R. E. WHITMAN.

COVERTIBLE SLED.

APPLICATION FILED SEPT. 22, 1914.

**1,152,774.** Patented Sept. 7, 1915.

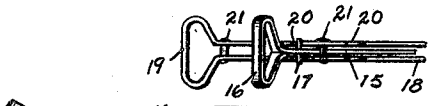


Fig. I.

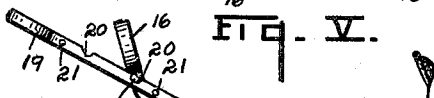


Fig. V.

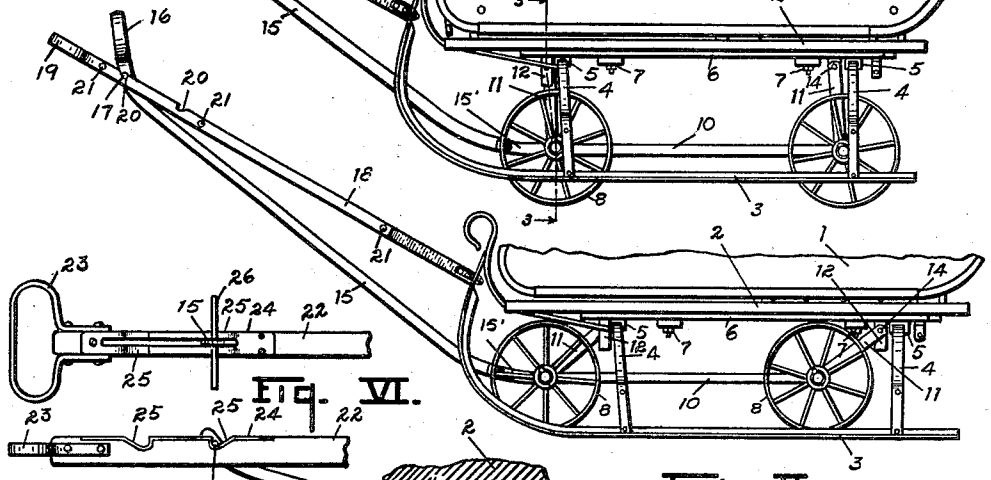


Fig. II.



Fig. VI.



Fig. VII.



Fig. III.

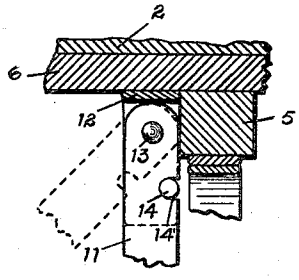


Fig. IV.

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# UNITED STATES PATENT OFFICE.

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## CONVERTIBLE SLED.

1,152,774. Specification of Letters Patent. Patented Sept. 7, 1915.

Application filed September 22, 1914. Serial No. 862,879.

*To all whom it may concern:*

Be it known that I, ROLAND E. WHITMAN, a citizen of the United States, residing at Sturgis, in the county of St. Joseph and State of Michigan, have invented certain new and useful Improvements in Convertible Sleds, of which the following is a specification.

This invention relates to improvements in convertible sleds.

The objects of this invention are: First, to provide an improved convertible sled with wheels and wheel supports, and improved means for actuating said wheel supports and for locking them in erected position. Second, to provide improved wheel supports and improved bracing means for the same.

Further objects, and objects relating to details and economies of construction and operation will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification.

The invention is clearly defined and pointed out in the claims.

A structure constituting a preferred embodiment of my invention is illustrated in the accompanying drawing forming a part of this specification, in which:

Figure I is a view in side elevation of a structure embodying my invention, showing the wheel supports in erected position. Fig. II is a fragmentary view in side elevation of the structure shown in Fig. I, showing the wheels in the inoperative position. Fig. III is an enlarged detail fragmentary sectional view on a line corresponding to the line 3—3 of Fig. I, showing in detail one of the wheel supports and the bracing means therefor. Fig. IV is a fragmentary sectional view on the line 4—4 of Fig. III, showing the stop and bracing means for the wheel supports. Fig. V is a fragmentary top plan view, showing the end of the tongue and the link for operating the wheel supports and the means for locking the same in operative or inoperative position. Fig. VI is a fragmentary detail plan view of a modified form of the tongue. Fig. VII is a fragmentary view in side elevation of the modification shown in Fig. VI.

In the drawing, similar reference characters refer to similar parts throughout the several views, and the sectional views are taken looking in the direction of the little arrows at the ends of the section lines.

Considering the numbered parts of the drawing, the sled comprises the bottom 2 and the sides 1, the bottom 2 being supported on the false bottom 6 and secured thereto by bolts 7. The false bottom 6 is supported by the cross bars 5, 5 which are connected by the braces 4 with the runners 3. The wheels 8 are carried by the front and rear axles 9, 9 which are journaled in the lower ends of links 11, 11. Angle brackets 12, 12 are riveted to the false bottom 6 by the rivets 12′, 12′ and the upper ends of the links 11 are pivoted to the angle brackets 12 at 13, as clearly shown in Fig. III. The brackets 12 carry stop pins 14 and notches 14′ are provided in the upper ends of the links 11 to cooperate with the stop pins 14. The engagement of the notch with the stop pin serves to limit the rearward movement of the link 11 thus aiding to brace and hold the wheel supports with the wheels in operative position. The axles 9 are also journaled in the ends of bars 10, 10 connecting the front and rear axles. At the forward end of the structure links 15′ are mounted on the front axle, the forward ends of said links being bent inwardly toward each other and bolted to the link 15 which extends forwardly and upwardly as shown in Figs. I and II. At the upper end of this actuating link the handle 16 is provided and a cross pin 17 extends laterally on each side of the link 15, as shown in Fig. V.

In order to draw the sled, a tongue 18 is provided formed of a metal bar attached at its ends to the front runner structure, bent to the proper shape and extending upwardly and forwardly as shown in Figs. I, II and V. For a portion of its length the parts of the tongue lie parallel to each other and are connected by the rivets 21. At the end of the tongue a handle 19 is formed and two pair of notches 20, 20 are cut in the tongue, as shown in Figs. I and II, and are adapted to receive the pin 17 extending from the link 15, the end of which extends between the parts of the tongue adjacent the handle.

In Figs. VI and VII, I have shown a modification in which the tongue is of wood

having a handle at the end thereof. A slot and notches are cut in the upper end of the tongue 22 and a face plate 24 in which two pairs of depressions or notches 25 are formed, is fastened thereto. The upper end of the link 15 extends upwardly through the slot formed in the end of the tongue 22 and a laterally extending pin 26 carried by the end of the link 15 engages in the notches 25 so as to hold the wheels in either the operative or the inoperative position.

From the description given above, the operation of the structure should be very readily understood. In Fig. II the parts are shown in the position which they occupy when the sled is being used as a sled and the wheels are in the inoperative position. In this position the link 15 is drawn forwardly so that the cross pin 17 engages the uppermost pair of notches on the tongue 18. By this means the links 11 and 10 are drawn forward so that the wheels are raised above the runners 3 and the weight of the structure and the occupant rests upon these runners. When it is desired to use the wheels, the link 15 is forced rearwardly until the pin 17 engages in the lowermost pair of notches 20 and in this position the wheels are forced and held downwardly below the runners 3 so that the weight of the structure and occupant is carried by the wheels. In this position, the links 11 are forced rearwardly until the stop pins 14 engage the notches 14′ in the links. By this means the wheel supports are securely braced when the wheels are in their operative position. The weight of the structure and the occupant tends to force the links 11 toward the stop pins 14 and this weight aids in locking the wheels in the operative position.

In the modified form of my construction, a solid tongue is provided for the sled and the end of the link 15 is brought up through a slot formed in this tongue, so that the link 15 can be moved to engage the cross pin 26 in either pair of notches 25.

It will be seen that I have provided a very simple and compact structure in which the change from a wheeled structure to a sled can be very quickly and readily made without stooping over, inasmuch as the actuating link for actuating the wheel supports terminates adjacent the handle of the tongue for drawing the sled. When the user comes to a spot where it is desirable to use the wheels all that needs to be done is to lift the end of link 15 by the handle 16 so as to remove the pin 17 from the uppermost pair of notches 20 and to force the link 15 backward until the pin 17 engages the lowermost pair of notches 20. The links 11 are carried slightly past the perpendicular and the weight of the sled and of the occupant tends to force the upper end of the link 11 against the stop pin 14. By means of this toggle action, the wheels are securely locked in their operative position. To change the vehicle into a sled again the pin 17 is lifted from the lower pair of notches 20 and the link 15 is pulled forward causing the parts to assume the position shown in Fig. II.

I am aware that the particular structure, which I have here shown and described, is susceptible of considerable variation without departing from the spirit of my invention. I have found, however, that this form is to be preferred and therefore I desire to claim the same specifically, as well as broadly, as indicated by my appended claims.

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

1. In a structure of the class described, the combination of a body, runners supporting said body, wheel supporting links pivotally mounted on said body, axles journaled in the lower ends of said links, wheels carried by said axles, means connecting the front and rear axles together, a tongue secured to said runner structure, a link connected to said wheel supporting links to swing the same on their pivots and extending upwardly and forwardly adjacent the tongue, whereby said structure may be drawn either by said tongue or said link and detent means on said tongue for holding said link in adjusted position, all coacting substantially as described for the purpose specified.

2. In a structure of the class described, the combination of a body, runners supporting said body, angle brackets secured to said body and having downwardly turned ends, laterally extending stop pins carried by said ends, wheel supporting links pivoted to the downwardly turned ends of said brackets and provided with notches adapted to engage said stop pins, axles journaled in the lower ends of said links, wheels carried by said axles, means connecting the front and rear axles together, and actuating means for swinging said wheel supporting links on their pivots, all coacting substantially as described for the purpose specified.

3. In a structure of the class described, the combination of a body, runners supporting said body, wheels supporting links pivoted on said body, axles journaled in the lower ends of said links, wheels carried by said axles, a forwardly projecting tongue secured to the front of said runner structure and provided with a handle at its forward end and a slot adjacent said handle, a link connected to said wheel supporting links to swing the same on their pivots and extending upwardly and forwardly, the upper end

thereof being disposed in said slot in said tongue and being provided with a handle, said tongue being provided with notches adjacent the slot, and a laterally projecting pin carried by the upper end of said link and adapted to engage in said notches.

In witness whereof, I have hereunto set my hand and seal in the presence of two witnesses.

ROLAND E. WHITMAN. [L. S.]

Witnesses:
ROY H. HAGERMAN,
AGNES STRAUB.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."