

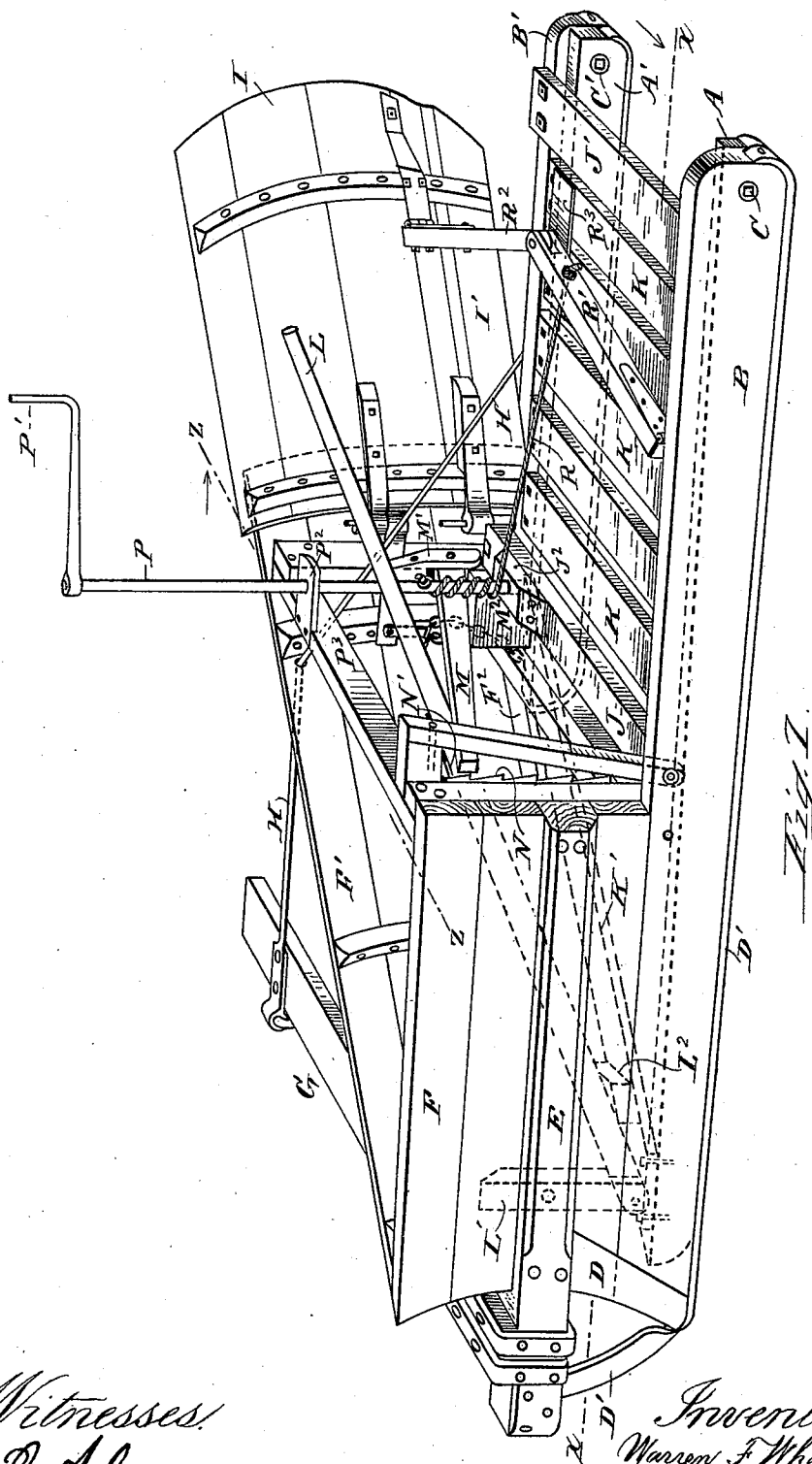
(No Model.)

4 Sheets—Sheet 1.

W. F. WHEELER.
SNOW PLOW.

No. 518,749.

Patented Apr. 24, 1894.



Witnesses:
John D. Adams
Ralph W. E. Hopper

Inventor:
Warren F. Wheeler
per Eugene Humphrey
his atty.

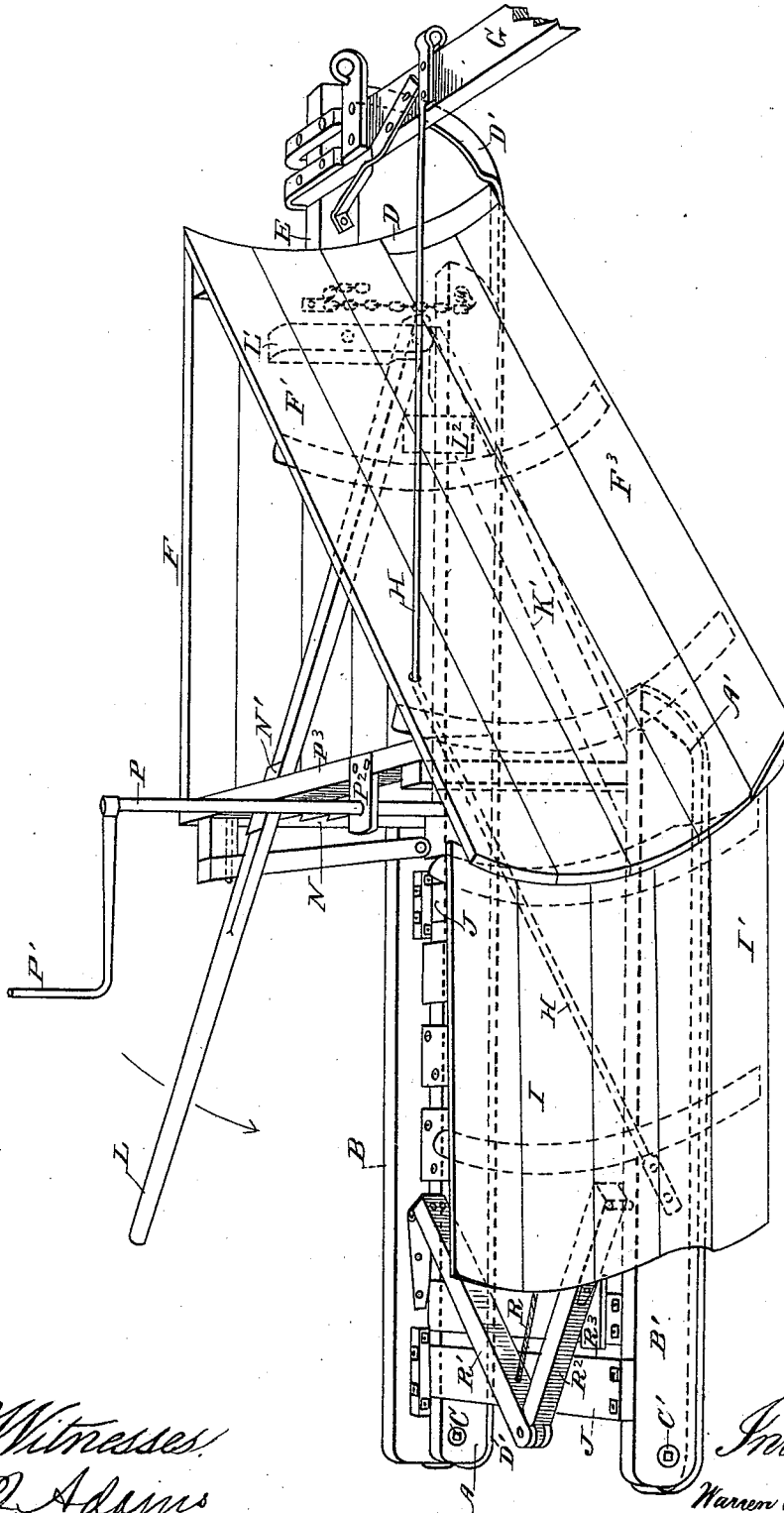
(No Model.)

4 Sheets—Sheet 2.

W. F. WHEELER.
SNOW PLOW.

No. 518,749.

Patented Apr. 24, 1894.



Witnesses
John L. Adams
Ralph W. E. Hopper

Inventor
Warren F. Wheeler,
per Eugene Humphrey
his atty.

(No Model.)

4 Sheets—Sheet 3.

W. F. WHEELER.
SNOW PLOW.

No. 518,749.

Patented Apr. 24, 1894.

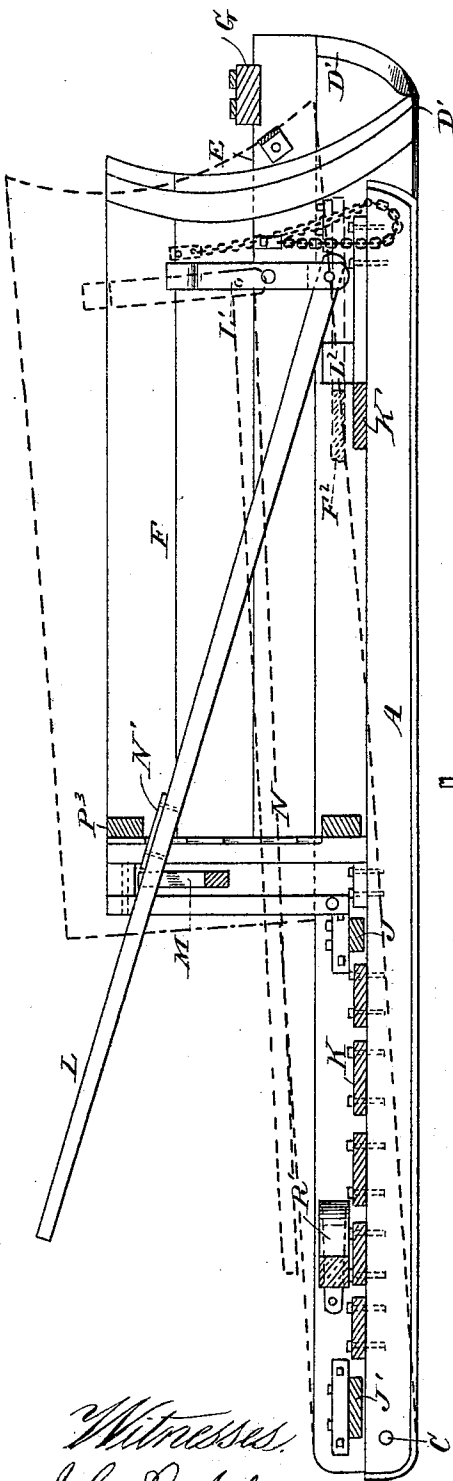


Fig. 3.

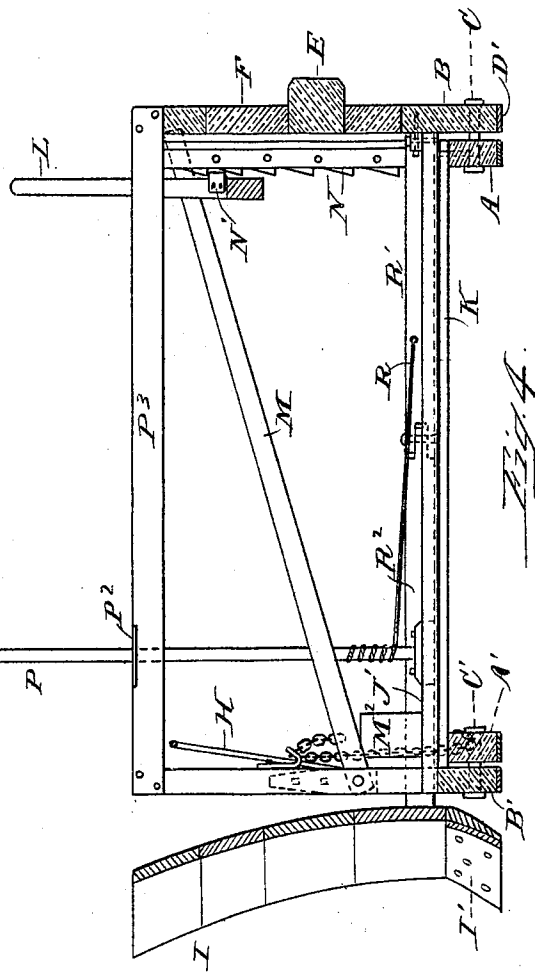


Fig. 4.

Witnesses.
John L. Adams
Reph W. E. Hopper

Inventor.
Warren F. Wheeler
per Eugene Humphrey
his atty.

(No Model.)

4 Sheets—Sheet 4.

W. F. WHEELER.
SNOW PLOW.

No. 518,749.

Patented Apr. 24, 1894.

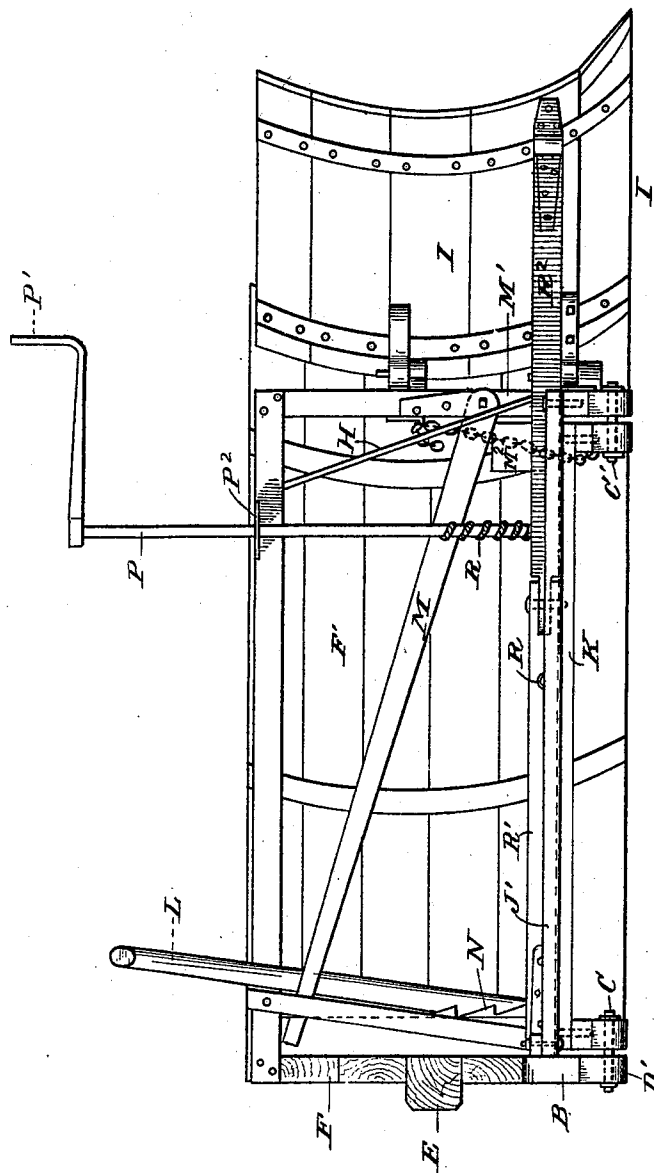


Fig. 5.

Witnesses:
John Q. Adams
Ralph M. C. Hopper

Inventor:
Warren F. Wheeler,
per Eugene Humphrey,
his atty.

UNITED STATES PATENT OFFICE.

WARREN F. WHEELER, OF STONEHAM, MASSACHUSETTS.

SNOW-PLOW.

SPECIFICATION forming part of Letters Patent No. 518,749, dated April 24, 1894.

Application filed January 26, 1894, Serial No. 498,083. (No model.)

To all whom it may concern:

Be it known that I, WARREN F. WHEELER, of Stoneham, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Snow-Plows, which will, in connection with the accompanying drawings, be hereinafter fully described, and specifically defined in the appended claims.

My invention relates to snow plows for clearing snow from the sidewalks of streets and highways; and consists in a plow embodying the novelties in construction, arrangement and mode of operation which are hereinafter fully described and pointed out in the appended claims.

Figure 1. is a perspective view of the plow as seen from a point on the left of the plow. Fig. 2. is a perspective view as seen from a point on the right of the plow. Fig. 3. is a longitudinal section taken as on line *x, x*, Fig. 1, and showing in dotted lines the position of the plow when raised and supported on runners A and A'. Fig. 4. is a transverse section taken as on line *z*, Fig. 1, and viewed from the left of said line. Fig. 5. is a rear elevation.

Referring to Fig. 1, the general construction of the plow will be seen to consist, in part, of two sleds, A and B, an inner and an outer one, the runners on the right side of the sleds being only about half the length of the runners on the left side. The runners A and A' of the inner sled are pivoted at their rear ends to the corresponding ends of the outer runners B and B', by bolts C and C' and are shod with metal. Runner B extends nearly the entire length of the plow and at its forward end is incased in an inclined iron share D, which rests on a twisted iron shoe D' that forms a brace between the share D and an overhanging beam E, and also extends along the bottom of the runner B to the rear end thereof. Upon the forward end of runner B is constructed the side F of the plow, framed and planked in a substantial manner and forming at its curved front edge an acute angle with the opposite side F' with which it is there united. Side F is in line with runner B while said opposite side is oblique

thereto and its outer wall or face is concaved. Referring now to the opposite side, shown in Fig. 2, there will be clearly seen the substantially framed and planked side F' joined at the front with side F and supported on the same shoe D' to which they converge, and also upheld by a floor plank F² (shown in Figs. 1 and 3 but omitted in Fig. 2 to avoid confusion of lines) extending diagonally from a cleat on and near the top of the front end of runner B, to the top of the front end of runner B'. The lower edge of side F', which overhangs and extends below the runners on its side of the plow, is provided on the outer face with an iron scraper F³ which comes in contact with the surface of the sidewalk when in practical operation. A draw-bar G is strongly bolted to beam E, and provided with suitable irons for attaching thereto the shafts by which the plow is drawn, as shown, and is also stayed by an iron rod H which is bolted at its front end to draw-bar G, and thence extends through side F' and is bent downward and bolted to runner B', as indicated by dotted lines. Runners A' and B' are made shorter than runners A and B to accommodate them to the oblique side F', which crosses their paths. To the rear end of side F' is hinged a wing extension I, as shown in Fig. 1, which has a movement on its hinges so that it may be swung outwardly into line with side F', or inwardly so that it will be parallel with runner B', thereby lengthening or shortening the oblique scraping side of the plow as may be desired. The lower edge of the wing is also provided with a metallic scraper I'.

The operative parts of the plow so far described are normally wholly supported upon runners B and B'. These runners have cross-beams, or planks, J and J' bolted at one end to the top of runner B' and the other end to cleats secured to the inner face of runner B, as clearly shown in Fig. 2, runner B being higher than runner B' as well as longer.

A plank floor K is laid openly across the tops of runners A and A' upon which the operator of the plow stands when it is in practical use; and an oblique plank K' is bolted at one end to the top of the forward end of runner A, and at the other end to the top of

the forward end of runner A', thus firmly connecting the two runners at their forward ends.

In practical use, besides propelling and
5 guiding it, there are two operations of the plow, namely, raising and lowering it, and swinging the wing scraper I in and out as may be required. These two operations are accomplished by the means and in the manner which I will now describe. When the
10 plow is raised to clear its scrapers from the sidewalk, or highway over which it is simply passing, it is then wholly supported upon the auxiliary runners A and A' pivoted to runners B and B', as described. To thus raise
15 the plow there are provided two levers L and M. The long lever L is pivoted to the lower end of a block L' bolted to the inner wall of the side F. A short distance back from the
20 pivot block L' of lever L, and near runner B, is secured a fulcrum block L² resting on plank K' which connects the forward ends of the inner runners A and A'. Over this fulcrum lever L is arranged to pry in raising the plow.
25 The transverse lever M, the free end of which crosses the path of the free end of lever L, is pivoted to a block M', bolted to the inner wall of side F', and is arranged to pry over a fulcrum block M², also resting on plank K' near runner B'.

To raise the plow the operator depresses the free end of lever L, which in its passage downward comes in contact with the free end of lever M, which crosses its path as before
35 stated, and carries it down also, thus lifting simultaneously upon both sides of the plow. Upon one of the upright posts of the cross-frame which connects the sides of the plow is bolted an iron ratchet bar N, with which a
40 ratch-plate N', on lever M, engages as the lever is moved down, and by such engagement with the teeth thereon the plow may be thereby suspended at various heights as required, supported on runners A and A',
45 through plank K' and the pivotal connections described. When the plow is thus raised to carry it over curbstones or uneven surfaces, in order to keep the forward ends of runners A and A' within proper limits of separation
50 therefrom, and so that they will follow readily, they are loosely chained to hooks attached to the interior walls of the sides F and F', as clearly shown in Figs. 3 and 5. Thus the plow may be raised and lowered at will, while in
55 practical operation, and may be held suspended at a suitable elevation to clear its scrapers from the surface while it is transported from place to place on said auxiliary runners. To swing wing I into any desired position
60 a vertical rod P is employed, having upon its top a crank P' by which it is turned, and being seated at its lower end in a hole in a block J² bolted to plank J, and also steadied by a brace P², through which it passes, secured to the cross-beam P³ of the plow frame. Coiled
65 about the lower end of rod P is a rope R secured at one end to the rod and at the other

end to a horizontal bar R' hinged to runner B and jointed to another horizontal bar R² which is hinged to wing I, as clearly shown
70 in Fig. 1. The end of bar R' which is jointed to bar R² rests upon a wearing board or plate R³ secured across the floor planks as shown, and moves back and forth thereon in its practical
75 operations. By turning crank P' and thereby coiling the rope R around rod P, the jointed ends of bars R' and R² will be drawn toward rod P thus increasing the distance
80 between the two outer ends of said bars, and consequently forcing wing I to swing outward, accordingly as such compound hinge is thus caused to open. And the wing will
85 be held so spread outward as long as the rope is so drawn upon; but if the tension on the rope is relaxed by turning the crank P' in the opposite direction, then the wing will be
90 closed, to the extent the rope is slackened, by the frictional contact of its scraper with the surface of the sidewalk, or with the snow or other obstructions thereon.

I claim—

1. A snow-plow comprising a sled B; a plow mounted thereon consisting of an upright side F, an oblique, overhanging side F', a wing I hinged to side F', a share D into which said
95 sides converge, and a shoe D' upon which said share is seated; an auxiliary sled A the runners of which are interposed between and pivoted to the runners of sled B at their rear
100 ends, and the platform of which is beneath the platform of sled B; and mechanism mounted upon sled A, whereby sled B and its plow may be raised, and supported on sled A, as and for the purposes specified.

2. A snow-plow comprising sleds A and B
105 pivoted together as described; a body composed of an upright side F, and an oblique overhanging side F', united at their front ends, and mounted on sled B; a wing I hinged to side F' and to sled B; and mechanism supported upon sled B by which said wing may
110 be spread into line with side F', substantially as and for the purposes specified.

3. A snow-plow embodying the combination of sleds A and B pivoted to each other as described; a body composed of convergent sides F and F', mounted upon sled B; wing I hinged to side F' and to sled B; crank P' mounted on sled B and connected by cord R to hinge R'; the transverse lever M pivoted to the
115 frame of the plow; a fulcrum block M² seated on the platform of sled A and upon which lever M acts; the longitudinal lever L pivoted to side F and arranged so that in its movement downward it acts on lever M; a fulcrum
120 block seated on the platform of sled A and on which lever L acts, whereby the plow is raised and wing I swung outwardly as and for the purposes specified.

4. A snow-plow comprising a body composed of parts F and F' and wing I, mounted
125 upon a sled B and provided with overhanging scrapers F³ and I'; an auxiliary sled A arranged beneath and connected with sled B to

support the plow and uppersled when raised from the ground; and means for raising the plow from the ground and securing it in such position; all substantially as and for the purposes specified.

5 5. The combination of sleds A and B pivoted together at their rear ends and loosely chained together at their front ends; a plow composed of converging sides F and F' meeting in a share D and resting in a common

shoe D' on sled B; means for raising sled B, and its plow and supporting it on sled A; and a draw-bar G attached to the front of the plow; all substantially as and for the purposes specified.

WARREN F. WHEELER.

Witnesses:

EUGENE HUMPHREY,
RALPH W. E. HOPPER.