

(No Model.)

J. E. HOBBS & B. M. WENTWORTH.
ATTACHABLE SLEIGH RUNNER.

No. 586,848.

Patented July 20, 1897.

FIG. 3.



FIG. 1.

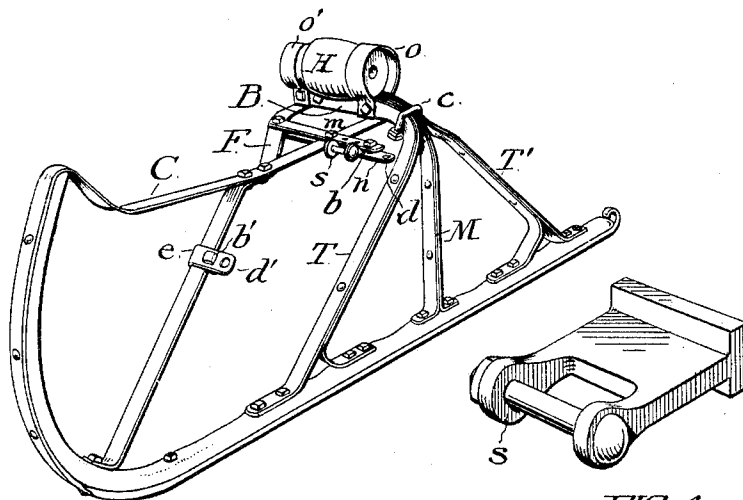
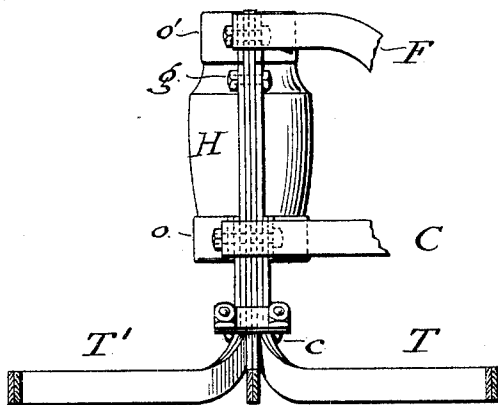


FIG. 2.

FIG. 4.



WITNESSES:

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JOHN E. HOBBS, OF NORTH BERWICK, AND BARTON M. WENTWORTH, OF
BERWICK, MAINE; SAID WENTWORTH ASSIGNOR TO SAID HOBBS.

ATTACHABLE SLEIGH-RUNNER.

SPECIFICATION forming part of Letters Patent No. 586,848, dated July 20, 1897.

Application filed November 7, 1891. Serial No. 411,131. (No model.)

To all whom it may concern:

Be it known that we, JOHN E. HOBBS, residing at North Berwick, and BARTON M. WENTWORTH, residing at Berwick, in the county of York and State of Maine, citizens of the United States, are the inventors of a new and useful Improvement in Attachable Sleigh-Runners, of which the following is a full and exact description.

The object of our invention is to facilitate the substitution of sleigh-runners for wheels on vehicle-bodies of all descriptions, so to connect the runners of each pair as to prevent their working out of line, as hub-runners are liable to do, and thus obviate the straining of the axles in turning and yet allow the runners to accommodate themselves independently to any unevenness in the roadway, and to allow the horses to draw by shafts or pole attached directly to the runners. The advantages of attaching the shafts or pole to the runners as we do are to render practicable the use of longer runners than have hitherto been used, and also to obviate the necessity of straps to prevent their revolving. We attain these objects by the method of construction illustrated in the accompanying drawings, in which—

Figure 1 is a view in perspective of our improved runner. Fig. 2 is an elevation of the under side of the hub, showing the construction of that portion of the knee and truss on which the hub rests. Fig. 3 is an elevation of a connecting-rod, showing its mode of attachment by a loose joint to the runner. Fig. 4 shows the shaft-coupling.

We take any sleigh-runner, preferably one constructed as in our patent of March 17, 1891, No. 448,430, substituting, however, for the truss and cross-bar supporting the hub shown there a knee and truss of the construction shown in Fig. 1. The truss is formed of four bars of steel bolted together in pairs T T', which rise from the base-bar of the runner like the legs of a capital letter A, and are at the upper joint joined together and bent outward nearly at a right angle to form a bracket B to carry the hub H. A single bar may be used instead of the two bars bolted together, but we prefer the two. The

truss may be strengthened by the introduction of the knee or brace M, constructed of two bars of steel riveted together and springing vertically from the base-bar midway of the legs of the truss and bent outward at c and passing between them into the bracket B and continuing the length of the hub. Where the bars which compose the truss T T' and brace M are bent over to form the bracket B, they are bound tightly together by the clip c, as shown in the drawings. The two outer bars of the truss are cut off at the outer edge of the cap-bar C, Fig. 2, and the two inner bars at the inside edge of the outer hoop o' of the hub. The two bars of the brace M continue to the outer edge of the hub, Fig. 2.

The hub H is an ordinary wheel-hub, made entirely of wood and bored to fit the spindle, but recessed longitudinally on its under side to receive and fit over the bracket B, to which it is secured by hoops o o'. This construction gives the hub a firmer seat than any other and relieves the strain on the hoops o o'. One bolt secures the hoop o, the bars of the truss T T', and the brace M, together with the end of the cap-bar C, which is bent up to receive the bolt, as shown in Fig. 2. One bolt also secures hoop o', the ends of the bars of brace M, together with the end of tie-bar F, which is bent up to receive it, as shown in Fig. 2. The outer ends of the inner bars of the truss T T' are bolted to the bars of brace M just inside of hoop o', as shown at g, Fig. 2.

In Fig. 1, m n are two parallel bars bolted onto tie-bar F and cap-bar C and projecting inside the runner, as shown. The shaft-coupling s, made with a T-shaped flange at the back, as shown in Fig. 4, is slipped between them and held fast at any distance from the cap-bar desired by inserting and tightening bolt b. The eye d is punched in the end of bar n to receive the hook of the connecting-rod G. The connecting-rod G, Fig. 3, is a bar of steel or any metal connecting opposite runners, as from eyes d d' on one runner to eyes d d' on the other runner, and its length will be determined by the length of axle to be fitted. It has at either end a coupling 2 screwed on, through which is screwed a bolt 3, hooked

same time it keeps them in line and relieves the strain on them in turning. When the runner is put on the rear axle, it is desirable
15 to have the connecting-rod lower in order to escape the perch, and this is accomplished by connecting it, as above described, with the U-shaped loop *e*, which has one limb longer than the other and is looped around the tie-
20 bar *F* and held firmly at any point desired by screwing up bolt *b'*. The hook of the connecting-rod is then dropped through eye *d'* and fastened as before.

What we claim, and desire to secure by Letters Patent, is—

25 1. An attachable sleigh-runner provided with means for receiving the spindle of an axle, said means supported on the arm of a bracket-truss formed of two converging standards secured to said runner, said standards
30 turned outwardly at their junction to form said arm and clamped or bolted together, substantially as shown and described.

2. An attachable sleigh-runner provided
35 with means for receiving the spindle of an axle, said means supported on the arm of a bracket-truss formed of lateral standards secured to said runner and converging to each side of a central standard, said standards
40 turned outwardly at their junction and forming said arm and held together by a clip and bolts, substantially as shown and described.

3. An attachable sleigh-runner consisting of a runner having a bracket-truss mounted
45 thereon, said truss formed of two side standards converging at a distance above said runner and resting in contact with a third standard rising vertically from said runner, said
50 truss turned outward nearly at a right angle, at the point of union of said standards and forming an arm for attaching the runner to the sleigh or carriage body, said standards
55 held together by a clip at the beginning of said arm and a bolt passing through it near its free end, substantially as shown and described.

4. An attachable sleigh-runner consisting of a runner having mounted thereon a bracket-truss formed of two lateral standards
60 rising from said runner and converging to the outer side of a central standard and forming with said central standard an outwardly-projecting arm held together by a clip at the beginning of said arm, a hub provided with
65 a longitudinal recess to receive said arm mounted upon and secured to said arm by

wardly to a distance from said cap and tie bars and a coupling provided with a T-head supported between said bars and secured
80 therein, substantially as shown and described.

6. In attachable sleigh-runners, the combination with a pair of said runners, of a loose-jointed rod for holding said runners parallel to each other, said rod secured in eyes in clips
85 adjustably secured to the tie-bars of said runners, substantially as shown and described.

7. In attachable sleigh-runners, the combination with said runners, of a loose-jointed connecting-rod for holding said runners parallel to each other, said rod secured at each of its
90 ends in eyes formed in bars secured to the cap-bars of said runners in front of the axle-support, substantially as shown and described.

8. In an attachable sleigh-runner the combination with said runner, of a bracketed truss
95 mounted thereon having an outwardly-projecting arm, a hub recessed longitudinally on its under side to rest upon said arm, bands passing around the ends of said hub and having
100 bolts through their ends and through said arm to secure said hub thereon, substantially as shown and described.

9. In attachable sleigh-runners the combination with the runner, of a hub mounted on
105 an arm formed on a truss, said truss consisting of lateral standards rising from said runners and converging to the sides of a central standard, said standards turned outward at nearly a right angle and forming said arm, said standards
110 held together by a clip at their point of junction, a hub recessed longitudinally to rest on said arm, bands passing around the ends of said hubs, the ends of said bands secured to said arm by bolts, substantially as shown and
115 described.

10. An attachable sleigh-runner having a hub mounted thereon, said hub supported on an arm formed integral with a truss consisting of converging standards united to a central
120 standard, said hub recessed longitudinally to rest on said arm, bands passing around the ends of said hub having the ends thereof secured on each side of said arm by bolts, the cap-bar and tie-bar of said runner passing
125 under said arm and provided with upwardly-turned ends resting in contact with the ends of said bands and secured therewith to said arm, substantially as shown and described.

11. The recessed hub, *II*, with the bracket,
130 *B*, substantially as set forth.

12. The combination of two opposite sleigh-

runners, parallel bars, *m*, *n*, and loose-jointed connecting-rod, *G*, substantially as set forth.

13. The combination of two opposite sleigh-runners, the loops, *e*, and the loose-jointed connecting-rod, *G*, substantially as set forth.

5 14. In an attachable sleigh-runner, the combination of the short parallel bars, *m*, *n*, the

flanged, adjustable shaft-coupling, *s*, and bolt, *b*, substantially as set forth.

JOHN E. HOBBS.

BARTON M. WENTWORTH.

Witnesses:

WILLIAM H. NEAL,

C. W. GREENLEAF.

It is hereby certified that in Letters Patent No. 586,848, granted July 20, 1897, upon the application of John E. Hobbs, of North Berwick, and Benton M. Wentworth, of Berwick, Maine, for an improvement in "Attachable Sleigh-Runners," an error appears in the printed specification requiring correction, as follows: On page 1, line 46, the word "joint" should read *point*; and that the said Letters Patent should be read with this corrections therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 31st day of August, A. D., 1897.

[SEAL.]

WEBSTER DAVIS,
Assistant Secretary of the Interior.

Countersigned:

BENJ. BUTTERWORTH,
Commissioner of Patents.