

May 1, 1923.

1,453,811

O. H. STARKWEATHER

SNOWPLOW

Filed Nov. 3, 1921

3 Sheets-Sheet 1.

Fig. 1.

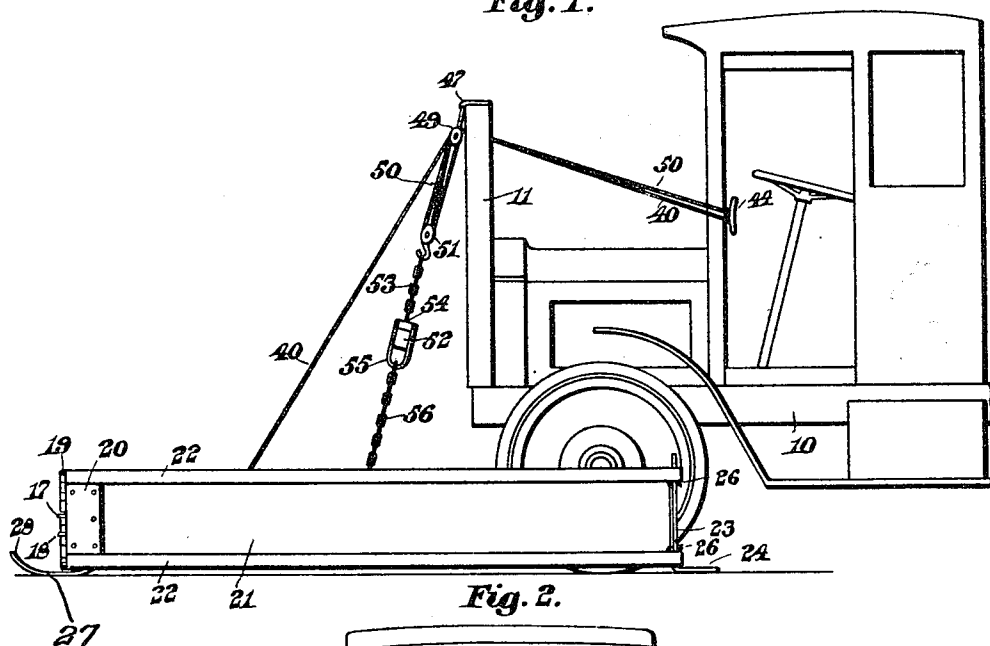
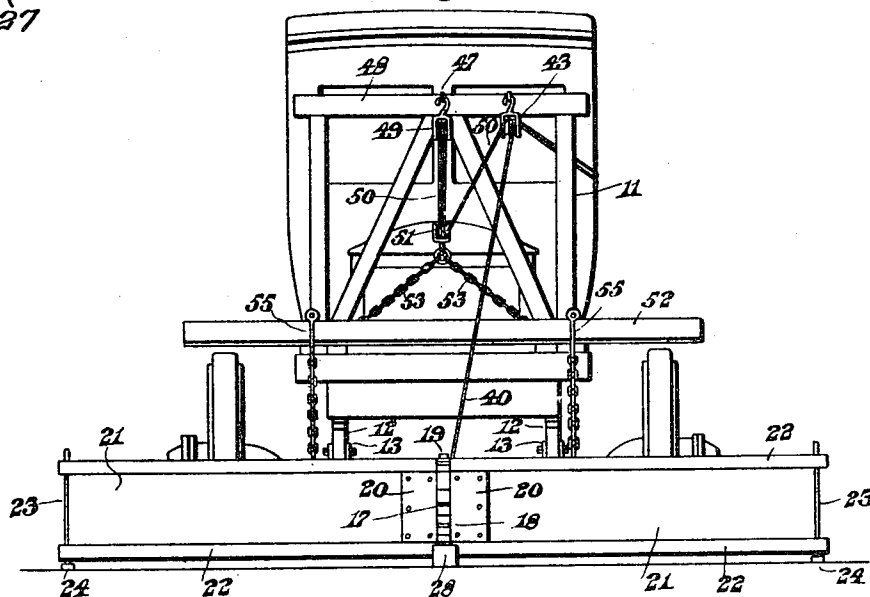


Fig. 2.



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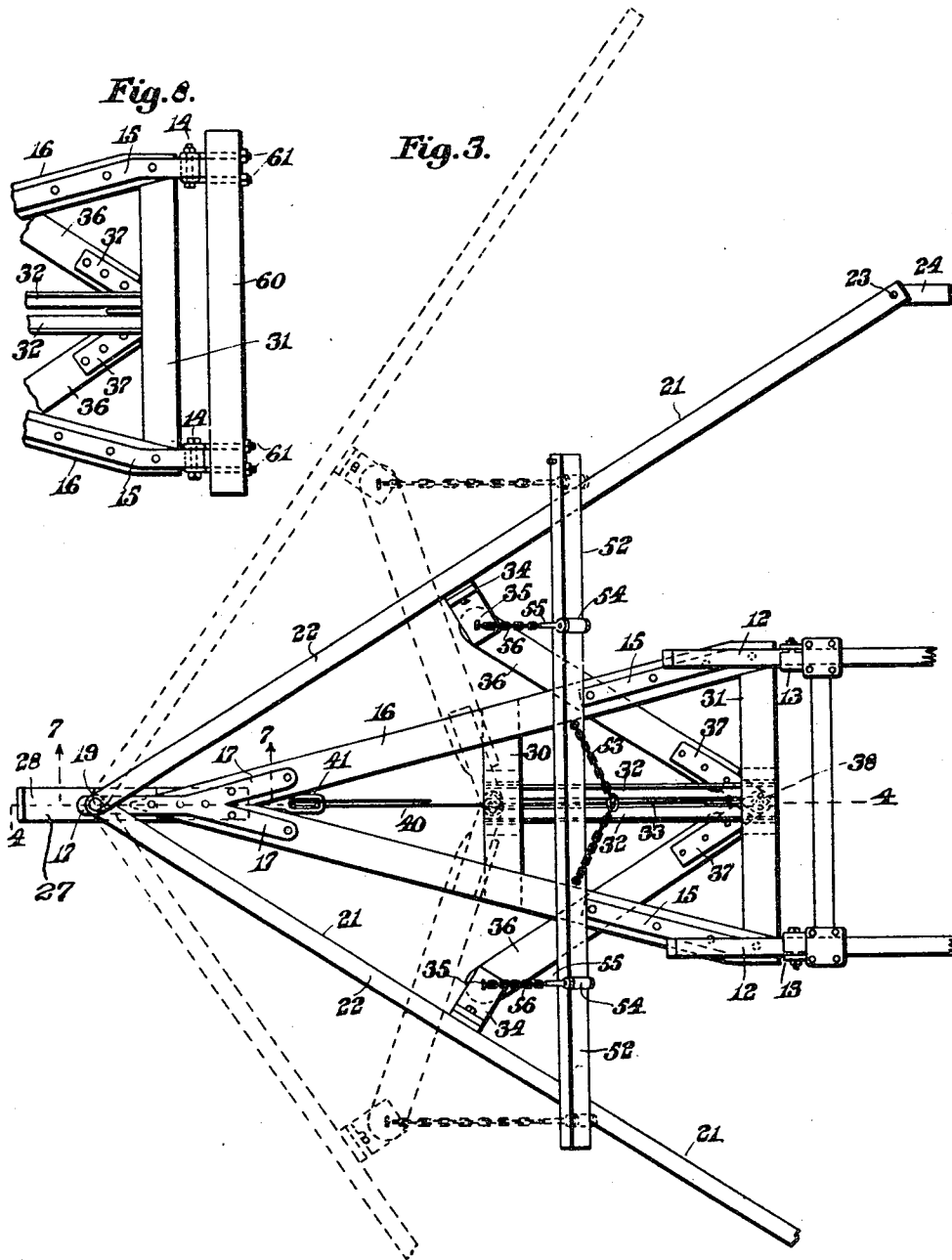
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3 Sheets-Sheet 2



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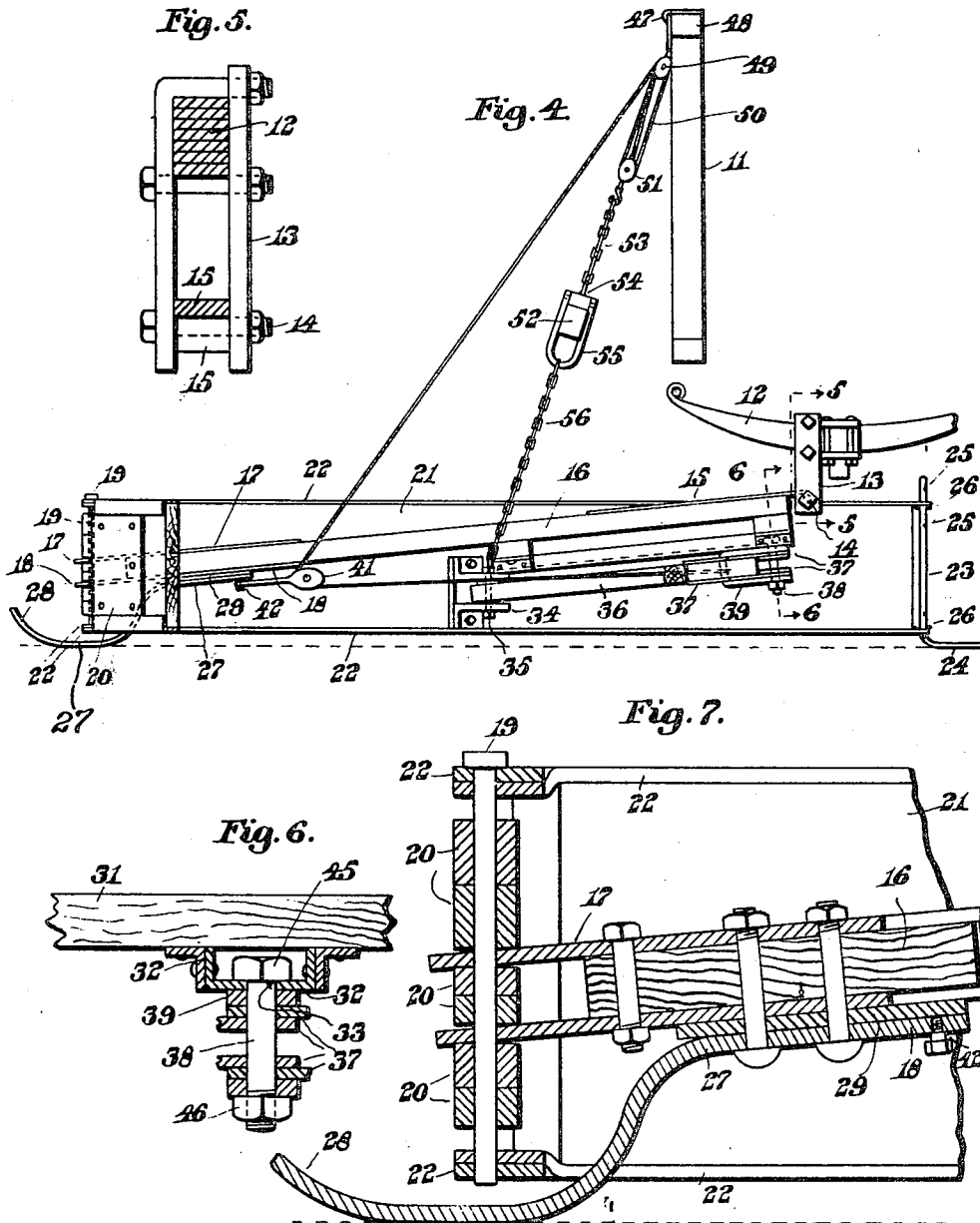
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3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE.

OSCAR H. STARKWEATHER, OF NEEDHAM, MASSACHUSETTS.

SNOWPLOW.

Application filed November 3, 1921. Serial No. 512,551.

To all whom it may concern:

Be it known that I, OSCAR H. STARKWEATHER, a citizen of the United States of America, and a resident of Needham, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Snowplows, of which the following is a specification.

This invention relates to snow plows and has for its object the production of a device of this character which is adapted to be attached to the front of a motor truck or tractor, and be pushed through the snow thereby.

The invention consists primarily of two mould boards hinged together with a push frame interposed between the hinge pin and a fixed member on the front of the motor truck.

The invention further consists of means for moving the mould boards about the hinge pin and retaining them in adjusted position.

The invention further consists in certain novel features of construction and arrangement of parts which will be understood readily by reference to the description of the drawings and to the claims to be hereinafter given.

For the purpose of illustrating the invention, one preferred form thereof is illustrated in the drawings, this form having been found to give satisfactory and reliable results although it is to be understood that the various instrumentalities of which the invention consists can be variously arranged and organized and the invention is not limited to the precise arrangement and organization of these instrumentalities as herein shown and described except as required by the scope of the appended claims.

Of the drawings:

Figure 1 represents a side elevation of the front portion of a motor truck having attached thereto a snow plow embodying the principles of the present invention.

Figure 2 represents a front elevation of the same.

Figure 3 represents a plan of the plow.

Figure 4 represents a vertical section of same on line 4, 4, on Fig. 3.

Figure 5 represents a vertical section on line 5, 5, on Fig. 4.

Figure 6 represents a vertical section on line 6, 6, on Fig. 4.

Figure 7 represents a vertical section on line 7, 7, on Fig. 3 and

Figure 8 represents a plan of a modification showing the means for attaching the plow to a tractor.

Similar characters indicate like parts throughout the several figures of the drawings.

In the drawings, 10 is the front portion of a motor vehicle having a framework 11 secured to the front thereof.

Each front spring 12 of the motor vehicle has clamped thereto a depending member 13 provided with a hinge pin 14.

The two pins 14 of the depending members 13 are in alinement and each pin is surrounded by an eye formed in a strap 15 secured to the rear end of a push frame 16, the front end of which has secured thereto, the bars 17 and 18, the former being secured to the upper face of said push frame while the latter is secured to the under face thereof.

The front ends of the bars 17 and 18, have eyes formed therein through which extend the hinge pin 19.

This hinge pin 19 connects together the two leaves of a hinge 20, the leaves of which are secured respectively to the mold-boards 21.

The upper and lower edges of the mold-boards 21 are protected by means of angle irons 22 extending lengthwise thereof and through which the hinge pin 19 extends.

These angle irons 22 extend beyond the rear end of each mold-board 21 and have alined cylindrical openings therein in which is positioned a rod 23, the lower end of which is provided with a rearwardly extending shoe 24 which is adapted to rest upon the ground and support the rear end of the mold-boards slightly above the surface of the ground.

The rod 23 is provided with a plurality of transverse holes 25, two of which have disposed therein, cotter pins 26 which bear against the under face of the upper angle iron 22 and against the upper face of the lower angle iron 22 thus preventing end movement of the rod 23 relatively to the mold-board 21.

By removing the cotter pins 26 and in-

serting them into two other holes 25, the rear end of the mold-boards 21 may be adjusted vertical relatively to the shoe 24 resting upon the ground.

5 The front end of the push frame 16 has secured thereto a forwardly extending shoe 27, the curved forward end 28 of which extends upwardly in front of the apex of the plow.

10 Between the push frame 16 and the shoe 27, is inserted a plate 29 and various thicknesses of plates 29 are provided, either one of which may be inserted, so that the position of the shoe relatively to the push frame 15 16 may be adjusted thereby varying the position of the forward end of the plow relatively to the ground.

The push frame 16 is provided with two cross members 30 and 31 between which extend the two guide members 32 preferably formed of angle iron, and separated sufficiently to form a slot 33 midway of the push frame 16.

25 Each mold-board 21 has secured to its inner face a bracket 34 to which is pivoted at 35, one end of a strut 36 while the opposite ends of the two struts 36 have secured thereto plates 37 connected together by means of a hinge pin 38.

30 This hinge pin extends through a clevis 39 which has connected thereto a cord or cable 40 extending through a sheave or block 41, secured at 42, to the rear end of the shoe 27.

35 The cable 40 extends through another sheave or block 43 suspended from the top part of the frame 11 on the motor vehicle 10.

40 The free end of the cable 40 is secured to a cleat 44 in front of the chauffeur.

The hinge pin 38 is provided with a large head 45 which rests upon the guide members 32 while its opposite end is provided with a nut 46 by which said pin 38 may be clamped securely to the clevis 39.

45 By pulling upon the cable 40, the clevis 39, with the hinge 38 clamped thereto, will be moved toward the apex of the plow and the mold-boards 21 will be moved about the hinge pin 19 thereby varying the angle of the mold-boards to each other, as for instance, into the position indicated by the dotted lines in Fig. 3.

50 When this has been accomplished, the cable 40 is secured to the cleat 44 and the mold-boards 21 are prevented from moving towards each other by means of the struts 36 interposed between said mold-boards.

55 On a hook 47, projecting from the front face of the top bar 48 of the frame 11 on the motor vehicle 10, is a block 49 through which a cable 50 is reaved, said cable also being reaved through a second block 51 from which a cross bar 52 is suspended by means of the chains 53.

The free end of the cable 50 is passed through the block 43 and is adapted to be secured to the cleat 44.

On the cross bar 52 are two rollers 54 mounted in the bails 55 which are connected by chains, or other flexible members 56, to eyes formed in the upper face of the hinge pins 35.

70 When the mold-boards 21 are moved relatively to each other about the hinge pin 19, these rollers 54 will travel along the upper face of the cross bar 52.

It is obvious that by pulling upon the cable 50, the cross bar 52 will be raised and through the flexible members or chains 56, the front part of the plow will be lifted from the ground, the push frame 16, during such lifting, moving about the axis of the hinge pins 14.

85 When it is desired to use the plow in connection with a tractor in lieu of a motor truck, it is intended to secure in front of the tractor chains a plank 60 through which are mounted eye bolts 61, the eyes of which are adapted to receive the hinge pins 14 by which the straps 15 of the push frame 16 are secured thereto.

This makes a very effective form of plow which may be secured in position in advance of any motor vehicle, either a truck or a tractor, and may be pushed by said vehicle through the snow clearing the ground effectively of snow and leaving a clear track of any desired width.

100 It is believed that the operation and many advantages of the invention will be fully understood without further description.

Having thus described my invention, I claim—

1. In a snow plow, the combination of 105 two mold-boards hinged together; a push frame extending rearwardly from the apex of the plow; hinge members on the rear of said push frame; coating members secured to a motor vehicle and connected to said hinge members by horizontal alined pins; a frame-work on the front of the motor vehicle; and means supported thereby for raising the apex of said plow.

2. In a snow plow, the combination of 115 two mold-boards hinged together; a push frame extending rearwardly from the apex of the plow; means for hinging the rear end of said frame to a motor vehicle; a frame-work on said vehicle; a cross-bar suspended therefrom; flexible connections between said cross-bar and said mold-boards; and means for raising and lowering said cross-bar.

3. In a snow plow, the combination of 125 two mold-boards hinged together; a push frame extending rearwardly from the apex of the plow; means for hinging the rear end of said frame to a motor vehicle; a frame-work on said vehicle; a cross-bar suspended therefrom; depending members on said 130

cross-bar movable endwise thereof; flexible connections between said members and said mold-boards; and means for raising and lowering said cross-bar.

5 4. In a snow plow, the combination of two mold-boards hinged together; a push frame extending rearwardly from the apex of the plow; means for hinging the rear end of said frame to a motor vehicle; a framework
10 on said vehicle; a cross-bar suspended therefrom; depending members including rollers on the upper face of said cross-bar and movable endwise thereof; flexible connections
15 between said members and said mold-boards; and means for raising and lowering said cross-bar.

5. In a snow plow, the combination of two mold-boards hinged together; a push frame extending rearwardly from the apex
20 of the plow; means for securing the rear end of the push frame to a motor vehicle; a strut pivoted to the inner face of each mold-

board; a hinge pin connecting together the opposite ends of said struts; and means for moving said hinge pin toward the apex of 25 the plow.

6. In a snow plow, the combination of two mold-boards hinged together; a push frame extending rearwardly from the apex of the plow; means for securing the rear 30 end of the push frame to a motor vehicle; a strut pivoted to the inner face of each mold-board; a hinge pin connecting together the opposite ends of said struts; means for moving said hinge pin toward 35 the apex of the plow; and guide members on said push frame preventing lateral displacement of said hinge pin.

Signed by me at 746 Old South Bldg., Boston, Mass., this 2nd day of November, 40 1921.

OSCAR H. STARKWEATHER.

Witness:

WALTER E. LOMBARD.