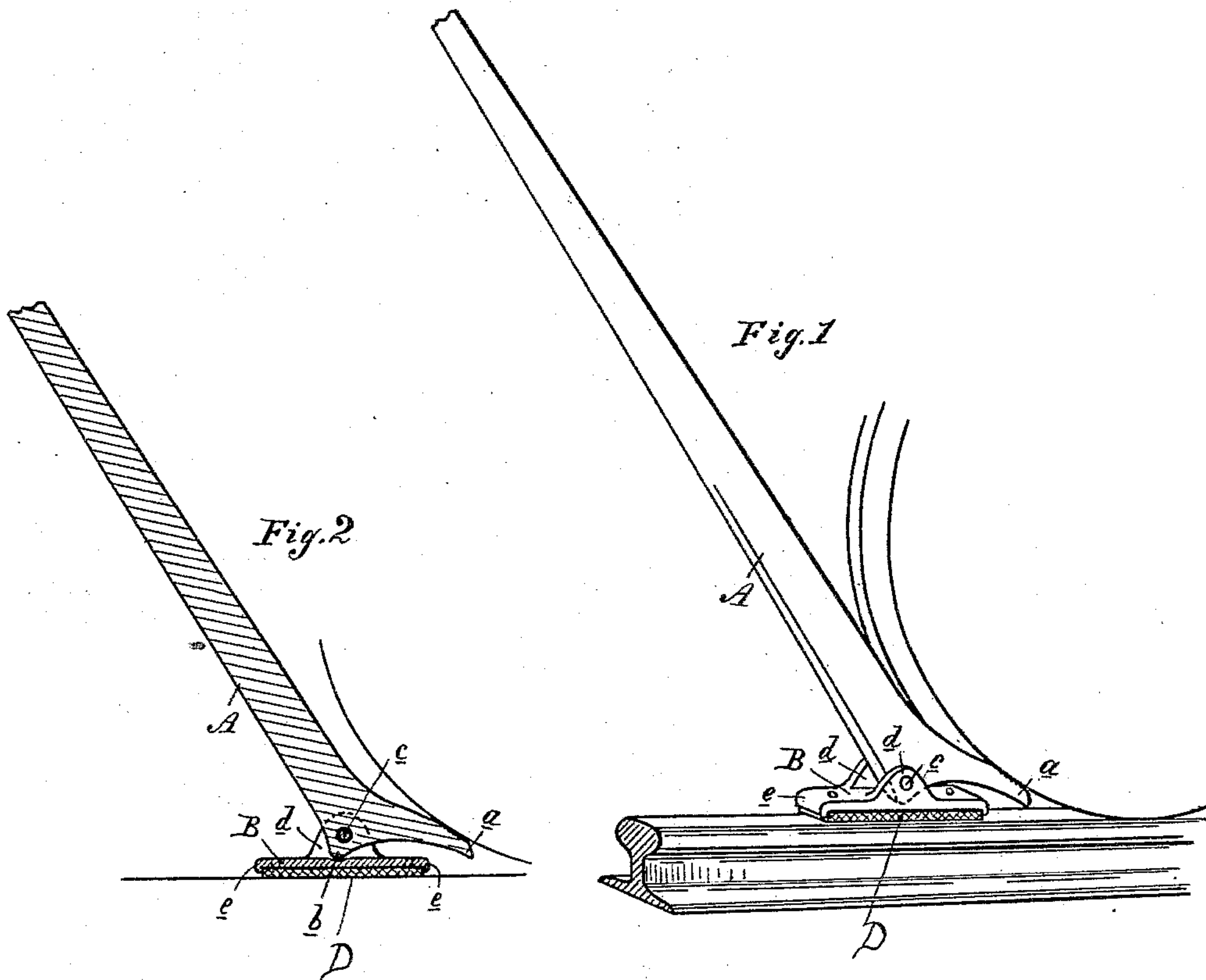


(No Model.)

C. E. LETTS.
PINCH BAR.

No. 359,793.

Patented Mar. 22, 1887.



Attest:
John Schuyman.
[Signature]

Inventor:
Charles E. Letts.
by his Atty
Thos. A. Sprague

UNITED STATES PATENT OFFICE.

CHARLES E. LETTS, OF DETROIT, MICHIGAN, ASSIGNOR OF ONE-HALF TO
JOHN J. ALLEY, OF SAME PLACE.

PINCH-BAR.

SPECIFICATION forming part of Letters Patent No. 359,793, dated March 22, 1887.

Application filed November 24, 1886. Serial No. 219,817. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. LETTS, of Detroit, in the county of Wayne and State of Michigan, have invented new and useful Improvements in Pinch-Bars; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to certain new and useful improvements in pinch-bars, or devices for starting and moving cars on a railway-track.

Since steel rails have come so generally into use the ordinary pinch-bars heretofore employed, and which bore upon the upper face of the rail, have proved inefficient, as when force was applied the strain, being at an obtuse angle to the face of the rail, would cause the bar to slip on the rail, rather than to push the car forward. To remedy this evil, pinch-bars have been introduced having a grip or clamp designed to embrace the sides and head of the rail; but the employment of these is laborious and the results not so certain as desired, for it appears necessary that the bearing-point should be directly and vertically downward upon the face of the rail to produce the best results, and the device should be so constructed that it will not slip whenever the strain or force applied is inclined to such rail-top.

The object of this invention is to produce an improved pinch-bar that will not under ordinary circumstances slip on the face of the rail, that will be economical in cost, very efficient, and easily operated.

The invention consists in the peculiar construction of the parts and their combination, as more fully hereinafter set forth.

Figure 1 is a perspective view of my improved pinch-bar as in operation. Fig. 2 is a longitudinal vertical section of the shoe attachment having bar pivotally secured thereto.

In the accompanying drawings, which form a part of this specification, A is a lever or pinch-bar having a foot integrally formed therewith, the toe *a* of which is designed to engage with the periphery of a car-wheel, as near its point of contact with the surface of the rail as the thickness of such toe will allow, while the heel *b* is rounded in longitudinal section to form a rolling fulcrum. To what may be termed the "ankle" there is a hole, by means of which and a suitable bolt, *c*, the bar is pivotally secured to and between the ears *d* of the shoe B, for the purpose of securing the parts together only, as the entire weight, strain, or force, when the device is in operation, is upon the heel *b* and the upper surface of the shoe B. This shoe B is a metallic plate having perforated ears *d*, by means of which the shoe is secured to the lever. The lower face of the shoe has a downwardly-projecting flange, *e*, at each end, and between these flanges there is fitted a piece of thick leather, paper, or a plate of equivalent soft metal, D, which causes sufficient friction on the face of the rail to prevent a slipping of the shoe. Bolts, pins, or rivets through the shoe-plate B and the supplemental friction-plate D hold the two together, and the latter may be removed and replaced from time to time, as required.

What I claim as my invention is—

The combination, in a device for the purpose described, of a lever, A, having a toe, *a*, and a rounded heel, *b*, bearing upon the shoe, and a metallic shoe, B, having ears *d*, for attachment of the shoe to the lever, and flanges *e* at each end, and a removable friction-surface attached to the bottom of the shoe, substantially as set forth.

CHARLES E. LETTS.

Witnesses:

H. S. SPRAGUE,
J. PAUL MAYER.