W. AND P. CARON.

SLED ATTACHMENT FOR WHEELED VEHICLES.

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Fig. 1.

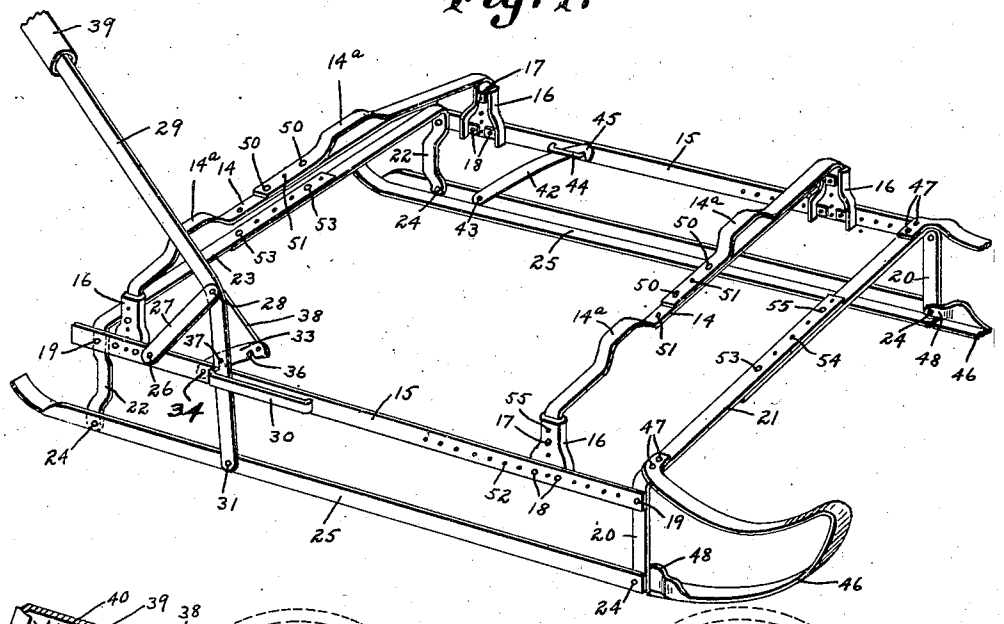
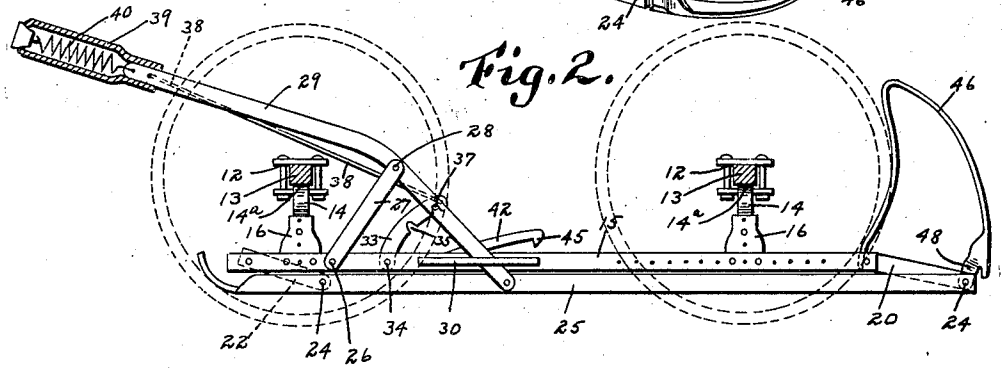


Fig. 2.



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UNITED STATES PATENT OFFICE.

WILFRED CARON AND PHILIAS CARON, OF RUMFORD, MAINE.

SLED ATTACHMENT FOR WHEELED VEHICLES.

Application filed March 30, 1922. Serial No. 547,987.

To all whom it may concern:

Be it known that we, WILFRED CARON and PHILIAS CARON, citizens of the United States, residing at Rumford, in the county of Oxford and State of Maine, have invented new and useful Improvements in Sled Attachments for Wheeled Vehicles, of which the following is a specification.

The object of this invention is to provide an attachment adapted to be quickly and conveniently attached to, and removed from, the axles of a child's vehicle or go-cart, without requiring structural changes in the axles, and to constitute, when attached, a sled, the runners of which are adapted to be raised above the lower portions of the wheels on said axles, and stored inoperatively between the wheels, and to be lowered below the lower portions of the wheels, and securely held in position to run on a road and elevate the wheels above the road.

The invention is embodied in the improvements hereinafter described and claimed.

Of the accompanying drawings forming a part of this specification,—

Figure 1 is a perspective view of our improved attachment by itself, the runners being in their operative positions.

Figure 2 is a side elevation, showing the attachment folded and clamped to a pair of axles which are shown in section.

The same reference characters indicate the same parts in all of the figures.

The attachment of our invention includes a rigid hanger formed as a frame, adapted to be rigidly secured by clamps 12 to the axles 13, of a child's carriage. The hanger includes two spaced apart cross-bars 14, having raised portions 14ª, adapted to be seated on the under sides of the axles 13, and secured to the latter by clamps 12, as shown by Figure 2. The hanger also includes spaced apart side bars 15, which are rigidly connected with the cross bars, preferably by means of upright standards 16, attached to the side bars by bolts 18, and secured by bolts 17 to the downwardly bent ends of the cross bars.

To the end portions of the side bars 15 are pivoted by bolts 19, two pairs of parallel links, viz., a pair of forward links 20, connected by a tie bar 21, and a pair of rear links 22, connected by a tie bar 23, the links being caused to move in unison by the tie bars.

To the swinging ends of the links 20 and 22 are pivoted by bolts 24, the end portions of runners 25, extending parallel with the longitudinal hanger bars 15, each runner being preferably an angle bar, as best shown at the upper portion of Figure 1. When the links are upright, as shown by Figure 1, the runners are lowered considerably below the hanger bars 15, and are adapted to bear upon the road and support the vehicle, with its wheels raised inoperatively above the road, so that the vehicle becomes a sled. When the links are inclined, as shown by Figure 2, the runners are raised against the hanger bars 15, and are raised above the lower portions of the wheels, so that the latter are operative.

To permit the convenient lowering and raising of the runners, and to lock the runners in each position, we provide manually operable mechanism, preferably embodied as next described. Pivoted at 26, to one of the hanger bars 15, is a swinging fulcrum link 27, the free end of which is pivoted at 28 to a lever 29, the pivot 28 constituting a swinging fulcrum. The shorter arm of the lever 29 extends through a guide 30, on the fulcrum link-carrying bar 15, and its lower end is pivoted at 31 to the corresponding runner 25. The longer arm of the lever 29 is inclined rearwardly across the rear axle 13, and stands in position to be manipulated by the operator. When the longer arm is raised, as shown by Figure 1, from the position shown by Figure 2, the shorter arm is moved downward and rearward, and lowers the runners, the links 20 and 22 being swung downward, and motion being communicated from the links at one side to those at the opposite side by the tie bars 21 and 23. When the runners are fully lowered, they are locked by a locking dog 33, pivoted at 34 to one of the hanger bars 15, and provided with notches 35 and 36, each adapted to engage a stud 37 on the shorter arm of the lever. The notch 35 engages the stud when the runners are lowered, so that movement of the lever from the position shown by Figure 1 is prevented. The dog 33 is connected by a rod 38 with a sliding handle 39, on the longer arm of the lever 29. Said handle is normally pressed inward on the lever arm by a spring 40, and acts through the rod 38 to press the dog into engagement with the stud 37. When the longer arm of the lever is depressed to the position shown by Figure 2, the shorter arm is swung forward and

upward, and raises the runners, which are locked in their raised position by the engagement of the notch 36 with the stud 37.

The runner 25, opposite the runner with which the lever is connected, may be provided with a hooked brace link 42, pivoted at 43 to the runner, and slidable in a guide or keeper 44, attached to the corresponding hanger bar 15. The hook 45 of said link engages the keeper, as shown by Figure 1, when the runners are fully lowered. The runners are provided with curved extensions 46, attached by rivets 47 to the connecting tie bar 21, and provided with ears 48, connected with the lower ends of the forward links 20, by the forward pivot bolts 24. When the runners are lowered, the extensions 46 constitute the curved forward ends of the runners, and when the runners are raised, the extensions are swung or folded upward, as shown by Figure 2, so that the length of the attachment is decreased.

The hanger which includes the bars 14 and 15, is preferably adjustable, to vary the distance between the bars 14, and the distance between the bars 15, as required by vehicles of different sizes. To this end we make each of the bars 14 in two overlapping sections, united by bolts 50, removably inserted in holes 51 in the sections, there being a plurality of holes. The bolts 18 connecting the standards 16 with the hanger bars 15 are removably inserted in holes 52 in said bars, each bar having a plurality of holes. The link-connecting bars 21 and 23 are also made in overlapping sections, connected by bolts 53, removably inserted in holes 54 in said sections. The bolts 17 connecting the ends of the cross bars 14 with the standards 16 are removably inserted in holes 55 in said standards, there being a plurality of holes 55 arranged in vertical rows, so that the hanger bars 15 may be vertically adjusted to enable the runners to be lowered to any extent required by the diameter of the carriage wheels, a downward adjustment of the bars 15 causing an increased downward projection of the runners when they are fully lowered.

The object of the raised portions 14^a on the hanger cross bars is to provide a space or clearance between said portions and under the axles for the usual carriage brake, and for the hubs of the carriage wheels.

We claim:

1. A sled attachment for wheeled vehicles, comprising a hanger having means for attachment to the axles of a vehicle, a pair of runners, forward and rear end links pivoted to the hanger and to the runners, and permitting combined endwise and upward and downward movements of the runners, means connecting the runners to cause them to move in unison, said means including a cross-bar rigidly connecting the upper ends of the forward links, means for locking the runners at the extremes of their upward and downward movements, and curved runner extensions having ears pivoted to the lower ends of the forward links and to the forward ends of the runners, and rigidly attached to the said cross-bar to rigidly support the extensions against sidewise displacement, said extensions being adapted to fold upward, when the runners are raised, to reduce the length of the attachment.

2. A sled attachment for wheeled vehicles, comprising a hanger having means for attachment to the axles of a vehicle, a pair of runners, forward and rear end links pivoted to the hanger and to the runners, and permitting combined endwise and upward and downward movements of the runners, means connecting the runners to cause them to move in unison, and means for locking the runners at the extremes of their upward and downward movements, said hanger being composed of cross bars adapted to be seated on the under sides of the axles, and side bars rigidly connected with the cross bars, and pivoted to the said links, the attachment also including clamps adapted to secure the cross bars to the axles.

3. A sled attachment for wheeled vehicles, comprising a hanger having means for attachment to the axles of a vehicle, a pair of runners, forward and rear end links pivoted to the hanger and to the runners, and permitting combined endwise and upward and downward movements of the runners, means connecting the runners to cause them to move in unison, and means for locking the runners at the extremes of their upward and downward movements, said hanger being composed of cross bars adapted to be seated on the under sides of the axles, and having downwardly bent end portions, and side bars having upwardly projecting standards attached to the said end portions.

4. A sled attachment for wheel vehicles, comprising a hanger having means for attachment to the axles of a vehicle, a pair of runners, forward and rear end links pivoted to the hanger and to the runners, and permitting combined endwise and upward and downward movements of the runners, means connecting the runners to cause them to move in unison, and means for locking the runners at the extremes of their upward and downward movements, said hanger being composed of cross bars adapted to be seated on the under sides of the axles, and having downwardly bent end portions, and side bars having upwardly projecting standards attached to the said end portions, the said standards being adjustably secured to the side bars to vary the distance between the cross bars and conform the same to the distance between the axles, the cross bars of the hanger being adjustably connected with

the standards, to vary the vertical distance between the runners and the axles when the runners are lowered.

5. A sled attachment for wheeled vehicles, comprising a hanger having means for attachment to the axles of a vehicle, a pair of runners, forward and rear end links pivoted to the hanger and to the runners, and permitting combined endwise and upward and downward movements of the runners, means connecting the runners to cause them to move in unison, a manually operable lever pivoted to one of the runners, and movable in a longitudinal guide on the corresponding side bar of the hanger, a fulcrum link pivoted to the said side bar and to the lever, said link constituting a swinging fulcrum for the lever, the arrangement being such that swinging movements of the lever lower and raise the runners, and a locking dog pivoted to the said side bar, and adapted to engage a stud on the lever to prevent swinging movements of the lever from either its runner-lowering, or runner-raising position, and thereby lock the runners.

6. A sled attachment for wheeled vehicles substantially as specified by claim 5, the said lever being provided with a spring-pressed sliding handle connected by a rod with the said dog, and adapted to releasably hold the dog in engagement with the lever stud.

7. A sled attachment for wheeled vehicles, substantially as specified by claim 5, comprising also a hooked brace link pivoted to one of the runners, and a keeper fixed to the corresponding side bar of the hanger, and adapted to engage said link when the runners are lowered.

In testimony whereof we have affixed our signatures.

WILFRED CARON.
PHILIAS CARON.