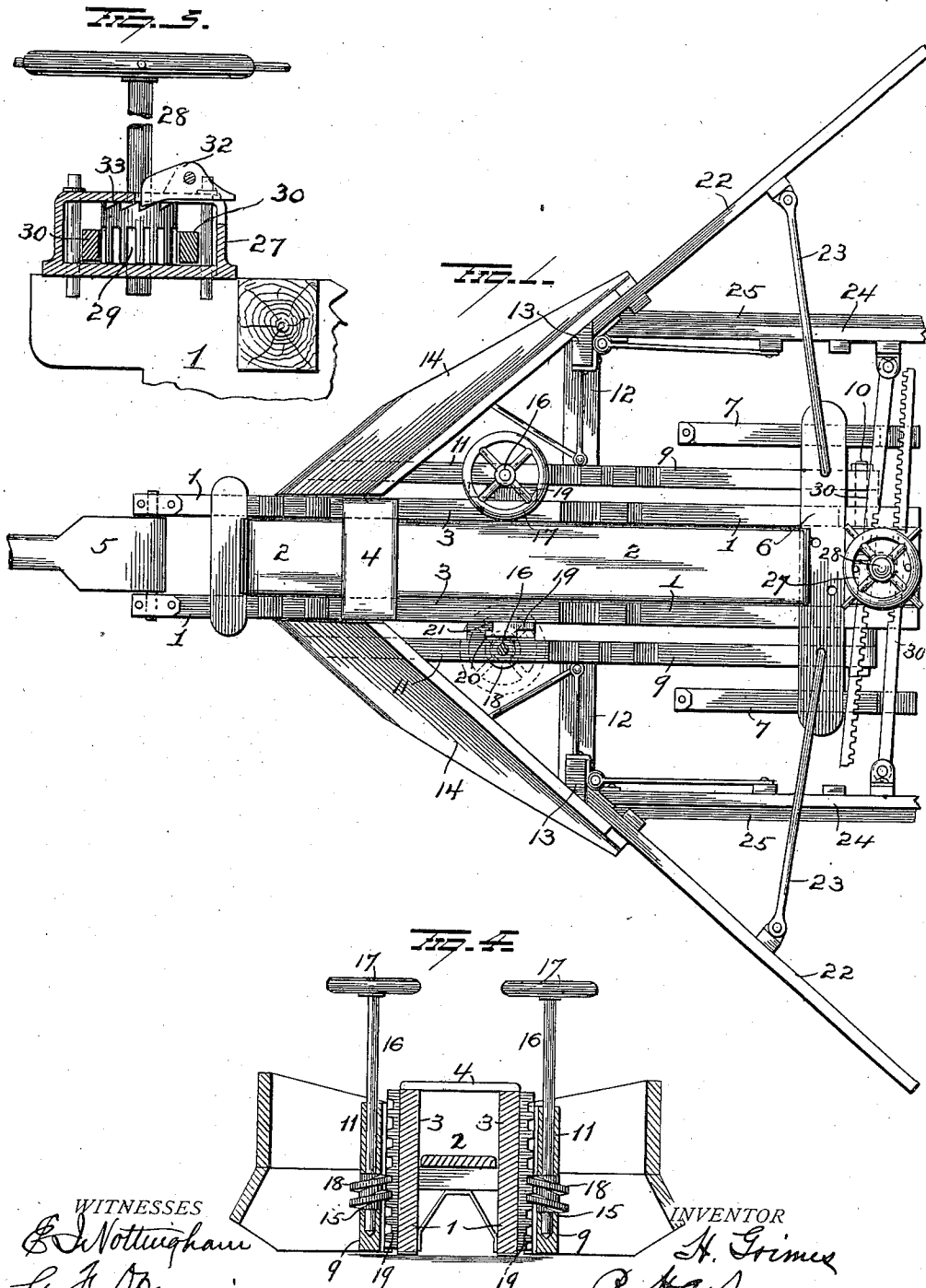
H. GRIMES.
SNOW PLOW.

APPLICATION FILED APR. 25, 1910.

964,158.

Patented July 12, 1910.

28 SHEETS—SHEET 1.



WITNESSES
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G. J. Downing

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H. Grimes
By H. A. Seymour
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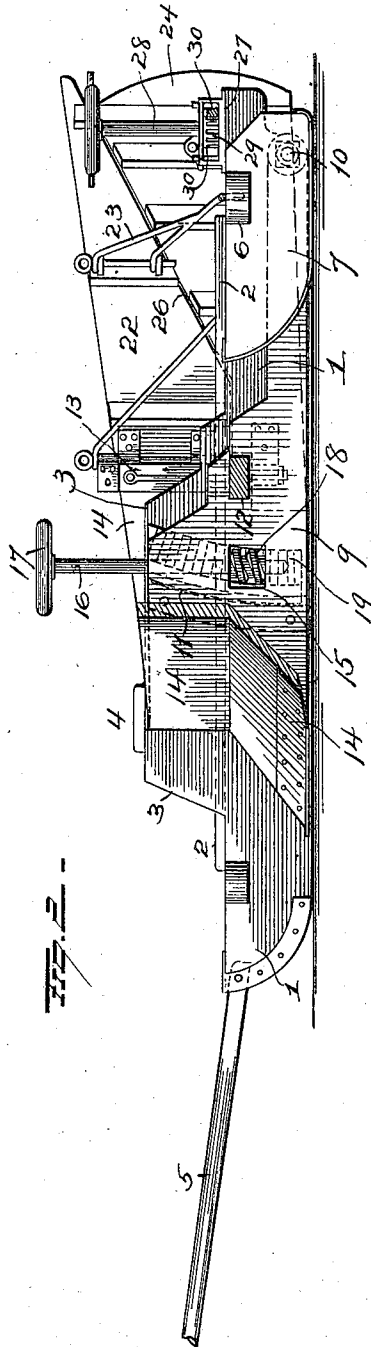
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2 SHEETS—SHEET 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

HOWARD GRIMES, OF NEWCOMB, NEW YORK.

SNOW-PLOW.

964,158.

Specification of Letters Patent.

Patented July 12, 1910.

Application filed April 25, 1910. Serial No. 557,548.

To all whom it may concern:

Be it known that I, HOWARD GRIMES, of Newcomb, in the county of Essex and State of New York, have invented certain new and useful Improvements in Snow-Plows; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in snow plows,—the object of the invention being to improve the construction of such plows and provides simple and efficient means for raising and lowering the plows and for facilitating the turning of the machine.

A further object is to so construct a snow plow that the rear wings thereof can be so adjusted as to allow the passing and repassing of teams with sleighs and heavy loads.

With these objects in view the invention consists in certain novel features of construction and combinations of parts as hereinafter set forth and pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of a snow plow embodying my improvements. Fig. 2 is a side elevation, and Figs. 3 and 4 are sectional views.

The central frame of the machine comprises parallel runners 1, 1, suitably spaced apart and provided with a platform 2. Uprights 3—3 rise from the runners 1 and upon the forward portions of these uprights, a seat 4 is provided. A tongue 5 is connected with the forward ends of the runners 1, 1 and near the rear end of said runners, a cross-bar 6 is secured thereto and projects laterally therefrom in both directions. This cross-bar carries, near its free ends, short supplemental rear runners 7. Beams 9, 9, are disposed parallel with the runners 1, 1, and spaced laterally therefrom,—the rear ends of said beams being pivotally connected with the rear portions of the runners 1 as at 10. Each beam 9 is provided at its forward end with an upright 11 and at the rear end of this upright an arm 12 projects laterally from the beam. A post 13 is provided near the free end of each arm 12 and to this post, the rear end of a plow or mold board 14 is secured,—the forward end of the latter being secured to the upright on the

adjacent beam 9. Each plow or mold-board 14 may if desired be made in two parts and the lower part may be suitably braced.

The upright 11 on each beam 9 is provided with a transverse opening 15, the bottom of which constitutes a bearing for a shaft 16 passing upwardly through the upright and provided at its upper end with an operating wheel 17. A worm 18 is secured to the shaft 16 within the opening 15 and meshes with a rack 19 secured to the adjacent runner 1 and upright 3. The rack 19 is provided with a vertical flange 20 which engages a guide-way 21 on the beam 9 and its upright 11 whereby lateral displacement of the mold-board or plow 14 will be prevented. It is apparent that by rotating the shaft 16 motion will be imparted to the worm 18 and that this motion will be transmitted to the rack 19 for raising the mold-board 14,—such raising of the mold-board being permitted by the pivotal connection of the beam 9 with the rear end of the adjacent runner 1.

To each post 13, a wing member 22 is hinged at its forward end and adjustably connected with the cross-bar 6 at the rear end of the machine, by means of arms or braces 23. A wing member 24 is hinged at its forward end to each arm 12 and provided at its lower edge with a shoe 25. A portion of the upper edge of each wing member 24 is inclined forwardly and a portion of each wing member 22 is inclined as shown at 26 to aline with the inclined portion of the lower wing member 24. The two members 22—24 at each side of the machine, coöperate to constitute rearwardly extending wings which, during the normal operation of the machine, will be in vertical alinement with each other. In order, however, to facilitate the turning of the machine and also to provide for other contingencies which may arise, it is desirable that the lower members of the rear wings should be moved inwardly. For accomplishing this the mechanism now to be explained will be employed. A bracket 27 is mounted on the rear ends of the runners 1 and affords bearings for a vertical shaft 28, to which a pinion 29 is secured. Rack-bars 30 are hinged at their outer ends to the lower wing-members 24 and are guided through the bracket 27 so as to be disposed at opposite sides of the pinion 29 and mesh with the latter. By

rotating the shaft 28, with the use of a suitable wheel 31 thereon, motion will be transmitted to the rack-bars 30 to move the latter longitudinally and adjust the rear wing members 24 so as move them inwardly when it is desired to turn the machine or to move them outwardly. It is apparent that if desired, the wing members may be moved or adjusted at any intermediate position and in order that said wing members shall be rigidly held in the position to which they may be adjusted, I provide a dog 32 mounted on the bracket 27 and adapted to engage ratchet teeth 33 on the top face of the pinion 29.

Various changes might be made in the details of construction of my invention without departing from the spirit thereof or limiting its scope and hence I do not wish to restrict myself to the precise details herein set forth.

Having fully described my invention what I claim as new and desire to secure by Letters-Patent, is,—

1. In a snow plow, the combination with a running frame, beams pivoted thereto at their rear ends and mold-boards carried by said beams, of racks secured to the running frame, worms supported by said beams and meshing with said racks, vertical shafts for operating said worms, each of said racks provided with a flange, and guides supported by said beams and coöperating with the flanges of the racks to prevent lateral displacement of the beams and the mold-boards.

2. In a snow plow, the combination with a running frame and mold-boards connected therewith, of rear wings projecting rearwardly from the rear ends of the mold-boards, each of said rear wings comprising two members, and means for adjusting one

member of each rear wing relatively to the other wing member.

3. In a snow plow, the combination with a running frame and mold-board, of wing members projecting rearwardly from the mold-boards, a pinion mounted on the rear end of the running frame, racks attached to said rear wing members and meshing with said pinion, means for rotating the pinion, said pinion provided with ratchet teeth, and a dog to engage said ratchet teeth.

4. In a snow plow, the combination with a running frame, beams pivotally connected at their rear ends with the running frame, mold-boards supported by said beams, and means for adjusting said beams vertically, of wings projecting rearwardly from the rear ends of the mold-boards and movable vertically therewith, each of said wings comprising two members, and means for adjusting the wing members independently.

5. In a snow plow, the combination with a running frame and mold-boards, of two wing members projecting rearwardly from the rear ends of the mold-boards and adapted to coöperate with each other to form rearwardly extending wings, each lower wing member inclined rearwardly and upwardly and each upper wing member inclined downwardly and forwardly so as to be parallel with the inclined portion of the lower wing member, and means for moving the lower wing member inwardly and outwardly and independently of the upper wing member.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

HOWARD GRIMES.

Witnesses:

PATRICK J. TUMMINS,
JOHN T. COLPOYS.