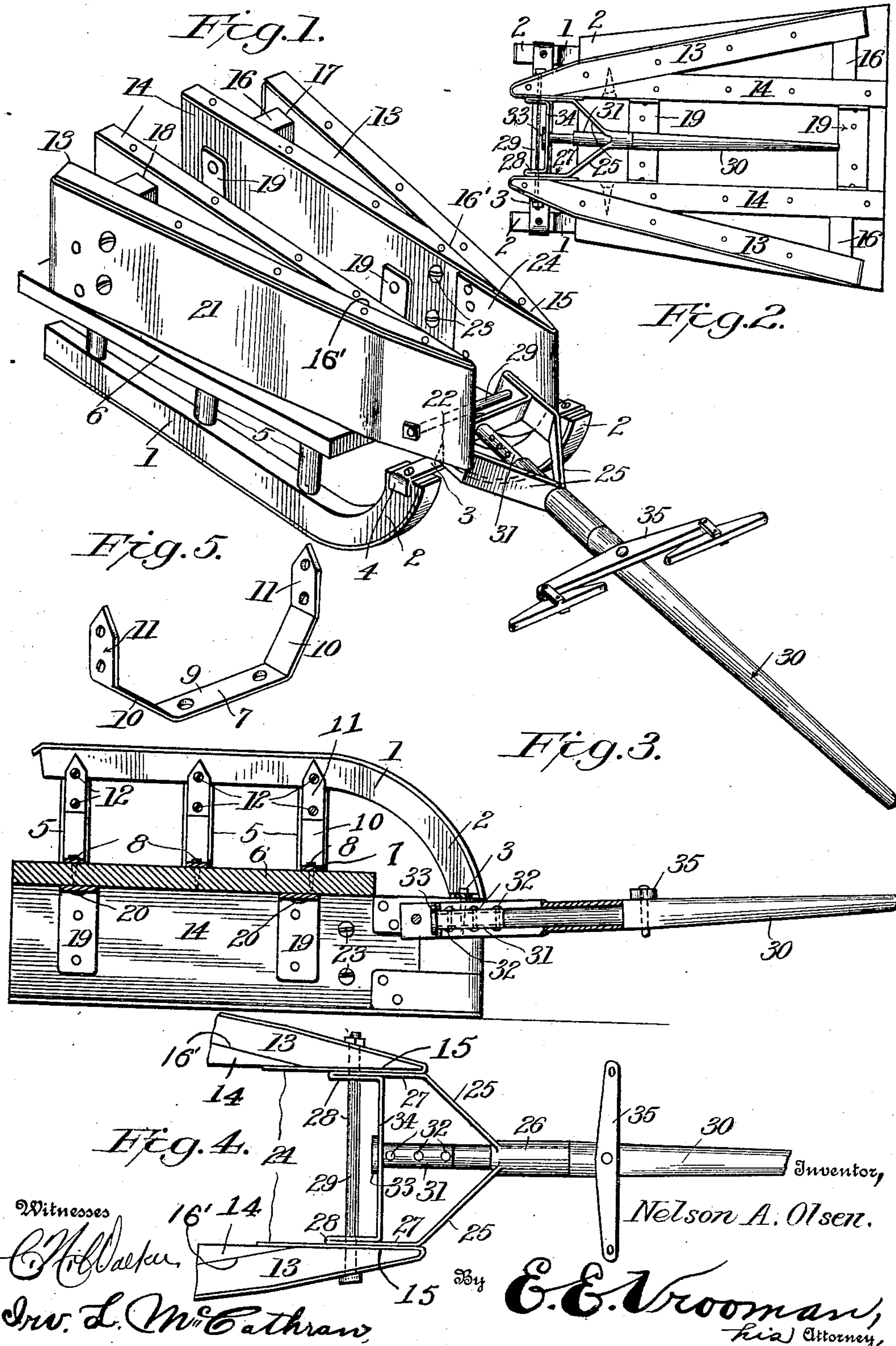


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COMBINED SNOW PLOW AND SLEIGH.
APPLICATION FILED MAY 6, 1908.

904,637.

Patented Nov. 24, 1908.



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UNITED STATES PATENT OFFICE.

NELSON A. OLSEN, OF CHESTER, CALIFORNIA.

COMBINED SNOW-PLOW AND SLEIGH.

No. 904,637.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, NELSON A. OLSEN, a citizen of the United States, residing at Chester, in the county of Plumas and State of California, have invented certain new and useful Improvements in a Combined Snow-Plow and Sleigh, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to an improvement in combined snow plow and sleigh, and has for its object the construction of a machine or apparatus, which can either be used as a sleigh for conveying a load, or by inverting the sleigh, the plow can be placed in an operative position; by placing a seat upon the upper edges or that portion constituting the runners of the plow, the same can be converted into standards of a seat for carrying
20 a person.

Another object of the invention is the construction of a comparatively simple and inexpensive machine or apparatus for conveying a load or for clearing a path or road of
25 snow.

With these and other objects in view, the invention consists of certain novel constructions, combinations, and arrangements of parts, as will be hereinafter fully described and claimed.

30 In the drawings: Figure 1 is a perspective view of an apparatus or machine constructed in accordance with the present invention. Fig. 2 is a fragmentary, top plan view of the structure depicted in Fig. 1. Fig. 3 is a longitudinal, sectional view of my combined snow-plow and sleigh. Fig. 4 is a fragmentary, top plan view of a portion of the device, and showing particularly the connection for the tongue. Fig. 5 is a perspective
40 view of the braces that are secured to the bottom of the platform.

Referring to the drawings by numerals, 1 designates the runners which are bowed or bent upwardly at their front ends 2, and these front ends are connected by a horizontal supporting-plate 3, which plate is provided with downwardly-extending projections or extensions 4, at its ends; the extensions 4 engaging the outer faces or sides of the runners 1, Fig. 1. Vertical standards 5 rest upon the upper edges of the runners, and upon these standards 5 is secured a platform 6. The platform 6 terminates short of
55 the front ends 2 of the runners.

Braces 7 are secured by means of screws

8 or any other suitable fastening means to the bottom face of the platform or floor 6, and each brace 7 comprises a flat body portion 9 having inclined portions 10, each of which inclined portions terminates in a vertical extension 11. The screws or fastening means 8 extend through the apertures of body portion 9, and suitable fastening means, as for instance, screws or nails 12, secure the portions 11 to the standards 5 and runners 1, Fig. 3, thereby making a very strong brace for the runners. Formed upon the platform is a pair of V-shaped scrapers or portions, each V-shaped scraper or portion comprising an outer, vertical member or section 13 and an inner, vertical member or section 14. Each outer section 13 is beveled, as at 15, Figs. 1 and 4, and the inner section 14 is also beveled, as at 16', for permitting its inner end to lie snug against the inner wall of section 13. The sections 13 and 14 of each V-shaped portion are spaced near their rear ends by a vertical spacing-block 16, which block 16 is provided with a beveled, vertical side 17 and a straight side 18; the side 18 lying flat against the section 14, while the beveled, vertical side 17 lies flat against the section 13. The section 14 extending longitudinally of the frame, whereas the outer section 13 is positioned at an angle to the inner section; the two inner sections of the V-shaped portions are parallel, whereby a seat may be placed upon the upper portions of these sections 14, or a load may be carried between sections 14 and within the compartments formed by the outer and inner sections and block 16 of each V-shaped structure. Therefore, it will be noted that I have provided load-receiving and holding compartments upon my combined apparatus, producing a combined sleigh which embodies not only means for cleaning a road, but is also furnished with means for carrying loose material, if desired, or packages, etc., besides permitting the operator to rest upon an ordinary detachable seat placed upon the upper edges of the inner sections 14. Interposed between the inner sections 14 are substantially U-shaped braces 19, the braces being secured by means of rivets, or other fastening devices 20, to the upper face of the platform or floor 6 and to the inner faces of sections 14 for bracing the upper portion of the apparatus. For reinforcing and increasing the life of the outer sections 13, I pref-

erably cover the outer faces thereof with thin sheet-iron or metal 21; the upper ends of sections 13 and 14 are also reinforced by strips of sheet-metal, which constitute runners when the apparatus is inverted as shown in Fig. 3.

The front ends of the V-shaped portions of the plow, are connected and supported by the transverse connecting-plate or strip 3, which also connects the upwardly-bowed front ends of the runners. Extending through plate or strip 3, and into the front ends of the V-shaped structures, is any suitable fastening means, as for instance, screw 22, whereby the front ends of the V-shaped portions and the front ends of the runners are rigidly secured together and by the same member and one bracing the other through the medium of said member. This member also limits the downward pivotal movement of the tongue-supporting device, as hereinafter described.

Suitable fastening means, as for instance, screws 23, Figs. 1 and 3, are employed for assisting in fastening the sections 13 and 14 together, at their front ends, whereas near their rear ends, said sections are fastened together by suitable fastening means passing through the same and extending into the vertical spacing-blocks 16. The sheet-metal side-portions 21 cover the inner faces of the inner sections 14, as at 24, thereby increasing the strength of the structure for these extended portions 24 constitute braces.

The tongue-supporting device comprises a frame formed from a single-piece and having inclined portions 25 integrally connected, at their front ends, by a hollow tubular portion or casing 26. The inclined portions 25 terminate at their rear ends, in parallel portions 27, which parallel portions terminate at their ends in bent-over parallel portions 28, through which portions 27 and 28 extend a bolt 29. The bolt 29 is the pivot upon which the frame is revolvably mounted, and said bolt extends through the front ends of the V-shaped structures. The tongue 30 extends through the tubular portion 26, and to its rear end is connected a cap 31; the cap is secured upon the rear end by means of rivets 32; the cap is provided with a head 33, which bears against the inner face of the transverse portion 34 of the frame; the portion 34 connects the inner ends of the parallel or auxiliary portions 28, Fig. 4. The tongue can be quickly moved or rotated upon its support or bolt 29 for placing the same between the parts of the plow of the apparatus, as indicated at 35, so as to place said tongue out of the way, or by reason of the fact that the tongue 30 is rotatably mounted upon the frame through the medium of cap 34 and 26, the apparatus can be turned for either placing the sleigh portion in an operative position or the plow portion

in an operative position without unhitching the draft animals, for the tongue will be held in a stationary position by means of the animals being attached to the double-tree 35, without unhitching the same, when the frame is rotated upon the tongue 30, owing to the reversing of the position of the parts.

It will be noted that I have provided an apparatus that can be used as either a snow plow or as a sleigh and the plow will easily cut two paths, so that a team of horses can pass over a road or through the paths; the snow left between the two paths can easily be straddled by the harness on the draft animals, and as the V-shaped portions constituting the plows are formed with compartments, they also constitute a part of the sleigh as they form the bed, or the load-holding means thereof, and, consequently, I have provided an apparatus involving a novel structure that embodies different elements having important functions when using the apparatus.

What I claim is:

1. In an apparatus of the class described, the combination with runners, a cross plate connecting the front end of the runners, a platform carried by the runners, a pair of V-shaped scrapers supported on said platform and plate, and a tongue for draft pivoted between the scrapers.

2. A combined snow plow and sleigh, comprising a platform provided at one side with a pair of V-shaped portions spaced apart and said platform provided, at its opposite side, with runners, and means connecting the front end of said runners and the front end of said V-shaped portions.

3. A combined snow plow and sleigh, comprising a platform or floor, a plurality of V-shaped portions secured to one side of said platform, and a plurality of runners secured to the opposite side of said platform.

4. An apparatus of the class described, comprising a platform or floor, a pair of runners secured to said platform or floor, and said runners provided with upwardly-extending front ends spaced from the front ends of said platform, V-shaped portions secured to the opposite side of said platform from said runners, and overhanging at their front ends the front ends of the platform, and means fixedly secured to and connecting the front ends of the runners and the front ends of the V-shaped portions.

5. An apparatus of the class described, comprising a platform provided with runners, V-shaped portions carried by said platform, each of said portions comprising a pair of sections, said sections connected together at their front ends, a spacing block between said sections and positioned contiguous to their rear end, said spacing block provided with side walls formed at an angle to each other for engaging the inner faces or

sides of the sections of the V-shaped structure.

6. An apparatus of the class described, comprising a platform, or floor, a plurality of V-shaped portions or members engaging one side of said platform, a pair of runners secured to the opposite side of said platform, angle-braces secured to opposite sides of said platform, and the brace upon the same side with the runners positioned between and connected near its ends to said runners, and the brace upon the opposite side positioned between and connected near its ends to the V-shaped portions.

7. In an apparatus of the class described, the combination with runners, of V-shaped portions secured to said platform, a bolt or fastening member connecting said V-shaped portions, a tongue-supporting-frame pivotally mounted upon said bolt or fastening member, said frame comprising parallel side portions and a transverse connecting portion, a tubular portion supported upon said side portions, a tongue extending through said tubular portion, and having its end positioned within the frame, a cap provided with a head, extending through said transverse portion and positioned upon said end of the tongue, and means securing said cap and tongue together, whereby the tongue is secured to and adapted to be rotated upon said frame.

8. In an apparatus of the class described, the combination with runners, a platform or floor carried by said runners, of a pivotally-mounted tongue-supporting frame supported upon said platform and runners, said tongue-supporting frame comprising a single piece of metal having parallel sides and an integral transverse portion, a casing carried by the sides, a tongue rotatably mounted in said casing, a cap carried by said transverse portion and positioned upon one end of said tongue, and means securing said tongue and cap against independent rotary movement.

9. In an apparatus of the class described, the combination with runners, a platform carried by said runners, of V-shaped por-

tions carried by said platform, a tongue-supporting frame positioned between said V-shaped portions, fastening means extending through the front ends of said V-shaped portions and through portions of said frame, a tongue rotatably mounted upon said frame, means securing said tongue to said frame, and said frame and tongue adapted to be rotated upon the V-shaped portions and swung inwardly for placing the tongue between the V-shaped portions and out of the way.

10. In an apparatus of the class described, the combination with V-shaped portions spaced apart, of a tongue-supporting frame pivotally mounted upon and positioned between the V-shaped portions, and a tongue rotatably mounted upon said frame and being adapted to be swung inward and placed between the V-shaped portions.

11. In an apparatus of the class described, the combination with runners, a platform or floor carried by said runners, of snow-displacing means secured to said platform, and a rotatably tongue-supporting frame secured between said snow displacing means, said frame provided with a transverse portion and with a sleeve or casing disposed at an angle to said transverse portion, a cap rotatably mounted upon said transverse portion, a tongue mounted in said sleeve or casing and positioned at its inner end in said cap, and means securing said cap and tongue together.

12. In an apparatus of the class described, the combination with runners, a platform carried by said runners, snow-displacing means secured to said platform, of a rotatably-mounted tongue-supporting means positioned between said snow-displacing means, said tongue-supporting means comprising a frame, a tongue rotatably mounted upon said frame, and means securing said tongue to said frame.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

NELSON A. OLSEN.

Witnesses:

STEVE SORSOLI,
N. L. STOVER.