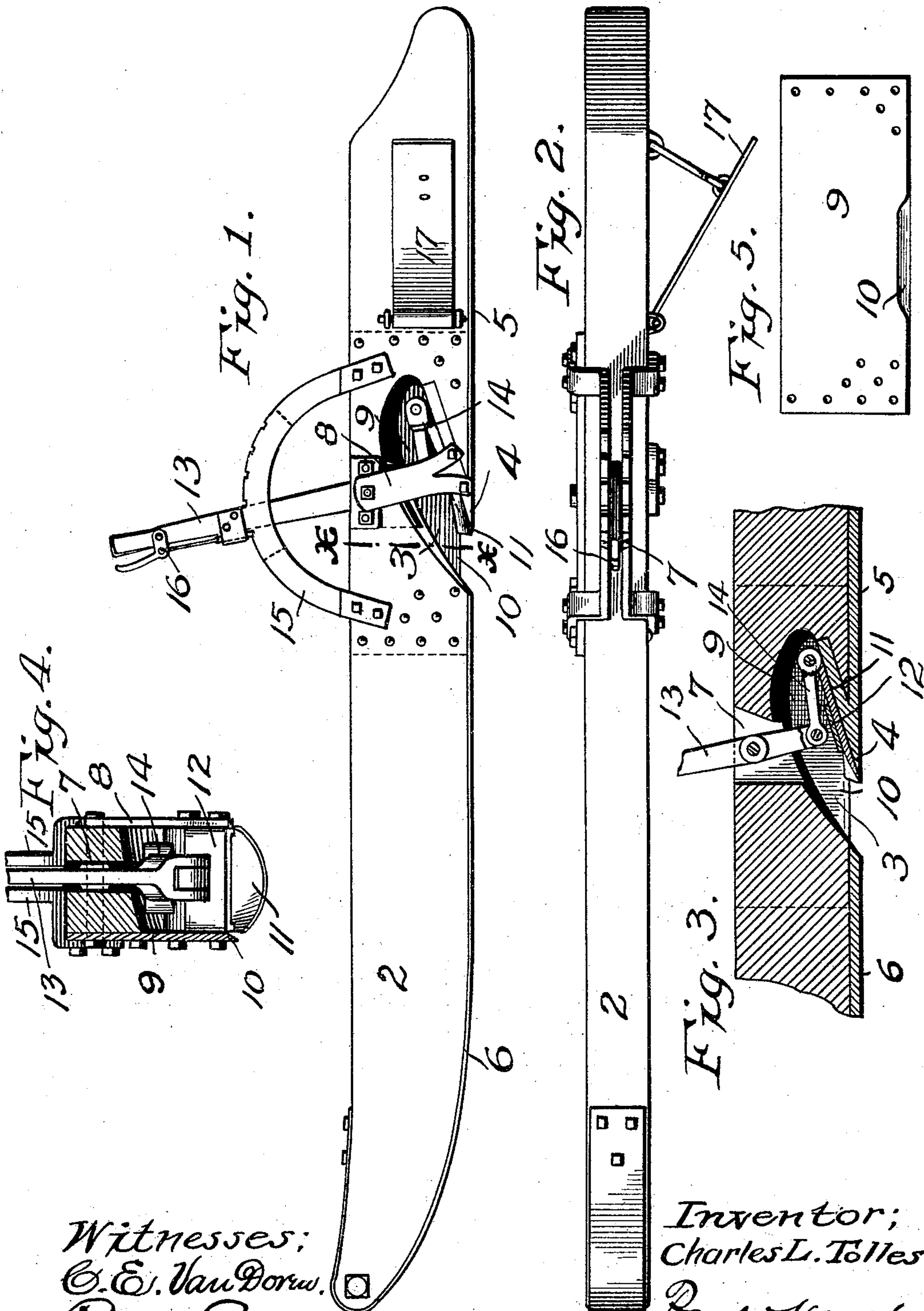


(No Model.)

C. L. TOLLES.  
RUT CUTTER.

No. 543,542.

Patented July 30, 1895.



Witnesses;  
C. E. Van Dorem,  
Richard Paul,

Inventor;  
Charles L. Tolles.  
By Paul & Hawley  
his Attorneys.



# UNITED STATES PATENT OFFICE.

CHARLES L. TOLLES, OF EAU CLAIRE, WISCONSIN.

## RUT-CUTTER.

SPECIFICATION forming part of Letters Patent No. 543,542, dated July 30, 1895.

Application filed March 1, 1895. Serial No. 540,132. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES L. TOLLES, of Eau Claire, county of Eau Claire, State of Wisconsin, have invented certain new and useful Improvements in Rut-Cutters, of which the following is a specification.

My invention relates to devices for cleaning the ruts in logging-roads; and the object I have in view is to provide a simple device which can be easily applied to any sled-runner to clear the ruts of snow and ice or other substance which may have accumulated therein and which will retard if not altogether arrest the progress of the sled if not removed.

My invention consists, generally, in a knife arranged to slide in guides in the sled-runner, a pivoted arm for operating the same, and means for locking the arm and knife in any desired position, in combination with a plate having a sharpened lower edge; and, further, my invention consists in certain details of construction and combination, all as hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a side view of a sled-runner with my invention applied thereto. Fig. 2 is a plan view of the same. Fig. 3 is a detailed sectional view showing the connection between the knife and the lever which operates it. Fig. 4 is an enlarged transverse section on the line *xx* of Fig. 1. Fig. 5 is a side elevation view of the strengthening-plate and cutter combined.

In the drawings, 2 represents a sled-runner of the ordinary size. It is provided just back of the center with an upwardly-extending and backwardly-inclined slot 3. This slot extends up into the runner beyond the center thereof, and being inclined backward a sharp point 4 is formed from the rear portion of the runner proper. A shoe 5 is provided, having one end turned up over the sharp point 4 and its opposite end extending back to the extreme rear end of the runner. The part of the runner proper ahead of the slot 3 is also provided with a shoe 6, having its forward end turned up over the nose of the runner 2, as shown in Fig. 1. The runner 2 is also provided with a vertical slot 7, extending from the upper edge of the runner down through the center

thereof and intersecting the diagonal slot 3. A forked arm 8 is provided, having one end securely bolted to the runner 2, near its upper edge, and its lower end also bolted to the sharp nose 4, thereby preventing the latter from being broken off in case it should strike an obstruction. To further strengthen the runner at the point where the slot is cut therein a plate 9 is securely bolted to the inner side of the runner 2 and extends over the weak portion of the runner and over the upper part of the slot 3. The plate 9 is provided with a sharpened lower edge 10, for the purpose hereinafter described. A knife 11, having a gouge-shaped lower end, is arranged to slide up and down on the inclined surface of the sharp nose 4, and is held in position there by the guide 12, but moves freely up and down therein.

An arm or lever 13 is pivoted in the vertical slot 7, having its lower end pivotally connected to the upper end of the knife 11 by the link 14, as shown in Fig. 3. An upright semicircular band 15 is provided, having its ends secured to the upper edge of the runner and provided with a series of slots in its circumference to engage the lower end of the spring-catch or lock 16 provided upon the upper end of the lever 13, by means of which the lever and knife may be locked in any desired position.

A blade or plate 17 is hinged at one end to the outside of the runner in the rear of the slot 3 and serves to brush away the loose ice and snow that would be liable otherwise to fall into the rut after the passage of the sled. This plate is made adjustable, so that its free end may be drawn up close to the sled or adjusted at a distance therefrom, as may be desired. The knife may be moved down, so that its curved point will engage the bottom of the rut, or it may be drawn up out of the rut altogether by the operation of the lever 13.

It frequently happens that the slot and knife will get clogged up with roots or grass, especially if the road is through low ground, and I therefore provide a sharpened lower edge on the plate 9, which cuts the roots and grass, and by moving the lever 13 back and forth the knife and the slot may be cleared of all obstruction.



The device may be placed on the runner of a snow-plow or upon a sled drawn behind the plow, as desired.

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

1. The combination, with the runner, of a knife carried thereby, guides upon either side of said knife, the pivoted lever carried by said runner, a link connecting said knife and said lever whereby as said lever is operated said knife will be moved back and forth between said guides, and a plate carried by said runner adjacent to said knife and having a sharpened lower edge, for the purpose set forth.

2. The combination, with the runner, provided with a recess or slot, the knife carried by said runner within said recess and arranged to slide up and down between guides on either side thereof, a plate carried by said runner adjacent to said knife and provided with a sharpened lower edge, a lever also carried by said runner and pivotally connected with said knife, whereby when said lever is moved back said knife will be forced into the ground beneath said runner to form a rut, substantially as described.

3. The combination, with the runner, provided with a recess or slot, a knife having a spoon shaped lower end carried by said runner within said recess and arranged to slide up and down between guides on either side thereof, a plate carried by said runner adjacent to said knife and provided with a sharpened lower edge, a lever also carried by said runner and pivotally connected with said knife, whereby when said lever is moved back and forth said knife will be forced into the ground beneath said runner to make or clear the rut, substantially as described.

4. The combination, with the runner, provided with a recess or slot, a knife having a spoon shaped lower end carried by said runner within said recess and arranged to slide up and down between guides on either side

thereof, a locking mechanism whereby said knife may be secured in any desired position, a plate carried by said runner adjacent to said knife and provided with a sharpened lower edge, a lever also carried by said runner and pivotally connected with said knife, whereby when said lever is moved back said knife will be projected into the ground beneath said runner to make or clear the rut, and withdrawn from the ground upon the forward movement of said lever, substantially as described.

5. A sled runner having a diagonal slot forming the nose 4, the shoe 5 covering the lower portion of the same, the brace 8 having one end secured to said nose 4 and its opposite end to the upper part of said runner, the knife 11 arranged to slide on the upper surface of said nose, the guide 12 arranged above said knife, the slot or opening 7 leading from said diagonal slot to the upper edge of the runner, the lever 13 pivoted within said slot 7, and the link connecting the lower end of said lever, and the upper end of said knife, for the purpose set forth.

6. A sled runner provided with a nose 4 formed by a slot extending up into the runner from the lower edge thereof, a knife arranged to slide upon the inclined upper surface of said nose, a guide extending across the upper surface of said knife, a lever pivoted within a slot or recess above said knife, means for locking said lever in any desired position, and means connecting the lower end of said lever, and the upper end of said knife, whereby when said lever is moved back and forth said knife will be moved over the inclined surface of said nose, substantially as described.

In testimony whereof I have hereunto set my hand this 3d day of January, A. D. 1895.

CHARLES L. TOLLES.

In presence of—

C. G. HAWLEY,  
RICHARD PAUL.