

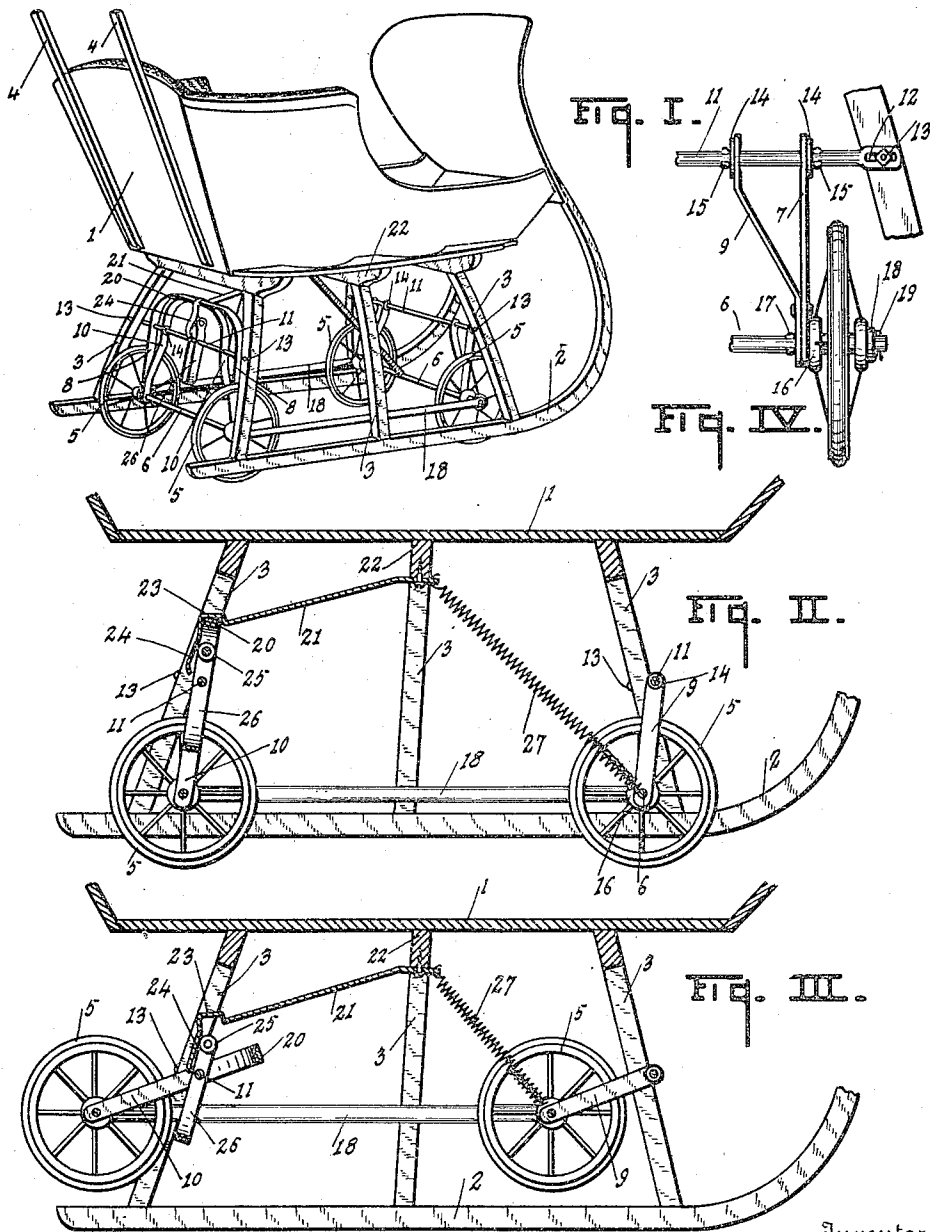
W. E. KIDDER.

WHEEL ATTACHMENT FOR SLEIGHS OR SLEDS.

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Inventor

Witnesses
Pearl E. Little
Luella G. Greenfield

William E. Kidder
By - Chappell & Carl
Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM E. KIDDER, OF KALAMAZOO, MICHIGAN.

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Specification of Letters Patent.

Patented Nov. 21, 1916.

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To all whom it may concern:

Be it known that I, WILLIAM E. KIDDER, a citizen of the United States, residing at Kalamazoo, Michigan, have invented certain new and useful Improvements in Wheel Attachments for Sleighs or Sleds, of which the following is a specification.

This invention relates to improvements in wheel attachments for sleighs or sleds.

The main objects of this invention are:

First, to provide an improved wheel attachment for children's sleighs or sleds, which may be attached and adjusted to sleighs of a type in quite common use.

Second, to provide an improved wheel attachment for sleighs by means of which the same may be quickly and easily converted from a sleigh to a wheeled vehicle or vice versa.

Third, to provide an improved wheel attachment for sleighs which is light in weight and at the same time very strong and rigid. Fourth, to provide an improved wheel attachment, for sleighs, which is simple and economical in structure and at the same time attractive in appearance and durable in use.

Further objects, and objects relating to structural details, 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 which is a preferred embodiment of my invention is clearly illustrated in the accompanying drawing, forming a part of this specification, in which:

Figure I is a perspective view of a structure embodying the features of my invention, with the wheels in operative position, the upper ends of the handle being broken away. Fig. II is a vertical longitudinal section with the wheels in operative position. Fig. III is a vertical longitudinal section with the wheels in raised or inoperative position. Fig. IV is a detail view showing the manner of attaching the hanger rods with details of the front hangers and the relation thereof to the wheel.

In the drawing similar reference characters refer to similar parts throughout the several views.

Referring to the drawing; in the structure illustrated, 1 represents the sleigh

body, 2 the runners, and 3 the knees of the sleigh. The handle 4 is secured to the rear end of the sleigh body. These are all of well-known form and are, therefore, not described with further detail. The wheels 5 are provided with rod-like axles 6. Hangers 7 are provided for the front axle and hangers 8 for the rear axle. The front hangers are provided with brace members 9, while the rear hangers are provided with brace members 10. The hanger rods 11 are provided with slot-like eyes 12 at their ends to receive the securing bolts 13 arranged through the front and rear knees of the sleigh. By providing the slot-like eyes for these rods accurate fitting of the rods to the sleigh is not required or in boring holes for the bolts 13.

The hangers are supported against longitudinal movement on the hanger rods by means of the collars 14 arranged at each side of the hangers, as shown in Fig. IV, the collars being supported by lugs 15 punched up on the rods. The hangers constitute the thrust members for the inner ends of the hubs 16 of the wheels.

The axles are prevented from moving longitudinally in the hangers by means of the lugs 17 struck up thereon on the inside of the hangers, see Fig. IV.

The axles are connected by the links 18 which are preferably flattened and perforated to provide axle engaging eyes at their ends. These links are arranged on the axles on the outer sides of the wheels and constitute retaining and outer bearing or thrust members for the wheels, the rods being retained on the axle by means of the cotter pins 19.

The rear hangers are connected by the yoke 20, the hangers being formed of strap-like pieces bent to form the yoke, as shown in the drawing. This yoke is engaged by the spring latch 21 which is secured to the central bench 22 and provided with an engaging hook 23 at its rear end. The end of the hook is provided with downward extension 24 which serves as a stop for the hanger and is also engaged by the roller 25 of the lever 26 pivotally mounted on the rear hanger rod. The lever is balanced on the hanger rod so that it hangs down therefrom with its roller in engagement with the latch hook extension 24, as shown in Fig. II. By pushing forward on this lever the latch is raised out of engagement with

the yoke of the hanger, allowing the wheels to swing up to the position shown in Fig. III. The wheels are raised to and supported in this position by the coiled spring 27 which is connected to the front end of the latch 21 and to the front axle. The wheels are moved to operative position by the operator placing his foot upon the rear axle and pushing down thereon and lifting up on the handle. When the wheels are in their erected position the latch 21 engages, retaining them in that position until released by disengaging the latch. This is effected by the operator placing his foot on the lever and pushing forwardly thereon to disengage the latch, the operator preferably retaining his hold of the handle to ease the structure on to the runners.

The structure is very simple and economical to produce, light in weight and at the same time attractive in appearance. It may be readily attached or removed from the sleigh and is very convenient and easy to operate.

I have illustrated and described my improvements in detail in a simple and economical embodiment. I have not attempted to illustrate or describe the various modifications possible, as I believe the disclosure made will enable the embodiment and adaptation of my improvements as conditions may require. I desire, however, to be understood as claiming my improvements specifically in the form illustrated as well as broadly within the scope of the appended claims.

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

1. The combination with the sleigh, of wheels, axles therefor, axle hangers, the rear hangers being connected by a yoke, hanger rods on which said hangers are pivotally mounted, links connecting said axles, a rearwardly projecting spring latch having a hook engaging said yoke of the rear wheel hangers for retaining the wheels in their erected position, the end of the hook being extended downwardly at the rear of said yoke, a releasing lever pivoted on the rear hanger rod and adapted to engage the downwardly projecting end of said latch hook to disengage the hook when the lower end of the lever is pushed forward, and a coiled spring connected to the front axle, whereby the wheels are raised to and supported in an elevated position when said latch is disengaged.

2. The combination with a sleigh, of wheels, axles therefor, axle hangers having eyes therein through which said axles are arranged, said hangers constituting thrust members for the inner ends of the wheel hubs, hanger rods on which said hangers are pivotally mounted, carried by said

sleigh, said rods being provided with collars supporting said hangers against lateral movement on said rods, links having eyes therein engaging the axles on the outer sides of the wheels, said links constituting thrust members for the outer ends of the wheel hubs, a latch for retaining said wheels in erected position, and a spring for supporting said wheels in an elevated position when said latch is disengaged.

3. The combination with a sleigh, of wheels, axles therefor, axle hangers having eyes therein through which said axles are arranged, hanger rods on which said hangers are pivotally mounted, carried by said sleigh, said rods being provided with collars supporting said hangers against lateral movement on said rods, links having eyes therein engaging the axles, and means for retaining said wheels in erected position.

4. The combination with the sleigh, of wheels, axles therefor, axle hangers pivotally mounted on said sleigh, the rear hangers being connected by a yoke, connecting links for said axles, a rearwardly projecting spring latch having a hook engaging said yoke of the rear wheel hangers for retaining the wheels in their erected position, the end of the hook being extended downwardly at the rear of said yoke and constituting a stop therefor, and a releasing lever adapted to engage the downwardly projecting end of said latch hook to disengage the hook when the lower end of the lever is pushed forward.

5. The combination with the sleigh, of wheels, axles therefor, axle hangers pivotally mounted on said sleigh, the rear hangers being connected by a yoke, connecting links for said axles, a spring latch engaging said yoke of the rear wheel hangers for retaining the wheels in their erected position, and a releasing lever for said latch.

6. The combination with the sleigh, of wheels, axles therefor, axle hangers pivotally mounted on said sleigh, connecting links for said axles, a spring latch engaging the rear wheel hangers for retaining the wheels in their erected position, a releasing lever for said latch positioned to be operated by the foot of the operator, the rear axle being positioned to be engaged by the foot of the operator for erecting the wheels.

7. The combination with a sleigh, of wheels, axles therefor, axle hangers having eyes therein through which said axles are arranged, hanger rods on which said hangers are pivotally mounted carried by said sleigh, said rods being provided with means supporting said hangers against lateral movement on said rods, links having eyes therein engaging the axles, and means for retaining said wheels in erected position.

8. The combination with the sleigh, of

wheels, axles therefor, axle hangers pivotally mounted on said sleigh, the rear hangers being connected by a yoke, connecting links for said axles, a spring latch engaging said yoke of the rear wheel hangers for retaining the wheels in their erected position, and means for releasing said latch.

9. The combination with a sleigh, of wheels, axles therefor, axle hangers pivotally mounted on said sleigh, the rear axle hangers being connected at their upper ends

by a yoke, connecting links for the front and rear axles, and a latch engaging the yoke for the rear wheel hangers for retaining the wheels in their erected position.

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

WILLIAM E. KIDDER. [L. s.]

Witnesses:

GEO. H. RICE,
F. C. FULLER.

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