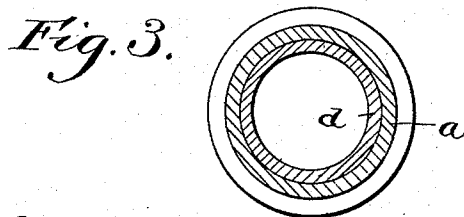
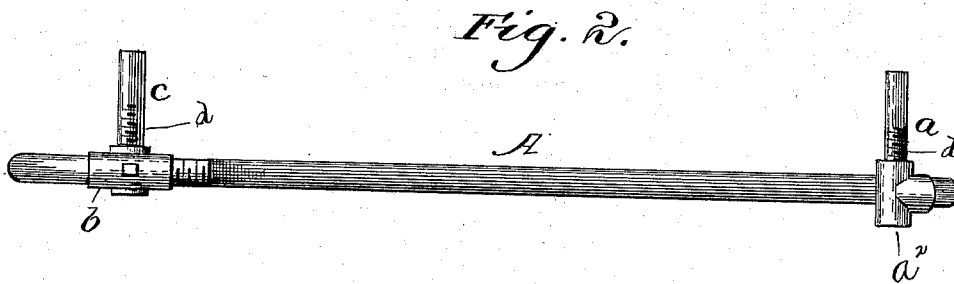
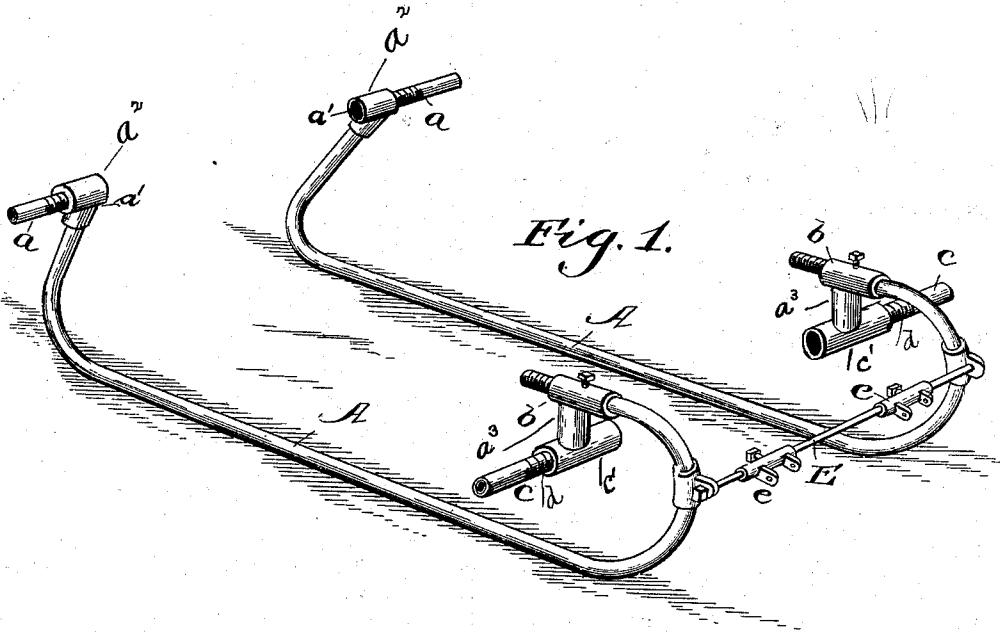


(No Model.)

W. S. HOPKINS.
SLEIGH RUNNER.

No. 505,831.

Patented Oct. 3, 1893.



Witnesses:

J. B. McGirr.

O. F. Thonett

Inventor.

William S. Hopkins

By Edward Appleman
att'y.

UNITED STATES PATENT OFFICE.

WILLIAM S. HOPKINS, OF PARIS, ILLINOIS.

SLEIGH-RUNNER.

SPECIFICATION forming part of Letters Patent No. 505,831, dated October 3, 1893.

Application filed March 29, 1893. Serial No. 468,121. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. HOPKINS, a citizen of the United States of America, residing at Paris, in the county of Edgar and State of Illinois, have invented certain new and useful Improvements in Sleigh-Runners, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to certain new and useful improvements in sleigh runners and particularly to that class known as detachable sleigh runners.

The object of the invention is to provide in a sleigh runner means whereby the gear and body of a buggy or wagon may be readily and conveniently converted into a sleigh, a further object being to provide means whereby the runner may have such a curve and the boxes be packed with such material as to absorb the jar incident to the use of the same on rough roads when the runner may strike obstructions tending to cause a springing of the axle, a further object being to provide spindle supports the front one of which is adjustable to allow for the difference of length in vehicles as well as to provide means allowing for the difference in height of the front and rear ends thereof, so that the body may be level when ready for use; furthermore, to provide in a sleigh runner a device that shall be cheap of construction as well as efficient and satisfactory in use and finally the invention consists in various novel details of construction, arrangement and combination of parts, hereinafter to be more particularly described and specifically pointed out in the claims.

In describing the invention in detail, reference is had to the accompanying drawings forming part of this specification, in which like letters of reference indicate corresponding parts in the several views, in which—

Figure 1 is a perspective view of two sleigh runners joined, both of which contain my improvements. Fig. 2, is a top view of one runner. Fig. 3, is an enlarged sectional view of the spindle support and the rubber packing.

In the drawings: A, indicates the runners constructed of any suitable material, but preferably of gas pipe and so formed that the

spindle supports for the front portion of the vehicle are back of the point at which in its curve, objects or obstructions in the road would be struck by the runner, as shown in Fig. 1.

The letters a', a' , represent the rear spindle support consisting of T-heads a^2, a^2 , having extension pieces a, a , which are attached to said T-heads by means of screw threads.

The front spindle supports c', c' , are constructed with long shanks a^3, a^3 , forming inverted T-heads, said shanks being provided for the purpose of allowing the vehicle body to ride on a level, the front wheels usually being lower than the rear ones. The upper end of the shank is connected to the collars b, b , provided with set screws for the purpose of securing said collars at the desired point on the runner after adjustment is had to the length of gear to be used. The support c' , is further provided with extension pieces c , corresponding with the extension pieces a , of the rear support, and are screw threaded for the purpose of permitting a transverse adjustment to fit spindles differing in length.

To prevent shocks which might injure the spindles, rubber tubing or packing d , is inserted in both the front and rear spindle supports for the purpose of absorbing the shock before it acts on the spindles. The runners are connected by cross bar E, secured to the runners on a line with the front spindle supports and is provided with adjustable shaft clips e, e , as shown.

It is particularly understood and noted that various changes may be made in the detail construction of this device without materially departing from the general idea involved.

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

1. In a detachable sleigh runner, the rubber packing arranged in the spindle supports, as and for the purpose described.

2. In a sleigh runner, the combination of the spindle supports formed by the T-heads arranged at right angles to the runners proper and the rubber packing, substantially as described.

3. In a detachable sleigh runner, the combination of the inverted T-head joints with the

extended shanks forming the front spindle supports, the T-head joints forming supports for the rear spindles the extension pieces, and the packing, substantially as described.

- 5 4. In a detachable sleigh runner, the combination of the runner proper, the inverted T-head joints attached thereto forming supports for the front spindles, the T-head joints forming supports for the rear spindles, and

the rubber packing inserted in said supports, as and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

WM. S. HOPKINS.

Witnesses:

J. W. HOWELL,
J. S. TROUTMAN.