(No Model.)

2 Sheets—Sheet 1.

J. CORBETT.

SNOW PLOW.

No. 395,548. Patented Jan. 1, 1889.

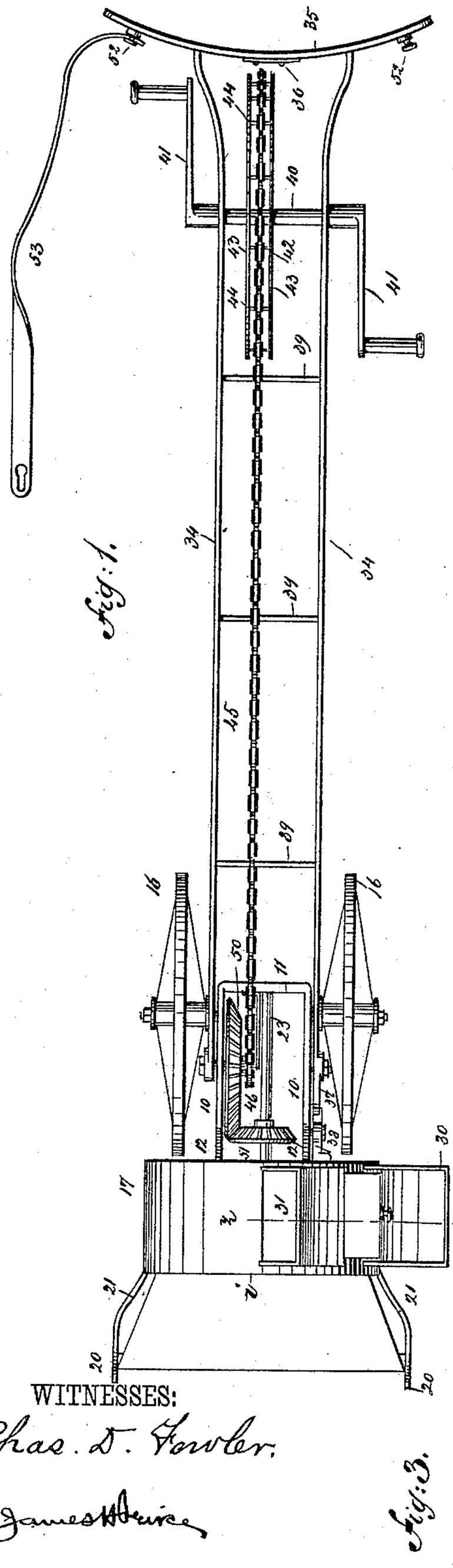

Fig: 1.

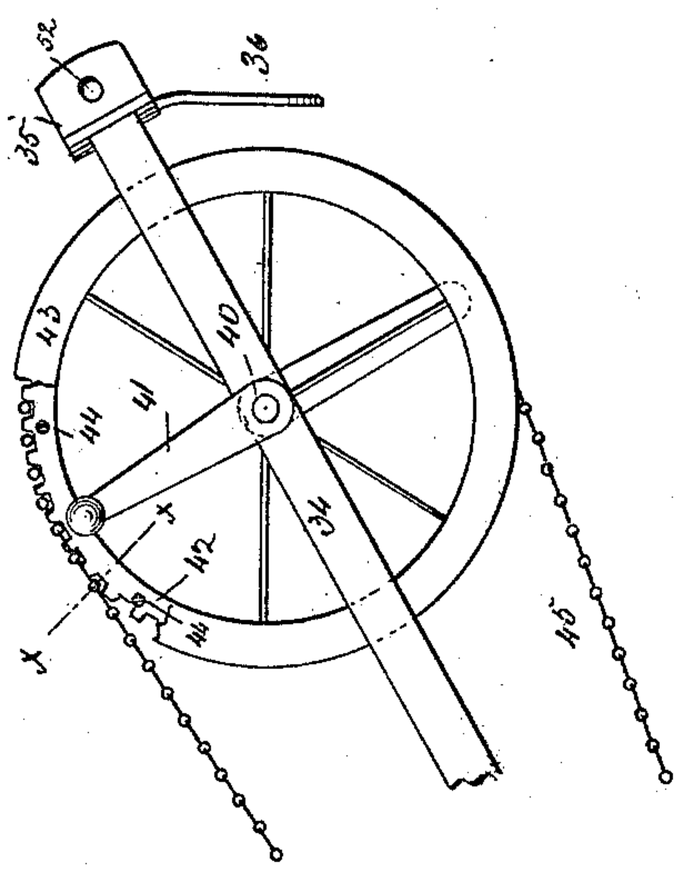

Fig: 2.

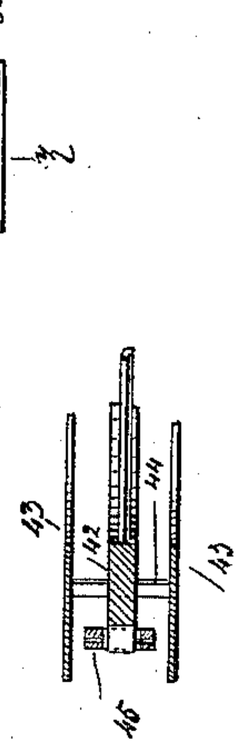

Fig: 3.

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(No Model.) 2 Sheets—Sheet 2.

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SNOW PLOW.

No. 395,548. Patented Jan. 1, 1889.

Fig: 4.

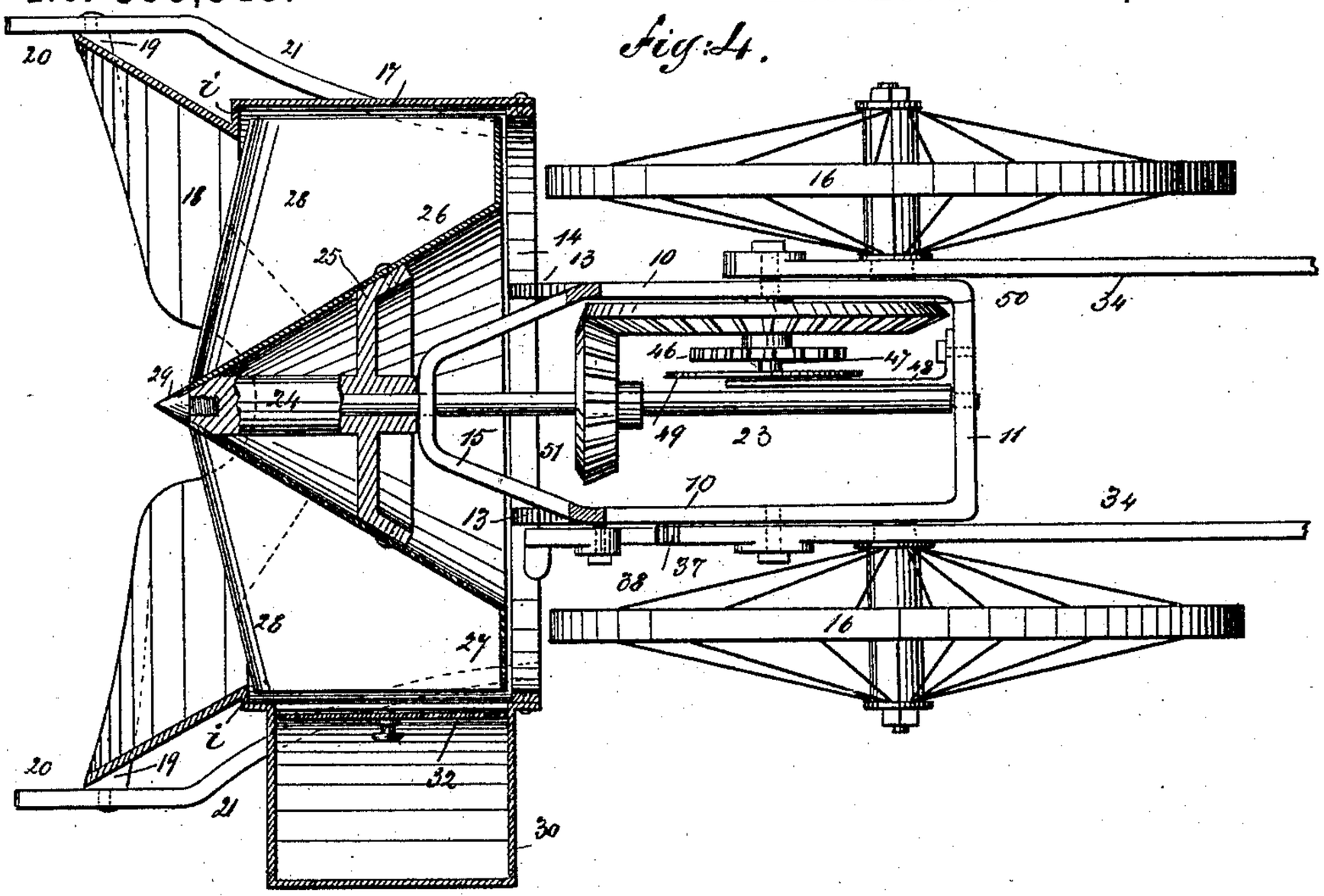


Fig: 5.

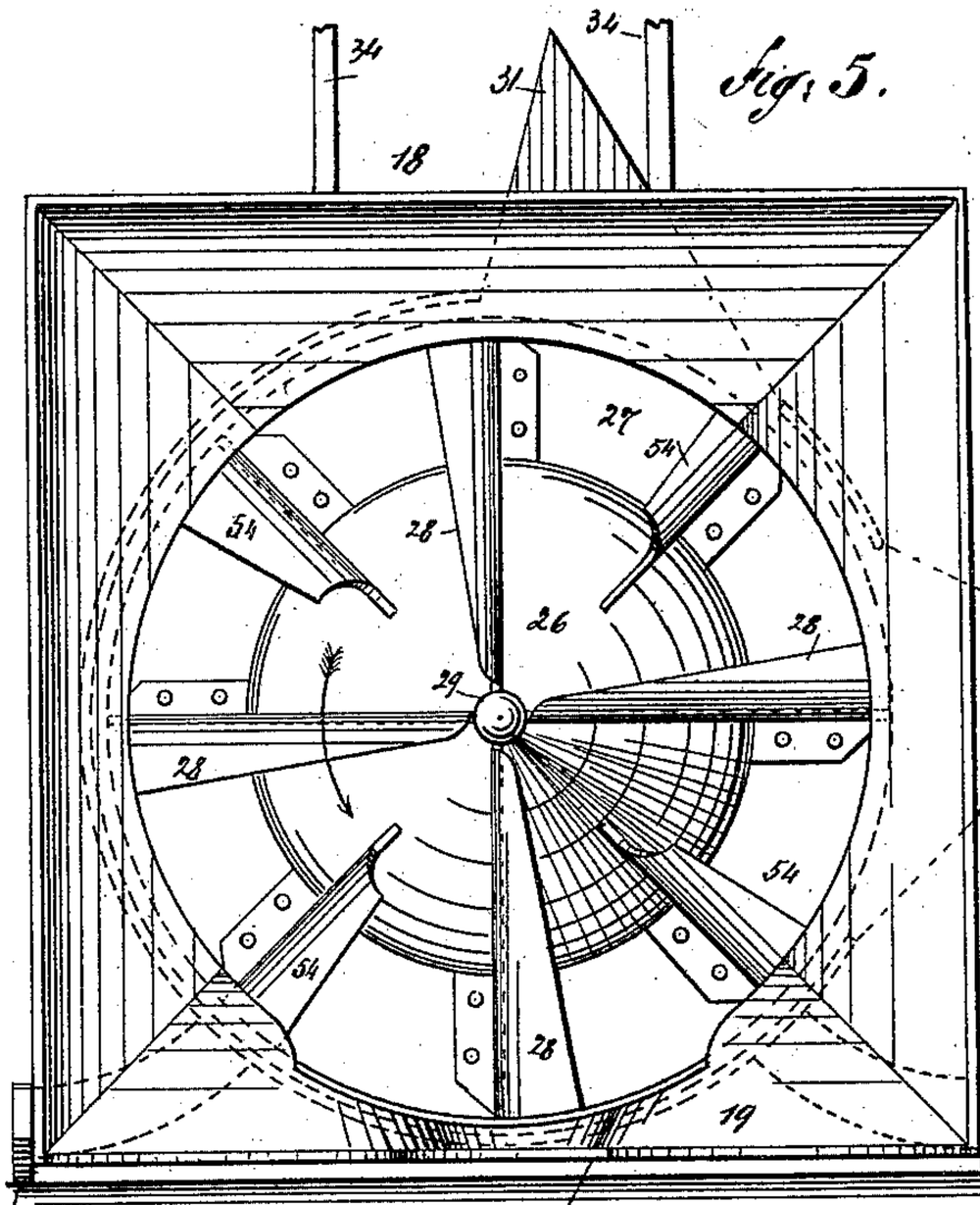
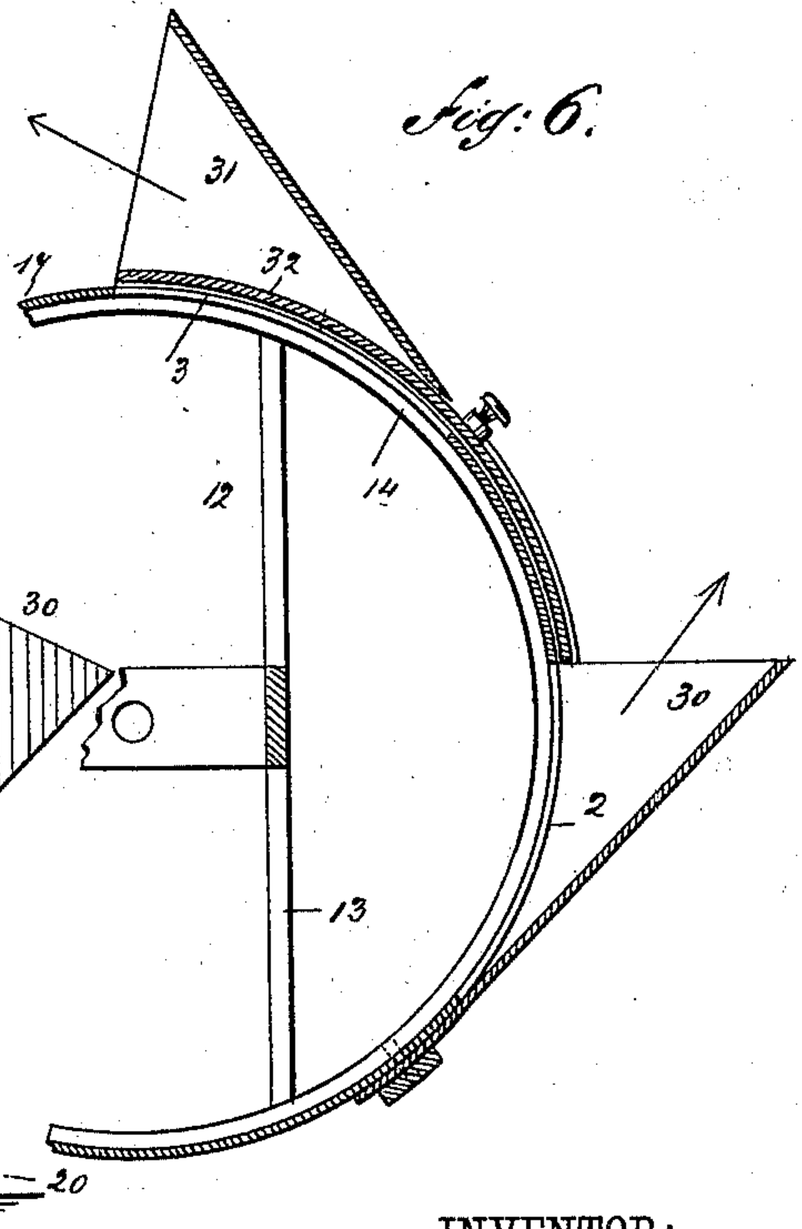


Fig: 6.



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SNOW-PLOW.

SPECIFICATION forming part of Letters Patent No. 395,548, dated January 1, 1889.

Application filed February 13, 1888. Serial No. 263,761. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH CORBETT, of the city, county, and State of New York, have invented a new and Improved Snow-Plow, of which the following is a full, clear, and exact description.

This invention relates to snow-plows of the class wherein a revoluble blade-carrying hub or head is employed to gather and subsequently throw the snow to one side of the path of the plow, the main object of the invention being to provide for the positive rotation of the blade-carrying hub or head irrespective of the movement of the plow-carriage; but other objects are aimed at and secured by the construction illustrated in the drawings, and hereinafter specifically described.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the plow. Fig. 2 is a side view of the same. Fig. 3 is an enlarged sectional detail view of the power-wheel, the view being taken on line *x x* of Fig. 2. Fig. 4 is an enlarged view of the plow-carriage, the hood, case, and the hub or head being shown in section on line *y y* of Fig. 2. Fig. 5 is a front view of the plow, and Fig. 6 is a sectional elevation on line *z z* of Fig. 1.

The mechanism of the plow illustrated in the drawings above referred to is supported by a frame made up of side bars, 10, a rear cross-bar, 11, arms 12 and 13, which extend, respectively, upward and downward from the forward ends of the side bars, a hoop, 14, that is supported by the arms 12 and 13, and a U-shaped bracket, 15, which projects forward somewhat beyond the hoop 14. This frame is mounted on wheels 16, the journals of which are secured to the side bars, 10.

To the hoop 14 there is secured a metallic sheathing, 17, which is provided with a flaring hood, 18, the lower edge of which is supported by an inwardly-curved cross-bar, 19, that is connected to runners 20, which said runners are in turn connected to the hoop 14 by bars 21, the arrangement being such that when the runners rest upon the sidewalk or other place over which the plow is being operated the lower forward edge, *a*, of the hood 18 will closely approach said sidewalk.

The hood 18 is not connected directly to the case or sheathing 17, but is connected to a flange, *i*, that is secured to the forward edge of the casing, this flange forming a housing, within which the operating-head revolves, as will be hereinafter more fully explained.

As before stated, the bar 19 is inwardly curved, the general curve of the bar, however, being broken at the center, at which point the bar is U-shaped, this construction providing for a free space just below the forward end of the cutter-head. The lower portion of the flange *i* is cut away, as shown in the drawings, thus providing for the free entrance of snow, as will be readily understood.

A horizontal shaft, 23, is mounted in bearings formed in the cross-bar 11 and the bracket 15, and this shaft carries a sleeve, 24, that is formed with a bevel-faced flange, 25, to which there is riveted or otherwise secured a cone-shaped head, 26, that is provided with a vertical annular flange, 27, which said flange closely approaches the inner face of the case formed by the sheathing 17, the flange being arranged just in advance of the hoop 14.

To the outer face of the cone-shaped head 26 there is secured a series of radially-extending blades, 28, the forward edges of which are curved over to one side, said edges, however, being inclined to the rear from the forward end of the head, while the outer edges, *b*, of the blades are substantially parallel with the shaft 23 and closely approach the inner face of the case 17. The extreme forward end of the sleeve 24 is topped to receive the threaded shank of a bolt, 29, the head of which is conical and forms the apex of the head 26.

In the case 17 there are two openings, 2 and 3, over which there are placed hoods 30 and 31, and in connection with these openings there is arranged a cover, 32, which slides in ways upon the outside of the case 17, and which may be moved to the position shown in Fig. 6 to close the opening 3, or which may be lowered to close the opening 2, as will be readily understood.

The machine shown in the drawings is designed to be used as a "hand" machine, and is provided with two rearwardly and upwardly extending bars, 34, that are pivotally connected to the side bars, 10, just in advance of the wheel-journals, these bars carrying a breast-piece, 35, to which, if desired, there may be secured a plate, 36.

To the lower end of one of the bars 34, I secure a segmental rack, 37, that is engaged by a weighted pawl, 38, said pawl being pivotally connected to the adjacent side bar, 10, the arrangement being such that the bars 34 may be moved and held at any angle desired, thus providing for an adjustment suitable for the user of the machine. The bars 34 are strengthened and braced by cross-pieces 39, placed at intervals throughout the length of the bars, and at a point near the upper ends of the bars there is journaled a shaft, 40, which is provided with two crank-handles, 41.

The shaft 40 carries a chain or sprocket wheel, 42, upon either side of which there is a guard-rim, 43, said rims being upheld by short cross-rods 44, that are carried by the rim of the wheel 42. A driving-chain, 45, passes about the wheel 42, and also about a small chain or sprocket wheel, 46, that is mounted on a short transverse shaft, 47, one end of which is journaled in one of the cross-bars 10, while the other end is journaled in a bracket, 48, which extends forward from the cross-bar 11, the chain being held from displacement on one side by a disk, 49, and on the other by a large bevel-gear, 50, which disk and gear are mounted on the shaft 47. The gear 50 engages a smaller gear or pinion, 51, that is carried by the shaft 23, so that when a rotary movement is imparted to the shaft 40 such motion will be transmitted to the shaft 47, and through the medium of the gears 50 and 51 to the shaft 23 and the parts carried thereby.

In order that the operator may be free to use both hands upon the crank-handles of the shaft 40, I provide the breast-piece 35 with studs or buttons 52, to which buttons there is connected a neck-strap, 53.

In addition to the blades 28, the head 26 is provided with a number of short blades, 54, which extend from the outer edge of the flange 27 to a point about half-way up the face of the head 26.

In operating the machine above described the neck-strap 53 is placed over the shoulders of the user, the handles of the crank-arms 41 are grasped, the machine is forced forward, and the crank-shaft 40 revolved in order that a rapid rotary movement may be imparted to the head 26, which head in revolving will gather up the snow. After the snow has been gathered by the blades, as above set forth, it is thrown out of the case through one of the openings formed therein, the opening 2 delivering the snow to the left and the opening 3 to the right of the machine. This throwing out of the snow is brought about by the centrifugal force produced by the rapid rotation of the head 26.

By providing the short blades 54, I secure a more uniform action and at the same time economize power; but it would not be advisable to continue these blades 54 to the apex of the head 26, as the snow would then tend to clog between the blades.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a snow-plow, a revoluble head provided with a series of blades, 26, and a second series of short blades, 54, substantially as described.

2. In a snow-plow, a conical revoluble head provided with a series of blades, 26, and a second series of short blades, 54, substantially as described.

3. In a snow-plow, the combination, with a supporting-frame, of carrier-wheels upon which the frame is mounted, handle-bars pivotally connected to the frame, a rack formed at the lower end of one of the bars, and a weighted pawl pivotally connected to the frame and arranged to engage the rack, as and for the purpose stated.

4. In a snow-plow, the combination, with a main frame, of an apertured case carried thereby and formed with a forwardly-extending hood, runners by which the hood is supported, a conical head mounted within the case and upon a horizontal shaft, blades carried by the head, a gear carried by the horizontal shaft, a transverse shaft, a gear and sprocket wheel carried thereby, the gear of the transverse shaft engaging the gear of the horizontal shaft, a crank-shaft carrying a sprocket-wheel, and a drive-chain running in engagement with the two sprocket-wheels, substantially as described.

5. In a snow-plow, the combination, with a blade-carrying head and a means for revolving the head, of a case surrounding the head, and a flange, *i*, the lower portion of which is cut away, said flange being connected to the forward edge of the case, substantially as described.

6. In a snow-plow, the combination, with a revoluble blade-carrying head, of an open-faced case provided with hooded openings, one at the side and one at the top of the case, and a cover or slide arranged to close either of said openings and open the other, substantially as set forth.

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