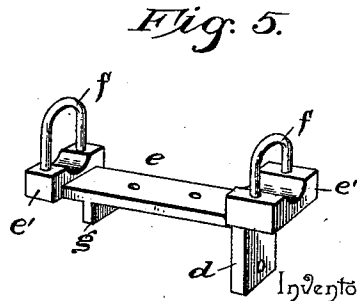
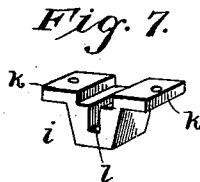
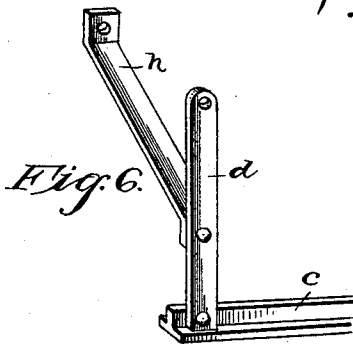
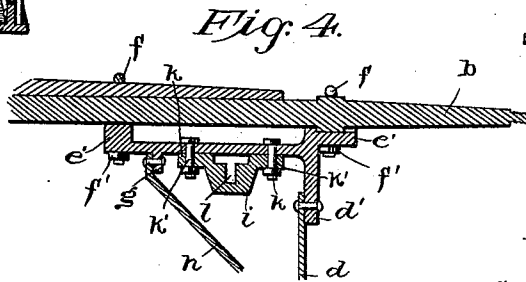
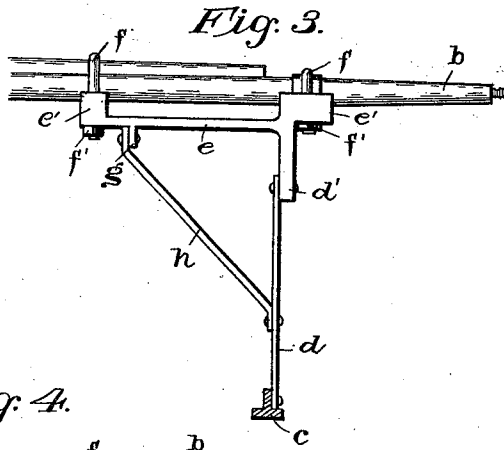
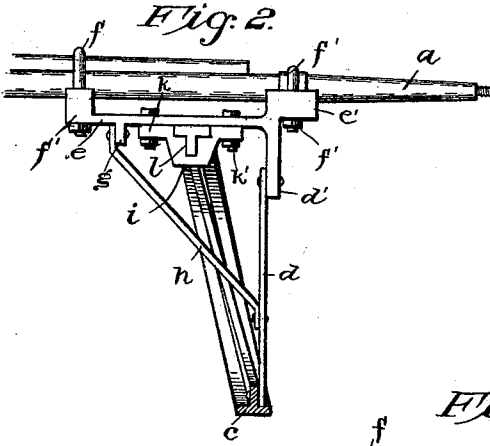
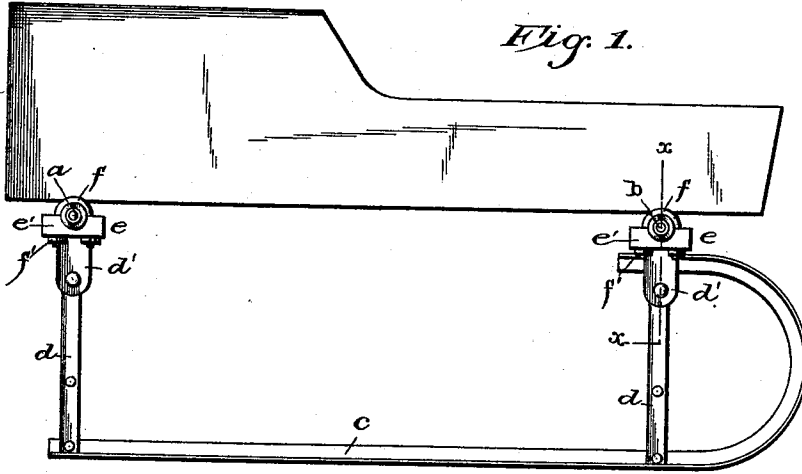


(No Model.)

H. J. HOWARD.
SLEIGH RUNNER ATTACHMENT.

No. 521,794.

Patented June 26, 1894.



Witnesses

Chas. A. Ford.
J. B. Lewis.

By his Attorneys.

Henry J. Howard,
Inventor

UNITED STATES PATENT OFFICE.

HENRY J. HOWARD, OF PARIS, ILLINOIS.

SLEIGH-RUNNER ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 521,794, dated June 26, 1894.

Application filed February 7, 1894. Serial No. 499,409. (No model.)

To all whom it may concern:

Be it known that I, HENRY J. HOWARD, a citizen of the United States, residing at Paris, in the county of Edgar and State of Illinois, have invented a new and useful Sleigh-Runner Attachment, of which the following is a specification.

My invention relates to an improvement in sleigh runners of that class which are adapted to be removably secured to wheeled vehicles; and the object of the invention is to so improve the construction of these devices that a more efficient and convenient article will be the result; one which can be attached and detached with greater facility and when applied will be stronger than ordinarily.

To these ends the invention consists of certain improved features of construction and combination and arrangement of parts which will be more fully described hereinafter and finally embodied in the claim.

In the accompanying drawings, Figure 1 represents a side elevation of a vehicle having my improvements applied. Fig. 2 is a rear elevation of the attachment for the front axle. Fig. 3 is a similar view of the attachment for the rear axle. Fig. 4 is a section on line $x-x$ of Fig. 1. Fig. 5 is a detail perspective of the clip for securing the runner braces to the axle. Fig. 6 is a similar view of the runner braces showing them attached to the runner. Fig. 7 is a detail view of the block for securing the front end of the runner.

The reference letters a , and b , indicate the vehicle axles, which are shown with their wheels removed, and c , one of the runners. These latter devices, runners c , are formed of T-irons, disposed with their plane surfaces horizontal and adapted to rest on the ground, and with their forward ends curved forward and thence backward to the front axle as shown in Fig. 1. Secured by any suitable means to the vertical portion of the runners c , are the vertically extending brace-rods d , which are two in number, one for each axle, and which are secured at their upper ends to the downwardly extending studs d' , of the clip-blocks e . These devices, clip-blocks e , are shown in detail by Fig. 5, and consist of a laterally extending body portion, provided with the semi-circular seats e' , adapted to bear against the

under side of the axles and to be held there-against by means of the clip-bolts f , which pass around the axles and are provided with nuts f' , whereby the device is securely fastened to the axle.

The clips e , are provided with the two downwardly depending lugs or studs g and d' , to which the braces h , and d , are respectively secured. The brace d , and its stud have been before described, and the brace-rod h , is rigidly secured to the rod d , at a point just above the runner, c , and extends inwardly and upwardly to the stud or lug h' , to which it is firmly secured. By this means the runners are securely and rigidly fastened to the axles, and the rods d' , serve to bear the principal part of the strain, while the rods h , are principally adapted to brace the runners as against lateral play, though they assist in bearing the weight of the vehicle.

The forward ends of the runners c , are, as before stated, curved outwardly and rearwardly to the front axle, and are secured thereto by means of the device i . This consists of a metallic casting provided with ears k , through which the bolts k' , pass, and from here the bolts k' , proceed into the body of the clip e , thus securing the latter clip in place. Formed in the main portion of the block i , is a T-shaped slot l , disposed with its main portion horizontal. In this slot the front end of the runner under the block is adapted to be fastened as shown in Fig. 4, and by means of the bolts k' , the runner may be clamped securely against the under side of section e .

From the foregoing it may be seen that by operating the clip-bolts, the runners may be secured to or detached from the vehicle with the greatest possible ease, and that owing to the arrangement of brace rods they will be rigid and immovable. Since the application and use of my improvements are well understood by those skilled in the art no further description is thought to be necessary. It will suffice to say that they may be applied to a vehicle and in a very quick and expeditious manner.

The purpose of the clip, i , (Fig. 7) is to hold the runner and to permit it to be adjusted therein according to the length of the vehicle

used, thus making the device applicable to any sized vehicle.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

5 In a vehicle, the combination of the axles, a horizontal bar for each end of the axles and adapted to be rigidly secured to the under side thereof, said bars having on their lower
10 side two downwardly-depending lugs, brace-rods connected to the lugs and depending downwardly therefrom, runners to which the lower ends of said brace-rods are rigidly connected, and two clip-blocks secured one to

the under side of each of the bars on the 15 front axle, the front ends of the runners being bent upwardly to their respective clip-blocks and adapted to be clamped to the front axle by such means, whereby the runners are removably secured to the axles, sub- 20 stantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

HENRY J. HOWARD.

Witnesses:

PAUL P. SHUTT,
HARRY LYCAN.